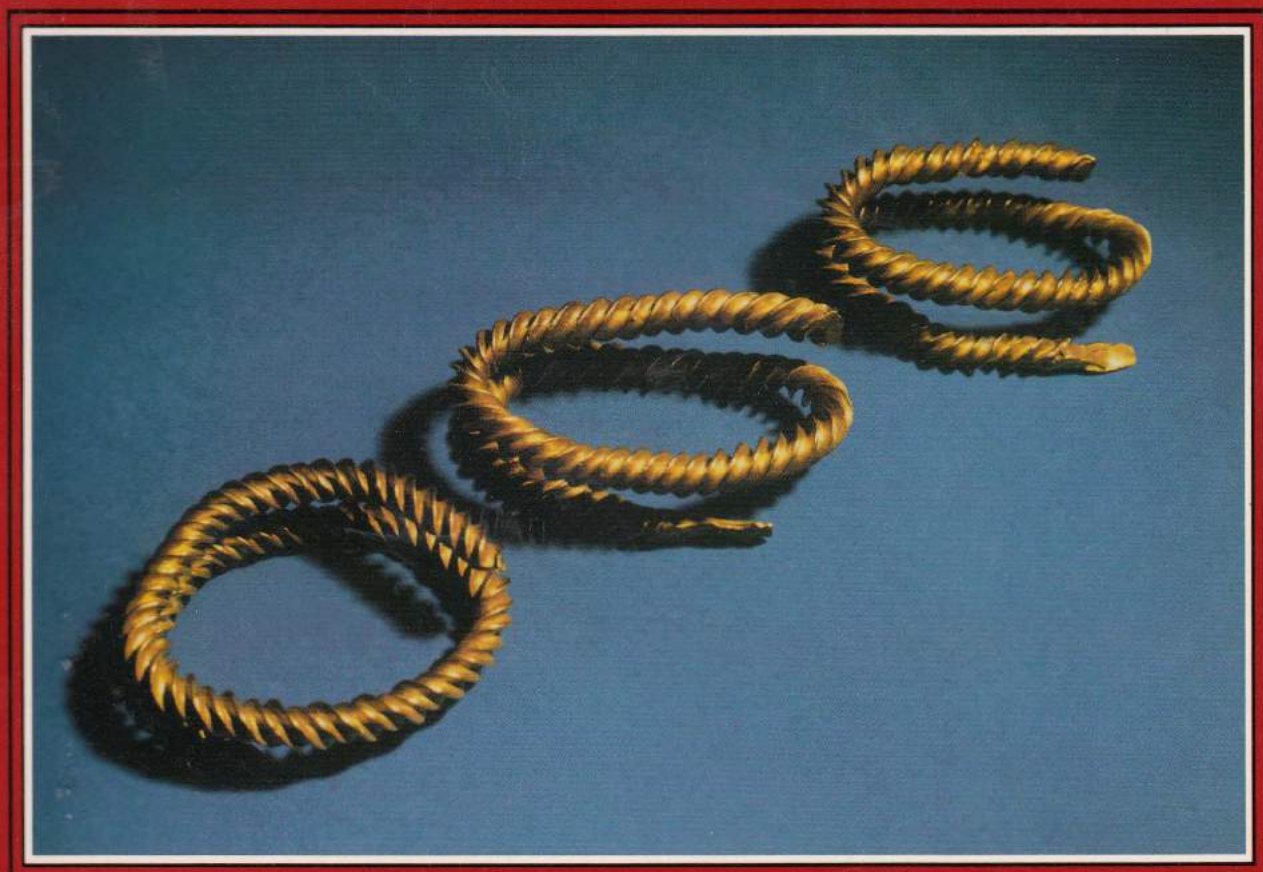


ESSEX



ARCHAEOLOGY AND HISTORY



TRANSACTIONS OF THE ESSEX SOCIETY
FOR ARCHAEOLOGY AND HISTORY

Volume 25

1994

ESSEX
ARCHAEOLOGY AND HISTORY

THE TRANSACTIONS OF
THE ESSEX SOCIETY FOR ARCHAEOLOGY AND HISTORY

VOLUME 25 (Third Series)

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THE ESSEX SOCIETY FOR ARCHAEOLOGY AND HISTORY

The Society was founded in 1852 as the Essex Archaeological Society

Its objects are:

- (1) To promote and encourage the study of the archaeology and history of the historic county of Essex.
- (2) In furtherance of the above to publish the results of such studies in *Transactions* and to disseminate information on matters relating to archaeology and history in Essex through appropriate media.
- (3) To organise conferences, lectures, and visits for the benefit of members and interested members of the public; to educate the wider community in the historical and archaeological heritage of Essex; to co-operate with other bodies on matters of common interest and concern.
- (4) To provide library facilities for Society members and approved members of the public.

Publications

The articles in its *Transactions* range over the whole field of local history. Back numbers and offprints are available; list and prices on application to the Librarian.

Members receive a quarterly *Newsletter* covering all aspects of the Society's activities, news of current excavations and fieldwork, and items of topical interest.

The Library

The library is housed at the Hollytrees, High Street, Colchester, and is extensive. It aims to include all books on Essex history, and has many runs of publications by kindred Societies. Members may use the library on any weekday during museum opening hours (10-1, 2-5, Saturdays, October to March, closes 4 p.m.) on presentation of a signed membership card.

Membership

Application should be made to the Hon. Membership Secretary for current rates.

Articles for Publication are welcome and should be set out to conform with the Notes for Contributors, of which offprints are available. They should be sent to the Hon. Editor.

A list of officers, with addresses, will be found in this volume.

Subscribing Societies in Essex

Billericay Archaeological and History Society; Brain Valley Archaeological Society; Castle Point Archaeological Society; Colchester Archaeological Group; Essex Society for Family History; The Friends of Historic Essex; Great Bardfield Historical Society; Halstead and District Historical Society; Haverhill and District Archaeological Group; Ingatestone and Fryerning Historical and Archaeological Society; Maldon Archaeological Group; Saffron Walden Historical Society; Southend-on-Sea and District Historical Society; Waltham Abbey Historical Society; West Essex Archaeological Group; Woodford and District Historical Society; Chigwell School.

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Cover illustration: Three Bronze Age gold torcs from Woodham Walter, the subject of the first article in this volume. The Society is grateful to Colchester Museums for permission to reproduce this photograph.

140th ANNIVERSARY — PUBLICATIONS DEVELOPMENT FUND

The Fund was launched in 1993 after preliminary talks between the President, John Appleby, and Ray Powell, Past President. Council welcomed the proposal, and I gladly accepted their invitation to serve as Honorary Appeal Secretary.

The Fund is designed to support and develop the Society's publications. On my recommendation Council has resolved that donations to the Fund shall be inalienable, and that only the interest earned upon the capital base shall be spent. Contributors to the Fund can therefore be sure that their gifts will remain as a permanent benefit for the future. Furthermore, Council intends to 'top-up' the capital each year to protect it against inflation.

The interest from the Fund is being used, in the first instance, to assist the printing, in **Essex Archaeology and History**, of unpublished papers by the late J. Horace Round (President 1916-21). The first of these, 'Essex History from Church Plate' appeared in volume 24 (1993). The second, 'The Liberties of the Borough of Colchester' will be found in this volume. The Fund will also contribute to the cost of the General Index to **Essex Archaeology and History** vols. 1-20, which is scheduled to appear as a supplement to volume 26 (1995). We hope later to publish selections from the diary (c.1790-1820) of Richard Barnes of Harwich, and other local studies. We are particularly eager to encourage younger historians to get their work into print. Up to the end of 1993 we have received £435 interest, of which £400 has been allocated.

A party to launch the Fund was held on 30 March 1993 at the Chelmsford and Essex Museum, attended by members of the Society's Council and other friends, each of whom undertook to seek contributions to the Fund by personal approaches to ESAH members and other persons interested in our work. A general mailing list was also put in hand, and during the following weeks I was kept busy receiving and registering the flow of contributors.

In April 1994 we sent out a 'follow-up' appeal by our new President, Dr Jennifer Ward, and I am delighted to report that by 10 June the Fund had reached £13,265 in contributions received or pledged, including £475 royalties from *Domesday Essex*. We owe this wonderful response to 159 donors: 121 personal and corporate members of the Society, and 38 others. Seventeen contributors have sent more than one donation, and we have just recorded our first 'In Memoriam' gift. Several donations have been made under the Charitable Gift Aid schemes, and, after detailed negotiations, I have obtained permission from the Inland Revenue for Tax Element clawbacks on these. I shall be happy to supply details of Gift Aid, with the necessary forms, to those who are interested.

We are deeply grateful to those of you who have already contributed to the Fund. All have received personal acknowledgement. Your names are being published in our *News*, and in due course they will be inscribed on a Roll of Honour preserved with the Society's records. We also owe much to those who, in various ways, have helped in organizing the Appeal. And may I express my personal thanks for the warmth of many kind words spoken to me?

Now we are encouraged to hope that we shall reach a threshold of £15,000. Our total membership is about 520, and we hope that those who have not yet contributed will take the opportunity of joining in an enterprise which is unique in our Society's 140-year history, and which is full of promise for the years ahead.

Please send donations, payable to 'The Essex Society for Archaeology and History' to:

W.A. Hewitt, Hon. Secretary to the ESAH Appeal
Oak Cottage, 51 Crossways
Gidea Park
ROMFORD, Essex RM2 6AJ

W.A.H.

Three Bronze Age torc fragments from Woodham Walter, Essex

by N.D. Meeks and G.L. Varndell

In November 1991, two members of a metal detecting society were prospecting on recently ploughed farmland in Woodham Walter, Essex, with the permission of the landowner. Three gold torc segments were found and promptly reported to the British Museum. The find was declared Treasure Trove at an inquest in Chelmsford in March 1992, and subsequently acquired by Colchester Museums.

The pieces were found only inches apart in plough-soil, little more than 6" deep. The finders marked the

exact place of discovery, thus enabling the Essex County Council Archaeology Section to dig a trench by hand, 1 metre square at the find spot. No further items of relevance were recovered, and there was no trace of any associated pit or feature.

The find consists of three closely similar sections of four-flanged twisted bar torc (Plate I). Fragments of at least two torcs may be represented, as two have a right-hand ('S') twist, and one a left-hand ('Z') twist. Each section was coiled, and each has one cut end (a blow

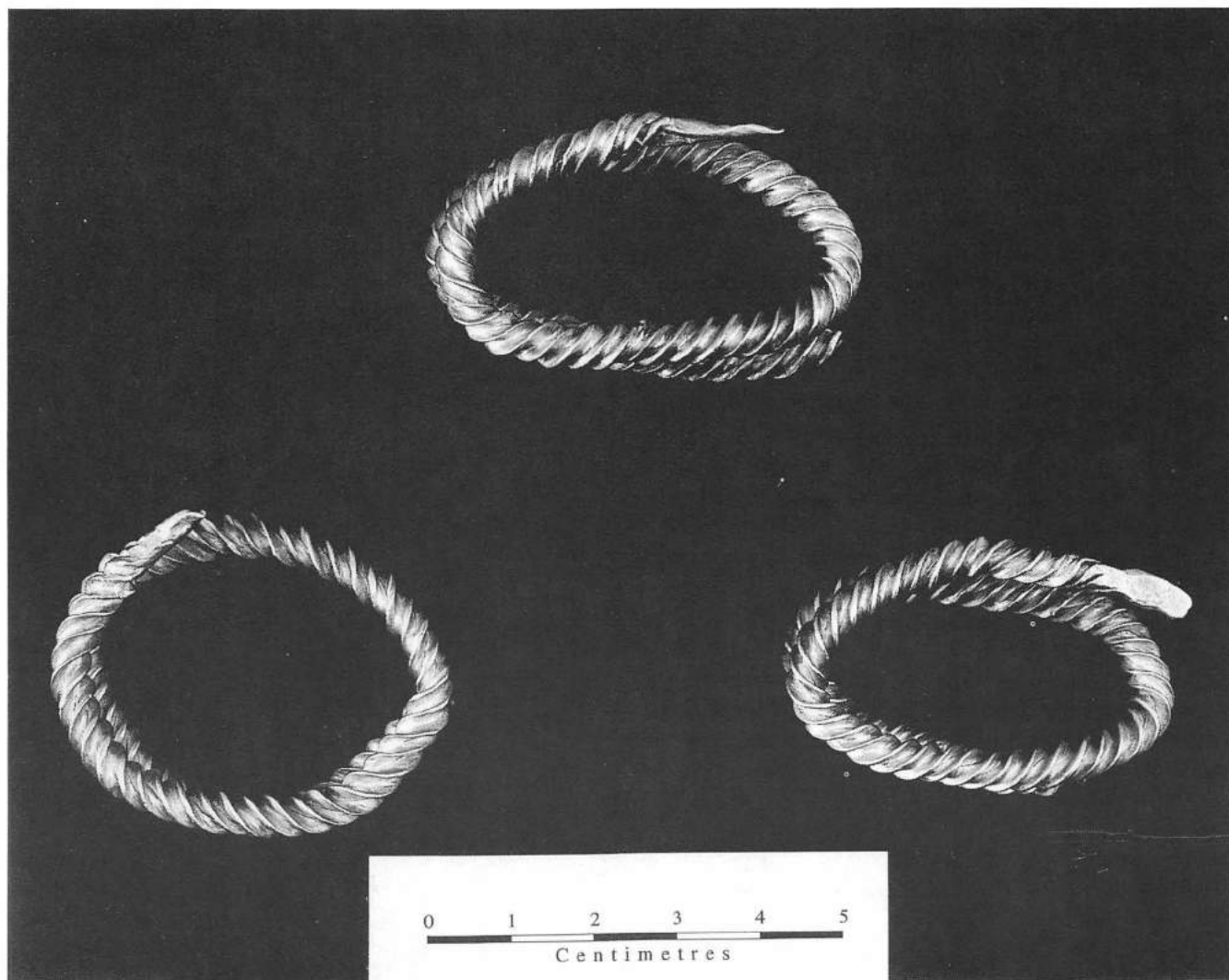


Plate I The three gold torc fragments from Woodham Walter.

from a chisel seems likely) and one which has been flattened. Semi-quantitative surface analyses of the three torcs indicates that they are of similar composition, consistent with that of other ornaments of this type. On stylistic grounds, and using the relatively few datable associations, these are assigned to the later Middle Bronze Age, c. 1200-1000BC (Needham 1990, 263; Eluère 1987, 24).

On the evidence of the surviving fragments, the original torcs were cut down in antiquity into pieces of almost identical size and weight. The weights are 36.12 g, 38.53 g and 39.39 g. This, and the fact that each was coiled in a similar way, suggests that they were placed in the ground as units of equal value: a circumstance more familiar in later periods, and perhaps the main point of interest of this find.

Much has been written on the manufacturing technique of flange-twisted torcs, and the degree of skill involved has intrigued modern jewellers. Eogan (1967, 131) recognised two main techniques: a) cutting and/or forging from a single bar, b) uniting separate strips by means of a long soldered join. However, the latter method now appears to be more a function of assumption than actuality. Taylor's case-study (1980, 10-13) of a torc from Bracks Farm, Cambs., showed that the visible 'solder' was in fact not solder at all, but perhaps due to burring of the metal during work on the flanges. Lang *et al.* (1980) found traces of solder on a flange-twisted torc from Shropshire to be the residue of a repair carried out in antiquity although the torc itself was made from a forged single rod. Northover (1989, 113-14) similarly described a likely method of manufacture for four-flanged torcs such as that from Saint Helier, in which there is no need for solder, a cruciform cross-section being prepared by cutting and shaping a single bar forged to the right length and diameter.

The visible presence on the Woodham Walter pieces of material resembling solder in many places at the intersection of the flanges demanded closer study. Detailed microscopic examination of the torcs reveals much about their fabrication, and about the nature of this material.

The torcs are tightly twisted and at various places along the intersection of the spiral flanges, deep longitudinal cut grooves can be seen. In other areas these grooves are filled with hard solder which itself is cracked along much of its length. Examination of the cut ends of the torcs shows that the longitudinal cuts

do not actually meet in the centre and there is no evidence of solder at this central point.

From these observations each torc appears to have been constructed from a single solid rod in the manner similar to the Shropshire gold torc reported by Lang *et al.* (1980) and the torc from Saint Helier (Northover 1989).

Thus, to make a torc of this type, a forged square section gold rod of correct length and diameter was made, then four deep grooves were cut along the length of the middle of the flat sides. The flanges were then hammered out to a cruciform cross-section. The original deep grooves of the Woodham Walter torcs are still seen along the intersection of the spiral flanges and the presence of solder along these grooves shows that the weakness caused by the grooves was strengthened by soldering. The solder (shown by XRF to be a silver-copper rich gold alloy) has not run fully along the grooves. Tight spiral twisting followed soldering to produce the finished shape, but the stress from this has resulted in stress corrosion cracking of the solder during burial.

Authors: N.D. Meeks and G.L. Varndell, Dept of Pre-historic and Roman Antiquities, The British Museum, London WC1B 3DG.

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Later Bronze Age sites at Great Baddow and settlement in the Chelmer valley, Essex, 1500 to 500 BC

by N. Brown and N.J. Lavender

with contributions by R. Holgate and P. Murphy

The results of a sample excavation of a Late Bronze Age circular enclosure at Great Baddow are reported. Finds recovered during quarrying south of the enclosure in the 1930s are also described. These sites are considered in relation to the excavation of the Late Bronze Age enclosure at Springfield Lyons nearby and the later Bronze Age settlement pattern in the valley is discussed.

Introduction

Following the recent total excavation of a Late Bronze Age circular enclosure at Springfield Lyons (Buckley and Hedges 1987), it was considered desirable to assess the date and nature of a similar enclosure, recognised from aerial photographs at Great Baddow. The Great Baddow enclosure stands on glacial sands nearly 3km south of Springfield Lyons, and overlooks the terraces and flood-plain of the River Chelmer to the north, from a height of c.36m OD (Fig. 1). It lies on arable farmland, although the greater part of it is now sealed by the concrete forecourt of the Manor Farm shop and the southern limit is below the A414 Chelmsford to Maldon Road. The aerial photograph shows a break in the ditch on the eastern side, apparently an entrance facing down-slope into the valley. Limited excavation was conducted at the site of the presumed east entrance by Essex County Council Archaeology Section under the directorship of the authors during March 1990, with the aid of a grant from HBMC.

The Excavations

Topsoil was machine-stripped from an area c.19m by 10m around the possible entrance causeway across the ditch (Fig. 2), revealing a layer of cover-loam (context 22), in which concentrations of finds indicated the surface of features otherwise invisible. The cover-loam was removed by hand in controlled areas to preserve these finds concentrations, and the features were all then visible cutting the sand c.0.2m below the bottom of the topsoil (Fig. 3).

The Enclosure Ditch (Fig. 3)

The largest features were two lengths of ditch: ditch 11

(Fig. 3) entering from the south baulk and extending 3.7m into the trench, and ditch 20, running 5m from the north baulk. A causeway some 1.5m wide separated the terminals of these ditches. Ditch 20 was not excavated; ditch 11 was excavated as segment 25.

Ditch 11 (Fig. 4) proved to be 2.1m deep from modern ground level and to originally have had a steep V-shaped profile with edges sloping at c.40°, although the outer (eastern) edge had been severely eroded into an uneven gradient. Towards the terminal, the bottom dipped by a further 0.1m.

The lower 0.5m of fairly sandy ditch silts (42, 34, 49), largely derived from the edges and topsoil, had apparently accumulated quickly, before the internal bank began to collapse into the ditch. A lighter brown, very sandy layer (50), confined to the inner edge, had preserved it from the erosion observed on the outer edge. This is interpreted as the slumping of a bank, composed of a dump of sandy material dug from the ditch, which must have collapsed quite early in the life of the enclosure. The steep eastern edge of this layer may indicate a recut onto the top of layer 42. There followed an episode of renewed silting (41) which was sealed by a stony layer (29), possibly derived from a bank which accompanied the recut ditch.

These layers again protected the recut inner edge from erosion. The survival of the top c.0.40m is problematic. It remained unprotected, and the deep, uniform layer 24 must have taken some time to accumulate during which the ditch edge might be expected to have eroded.

A Late Bronze Age date was confirmed for the ditch on the evidence of the pottery (below).

Other Features

Only one feature lay within the enclosure (Fig. 3): a small bowl-shaped pit, 47 (Fig. 5), c.4m west of ditch 20, 1.02m in diameter and 0.47m deep. This was filled with a light brown sandy silt and contained no finds. However, during the removal of cover loam (22), a number of sherds of Grooved Ware were recovered from directly above the point where this feature was observed, indicating a possible Late Neolithic date.

Three postholes (12, 30 and 36; Fig. 3) formed a

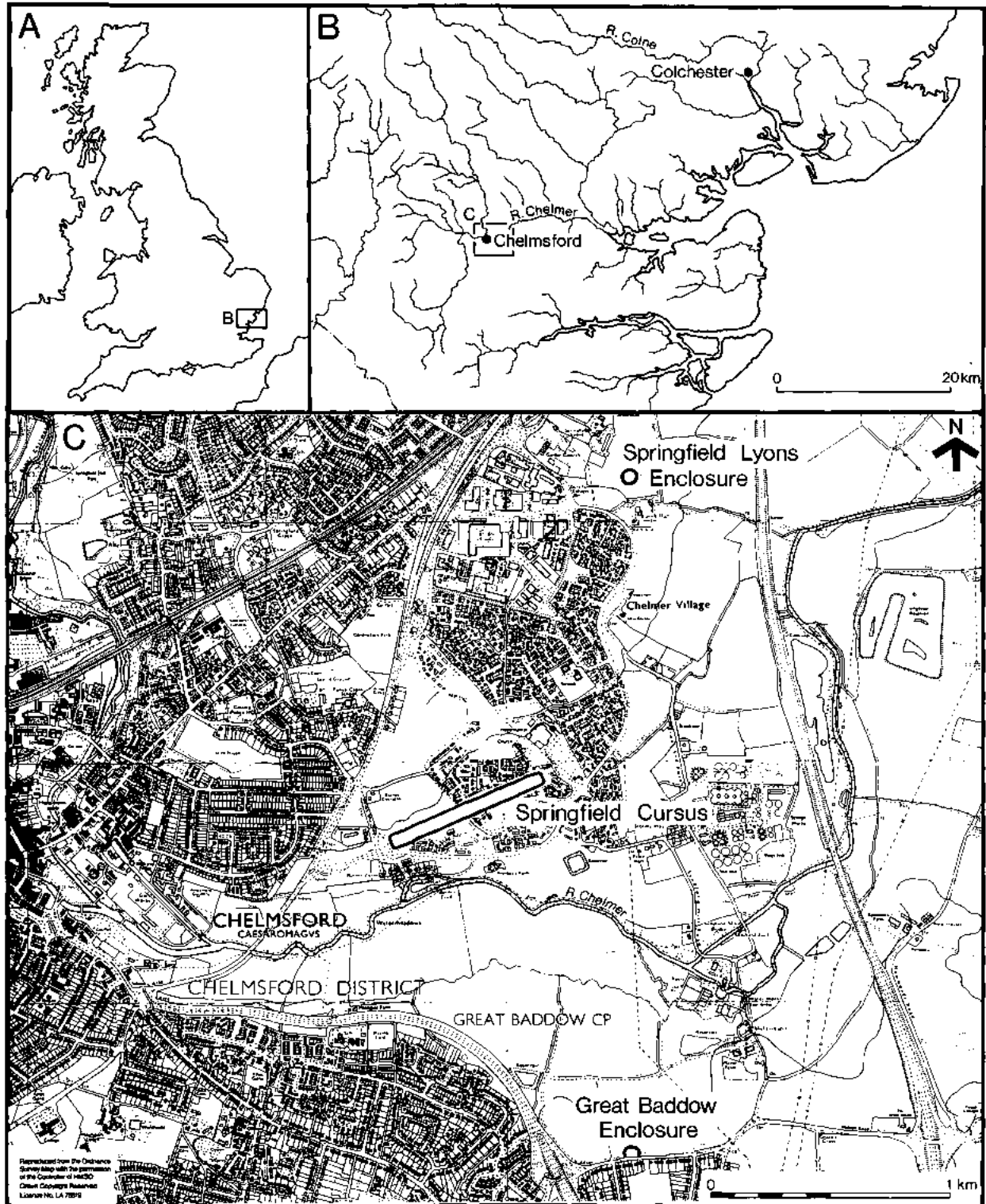


Fig. 1 Manor Farm, Great Baddow. Site location.

line, c.8m long, running from the north-west corner of the trench towards the terminal of ditch 20 (Fig. 3). Two of these had clearly defined post-pipes, indicating vertically set posts, and had nearly vertical sides to the post-pits, although 30 sloped outwards on the south

side. Context 12 was 0.85m in diameter and 0.47m deep, whilst 30 was slightly larger with a diameter of 1.14m and a depth of 0.5m. The third posthole, 36, was more conical in shape with an upper diameter of 1.63m and a depth of 0.53m. It did not have a clearly

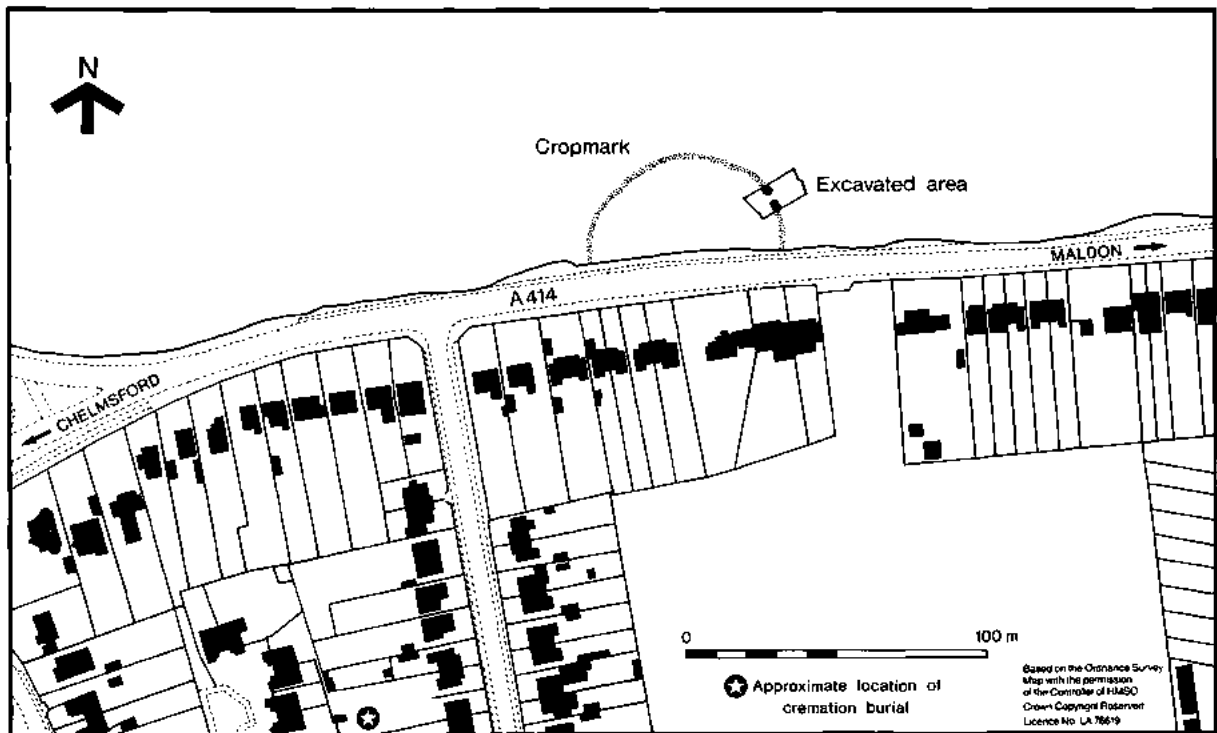


Fig. 2 Manor Farm, Great Baddow. Site plan.

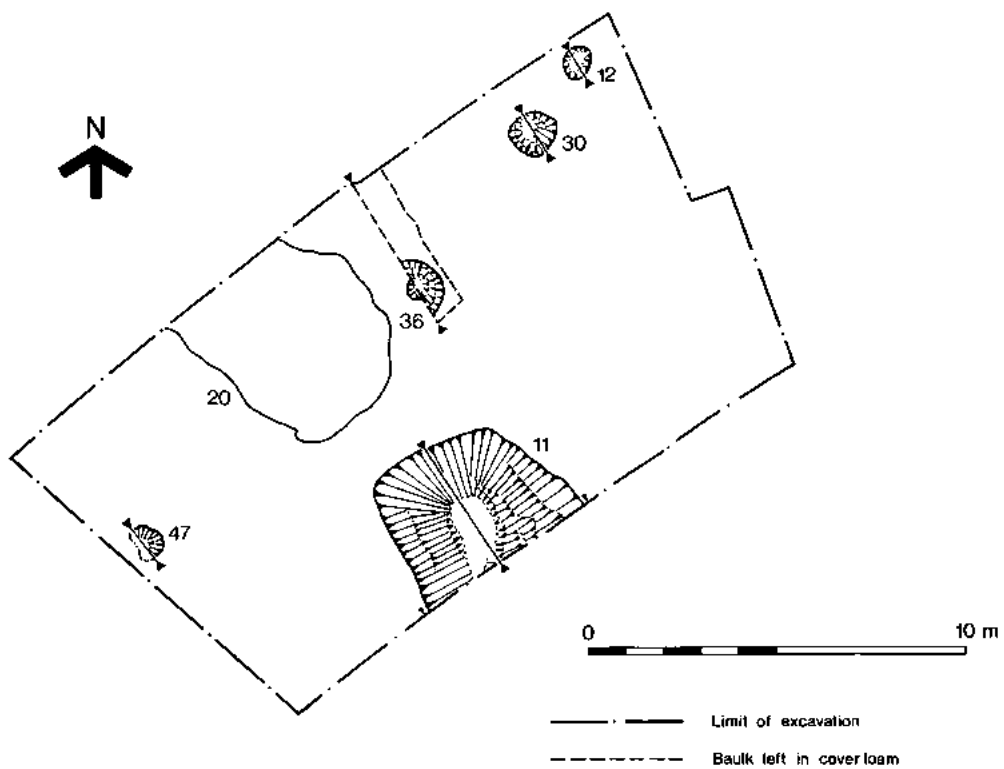


Fig. 3 Manor Farm, Great Baddow. Detailed plan of excavation.

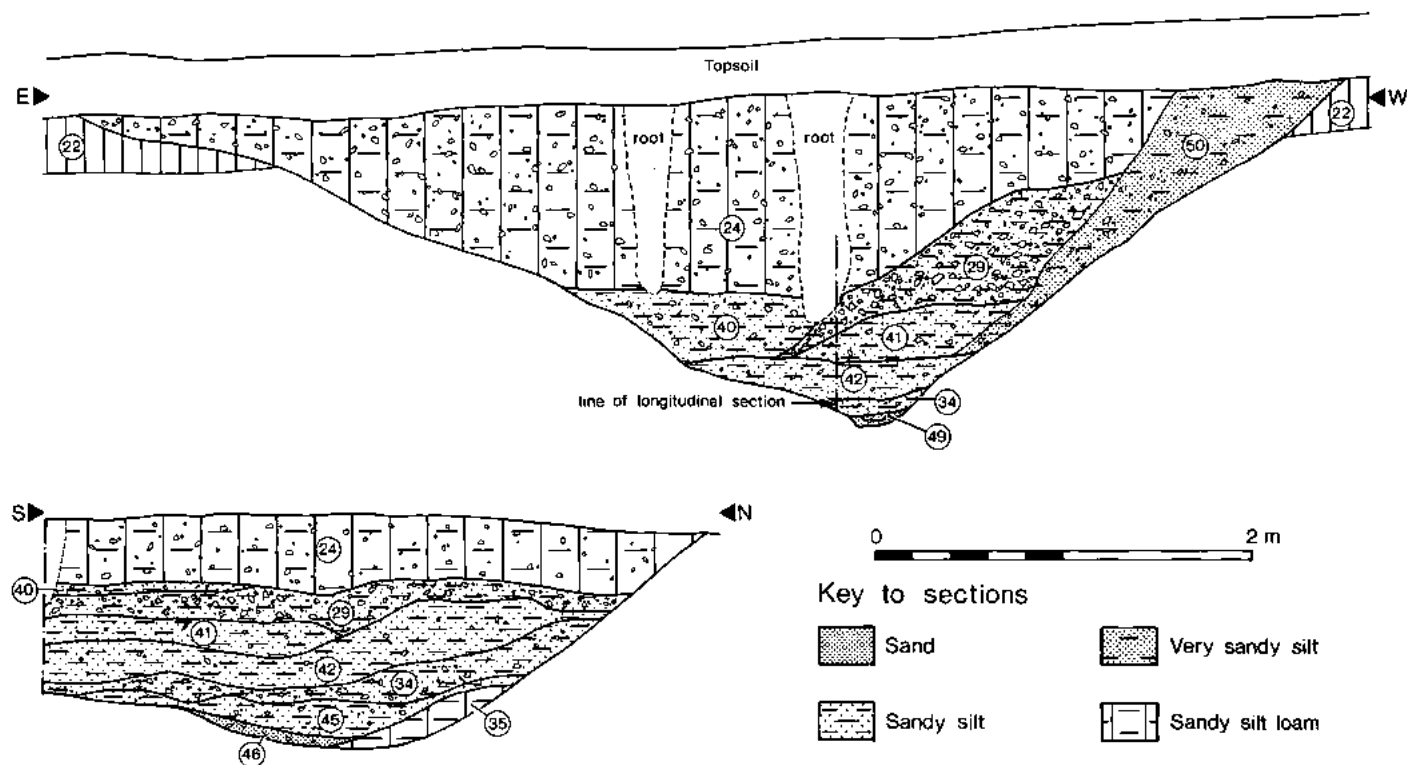


Fig. 4 Manor Farm, Great Baddow. Ditch terminal sections.

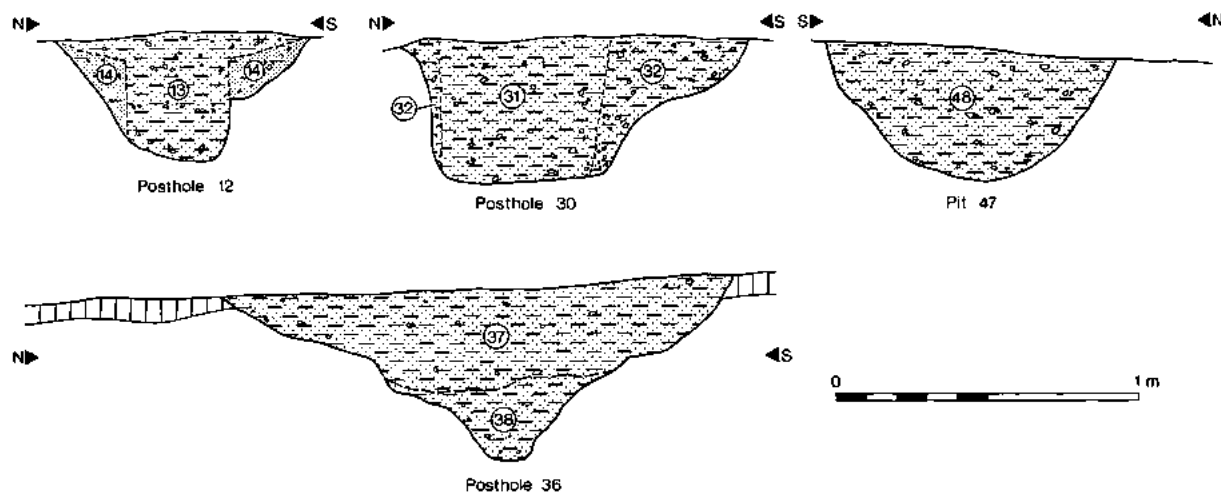


Fig. 5 Manor Farm, Great Baddow. Sections.

differentiated pipe and pit, but the upper fill was identical in texture and colour to the pipe fills in 12 and 30, and the lower fill the same as their packing. Some abraded sherds of prehistoric pottery, possibly residual, were present in these features.

The prehistoric pottery (Figs 6 and 7)

The excavation produced a small quantity of prehistoric pottery: 440 sherds, weighing 2.707 kg. The majority was derived from the cover-loam (248 sherds, weighing 1.422 kg); most of the remaining pottery (129 sherds, 0.797 kg) came from cleaning the enclosure ditches and the excavated segment (25) of ditch 11. The pottery was recorded

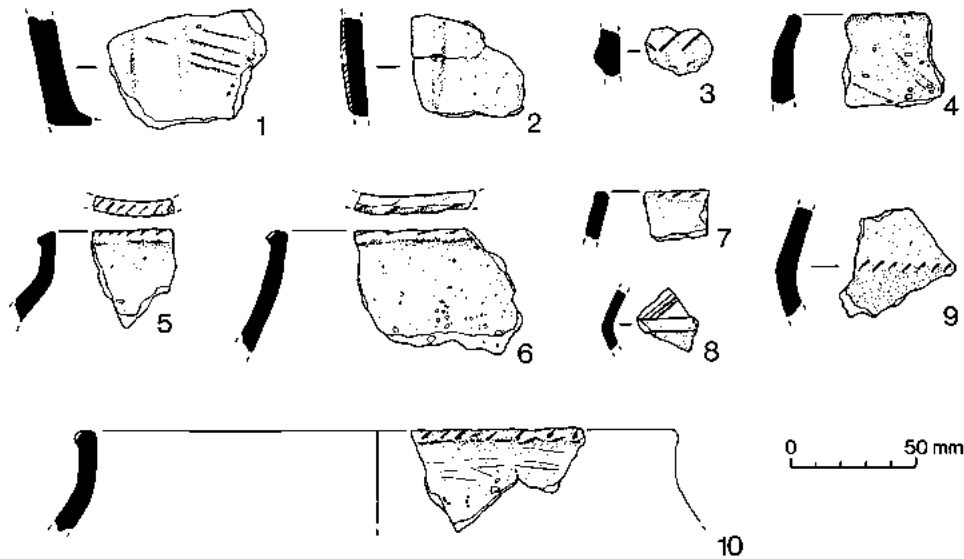


Fig. 6 Manor Farm, Great Baddow. Prehistoric pottery.

using a system devised for prehistoric pottery in Essex (details in archive). Fabrics present in the assemblage were:

- A. Flint, S, 2.
- B. Flint, S-M, 2.
- C. Flint, S-M with occasional L, 2.
- D. Flint, S-L, 2.
- E. Flint and sand, S-M, 2.
- I. Sand, S-M, 2.
- M. Grog, often with some sand or flint and small voids.
- O. Quartz and flint with some sand.
- P. Largely temperless, may have sparse fine sand, occasional flint or voids.
- Z. Unclassifiable.

Where size of inclusion is represented by:

- S = Less than 1mm
- M = 1-2mm
- L = More than 2mm

and density of inclusions by:

- 1 = Less than 6 per square cm
- 2 = 6-10 per square cm
- 3 = More than 10 per square cm.

Catalogue of illustrated sherds

No.	Context	Fabric	Description
Fig. 6.1	22	M	Grooved Ware. Slight vertical cordons, linked by lightly grooved lines forming a ladder pattern.
Fig. 6.2	22	P	Grooved Ware. Vertical cordon.
Fig. 6.3	24	P	? Grooved Ware. Residual in Late Bronze Age ditch. Incised lines above cordon. Abraded.
Fig. 6.4	34	C	Rim of hooked-rim jar. Lower fill of enclosure ditch.
Fig. 6.5	54	C	Rim of jar with slashed decoration. Cleaning of cover-loam.
Fig. 6.6	19	D	Rim of jar, finger impressions on exterior of rim. Cleaning cover-loam over enclosure ditch.

- Fig. 6.7 21 D Rim of jar with finger nail impressions on exterior of rim. Upper fill of enclosure ditch.
- Fig. 6.8 24 A Sherd of fine bowl or cup with lightly incised/combed decoration, smoothed surfaces, abraded upper fill of enclosure ditch.
- Fig. 6.9 24 C Shoulder of jar with finger nail impressions. Upper fill of enclosure ditch.
- Fig. 6.10 24 D Jar rim, stabbed impressions on exterior of rim. Upper fill of enclosure ditch.
- Fig. 7 - D Bucket urn. Flat topped rim with row of pre-firing perforations below. Horizontal row of faint thumb impressions on exterior, possibly the result of joining rim to body. Some light finger impressions towards base probably the result of vessel manufacture. Some vertical finger wiping of surface. Slightly concave base giving footring effect.

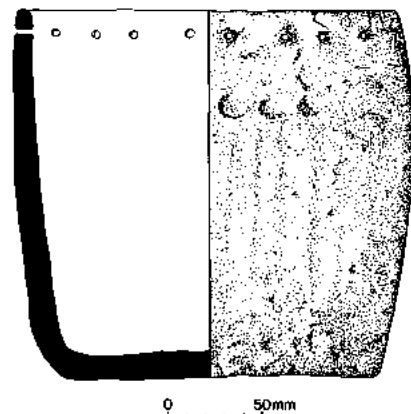


Fig. 7 Deverel-Rimbury bucket urn from Great Baddow.

The illustrated material represents the full range of decorative techniques and forms present, and comprises 27% of the feature sherds, excluding base sherds. All base sherds are from flat bases.

The earliest material present is a group of Grooved Ware from what may have been the upper fill of F47, or residual in the enclosure ditch. Such a small group is difficult to ascribe to one of Wainwright and Longworth's (1971) Grooved Ware styles. However, the division of the body into panels by the use of vertical cordons is a trait typical of the Durrington Walls style.

Apart from two grog-tempered Late Iron Age sherds from the cover-loam, the rest of the material was of Late Bronze Age date. The pottery is of small sherd size and there were few joining sherds. Very little was recovered from the lower ditch silts in the excavated segment, the only diagnostic sherd being a rim of a plain hooked-rim jar (Fig. 6.4). This can be paralleled locally by the pottery from Broads Green (Brown 1988a), and the lower ditch silts at Springfield Lyons (Brown unpublished). A larger quantity was recovered from the upper fill and stripped surface of the ditch. All the recognisable rims and shoulder sherds amongst this material are decorated (Fig. 6.5, 6, 7, 9 and 10 illustrate the range of decoration). Also present were a few small decorated sherds (the largest illustrated, Fig. 6.8) of fine bowls or cups.

This pattern fits the general scheme, outlined by Barrett (1980), of a move from plain to decorated assemblages during the Late Bronze Age, a sequence which can be demonstrated stratigraphically by pottery from the ditch silts at Springfield Lyons (Brown unpublished). Therefore it may be that the pottery from the lower silts of Great Baddow enclosure ditch dates from the 9th century BC; the decorated material may be of 8th-7th century BC date, and was deposited after the bank collapse (Fig. 4, layer 29).

The Flint

by R. Holgate

The excavation produced 320 flints (Table 1). The raw material consists of unpatinated dark grey-brown to brown flint. Cortex, where present, is usually thin and abraded and is consistent with the

small flint nodules occurring in gravel deposits on and near to the site. The cutting blade fragment (Table 1) is the only flint with a blue-white patination; and is mesolithic in date. Four pieces are fire fractured.

Most of the flakes were struck off cores using hard hammers and the incipient cones of percussion on most of the flake cores suggests that they had also been worked with hard hammers. Some flakes from the cover loam, as well as the blades and the bladelets, were detached using soft hammers.

The cutting blade fragment and some, if not all, of the blades and the bladelets date to the mesolithic period, whilst the other blades and bladelets, along with the blade core, could be earlier neolithic in date. The remainder of the flint assemblage probably dates to the later neolithic/Bronze Age. The combination tool (Table 1), a cutting flake/piercer with a notch on the opposite lateral edge, is a form commonly found on later neolithic sites in southern England (Holgate 1988, 51); it is thus possible that a proportion of the flintwork from the cover loam and other contexts dates to the late 3rd-early 2nd millennia b.c. However, it is likely, given the limited range of implements present and the fact that cores were worked without any form of platform preparation taking place, that the bulk of the assemblage dates to the late 2nd-early 1st millennia b.c.

Carbonised plant remains

by P. Murphy

Excavation was limited to part of the enclosure ditch and some post-holes. Samples for bulk flotation using 0.5mm collecting meshes were collected from these features (Table 2). Carbonised plant remains recovered were exceedingly sparse, despite fairly extensive sampling. The samples produced only very small amounts of charcoal, usually in small fragments, with a few remains of charred cereals, weed seeds and a possible tuber (Table 2). Amongst the cereal remains, only wheat (*Triticum* sp) is represented, by deformed and poorly-preserved grains. A single glume base from the top fill of the enclosure ditch establishes the presence of spelt, *Triticum spelta* L.

Table 1 Flintwork from the Manor Farm excavation.

Context	Flakes	Blades	Bladelets	Shattered pieces	Blade cores	Flake cores	Miscellaneous retouched flakes	End scrapers	Side scraper	Cutting flakes	Cutting blade	Combination tool	Fabricator	Fire fractured flint	TOTAL
Unstratified/modern fill (2)	85	1	5	7	1	5	2	1	1	-	-	-	1	-	109
Cover-loam 6,15,23,39	23	-	-	1	-	1	1	-	-	-	-	1	-	1	28
Ditch 11 top fills	43	2	-	3	-	4	-	-	-	-	-	-	-	-	52
Ditch 11 secondary/tertiary fills 24,29,34,35,42	57	-	1	10	-	6	-	-	-	2	1	-	-	-	77
Ditch 11 primary fill (49)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Ditch 20 top fills 18,19,20,21	38	-	1	6	-	2	-	1	-	1	-	-	-	-	49
Natural hollow fill (33)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Posthole fill (37)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2
TOTAL	251	3	7	27	1	18	3	2	1	3	1	1	1	1	320

Table 2 Manor Farm, Great Baddow: carbonised plant macrofossils.

Context	Sample No.		
32	6	Cereal indet	1
37	9	<i>Triticum</i> sp	1
38	13	Cereal indet (frag)	+
24	14	<i>Triticum</i> sp	1
		<i>Triticum spelta</i> (glume base)	1
24	15	Polygonaceae indet	1
24	17	Cereal indet (frags)	+
29	20	Indet seed	1
42	31	Cereal indet	1
34	34	cf. <i>Arrhenatherum elatius</i> (tuber)	1
		Indet seed	1
34	36	<i>Triticum</i> sp	1

Extensive sampling during the Springfield Lyons excavation produced some quite large assemblages of carbonised cereals and weed seeds, but these came mostly from pits in one localised area inside the enclosure. Post-holes and the fills of the enclosure ditch at Springfield usually included rather low densities of plant material and some samples from these types of feature produced no material at all, particularly the lower ditch fills (Murphy 1990). Similar patterns of refuse disposal at Manor Farm would be expected to result in only low densities of plant material in the enclosure ditch and post-holes at the periphery of the enclosure. This is, in fact, the result obtained: the very sparse material from Manor Farm indicates that there was no significant disposal of cereal refuse in the area examined. The top fill of the enclosure ditch (24) included a spelt glume base, though clearly this might post-date the main phase of Late Bronze Age activity at the site.

Finds from the 1930's quarrying

A number of finds of prehistoric material were made in the autumn of 1930, at a gravel pit, now partly built over, immediately south of the Late Bronze Age enclosure (Fig. 2). Some of the finds were donated to the Colchester Museums and a note of these together with a brief account of their discovery appeared in the Museums' Annual Report; part of this is reproduced below.

639.30. Fragments of pottery of the earliest Iron Age type, found in a gravel pit at Great Baddow. Given by Mr W. Sharp, Chelmsford.

651.30. Lower portion of a spherical vessel of coarse red ware, with dark exterior, found in a small pit on the same site as the above. Given by Mr Sharp.

652.30. Cast of a small tub-shaped cinerary urn of coarse brown ware. The top is pierced with a row of small holes about half an inch below the rim, apparently for tying on a cover. The original is in the possession of Mr Sharp.

The above finds were made in October 1930, when clearing top-soil on the south side of a large gravel pit half a mile north-east of Great Baddow Church, on the Danbury Road. The site is on a hill-top commanding a wide view in all directions. The pottery fragments were found in small pits or depressions, generally oval in shape, measuring about six feet by four feet, and eighteen inches deep. The lower part of the filling consisted of large pebbles, and here and there charcoal was observed. Some burnt flint "pot-boilers" also appeared."

All this material has been examined, except the 'spherical vessel' 651.30 which could not be located at Colchester Museums. The pottery described as 'earliest Iron Age' 639.30 in fact consists of early Saxon sherds, with a rim and a few body sherds of an early Neolithic plain bowl. The remaining vessel 652.30 was subsequently donated by Mr Sharp to Chelmsford Museum; the vessel is a Deverel-Rimbury bucket urn (Fig. 7). The urn as preserved in Chelmsford Museum contains a quantity of cremated bone; this together with its description as a 'cinerary urn' leaves little doubt that it derives from a cremation burial. The range of finds from the quarry, together with those from the enclosure, indicates that the gravel terraces south of the Chelmer were as intensively occupied, as those on the more comprehensively studied north bank (Buckley and Hedges 1987).

The presence of a bucket urn with a cremation burial so close to the Baddow enclosure is of particular interest. Extensive excavations in and around the enclosure at Springfield Lyons have revealed almost no indication of Middle Bronze Age occupation. The Carshalton enclosure appeared to overlie a Middle Bronze Age cremation cemetery (Champion 1980) although this now seems not to have been the case (Adkins and Needham 1985). However, excavation of the North Ring at Mucking revealed three cremation burials (Bond 1988) close to the Late Bronze Age enclosure.

Discussion

The principal aim of the excavation was to establish the date and nature of the enclosure. This was achieved, demonstrating that the Great Baddow enclosure possesses some strong similarities to its neighbour at Springfield Lyons: chiefly size, date, ditch profile and possibly distribution of carbonised plant remains. Certain other resemblances are lacking. At Springfield Lyons and most similar enclosures the eastern, or south-eastern, causeway was the main (sometimes only) entrance, and was sometimes served by a gate structure.

The North Ring at Mucking (Bond 1988), Highstead and possibly Mill Hill, Deal (Champion 1980) as well as Springfield Lyons all had such a structure. At Great Baddow there was no evidence that a gateway structure had existed. Neither was there any sign of rows of postholes, identified at Highstead and Springfield Lyons as forming a bank-revetment. Although this could be due to the size and location of the trench, or failure of shallow features to penetrate through the cover-loam. Neither of these aspects was present at every other site, and some, such as Queen Mary's Hospital, Carshalton (Adkins and Needham 1985) did not appear to have had either.

There is clearly considerable variation in the internal arrangements of each of these sites (Needham 1993), often masked by the tendency to view them as a "Monument class" based largely on the circular form of the ditch.

The Baddow site and settlement in the Chelmer valley

Late Neolithic, Grooved Ware and Beaker deposits, often apparently deliberately placed, occur at Springfield Lyons and the Cursus. At Great Baddow similar structured deposits are represented by an axe hoard and possibly the Grooved Ware pit (above).

Deposition continued at the Cursus well into the first half of the second millennium BC (Buckley and Hedges, in prep). Apart from a few stray sherds of bucket urn, there is little indication of activity at the major monuments in the Chelmer valley during the Middle Bronze Age.

Instead, occupation is represented by finds of bucket urns and a palstave (Fig. 8). Some of the many cropmark ring-ditches known in the valley probably date to this period, although dating evidence from the only excavated example is inconclusive (Buckley and Hedges, in prep). No major settlement site is known in the area. This may be the result of the concentration of excavation on major cropmark enclosures. Evidence from elsewhere in southern Britain, indicates that settlements of this period in major enclosures are rare although they occasionally occur (Ellison 1981). Settlements are usually set within small-scale enclosures (e.g. Irford Hill, Burstow and Holleyman 1957; Black Patch, Drewett 1982), and there is some evidence of a similar pattern in Essex (Wymer and Brown, forthcoming).

It is hoped that field survey in the Chelmer valley will locate settlement sites of this period. The cessation of artefact deposition at the Springfield Cursus around 1500 BC reflects a change in social organisation. Structured deposition now takes place in a domestic context and is directly concerned with the production, distribution and consumption of food, metalwork and textiles (Barrett and Needham 1988). In Essex this is represented in the Middle Bronze Age at Mucking where selected pots and cylindrical loom-weights were carefully deposited in pits, and at North Shoebury where a variety of structured deposits involving pottery and animal bone occurred within the settlement (Wymer and Brown, forthcoming).

Similar deposits continued to be made in the Late Bronze Age. However, there are significant differences; the ceramic repertoire now includes a range of vessels associated with the service of food and drink (Barrett 1980; 1989). A variety of domestic activities which appear to have been split between different compounds in the Middle Bronze Age, can now be found within the larger enclosures (Barrett 1989). Study of the distribution of carbonised plant remains and various artefacts reveals a variety of activities taking place in specific locations within the Springfield Lyons enclosure (Buckley and Hedges, in prep), as they are in other Late Bronze Age enclosures, e.g. Lofts Farm (Brown 1988b). Similar variation may also be apparent at unenclosed settlements (e.g. Broads Green, Brown 1989).

The most striking development in the Chelmer valley is the construction of the Springfield and Baddow enclosures themselves, dramatically sited overlooking the valley. Interestingly there appears to be a quite different silting sequence in the ditches of the two sites. Great Baddow seems to have lacked a post-

built rampart and an internal bank does not seem to have been maintained for any length of time. This, together with the presence of quantities of decorated pottery from high in the ditch silts, appears to indicate a sequence similar to that proposed for Mucking North Ring (Bond 1988, 36). At Springfield Lyons, although there were no major recuts of the ditch, it may have been periodically cleaned, and the silting sequence includes a variety of deposits spanning several hundred years. It is possible that the impressive gate structure and rampart were maintained for much of this time. Moreover, extensive areas have been examined outside the enclosure revealing little indication of Bronze Age occupation. This is a marked contrast with enclosures such as the Mucking North Ring (Bond 1988) and Lofts Farm (Brown 1988b). It may be that the occupants and activities within the Springfield Lyons enclosure were deliberately isolated in a manner anticipating the practice of the later first millennium BC (Bowden and McOmish 1987; Barrett 1989).

Notable among the deposits in the Springfield Lyons ditch are the concentrations of bronze-casting moulds at the major entrances. Evidence of bronze-working is common to most of the Late Bronze Age circular enclosures so far examined. Ewart Park type swords were produced at Springfield Lyons (Buckley and Hedges 1987); bronze rings at Mill Hill (Champion 1980) and possibly sickles at Mucking (Needham 1988). A crucible fragment was also found at Carshalton (Adkins and Needham 1985). The objects produced are those concerned with dress and display (Barrett 1989). The exception is the possible sickle mould from Mucking, although sickles may themselves have carried particular symbolic value. They certainly seem to be under-represented in the hoard record (Barrett 1989). No material indicating bronze working has yet been found at Great Baddow.

There is now a considerable body of Late Bronze Age settlement evidence from the Chelmer valley; this includes a small roughly D-shaped enclosure at Broomfield, with a single roundhouse, surrounded by a quite shallow enclosure ditch with a single east-facing entrance (Atkinson 1992 and in prep.). Open settlement has been recorded at Broads Green (Brown 1988a, 1989) and Great Holts, Boreham. At Broads Green, a scatter of pits surrounded a very small rectangular structure, a number of unurned cremation burials, possibly contemporary with the Late Bronze Age occupation were also recorded. At Great Holts, occasional pits of Late Bronze Age date were encountered during excavation of a Late Roman rural settlement. Recently, only 800m north of Springfield Lyons at Boreham Interchange, a number of pit clusters partly enclosed by a curving ditch have been excavated (Allen and Lavender in prep.). These pits contained deposits of Late Bronze Age pottery, apparently deliberately placed. The relatively shallow ditch had been recut a number of times on the west side, the final recut being

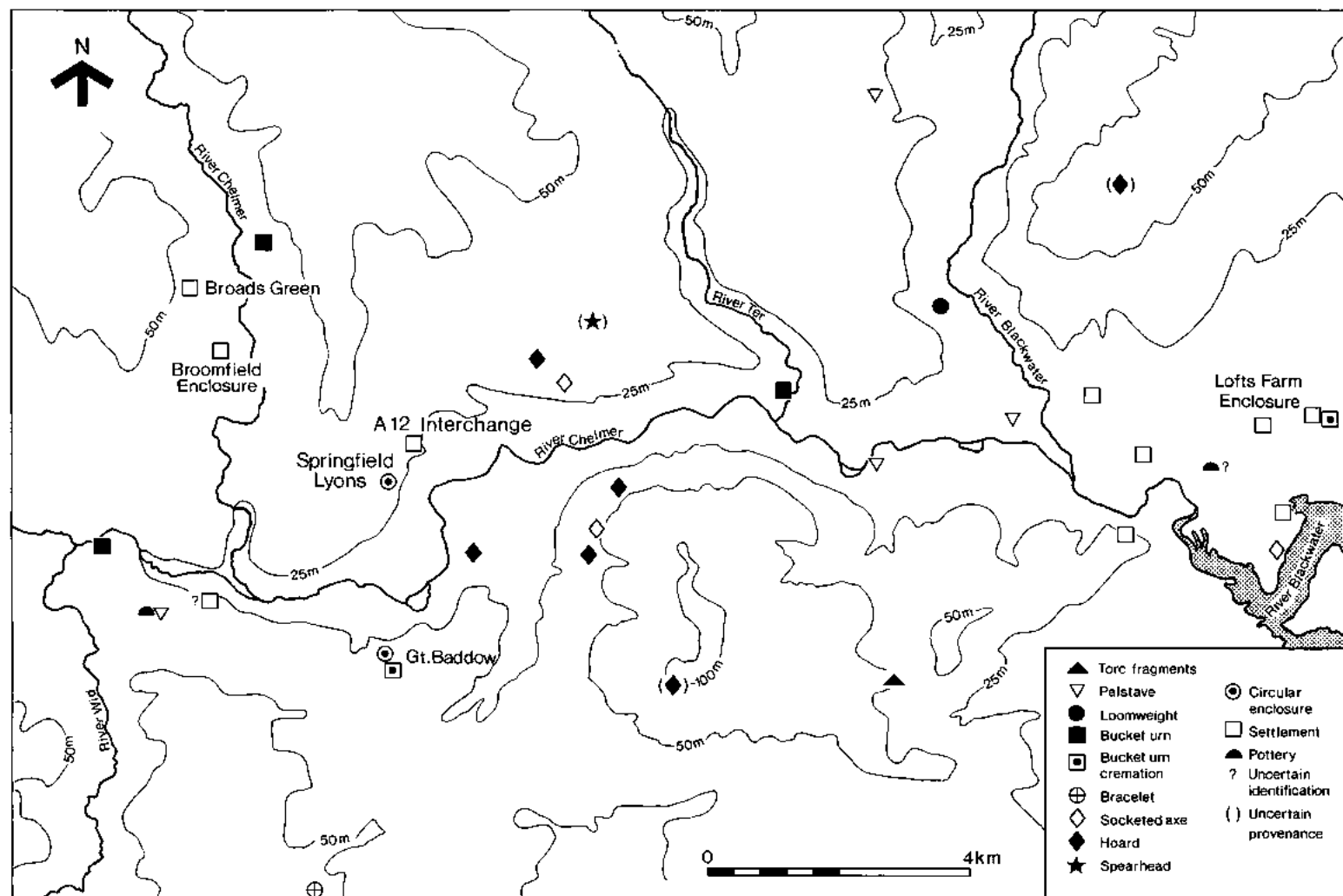


Fig. 8 Later Bronze Age sites and finds in the Chelmer valley.

filled with a dark charcoal rich deposit with frequent bone and Middle Bronze Age pottery (Lavender, in prep).

With the recent discovery of a Late Bronze Age spearhead at Boreham (Brown 1991), the concentration of metalwork finds in the Chelmer valley (Buckley *et al.* 1986) continues to grow. It may be possible to suggest a division in the types of deposits represented, between large groups of broken objects and ingot fragments such as the Boreham and Little Baddow (Buckley *et al.* 1986) hoards, and complete pieces such as the Boreham spearhead and pair of axes from Phillows Farm (Couchman 1976).

The establishment of a Late Bronze Age date for the Great Baddow enclosure emphasises the importance of full publication of Mucking South Ring to enable comparison with the North Ring (Bond 1988). The pairing of these sites raises the question of the extent of the territories they may have served (Needham 1993). The Great Baddow and Springfield Lyons enclosures are on opposite sides of the Chelmer, and may be seen as linked sites dominating the river valley, or perhaps as sites placed on the edges of territories with the Chelmer as a boundary. With this in mind it should be emphasised that the concentration of metalwork in the Boreham and Little Baddow areas spans both sides of the river. The Late Bronze Age sites in the Chelmer valley are separated from another concentration of finds around Wickford in the Crouch Valley to the south (Brown 1988c) by a ridge of London Clay. An isolated discovery of a pair of gold bracelets from West Hanningfield (Buckley *et al.* 1986) on this clay land may represent a deposit on the boundary of two territories.

The occupation sequence at Springfield Lyons comes to an end with a substantial deposit of ceramic

debris in the south west of the enclosure ditch datable to around 600 BC (Brown unpublished). Elsewhere in the valley there is very little evidence of occupation, until the establishment of the earthworks on the Danbury Ridge which have produced Early/Middle Iron Age pottery (Dunning 1934; Morris and Buckley 1978), and the Middle Iron Age settlement at Little Waltham (Drury 1978). This is in marked contrast with the area around the Blackwater estuary, where numerous sites producing large quantities of distinctive Early Iron Age Darmsden-Linton style ceramics are known (e.g. Lofts Farm: Brown 1988b; Rook Hall: Adkins *et al.* 1984-5; Maldon, Beacon Green: Bedwin 1992.)

It is hoped that further work in the Chelmer valley will elucidate the prehistoric settlement pattern. Completion of the Springfield Lyons post-excavation programme will allow a fuller discussion of the nature of these important Late Bronze Age enclosures.

Acknowledgements

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Archaeological fieldwalking in Essex, 1985-1993: interim results

by Maria Medlycott and Mark Germany

This report covers the results to date of the 20m-grid fieldwalking system being used in Essex. 1156 hectares have been walked and 160 new sites located. These are discussed by period, some case studies are examined in more detail and conclusions are drawn.

1.0 Introduction

Fieldwalking has been used for many years as a technique to assess the archaeological potential of areas of farmland threatened by large-scale development. The Stansted Airport project (1985-89) is one recent example where fieldwalking was successful in locating many sites in advance of airport construction (Brooks and Bedwin 1989).

However, since the publication in November 1990 by the Department of the Environment of Planning and Policy Guidance 16, usually known as PPG 16, the number of fieldwalking projects has risen sharply, both in Essex and nationally. This has largely been due to para. 21 of PPG16, which formalised, within the planning process, the concept of field evaluations. These are to be carried out, where appropriate, in response (often rapid response) to a planning application, but *prior to* any decision on that application. The results are made available to the Local Planning Authority, so that it can be fully informed about the archaeological potential and can take that into account, along with many other factors, before coming to a decision.

The upsurge in PPG16 evaluations underlined the need for a standardised approach to fieldwalking. In Essex, this has been developed by the County Council's Archaeology Section, and is now widely adopted. This ensures that the results of individual projects are directly comparable with one another, regardless of who has carried out the work. Equally, such an approach facilitates county-wide study of patterns which will inevitably emerge as more of these projects are undertaken.

This article sets out the standard methodology currently employed in Essex and summarises the results of 20 fieldwalking projects in various parts of the county. It is intended as a contribution to the debate about how the results of fieldwalking are to be interpreted; it also offers preliminary thoughts about the implications of the results so far for the Essex Sites and Monuments Record (ESMR). The 20 projects are listed in Table 1; their locations are shown in Figure 1.

2.0 Methodology

2.1 Extensive survey

Extensive fieldwalking represents a well-tested method of survey used in landscape studies (Hayfield 1980; Shennan 1985). In the extensive method described below a 10% sample of the survey area is walked on a controlled grid-system.

The grid-system used is based on the National Grid. This is because many large developments (such as mineral extraction) obliterate much of the existing landscape. It is therefore essential that the recording scheme is based on permanent reference points. The development area is first sub-divided into kilometre squares, each of which is given an identifying letter. Each kilometre square is then sub-divided into hectares, numbered from 1-100, starting at the south-west corner. Each hectare is then sub-divided into 20m square boxes, labelled A-Z (excluding O), starting in the south-west corner. A transect 2m wide (i.e. 10%) is then walked along the western edge of each box and the finds gathered; total retrieval is carried out at this stage.

However, it is not practicable to undertake a fieldwalking survey of a narrow linear development (such as a road scheme) based on the National Grid. For this sort of survey a base-line is laid out along the length of the development. The development is then sub-divided into hectares and 20m transects, as in the area surveys, but laid out at right-angles to the main base line.

2.1.1 Recording, finds-processing and identification:

A fieldwalking record-sheet is filled in for each hectare. This will record which 20m runs were walked, who walked them, the condition of the field-surface and crop (if any), the weather, and topography. The finds are then washed and marked with an identifying code, recording site, kilometre square, hectare and 20m transect. They are then quantified according to type and date. The number of individual sherds for each 20m transect and their combined weight is recorded on finds-processing sheets.

A 'site' is thus defined as a deviation from the norm for the survey area (this is expressed mathematically in the following equation).

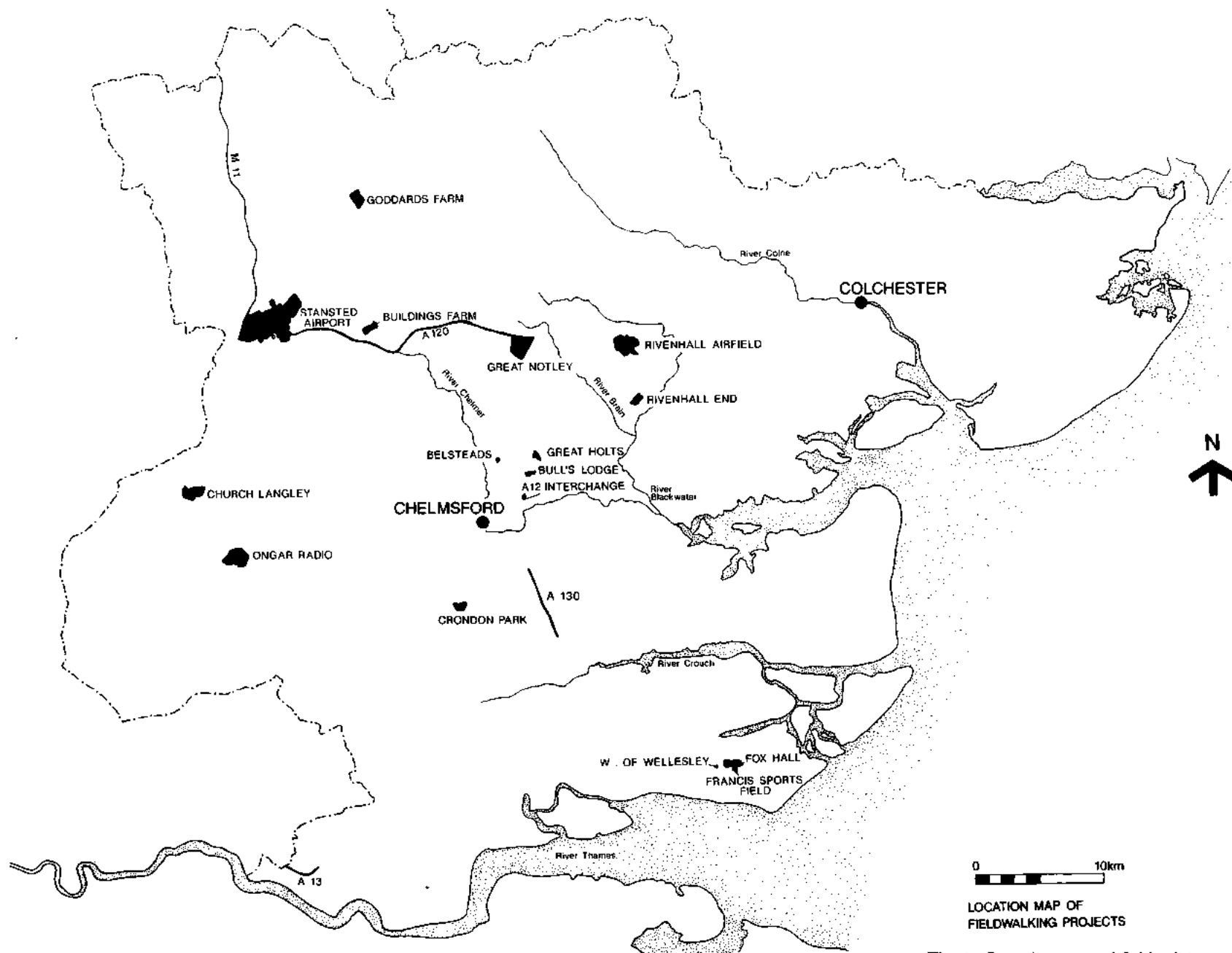


Fig. 1 Location map of fieldwalking projects.

Table 1 Number of sites per project.

Project	PREHIST	ROMAN	SAXON	MED	POST-MED	20M RUNS
A13 (Wennington-Mar Dyke)	1	1				153
A120 (Stansted-Braintree)	9	10		14	12	1920
A130 (Howe Green-Rettendon Turnpike)	4	1		1	1	853
Belsteads, Little Waltham						54
Bull's Lodge, Boreham		1				500
Springfield, A12 Interchange	1			1		199
Buildings Farm, Gt. Dunmow	6	5	5			1243
Church Langley, Harlow	5	2		4	3	1980
Crondon Park, nr. Stock	3	1	1	1	1	1394
Francis sport field, Southend						192
Fox Hall, Southend		1		1	1	1922
Goddards Farm, Thaxted	1			1	3	1798
Great Holts, Boreham		1				175
Great Notley, Black Notley						1849
M11, Bishops Stortford-Great Chesterford	6	1				863
Ongar Radio, Chipping Ongar	2			2	1	2162
Rivenhall airfield	6	2		1	6	3341
Rivenhall End						837
Stansted Airport	9	4	5	8	4	7335
W. of Wellesley, Southend						136
TOTAL	54	29	7	39	31	28906 (1156 Ha.)

$$\sigma = \sqrt{\frac{\sum x^2}{n} - \mu^2}$$

n = the number of 20m transects walked

x = the sum of the find-type

$\sum x^2$ = the sum of the find-type individually squared

μ = the mean of the find-type per 20m transect

σ = the standard deviation of the find-type.

Usually the site is identified by a cluster of finds weighing more than two standard deviations. The *relative* density required to define a site fluctuates widely from period to period, and from one survey area to another. For example, in an area producing very little Saxon finds, a couple of Saxon sherds in adjacent runs would be interpreted as a site, whilst a post-medieval site would probably take the form of a dense cluster of over two standard deviations of pottery and tile against an average background scatter of similar material. This definition of a site is an essentially statistical one, backed up by professional judgment as to just what kind of past activity may have been responsible for this

deviation. This is considered in greater detail below (3.0).

3.0 Analysis

3.1 Introduction

In the discussion below the fieldwalking information from the 20 projects is sub-divided by period, using the Essex Sites and Monuments Record categories.

Due to the fact that the actual distribution of fieldwalking projects is development-led, the majority of projects are in north-west Essex, on the boulder clays. Though approximately 34% of Essex is boulder clay, 81% of all fieldwalking has taken place on it, whilst sand and gravel which accounts for 21% of Essex geology has only 6% of the fieldwalking. As a result the statistics are most valid for the boulder-clay region and soil-type (Table 2).

The areas referred to as 'hectares walked' in the following text mean the 10% sample examined within a hectare.

Table 2 Number of sites per soil-type.

Soil-type	PREHIST	ROMAN	SAXON	MED	POST-MED	20M RUNS
Boulder clay	44	24	5	35	29	935
Brickearth	2	1	1	1	-	118
Sand and gravel	4	3	1	1	1	69
London Clay	4	1	-	1	1	34
TOTAL	54	29	7	39	31	1156

3.2 Analysis by period

3.2.1 Prehistory

The 20 projects have identified 54 sites with evidence of prehistoric activity, that is a density of one site for every 21 hectares walked.

The prehistoric period is represented by pottery, worked flint and burnt flint. Prehistoric pottery is however only rarely found, probably because of its fragile nature, which does not survive repeated ploughing or weathering well. On average there is 1.6g of prehistoric pottery per hectare walked, although in practice there is usually either a small scatter of sherds or nothing at all. Worked flint is a more common find, with an average of 6 flakes per hectare walked. The majority of these are undiagnostic struck flakes; the tools recovered included axes, scrapers and arrowheads. Nothing earlier than the Neolithic period has been recovered by the fieldwalking surveys discussed here. However, Palaeolithic and Mesolithic flints have been identified in private fieldwalking collections from Rivenhall and Colchester (Austin pers. comm.). Burnt flint is the most numerous of the prehistoric finds categories, with an average of 61g per hectare walked. Though the burnt flint is not in itself datable (thermoluminescence gives too wide a date range for the attribution of it to specific periods), recent studies in Britain and Ireland (Buckley 1990) have shown that the vast majority of burnt stone mounds and spreads date to the second millennium BC, and that they represent domestic and industrial activity in the form of cooking and water-heating (see 4.3 and 4.5).

3.2.2 Roman

The 20 projects have identified 29 sites with evidence of Romano-British activity, that is a density of one site to every 40 hectares walked. Though the density of sites per hectare is thus less than in the prehistoric period, the prehistoric period in the fieldwalking record covers 3500 years from the Early Neolithic to the Late Iron Age, whilst the Roman period only covers 400 years.

Romano-British sites are identified by Roman pottery, tile and brick, and occasional fragments of lava and pudding-stone quern. On average there is about 21g of

Roman pottery per hectare, 113g of Roman tile and only 2.55g of Roman brick. The pottery on the whole tends to be small, abraded and undiagnostic; however, those sherds that can be dated span the entire period from the early first to the late fourth centuries AD. The pottery consists largely of local or regional wares, such as Colchester products, Hadham wares, Black-burnished 2-type, Rettendon-type, black-surfaced wares, Nene Valley and Oxfordshire wares and the ubiquitous sandy grey wares. Two case-studies of Romano-British sites are discussed below (4.2 & 4.4).

3.2.3 Saxon

Saxon sites have been only rarely identified by fieldwalking, and those that have been located, were identified by the presence of only one or two sherds. Only seven sites have evidence of Saxon activity, a density of one site to every 165 hectares walked. The absence of Saxon sites in the fieldwalking record has also been noted in other counties (Hayfield 1980). It is thought that this paucity of sites is due to retrieval bias because of the friable nature of the pottery, which does not survive repeated ploughing and weathering well, it is also possible that there was simply less pottery made during this period. There is an average of 0.5g of pottery per hectare, and as with the prehistoric pottery, in practice there is either a small cluster of pottery or nothing at all. Saxon pottery is similar in its friability of fabric to prehistoric pottery. As a very crude indicator, it is calculated that 1.62g of pot are found for each prehistoric year (3500 years), whilst 1.06g are found for each Saxon year (600 years). In other words, if prehistoric activity had not also been represented by worked and burnt flint, it would appear nearly as infrequently in the fieldwalking record as the Saxon period.

Two excavations, Springfield A12 Interchange and Downhouse Farm on the proposed line of the A130, both produced a couple of features of Saxon date, though no Saxon finds were found during the fieldwalking phases.

3.2.4 Medieval

Out of the 20 projects 39 medieval sites have been identified, a density of one site for every 30 hectares walked. Medieval sites are identified by their pottery,

on average 36g per hectare. It is possible that some of the daub recovered may also date to this period. A number of points need to be kept in mind however, which influence the density of medieval sites. Firstly, that many medieval sites are still standing, or are incorporated in standing post-medieval sites, so that they do not make their way on to the fieldwalking record. Secondly, two of the fieldwalking projects (Crondon Park and Ongar Radio Station) were undertaken on medieval deer-parks (ahead of golf course developments), and these were deliberately kept clear of settlement during their period of use, the result being a bias in the fieldwalking record towards areas which though in use during the medieval period, are statistically low in settlement sites.

3.2.5 Post-medieval

Thirty-one post-medieval sites have been identified, i.e. one site for every 37 hectares walked. It must be noted again, that the presence of extant post-medieval

buildings, means that they are not making their way on to the fieldwalking record. Post-medieval sites are located by pottery, tile and brick. On average there is 109g of pottery per hectare, 1535g of tile and 111g of brick. Post-medieval tile forms a practically constant background scatter. In areas where none is recovered, it is usually because the area was under woodland throughout that period. This wide and constant dispersal may be as a result of being used in field drains (the earliest of which had a flat tile lower half, with a semi-circular section placed over it), as well as incorporated in manure-heaps and spread on the field, or used as metalling on farm tracks.

4.0 Case studies

The following case studies illustrate, with respect to specific sites, the question of interpreting fieldwalking sites and the problems associated with them.

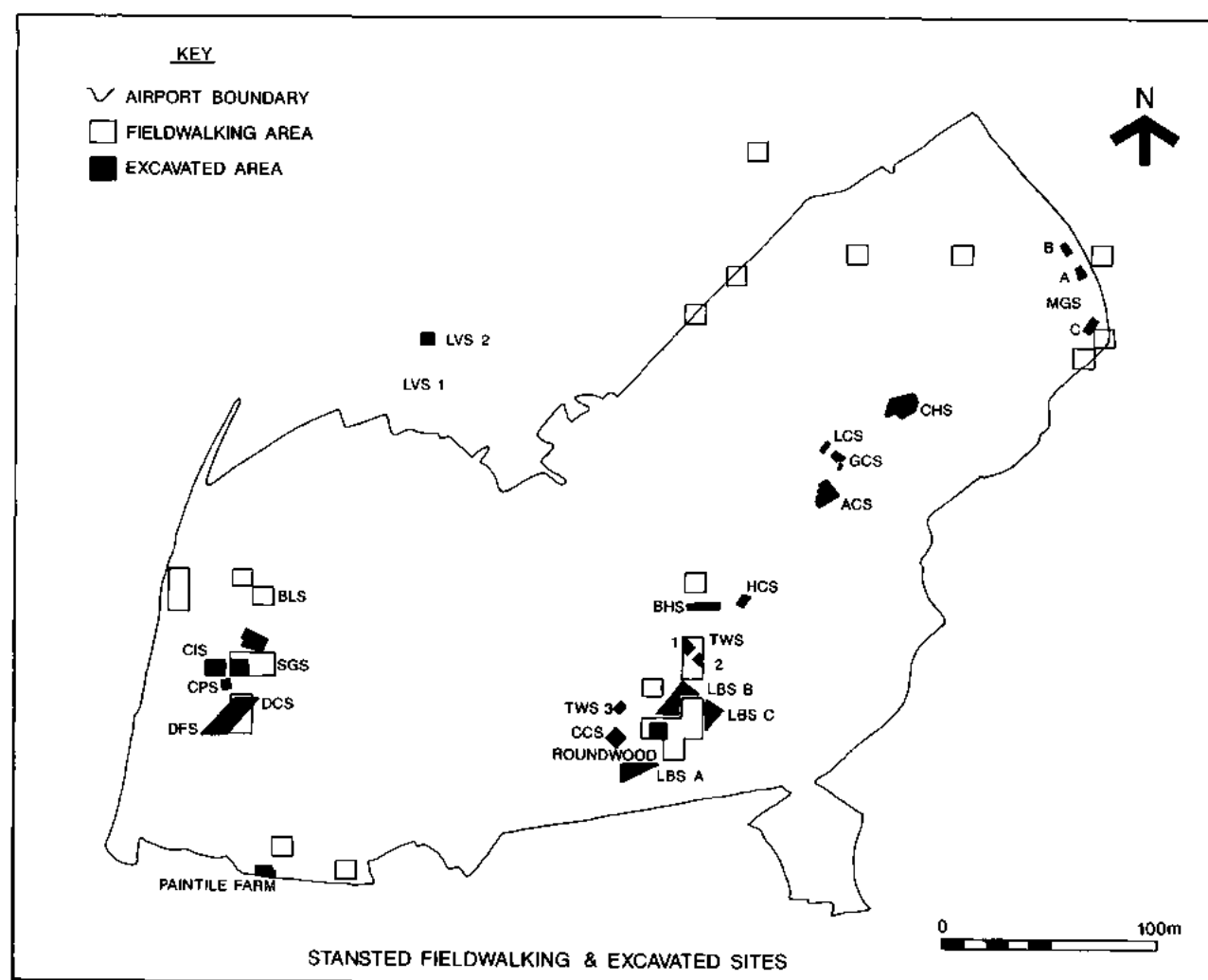


Fig. 2 Stansted fieldwalking and excavated sites.

4.1 *Stansted Airport*

4.1.1 Introduction

The fieldwalking survey at Stansted (1985-87) in advance of the construction of London's third airport, was the first undertaken in Essex on the 20m grid-system (Fig. 2). 298 hectares were walked using this method and 30 sites located. As the pilot survey, it of necessity served as a testing-ground. Various ways of interpreting and plotting the data were tried. In the end, the statistical analysis of finds weights was found to be the most reliable, with the exception of worked flint, which is calculated by individual item. The following two sites illustrate the different background to two equally dense scatters of pottery.

4.1.2 Roundwood (TL543221)

The Roundwood site was identified by a concentration of medieval pottery. The site was then stripped to reveal a farmstead dating to the twelfth-thirteenth centuries AD. There were four buildings present, one of which was interpreted as a kitchen and another as a granary (Fig. 3).

4.1.3 Pantile Farm (TL524215)

Pantile Farm is an example of a site identified by fieldwalking, which when stripped revealed no evidence of archaeological features. The site was identified by a concentration of early post-medieval pottery. However, when the area was stripped, nothing of archaeological interest was found. It is thought that the pottery was brought to the field in a manure heap. Pantile Farm is of interest in that it shows that a statistically significant concentration of pottery may represent some form of archaeological activity, but not always the presence of subsoil archaeological features.

4.2 *Bull's Lodge Farm, Boreham (TL747107)*

In June 1990, a programme of fieldwalking was undertaken at Bulls Lodge Farm, Boreham Airfield, in advance of gravel quarrying (Lavender 1993). Two fields, totalling 20 hectares, were walked. These proved largely barren of finds, except for the south-eastern corner where a large concentration of Roman tile and brick was found as well as a smaller concentration of Roman pottery (Fig. 4). An area of c.3000 sq. metres was stripped, corresponding approximately to the extent of the tile spread. This revealed an occupation sequence dating from the Late Iron Age to the Late Roman period. The Late Iron Age and earlier Roman phases were interpreted as representing a series of agricultural enclosures and activity, with a possible domestic component in the third century AD. In the later third century, two buildings (A and B) were erected, it has been suggested that Building A is a *principia*. The remainder of the field was stripped in the course of quarrying operations, but contained no archaeological features.

This site is of interest for a number of reasons. Firstly the fieldwalking plots accurately pinpointed the

area of the building. Secondly the relative densities of tile/brick and pottery were the same in the fieldwalking record as in the excavated record, indicating that the surface material derived from ploughed-out archaeological deposits.

4.3 *Fox Hall, Southend (TQ900875)*

The fieldwalking project at Fox Hall, Southend, covering 77 hectares (Fig. 5), was undertaken in 1992, prior to a Leisure Park development. Three sites, one prehistoric, one Saxon and one medieval were found (Ecclestone 1992). The prehistoric site consisted of a dense scatter of burnt flint, which also contained a lesser quantity of worked flint. The Saxon site consisted of a single large unabraded sherd of sixth-seventh century date.

The fieldwalking sites were monitored during top-soil stripping, and archaeological features were found in the area of the burnt flint spread (Ecclestone forthcoming). This site has been dated to the late Bronze Age/early Iron Age, and consists of curved gullies and postholes, some of which form structures, as well as rubbish pits and two deep ditches. Also found on this site was a feature closely resembling a sunken-floored building, thought to be Saxon. It is possible that the single Saxon bodysherd recovered during the fieldwalking phase derived from this feature. Of particular interest was the large quantity of prehistoric pottery recovered during the excavation, as none had been collected during the fieldwalking phase. It is not entirely clear why no prehistoric pottery was recovered, as the excavation revealed a large number of sherds in a layer immediately below the ploughsoil, though these were very small and earth-coloured. It is possible that they were simply not noticed during the fieldwalking phase, as this was not done under ideal conditions. It is also possible that the sherds rapidly disintegrated when brought to the surface by the plough. No features were found in the area corresponding to the medieval fieldwalking site, and it is thought that this spread represented surface deposition of material derived from the medieval/post-medieval farmhouse of Fox Hall itself.

4.4 *Buildings Farm, Great Dunmow (TL618221)*

A fieldwalking project at Buildings Farm, Great Dunmow (Atkinson and Lavender 1992), covering 50 hectares, ahead of a housing development, located a multi-period prehistoric and Roman site. The finds consisted of 46g of prehistoric pottery including one large unabraded sherd of Middle Iron Age date, 570g of Roman pottery (Fig. 6) and 1316g of Roman tile. The site was stripped in March 1993 (Lavender forthcoming), revealing a sequence of Iron Age and Roman settlement. The earliest activity on the site was a Middle Iron Age ditch, thought to represent part of an enclosure. The Late Iron Age and earliest Roman settlement is represented by a number of roundhouses and field enclosures.

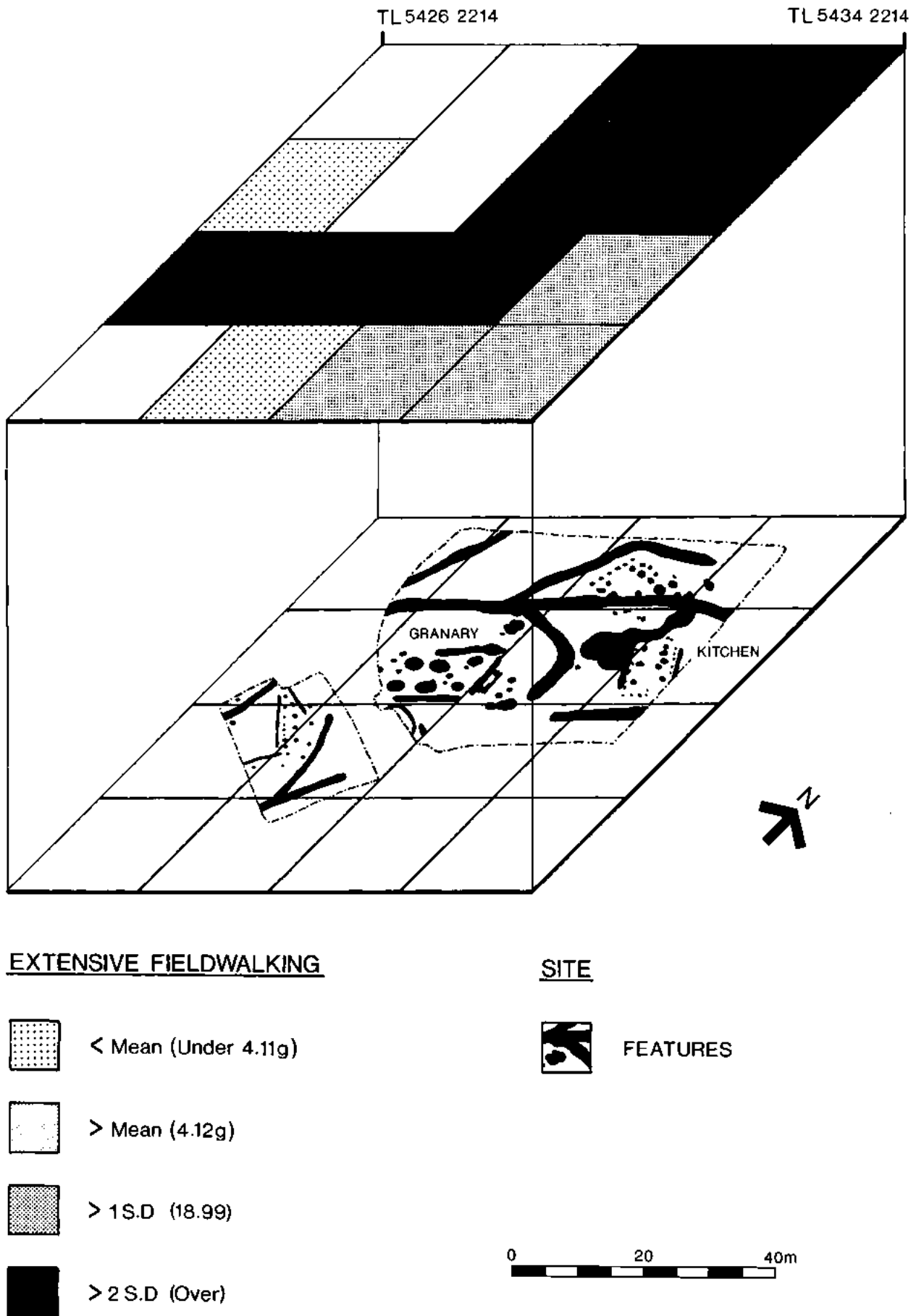


Fig. 3 Roundwood fieldwalking plot and excavation.

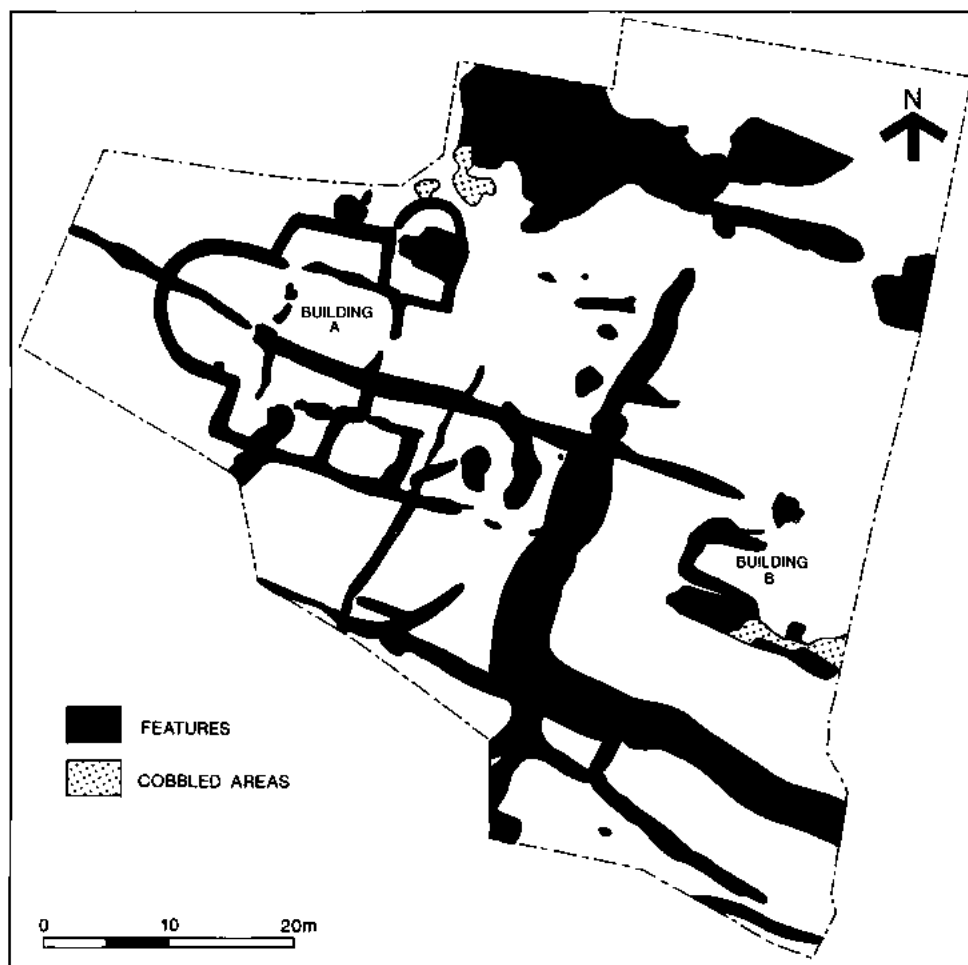
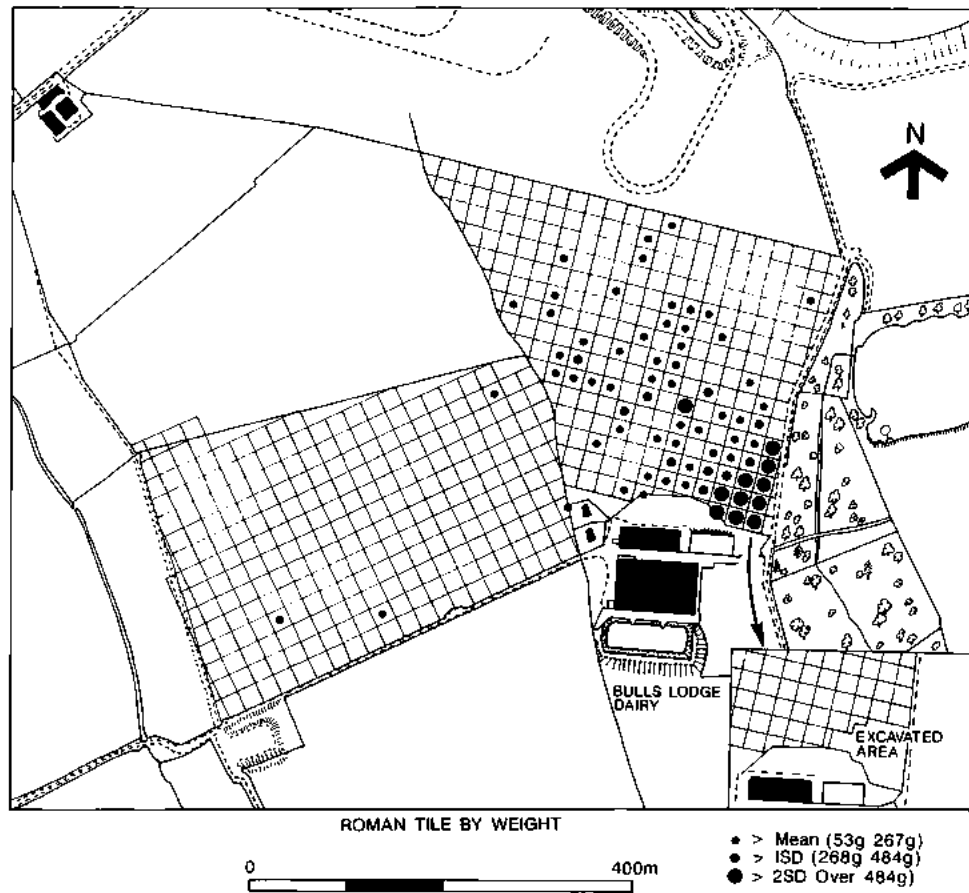


Fig. 4 Bull's Lodge Farm, Boreham.

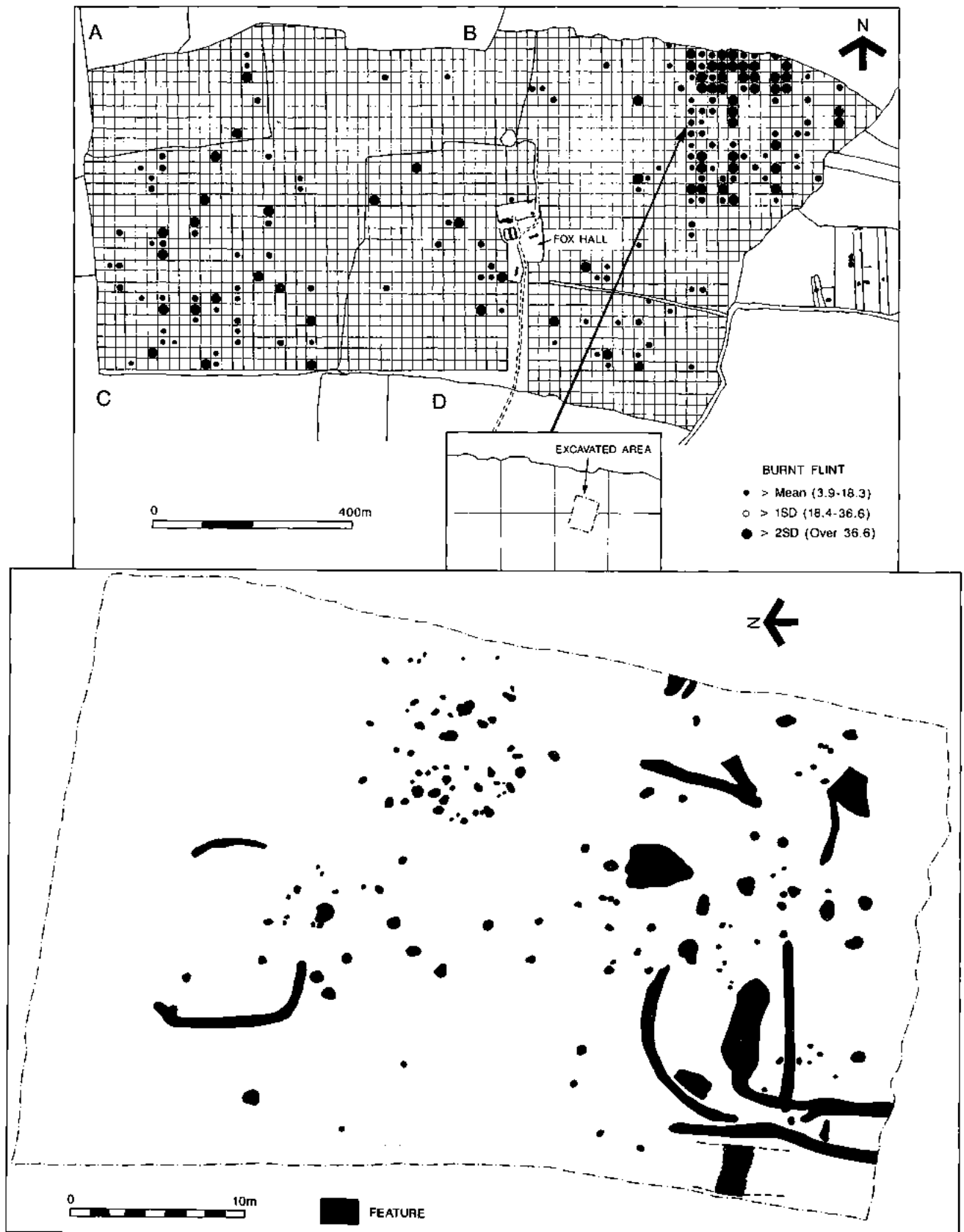


Fig. 5 Fox Hall, Southend. Note that the excavated area was threatened by a bunker during golf-course construction. The greater concentrations of burnt flint to the north were not.

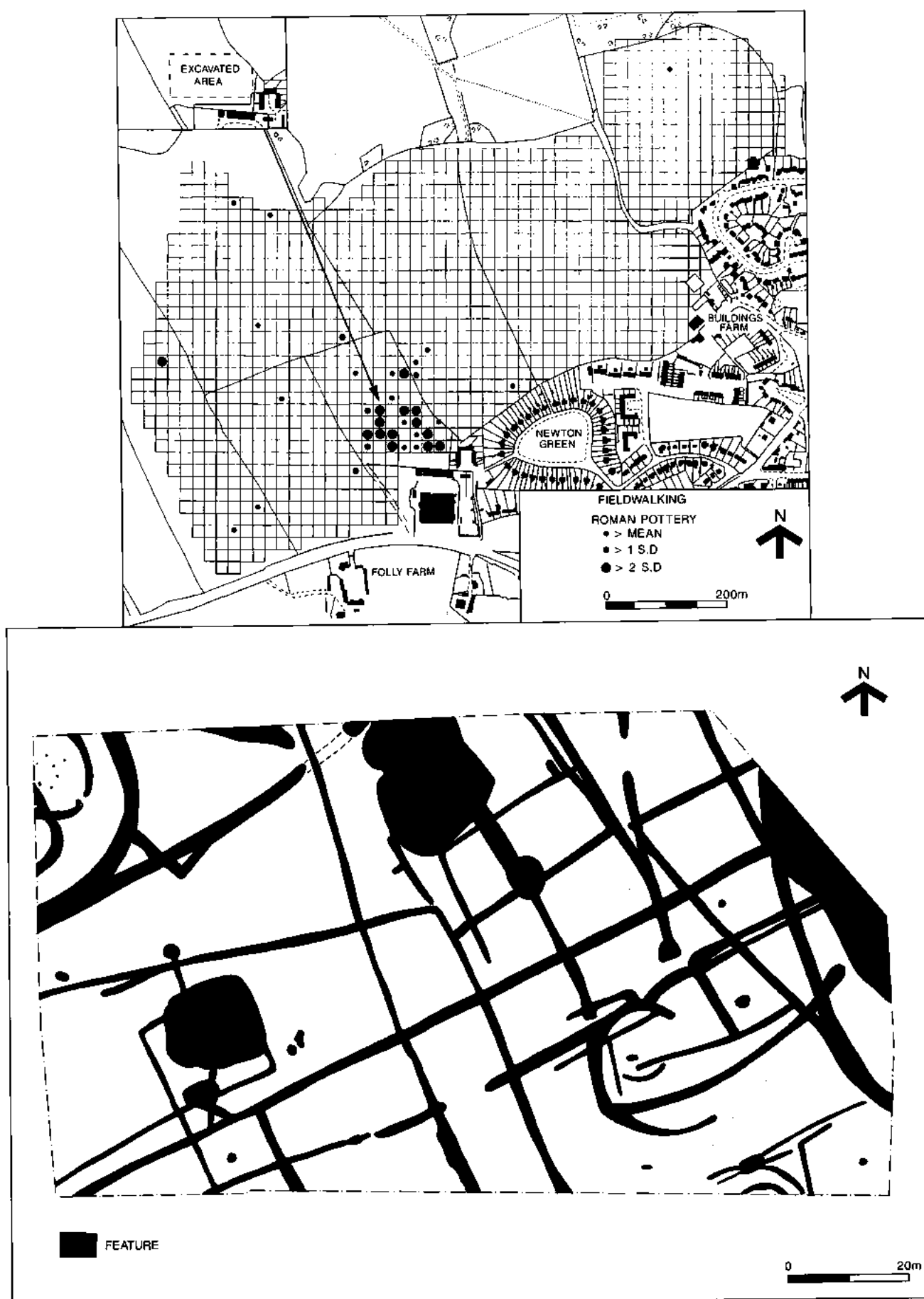
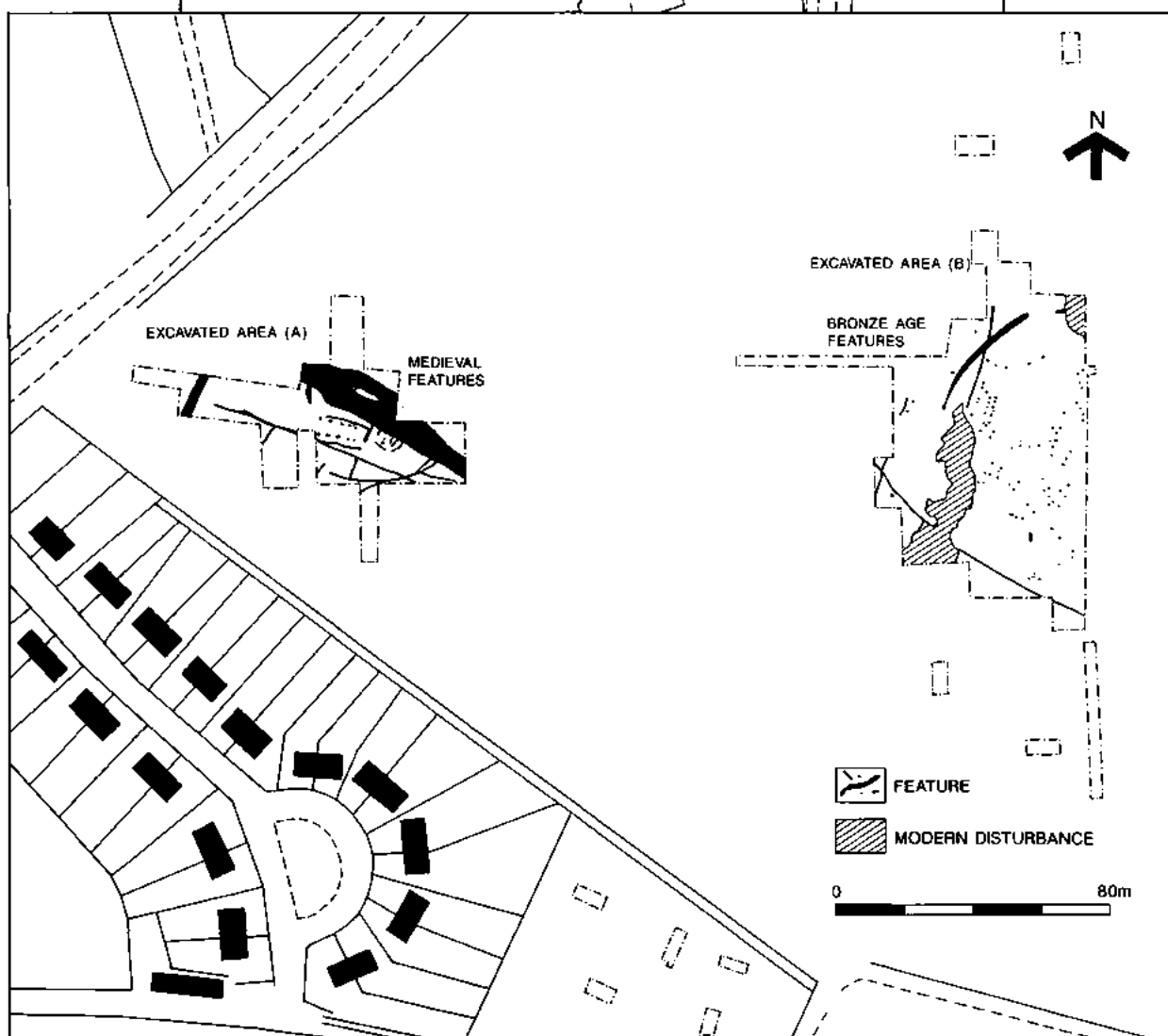
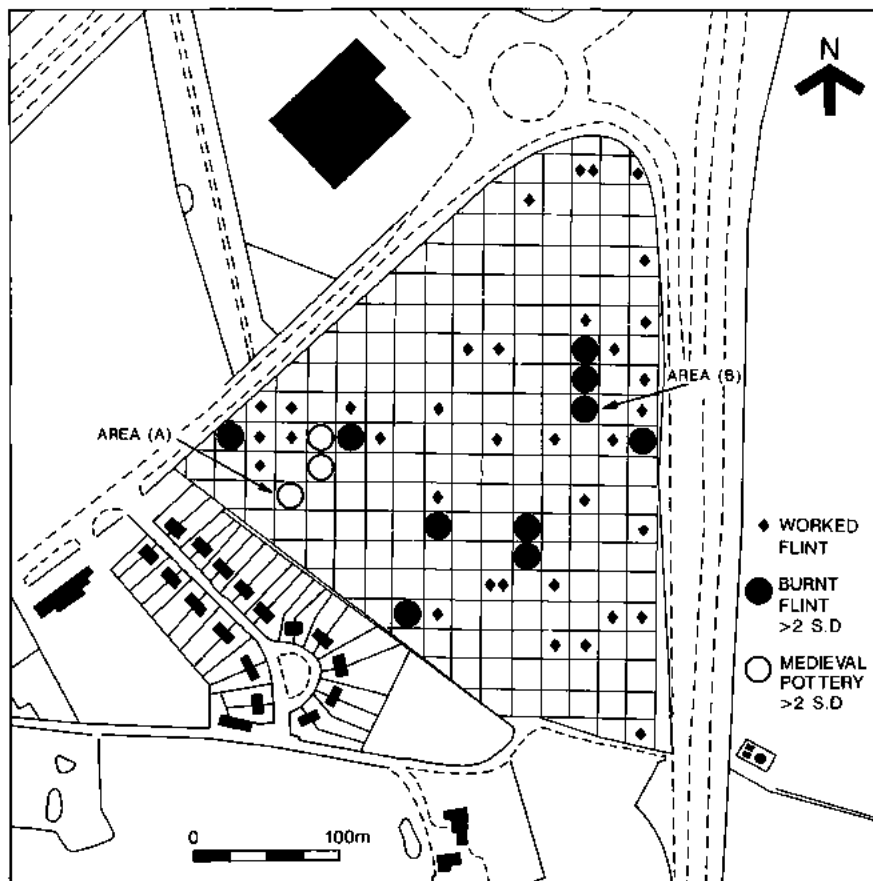


Fig. 6 Buildings Farm, Great Dunmow.

Fig. 7 Springfield, A12 Interchange.



In the late third-early fourth century, a number of straight ditches were dug, dividing the area into a series of small fields.

It is evident from the site plan that the Roman occupation continued beyond the boundaries of the excavated area, probably in the form of a series of fields. This is echoed in the fieldwalking plot with a thinner scatter of material being evident outside the main concentration of pottery and tile.

4.5 Springfield, A12 Interchange (TL739089)

A fieldwalking survey of eight hectares near the A12 interchange at Springfield, Chelmsford in 1992 indicated the presence of activity dating to the prehistoric period and a small medieval site (Lavender 1992). The prehistoric finds, consisting of burnt and worked flint, though showing no specific concentration defining a fieldwalking site as such, did show a slightly denser scatter of burnt flint and tools and cores at the eastern side of the survey area. It was decided that trial-trenching should take place in this area to establish whether this scatter did indeed represent a site with subsoil features. The trial-trenching revealed Late Bronze Age features at the eastern side of the site and medieval features under the medieval concentration on the western edge of the site (Allen and Lavender 1993).

The subsequent excavations revealed a thirteenth-fourteenth century settlement which contained two houses and a number of pits and ditches. The Late Bronze Age activity took the form of an incomplete enclosure, thought to be of possible ritual rather than domestic significance, the first of its kind in Essex, and only 750 metres from the contemporary Springfield Lyons settlement (Fig. 7).

5.0 Conclusions

Inevitably the larger the statistical dataset, the more valid the conclusions. For this reason this article is presented as an interim report on the use of fieldwalking as a tool for large-scale land survey in Essex, and a chance to assess and analyse the results to date.

The combined total area of fieldwalking projects undertaken to date, is 1997 hectares, of which 1156 hectares (10 sq. km.) have actually been walked, the remainder of the survey areas being under woodland, permanent pasture or housing. 160 sites have been identified by fieldwalking so far, that is a density of one site for every seven hectares walked. At present the Essex Sites and Monuments Record has approximately 14,000 sites on record, that is a density of one site for every 26.2 hectares in the county. As a very rough calculation, with the area of Essex at 367,384 acres, c.52,000 sites could be anticipated across the county.

From the point of view of prehistoric, Roman, medieval and post-medieval Essex it is evident that fieldwalking is a very useful tool in the identification and interpretation of sites. As illustrated by the case studies described, not only is the location of the main focus of activity established, but also the extent and date of the site. In larger scatters it may also be possible to identify differences in distributions within the overall spread.

However, there are still many issues to be addressed through future fieldwork projects. In particular, there is the apparent scarcity of Saxon sites (as defined in 3.2.3). The extent to which this really reflects a drop in the number of settlements (and hence in the general population) is not yet clear. It is certainly likely that either the pottery is not being recognised, or that it is not surviving the weathering/ploughing

Table 3 Number of sites investigated by full excavation, evaluation and watching-brief.

Project	NO. OF SITES FOUND	SITES INVESTIGATED	POSITIVE	NEGATIVE ie no subsoil features
A120 (Stansted-Braintree)	36	4	1	3
A130 (Howe Green-Rettendon Turnpike)	7	1	0	1
Springfield, A12 Interchange	2	2	2	0
Bull's Lodge, Boreham	1	1	1	0
Buildings Farm, Great Dunmow	16	2	2	0
Church Langley, Harlow	14	1	1	0
Fox Hall, Southend	3	3	2	1
Great Holts, Boreham	1	1	1	0
Stansted	30	15	13	2
TOTAL	110	30	23 (77%)	7 (23%)

Table 4 Essex field-walking statistics, combined results.

Total land area: 367384 Ha. Agricultural land area: 268190 Ha.
Total land surveyed: 1997 Ha. Land fieldwalked: 1156 Ha.

	POTTERY WEIGHT (g)					TILE WEIGHT (g)		BRICK WEIGHT (g)		FLINT	BURNT FLINT
	Prehist	Roman	Saxon	Med	Post- med	Roman	Post- med	Roman	Post- med		
Number of runs	28906	28906	28906	28906	28906	28906	28906	28906	28906	28906	28906
Total weight	1852	24351	563	41840	126144	97608	1324050	1950	95702	4649	70520
Average weight	0.064	0.842	0.021	1.447	4.363	4.524	61.381	0.009	4.436	0.245	2.439
Standard Deviation	1.497	10.897	0.623	8.411	26.023	65.297	168.818	1.3	50.281	4.662	17.299

process. Nevertheless, two sites (A12 Interchange and Downhouse Farm, A130) have produced Saxon features though the fieldwalking had given no indication of a Saxon presence, whereas Fox Hall produced a Saxon feature corresponding to the location spot of a large Saxon sherd found during the fieldwalking.

A second problem, which will eventually be overcome, is the current bias towards fieldwalking projects on boulder clay. As further results from other areas become available, it will be interesting to see what contrasts appear between the different regions of the county.

Thirdly a number of sites identified by fieldwalking, when stripped of topsoil, prove to have no subsoil features, consisting solely of a surface concentration of

finds (e.g. Pantile Farm, Stansted, above). Interim statistics on these are as follows; of 30 sites located by fieldwalking and then investigated either by full excavation, evaluation or watching-brief, 23 (77%) have proved to have subsoil features (Table 3). Those which do not should not be written off; they clearly represent some part activity for which archaeologists should find an explanation, e.g. a manure heap, or some form of rubbish disposal.

Authors: Maria Medlycott and Mark Germany, Field Archaeology Group, Planning Dept., Essex County Council, County Hall, Chelmsford CM1 1LF.

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ARCHAEOLOGICAL FIELDWALKING IN ESSEX

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Ecclestone, J. and Medlycott, M. 1993	<i>Goddards Farm, Thaxted, Essex: Archaeological evaluation report, fieldwalking survey, ECC internal publication</i>	Medlycott, M. 1990	<i>A120 Trunk-road: Field-walking survey, ECC internal publication</i>
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Germany, M. 1992	<i>A13 improvement scheme, Wennington to Mar Dyke, Essex: Archaeological assessment report, ECC internal publication</i>	Wade, A. 1993	<i>Land east of Francis Sports ground, Southend, Essex: Archaeological evaluation, ECC internal publication</i>
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Iron Age and Roman material from Birchanger, near Bishops Stortford; excavations at Woodside Industrial Park, 1992

by Maria Medlycott

Archaeological excavation in advance of development on the eastern edge of Bishops Stortford revealed a number of pits, ditches and ring gullies. The dates of these features ranged from the early Iron Age through to the Roman period. Most of the features probably reflect Iron Age domestic settlement, but there was also a cremation burial of Claudian date. Grave goods from the latter consisted of eight pottery vessels, four bronze brooches and some pig bones.

Introduction

An archaeological watching-brief of the top-soil stripping phase of construction work at Woodside Industrial Park (TL 5065 2189), revealed a number of features of archaeological interest in the eastern corner of the development area (Figs 1, 2 and 3). A rescue excavation of the site was undertaken.

The first indication of the presence of the site was the discovery in 1970, during the cutting of the length of M11-A11 link road adjacent to the site, of three ditches (Essex Sites and Monuments Records 4677 and 4678) containing both Iron Age and first-century Roman pottery, as well as the stray find of a coin, a *dupondius* of Vespasian (69-79 AD). Moreover, Bishops Stortford to the west of the site is known to have been occupied during the Iron Age and Roman periods (Wright 1982). The A120 road immediately to the north of the site runs along the route of Roman 'Stane Street', which may have followed an even older track. The Stansted Airport project to the east of Woodside contained a number of settlements dating to the Late Bronze Age/Early Iron Age and the Late Iron Age/early Roman periods, as well as an early Roman cremation cemetery (Brooks and Havis, forthcoming).

Site description

The natural sub-soil was chalky boulder-clay, brownish-yellow in colour. The topsoil was a dark brown clay loam, averaging 0.20-0.30m thick. The entire development area was stripped by Hymac, using a toothed bucket, with re-stripping of the areas of archaeological interest with a toothless bucket. The excavation was a rescue excavation, with approximately 45 man-days were spent on site over three weeks. Work was also hampered by poor weather conditions.

Early Iron Age (c. 7th century-c. 300 B.C.)

The earliest occupation of the site was in the Early Iron Age (Fig. 4). A number of large pits were dug (F39, 41, 118, 119 and 120, Figs 8-10). These were notable for the quantities of cuts and re-cuts evident in their sections and by the horizontal banding of their fills which consisted of alternating layers of dark organic-stained clays and re-deposited natural. Pit F120, furthermore, contained a layer of white chalk lumps deliberately placed in a concentric pattern at a depth of 1.70m. Excavation had to be halted at this point as the water-table had been reached.

There were two other features attributable to the Early Iron Age. F190, a very small pit, contained a whole pot which entirely filled it; F192 was a patch of flint cobbles in a charcoal-filled matrix.

The finds from larger pits, though not numerous, do suggest the deposition of domestic debris. It is not known, however, whether they were originally dug with another purpose in mind, such as clay-extraction, and that rubbish deposition was a secondary factor. The pits and the domestic debris imply settlement nearby, probably under the car-parks to the south and east of the excavated area.

Middle Iron Age (c. 300-100 B.C.)

The occupation of the site continued in the Middle Iron Age (Fig. 5). Two more large pits were dug (F1 and F40) and pits F39, 41, 118, 119 and 120 were re-cut (Figs 8-10). The pits contained a quantity of animal bones, pottery sherds, daub and ash. Pit F40 contained the articulated bones of a dog's paw. As with the Early Iron Age the excavated sections of the pits show that they were filled or partially filled with bands of domestic debris and sub-soil, each re-cutting removed a portion of this back-filling so as to partially empty the pit, before new layers of debris and sub-soil were deposited.

Also belonging to this period is a gully (F55), interpreted as that of a round-house, and a number of ditches and gullies, F3, 74, 128, 197, 198 and 200. A dozen fragments of human skull came from ditch F74 (context 122). Scattered pieces of human skeleton are often found on Iron Age settlements; this material is likely to have been re-deposited incidentally as a result of the disturbance of a burial nearby. None of the ditches were defensive in nature, and there is no evidence that the settlement was ever enclosed. There

IRON AGE AND ROMAN MATERIAL FROM BIRCHANGER

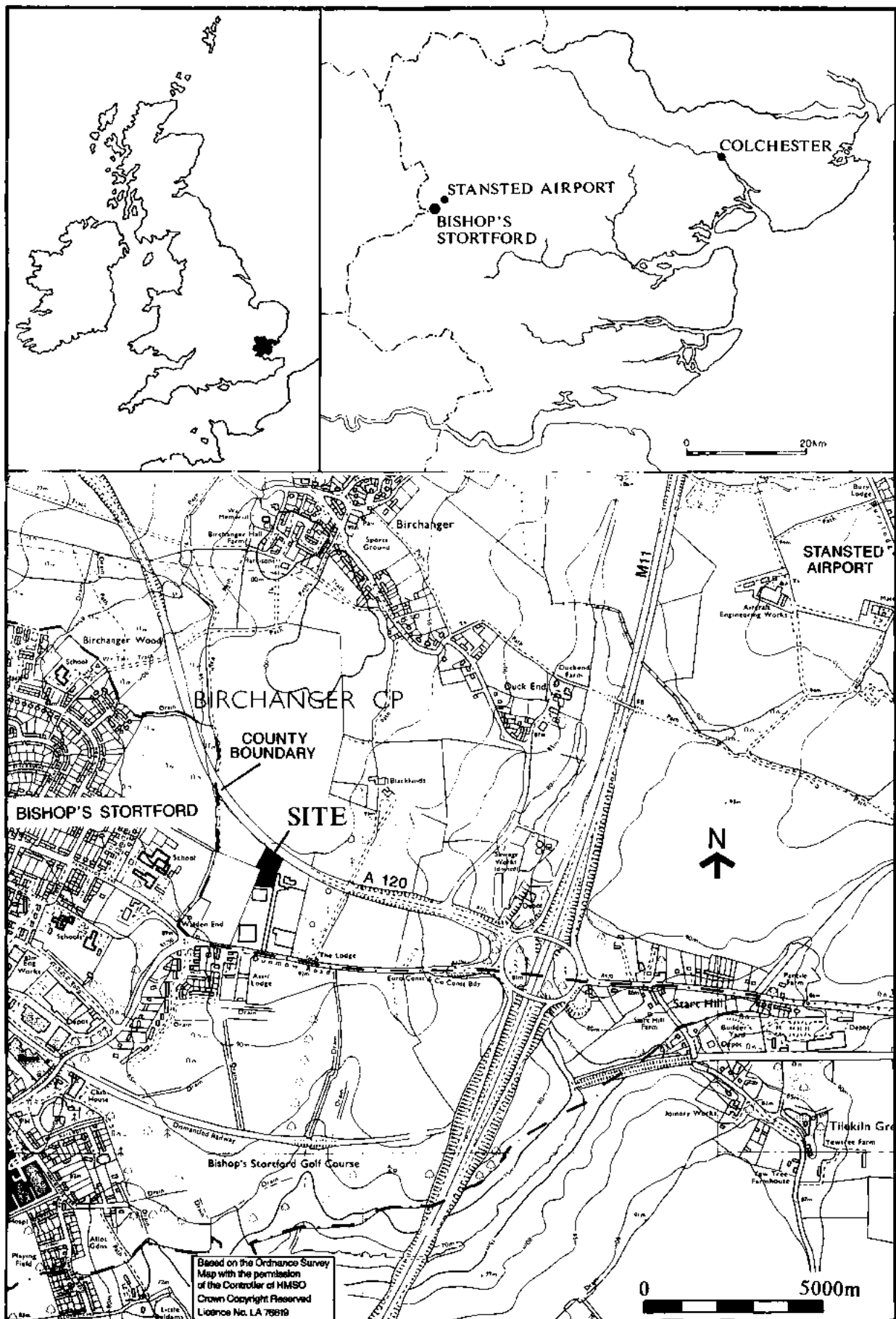


Fig. 1 Location plan.

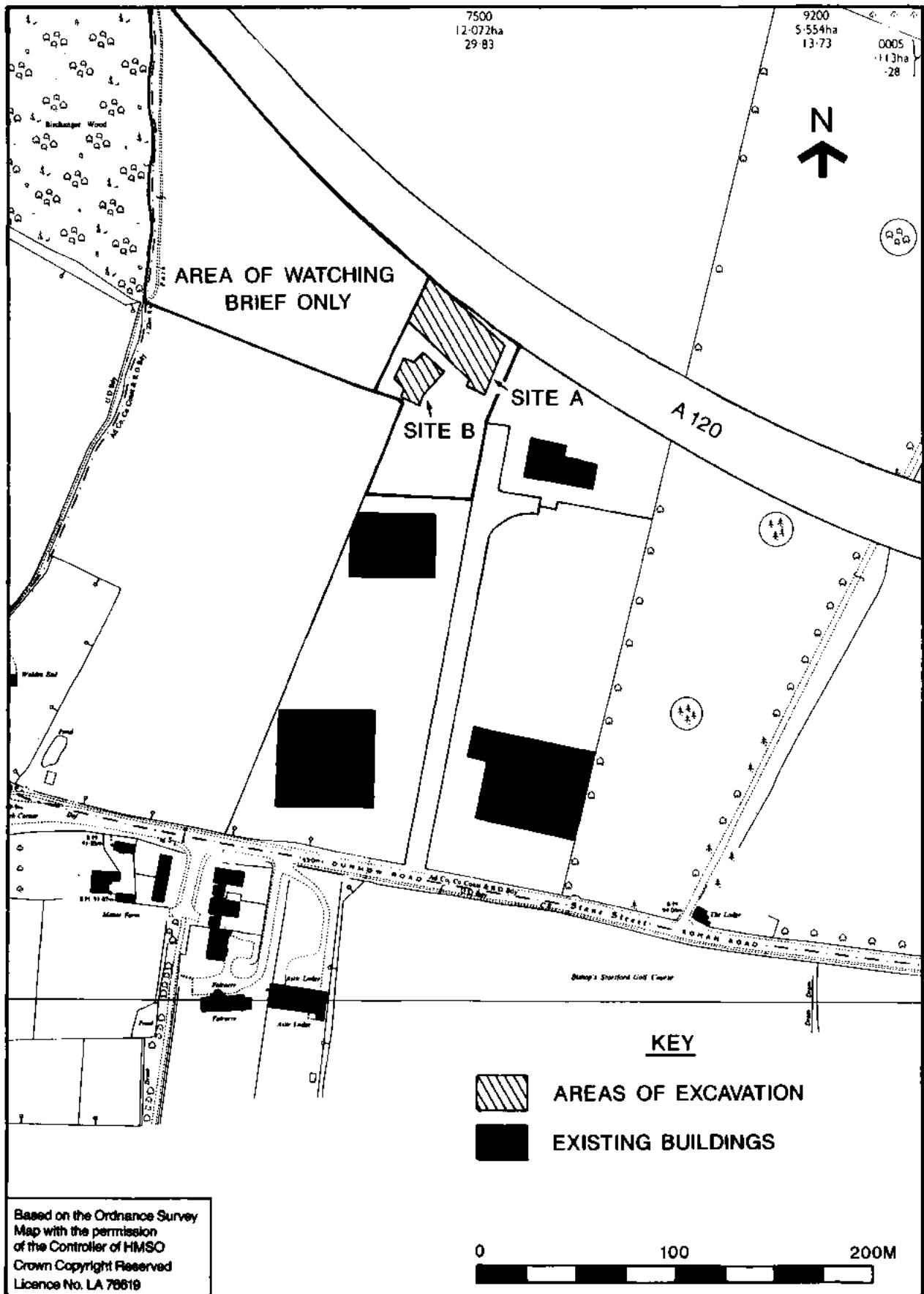


Fig. 2 Layout of the site.

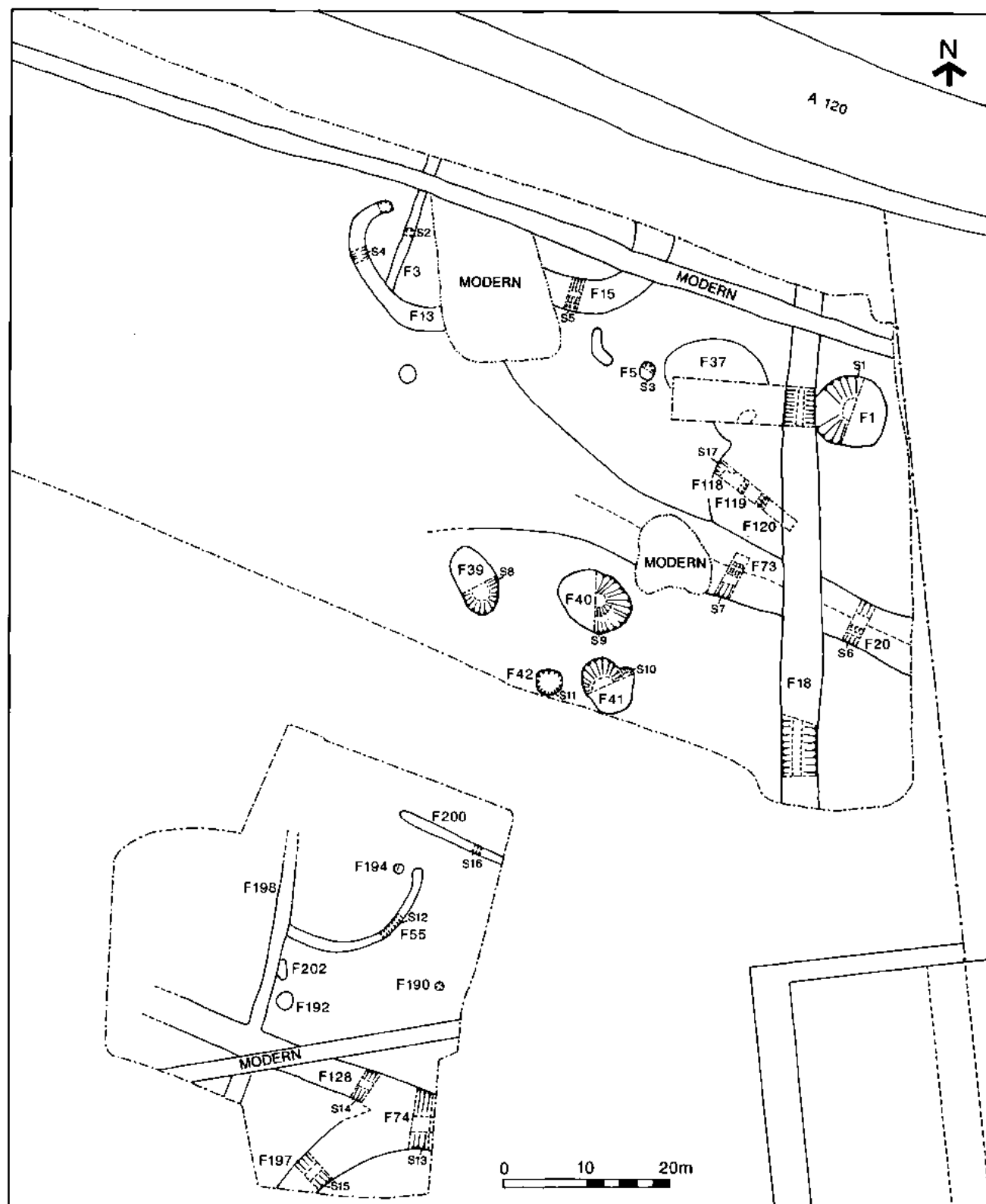


Fig. 3 Site plan.

was also a small burnt feature (F202), possibly a hearth.

Late Iron Age/Early Roman period (A.D. 1-50)

The site appears to have been abandoned for a while, as the next phase of activity occurred during the end of

the Late Iron Age and Early Roman period (Fig. 6). Those features containing sufficient pottery have been attributed a date between A.D. 1-50. The uppermost layers of pits F1 and F40 consisted of a silty black loam containing a quantity of Late Iron Age/Early Roman debris. It is possible that the original fill of

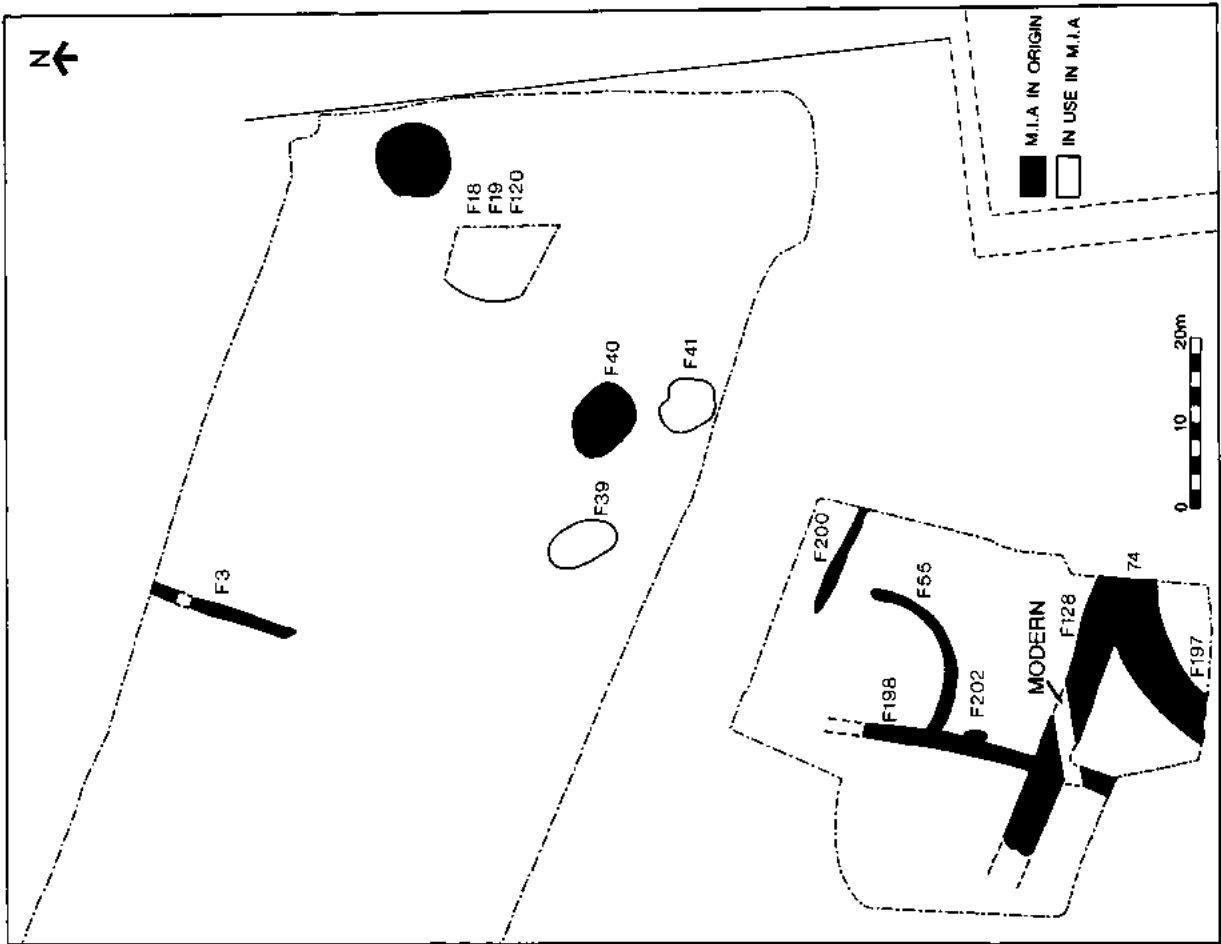


Fig. 5 Middle Iron Age features.

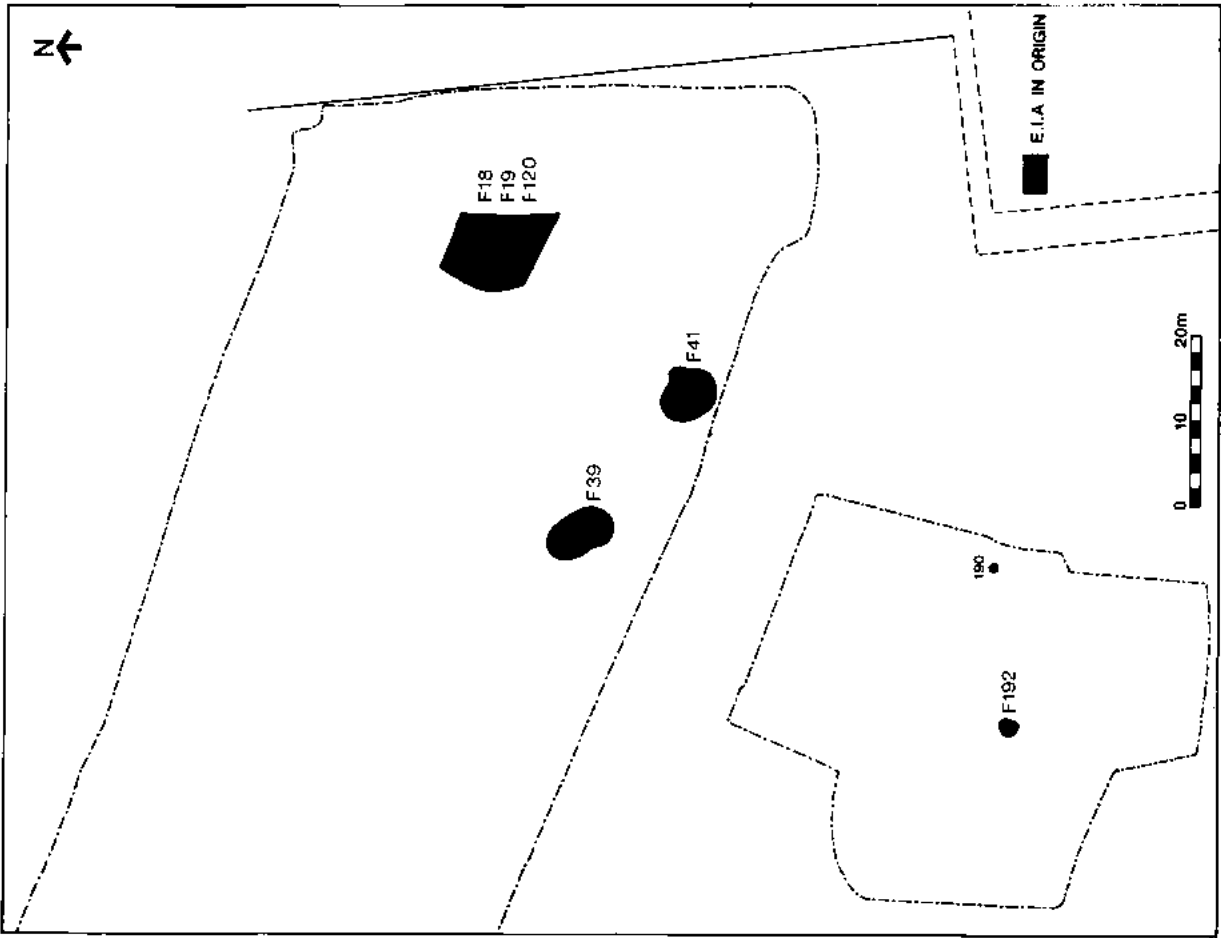


Fig. 4 Early Iron Age features.

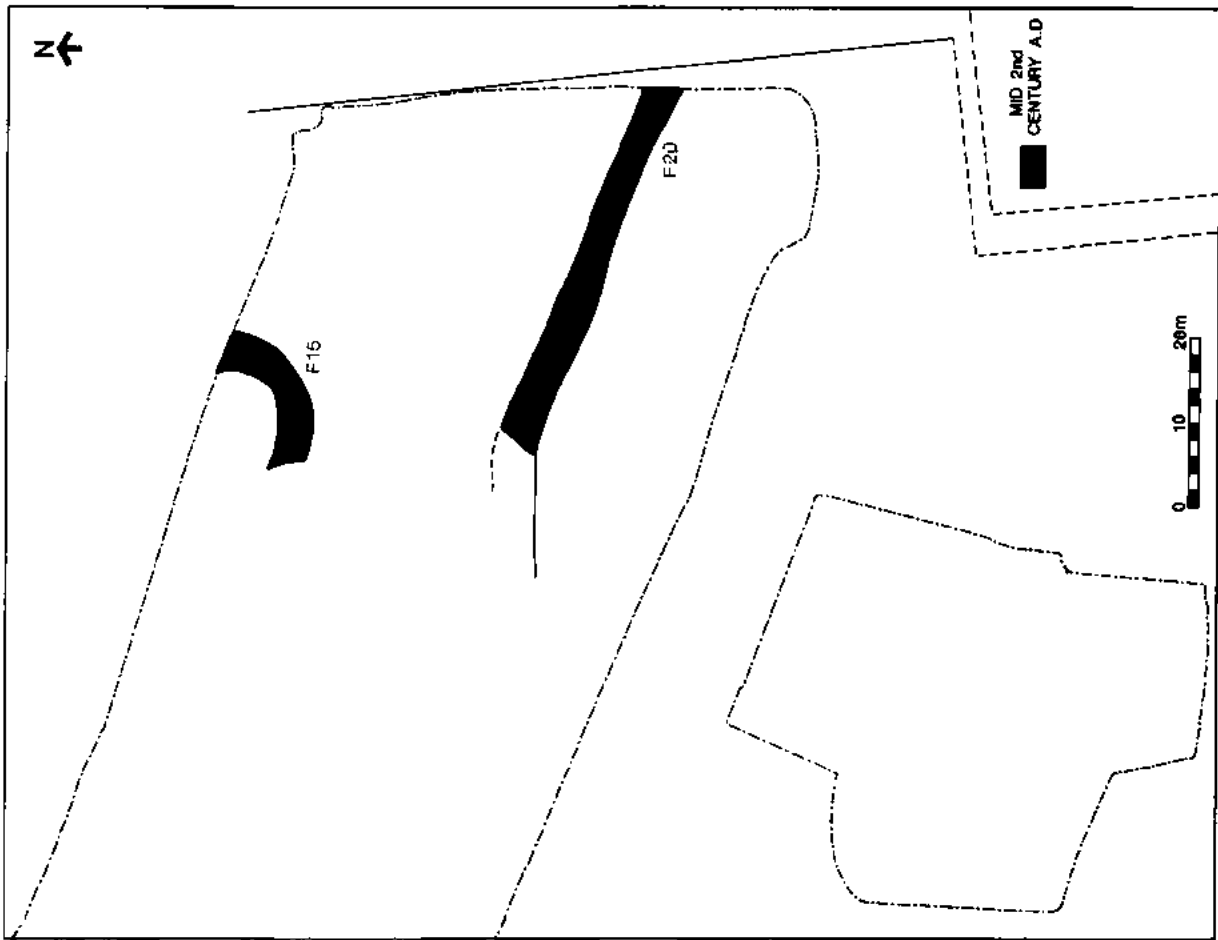


Fig. 7 Mid-Second Century AD features.

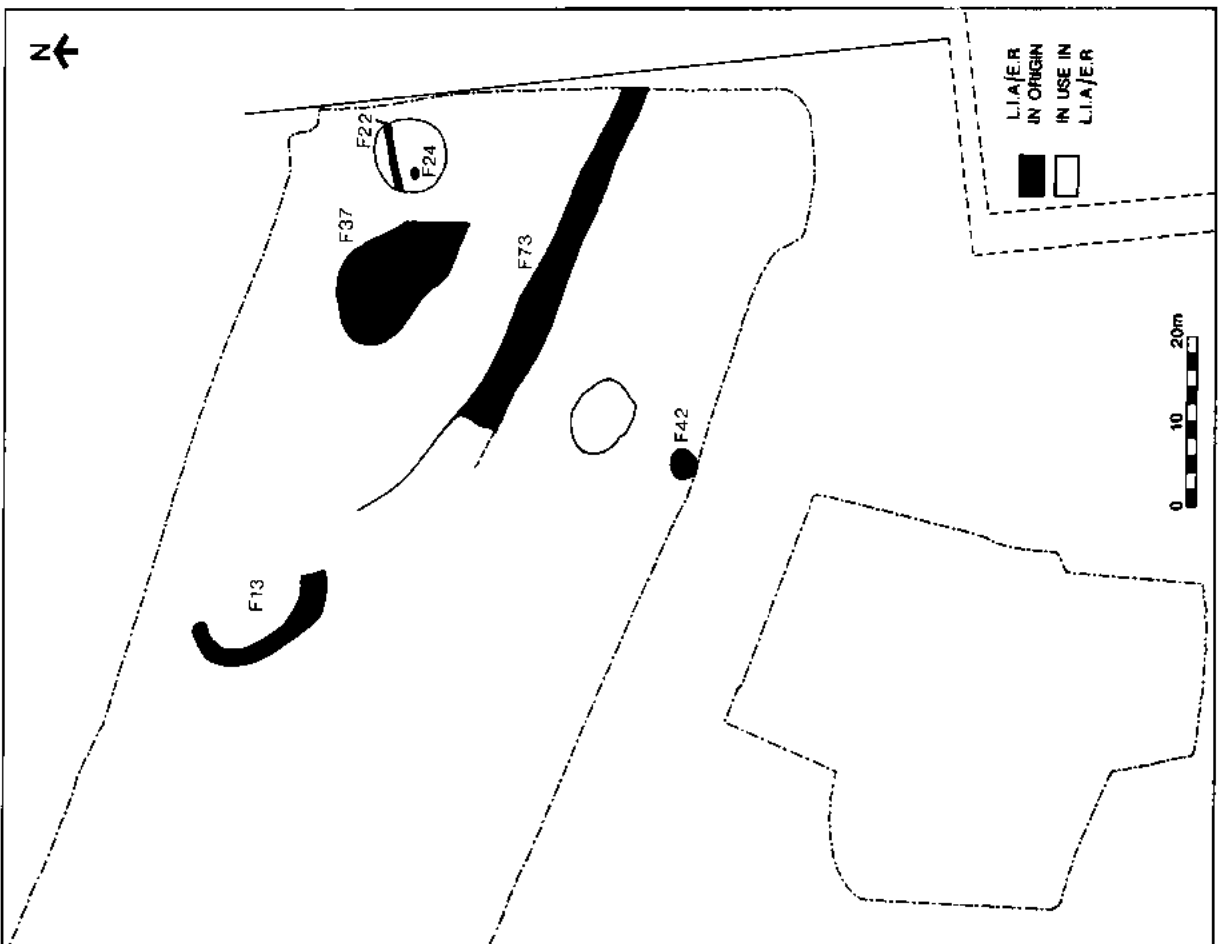


Fig. 6 Late Iron Age and Early Roman features.

these pits had subsided during the period of desertion, leaving a number of muddy hollows on the site which were subsequently filled with rubbish. A new pit-complex (F37) was dug during this period. F13, a probable roundhouse gully, and a ditch F73, are also dated to AD 1-50.

The most significant feature of this date, however, was the cremation burial (F42, Fig. 13). This has been given a date of AD 43-54. The grave-goods included two imported pottery vessels from North Gaul and two local copies of imported forms. In total, the grave-goods consisted of eight pottery vessels, four bronze brooches, the right fore-leg of a pig and a pig's skull cleaved longitudinally.

Mid-second century A.D.

This was the final phase of occupation (Fig. 7). The ditch F73 was re-cut as F20. One of its fills, context 21, contained two dog skulls. A semi-circular gully, F15, was also dug at this time; it may have been a foundation trench for a roundhouse, rather than an eaves-drip gully.

Post-medieval and modern

One feature, F18, can be dated to the post-medieval period, this was a large field-ditch which ran north-south across the site. Other areas marked as modern on the site plan (Fig. 3) date to a period of usage as a Travellers' halting-site in the 1970s.

Specialist Reports

Early and Middle Iron Age pottery

by Nigel Brown

A total of 1903 sherds weighing 20.82 kg was recovered. The pottery was recorded using a system devised for prehistoric pottery in Essex. Where possible, vessels were ascribed to Little Waltham form series (Drury 1978, 52-56). Fabrics present were:-

Size of inclusions

- S = less than 1mm diameter
- M = 1-2mm diameter
- L = more than 2mm diameter

Density of inclusions

- 1 = less than 6 per cm
- 2 = 6-10 per cm
- 3 = more than 10 per cm

<i>Fabric</i>	% sherd count	% weight
A Flint, S2 well sorted	1	<1
B Flint, S-M 2	5	5
C Flint, S-M with occasional L 2	9	8
D Flint, S-L 2 poorly sorted	2	2
E Flint and sand, S-M 2	2	3
F Sand, S-M 2-3 (with addition of occasional L flint)	3	6
G Sand, S 3	5	5
H Sand, S 2	11	8

<i>Fabric</i>	% sherd count	% weight
I Sand, S-M 2-3	6	6
J Sand, S 2 with vegetable voids particularly on surfaces	40	50
P Largely temperless	<1	<1
R Shell	<1	<1
S 'Glaucanite'	<1	<1
T Chalk	<1	<1
Y Dense sand and S-L flint	<1	<1
Z Undefinable	14	1

Date and affinities

The earliest pottery recovered was a large part of a round-shouldered jar; with a large central perforation in the base (Fig. 12,26). This pot would appear to be of an Early Iron Age (EIA) date, and has general similarities with vessels from Stansted SCS (Brown in prep.) to the north-east. Some of the lower fills (contexts 84, 85, 86, 87 & 57, 65, 98) of pit complexes F39 and F41, produced small quantities of pottery in exclusively flint-tempered fabrics, and it is likely that this material is also of EIA date.

The remaining pottery which constitutes the bulk of the assemblage is of Middle Iron Age (MIA) character. The material is dominated by sandy fabrics, often containing vegetable inclusions, which is typical of MIA assemblages in Essex (Drury 1978, Brown 1991). In contrast to other MIA assemblages in Essex, the Woodside sandy fabrics often have fine mica inclusions. The range of forms is again typical of Middle Iron Age pottery, and most can be matched in the large assemblage at Little Waltham, particularly fine bowls of form 13 (Drury 1978). However, there are some forms which cannot be easily paralleled by material from Little Waltham; these include large coarse jars with rough bead rims (Fig. 11,22), a fine jar with a neatly executed bead rim (Fig. 11,17) and a small cup (Fig. 11,13). A number of finger nail or slash decorated jar rims (eg Fig. 11,3,4 and 8), and roughly cross-hatched scoring (Fig. 12,18) may be better matched at Wendens Ambo (Hodder 1982, fig. 27,4) than Little Waltham. The virtual absence of 'glaucanite' tempered fine wares (only a single sherd from F1, context 2) is in marked contrast with Little Waltham and Mucking (Drury 1978). It seems likely that some of these differences reflect regional variations resulting from local production. A date range of between 300-100 BC may be suggested for the Woodside pottery. It may be that the decorated rims (Fig. 11,3,4 and 8) indicate an early date for material from context 29, whilst a jar with a neatly executed bead rim (Fig. 11,17) from context 44 may indicate a late date for the assemblage from this context. The illustrated material represents the full range of variation and comprises 15% of the diagnostic pieces. No bases are illustrated; only two base forms are present, flat and footring, the overwhelming majority (89%) by sherd count being flat.

Coarse vessels often have surfaces wiped with a pad of grass or similar material (eg Fig. 11,4,11); deliberate scoring of exteriors occurs (eg Fig. 11,8) but it is not common. Some sherds have traces of a black deposit on the external or internal surfaces (eg Fig. 11,8). Fine vessels have well smoothed surfaces, often retaining traces of burnish (eg Fig. 11,10,16).

Function and deposition

The MIA pottery includes a wide range of cooking/storage jars, fine bowls and occasional small cups, indicating that it was derived from a variety of domestic functions.

Most of the smaller pits and ditches produced little pottery mostly of quite small sherd size and frequently abraded. The majority of the pottery was recovered from the pits F1, 39, 40, 118, 119 and 120. There seems little suggestion of selection in the pottery deposited in the pits, which included a wide range of vessel forms and considerable variation in sherd size and condition. However, the pottery was by no means uniformly distributed throughout the pit fills. The majority of the pottery from F1 was derived from the central fills, contexts 27-33, the largest quantity from context 29

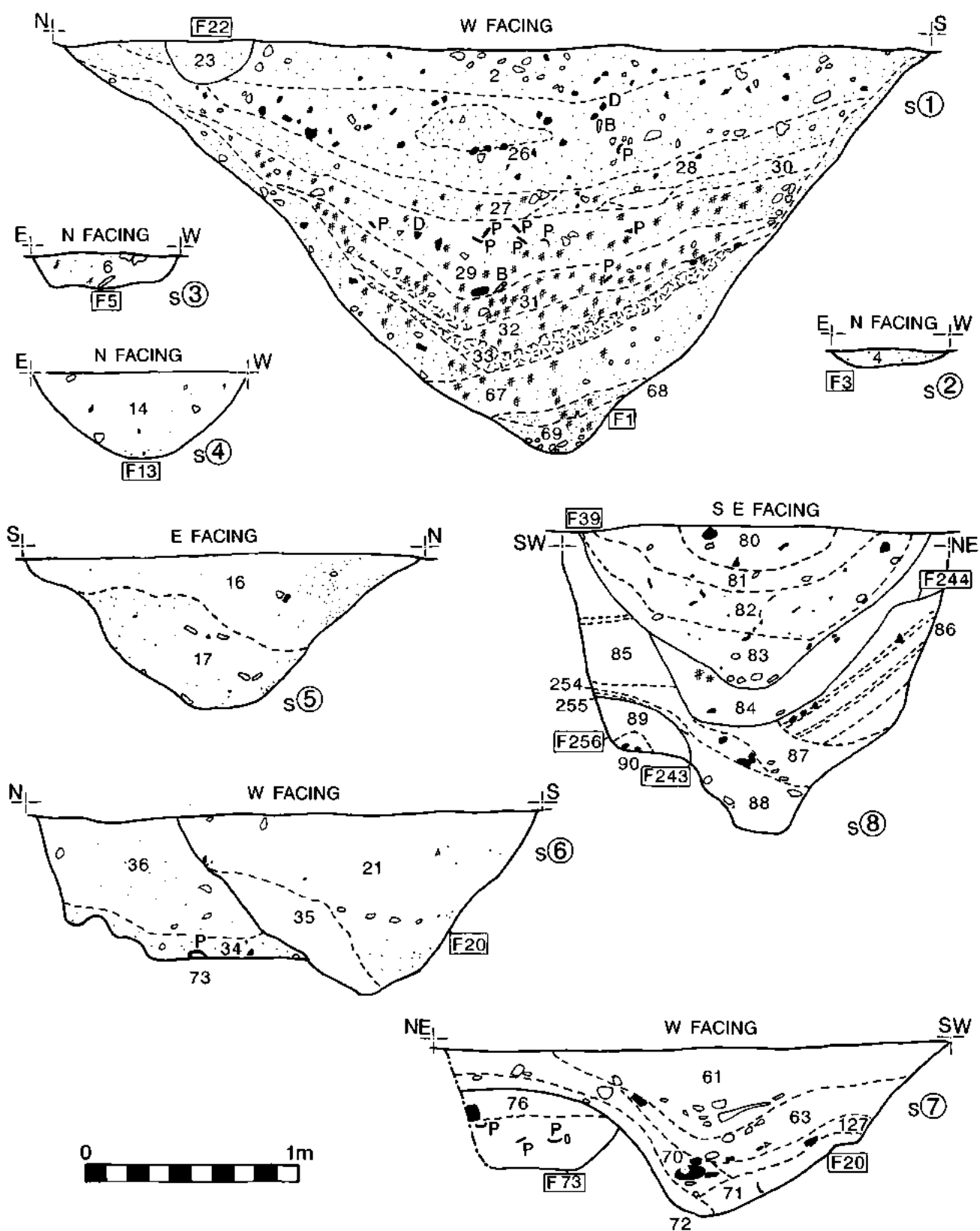


Fig. 8 Sections 1-8 (see Fig. 10 for key).

(29% by sherd count 43% by weight of the total pottery from F1), very little was recovered from the deep upper layer 26 (6% by sherd count 3% by weight of the total pottery from F1). No pottery was

recovered from the lowest fills (67-69). Pit complexes F39 and F41, have an even more striking pattern of depositions; large quantities of MIA pottery from the latest cuts, and relatively little pottery, of EIA

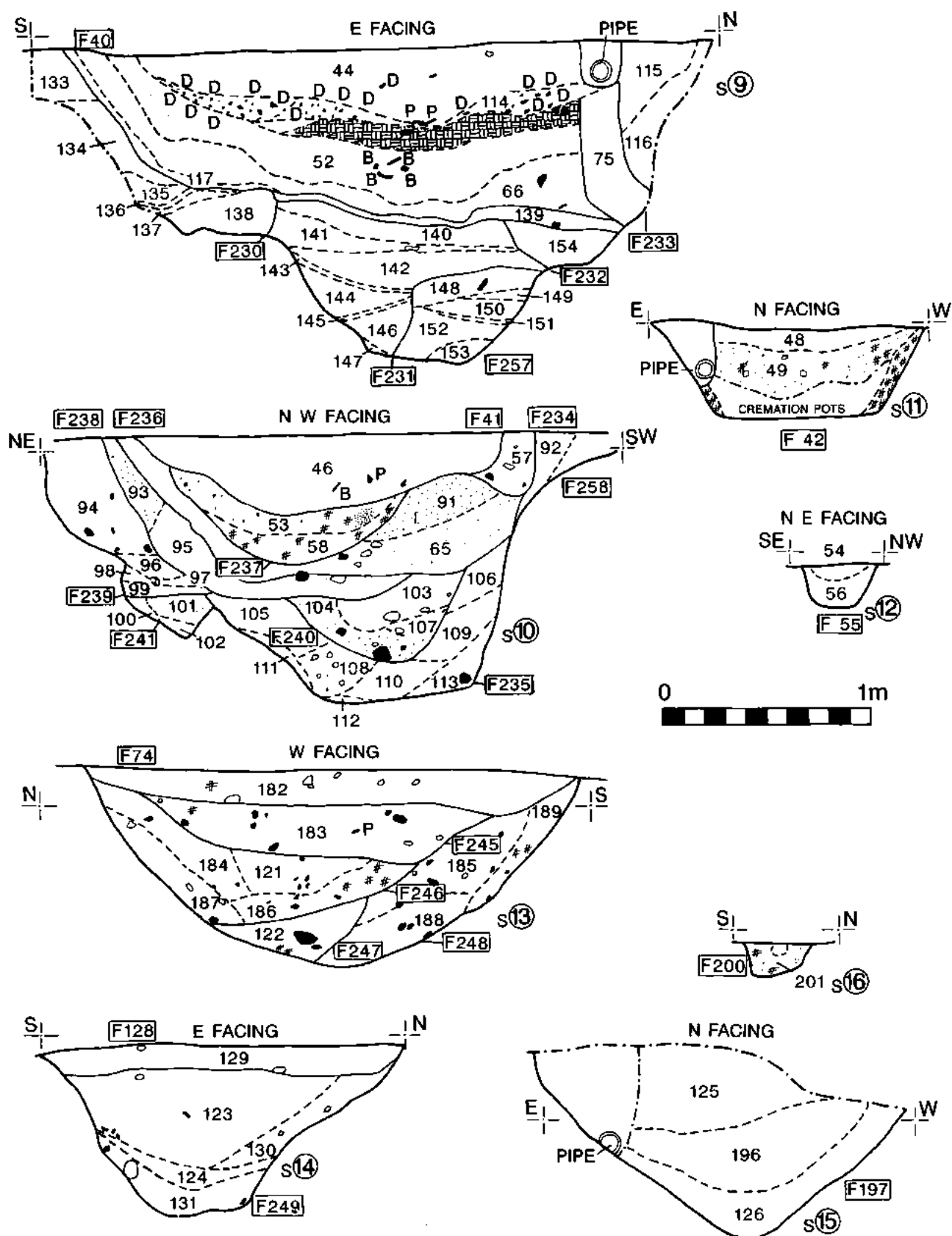


Fig. 9 Sections 9-16 (see Fig. 10 for key).

date, from the earlier cuts. A similar pattern occurs in F40, with a considerable amount of MIA pottery from the upper fills (44, 51, 52 and 66), and nothing from the lower. The multiple recutting of the

pits is itself remarkable. The superficial appearance of general rubbish disposal may mask a far more complex pattern of behaviour (Hill 1989; Cunliffe 1992).

IRON AGE AND ROMAN MATERIAL FROM BIRCHANGER

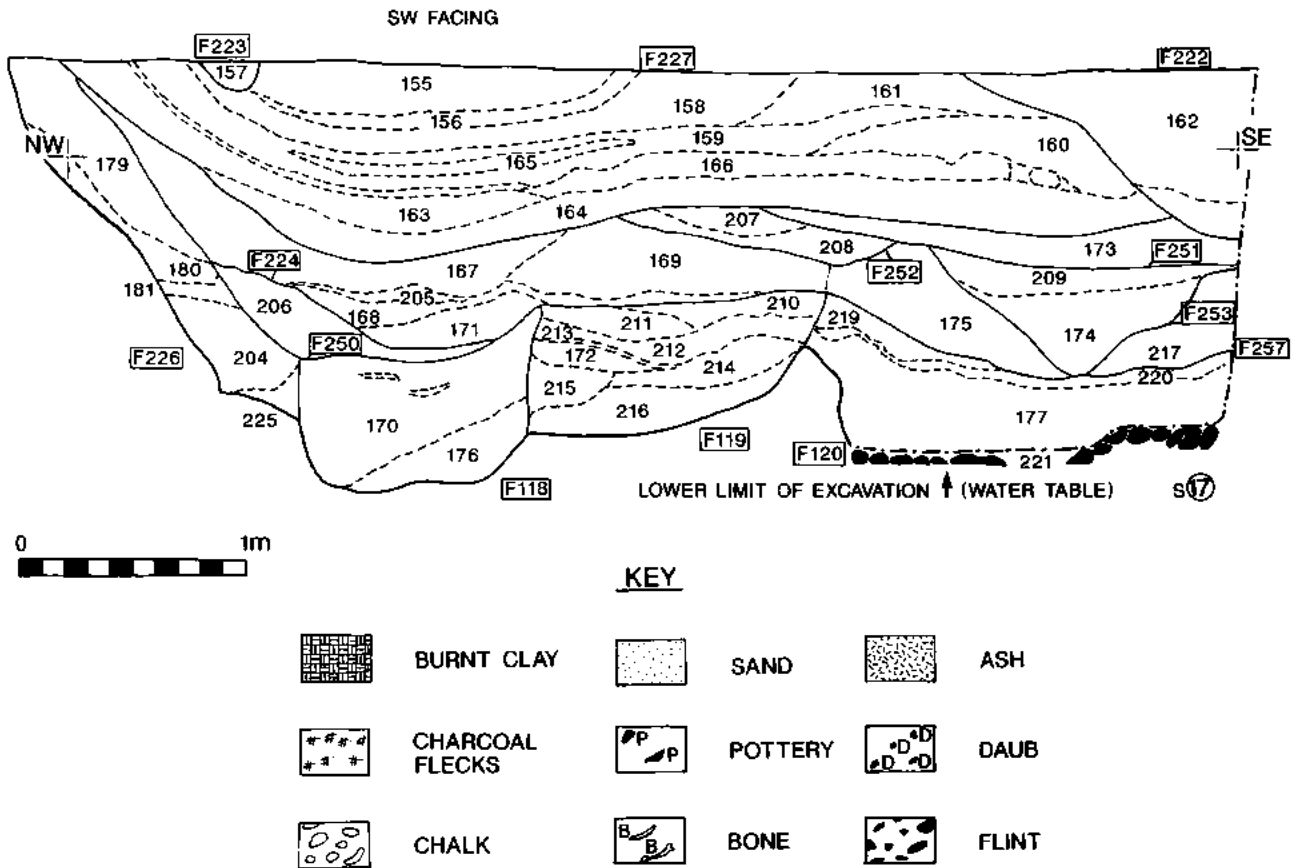


Fig. 10 Section 17 and key to sections.

Catalogue of illustrated sherds (Figs 11-12)

No.	Form	Comments, Features (F) and Context Number (C)	Fabric
1	11	Slightly everted rounded rim, partly abraded interior. F1, C2	J
2	?13	Smoothed, slightly abraded surfaces. F1, C27	J
3	9	Abraded, rough wiping on exterior, finger-nail impressions on rim. F1, C27	G
4	-	Surfaces show traces of wiping with ?pad of grass. Incised decoration on top of rim. Jars of this form do not appear to be common at Little Waltham although there are parallels with rims attributed to forms 1 and 8 (eg Drury 1978, fig. 44.60, 46.137). F1, C29	P
5	13	Smoothed exterior, probably originally burnished, abraded interior. F1, C29	H
6	12	Abraded surfaces. F1, C29	J
7	16	F1, C29	J
8	-	Finger-impressed rim. Rough scored lines on exterior. Black deposit ?sooting below rim. F1, C29	J
9	?5	Smoothed, partly abraded surface patch of burnish survives on exterior. F1, C33	J
10	-	Small rounded jar, smoothed surfaces, partly abraded trace of burnish on interior. F1, 33	J
11	-	Coarse jar with short neck and everted roughly beaded rim. Jars of this form do not occur at Little Waltham although there are similarities with vessels of form 1 (eg Drury 1978, fig. 48, 208 and 209). F39, C82	J
12	?1	Smoothed exterior, abraded interior. F39, C83	J
13	-	Small plain cup, about half vessel is present. Such pots are not present at Little Waltham. F39, C83	J
14	-	Slashed decoration on exterior of rim. F39, C83	J
15	16	F39, C83	J
16	13	Smoothed surfaces partly abraded., patches of burnish survival on interior. F37, C78	J
17	-	Carefully finished, smoothed but apparently unburnished, very short neck sharply demarcated from the body, bead rim. F40, C44	J
18	-	Jar rim with finger impressions on top. F40, C44	I
19	2	Smoothed exterior. F40, C44	J
20	-	Coarse jar, interior abraded. F40, C44	J
21	?13	Smoothed surface originally burnished. F40, C44I	J

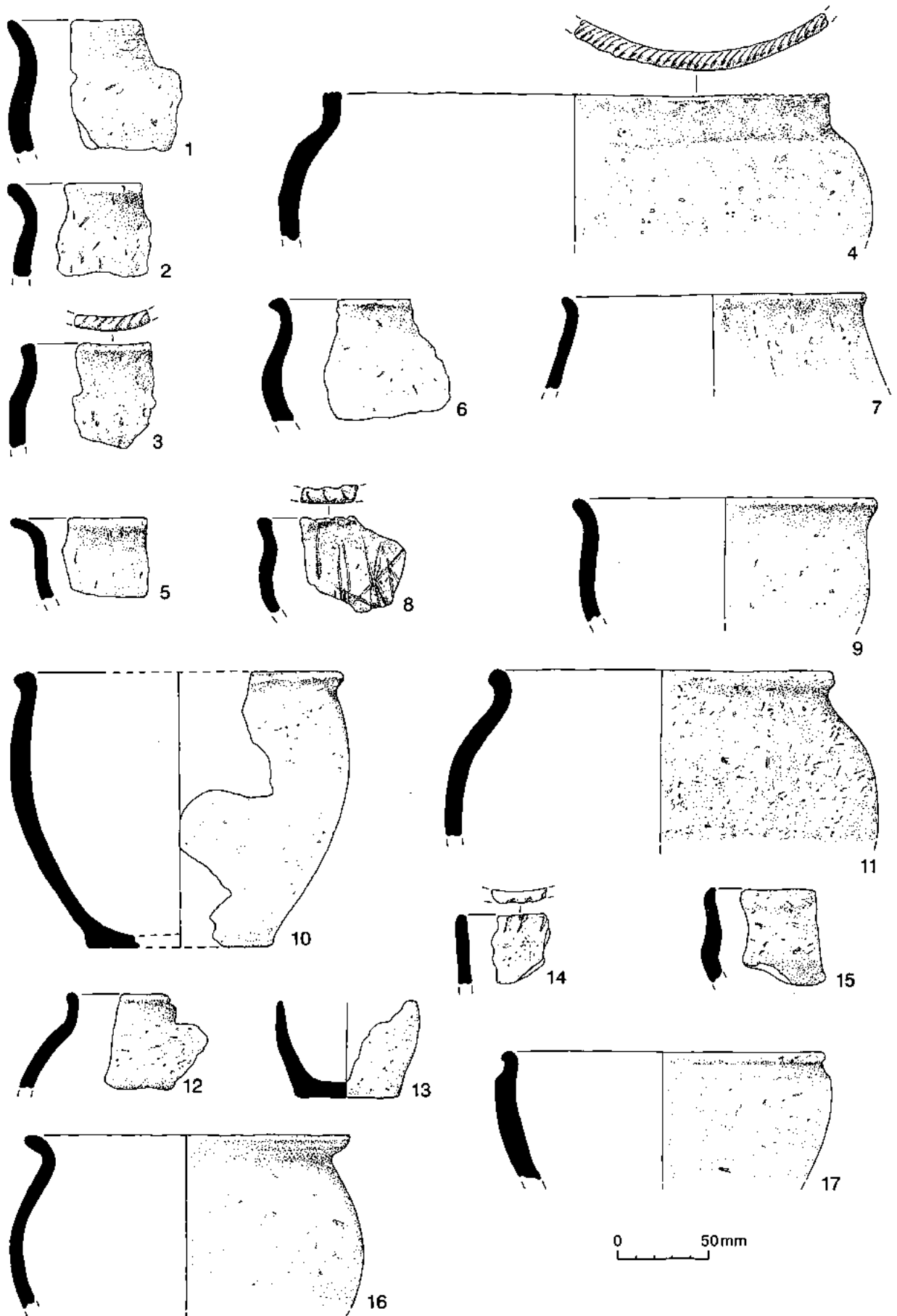


Fig. 11 Prehistoric pottery, 1-17.

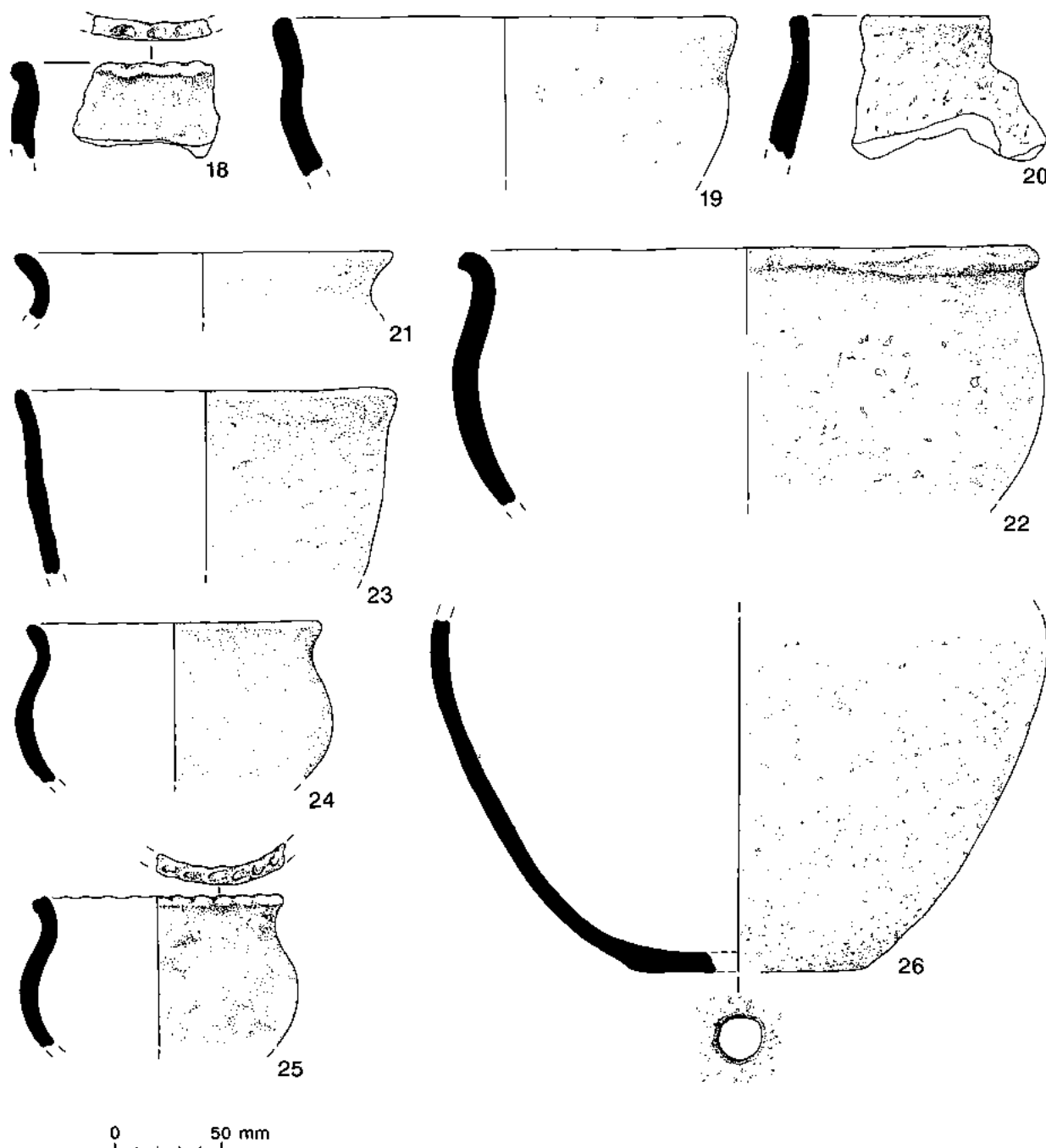


Fig. 12 Prehistoric pottery, 18-26.

- | | | | |
|----|----|---|---|
| 22 | - | Large sand shouldered jar with rough bead rim, abraded. F40, C51 | J |
| 23 | - | Exterior abraded. Open jars of this form do not appear to be common at Little Waltham, although there are similarities with a vessel attributed to form 3 (Drury 1978, fig. 51.268). F40, C66 | J |
| 24 | 13 | Smoothed surfaces probably originally burnished partly abraded. F40, C651 | H |
| 25 | 8 | Finger impressed rim, exterior ?grass wiped. F59, C60 | J |

- | | | | |
|----|---|--|---|
| 26 | - | Large round-shouldered jar, rim missing about half vessel walls and near complete base survive. Smoothed surface with patches of abrasion near base. Large central foot-ring perforation in base. F190, C191 | C |
|----|---|--|---|

The Late Iron Age and Roman pottery
by Katherine Horsley

Introduction

Over 6kg (1546 sherds) of Late Iron Age and early Roman pottery were recovered. One of the pits (F42) contained a cremation group consisting of eight vessels.

The pottery was classified using the fabric and form series established in Going's *Mansio* report (1987) and supplemented by *Camulodunum* (Hawkes and Hull 1947), *King Harry Lane site* (Stead and Rigby 1989) and Thompson (1982).

The fabrics present included:

North Gaulish fine white sandy wares, Terra Rubra, King Harry Lane silty wares, Brockley Hill wares (26), fine romanising wares (34), Hadham/fine grey wares (36/390), storage jar fabrics (44), romanising grey wares (45), sandy grey wares (47), early shell-tempered wares (50), grog-tempered wares (53) and South Gaulish samian (60).

Dating evidence

Contexts are discussed in numerical order below, except for the cremation pit, F42, which is considered last.

F1, Pit

2 Misc. pottery: Thompson B5-4 (53)

26 Misc. pottery: Thompson B3-1 (53)

A date in the first half of the first century for this feature is suggested by the presence of a plain, globular barrel jar and a jar with cordons and an everted rim in grog-tempered ware.

F13, Gully

14 Misc. pottery: Thompson D1-1 (53)

Dates to the first half of the first century AD.

F15, Gully

16 Misc. pottery: (36/39), (47), (53)

Context 16 contained bodysherds of Hadham/fine grey ware suggesting a mid second-century date.

F20, Ditch

21 Misc. pottery: G36 (36), Thompson B5-4, G5-1 (53), (26)

61 Misc. pottery: (36/39), (44), (53)

Context 21 contained Late Iron Age/Early Roman sherds. Context 61 contained bodysherds in both Hadham grey ware and Brockley Hill ware, suggesting a mid second-century date.

F22, Gully

23 Misc. pottery: (47), (50), (53)

Late Iron Age/Early Roman in date.

F24, Pit

25 Misc. pottery: Thompson B2-1 (53)

Dates to first half of the first century AD.

F37, Pit

38 Misc. pottery: (44), (45), (53)

77 Misc. pottery: (53)

78 Misc. pottery: (53)

The presence of only bodysherds in romanising ware and grog-tempered ware means that only a tentative date of Late Iron Age/early Roman can be offered for this feature.

F40, Pit

44 Samian: ?SG

F73, Ditch

34 Misc. pottery: Thompson C7-1, G5-1 (53)

64 Misc. pottery: (53)

Dates to the first half of the first century AD.

Discussion

The majority of the pottery was of a mid to late first-century AD date, with only two contexts (16 and 21) dating to the mid second century. The material was mainly grog-tempered ware in a variety of vessel forms. As with the material from the Stansted site DFS

(Brooks and Havis, forthcoming), the vessel forms from WS92 appeared to be typical of Hertfordshire rather than Essex. Although this not surprising when considering the proximity of the site to the Essex/Hertfordshire border, the lack of quantified groups of this date from either Hertfordshire or north-west Essex makes it difficult to make anything other than general comments about possible distribution patterns.

Comparisons with material from other sites is much easier with respect of the Claudian cremation assemblage from pit 42 (see below).

F42 — The Cremation Group

Roman pottery

by Katherine Horsley

Pit 42 contained a cremation group (context 49) consisting of eight vessels (described in detail below) of a mid Claudian date. The condition of the pottery was extremely fragmentary; it appears however that the vessels were placed whole in the grave, and their current condition is due more to the effects of the extensive root disturbance which was noted in the area and large construction vehicles running over the area before excavation. The eight vessels are labelled A-H; for positions in the pit see Figure 13.

49A: Very fragmented imported North Gaulish butt beaker (Cam. 113) in fine white sandy ware. Two zones of rouletted decoration are separated by a single cordon; another cordon separates the neck from the decorated body. KHL form 6C7

49B: Very fragmented two-handled flagon in King Harry Lane silty ware. Rim is slightly lid-seated and the handles have four ribs and a distinctive overhang on one side of the underside. KHL form RL8A

49C: A fragmented platter with slightly flaring walls (Cam. 21). KHL form 1A1

49D: Very fragmented ovoid beaker (Cam. 112) in Terra Rubra. Neckless with an everted rim; two cordons separate the shoulder from the body which is decorated with rouletting. KHL form GB24A

49E: A platter with incurving walls (Thompson G1-7) in fine red fabric with blue-grey surface, possibly an oxidised King Harry Lane silty ware (V. Rigby, pers. comm.). The shape of the wall is reminiscent of a Cam. 16; however, the base of the platter is flat rather than concave as one would expect in a Cam. 16. KHL form 8C1

49F: A beaker or small jar with a pedestal foot, on neck and an everted, almost cornice rim in fine romanising ware.

49G: A complete conical cup with foot ring and plain almost bead rim in late grog-tempered ware. No parallels could be found.

49H: A fragmented bell-shaped cup (Cam. 56C) in fine romanising ware. There was a small stamp [I/I] on the interior base of the vessel. KHL form GB17.

Discussion

Two imports were recovered from F42; the almost ubiquitous butt beaker in North Gaulish fine white sandy ware (Vessel A) and an ovoid beaker (Cam. 112) in Terra Rubra (Vessel D). The butt beaker (Cam. 113) 'comprised the single most common vessel-type in the KHL cemetery' (Stead and Rigby 1989). Vessel A has both an internal cornice and a hollow cordon which suggest it is mid-Claudian in date (V. Rigby, pers. comm.). V. Rigby suggests the ovoid beaker is also of Claudian date due to its possessing both a red fabric and rouletted decoration. The presence of North Gaulish fine white sandy wares and Terra Rubra is not uncommon in cremation groups of this date and until the Claudian invasion (AD43) it appears that the distribution of Gallo-Belgic wares in general was confined to the area south-east of the Fosse Way (Timby 1987).

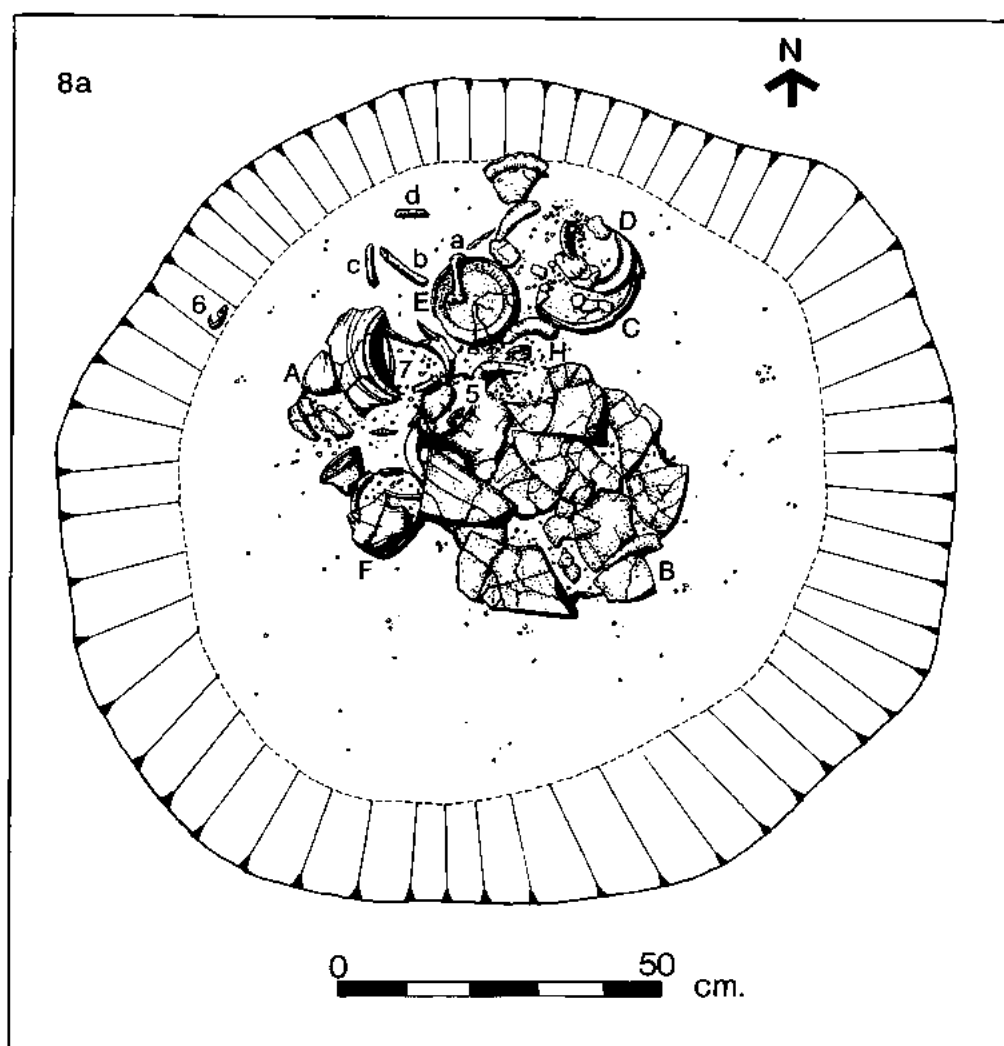


Fig. 13 Roman cremation burial (F42) and cremation pots.

F42 also yielded two vessels in KHL silty ware; a two-handled flagon (vessel B) and a platter (E). Vessel E had both a smooth, inward-curving outer wall and a small 'step' on the interior wall where it joined the base. Although there appears to be some similarity to Cam. 16, platter E has no direct parallels either at KHL or Camulodunum. V. Rigby commented that the fabric of the platter appeared oxidised and that it may in fact be a local Hertfordshire product.

Two local Essex wares were present within the cremation assemblage; two vessels in fine romanising grey ware (vessels F and H) and two vessels in grog-tempered ware (vessels C and G). Vessels C and H have parallels in both Camulodunum and King Harry Lane (see below), and are local copies of Gallo-Belgic imports; indeed local copies of Cam. 56 are not uncommon in East Anglia (V. Rigby, pers. comm.).

The two vessels which appeared to have no direct parallels were the small pedestalled jar (49F) and the conical cup (49G); although, burials 195, 287 and 356 from KHL did contain small jars of a similar type to vessel F. V. Rigby comments that the carinated jar is the most common jar form present in cremation groups of this date and that the pedestalled jar is highly unusual, although one in black eggshell ware has been found at Colchester.

The cremation vessels from WS92 can be individually paralleled at a number of sites in Cambridgeshire, Essex and

Hertfordshire (most notably Camulodunum and King Harry Lane). The complete assemblage, however, appears to be unusual in that although a relatively large number (eight) of vessels were found, none of them were of samian. The number of vessels (including two imports) would suggest a moderately rich grave, but one would also expect to see at least one vessel in samian among the assemblage. In this respect, the cremation group is very similar those of a similar date excavated at King Harry Lane, a cremation cemetery which produced over 700 vessels, of which only 6 were samian.

Small finds

by Hilary Major

The cremation group included four copper alloy brooches, all in very poor condition, with little of the surface surviving, and therefore not considered to be worthy of illustration. They comprise three Colchester brooches and an Aucissa brooch. Both types were current in the first half of the first century AD, although Crummy (1983, 8) considers that Aucissa brooches were not introduced to Britain until the conquest.

1. Aucissa brooch, with the catchplate and most of the pin missing. It has a copper alloy axis bar, rather than the more usual iron. A small part of the head of the pin survives, but is now detached. The surface is in very poor condition, and the only

details now visible are transverse grooves below the head, and at the junction of the foot and bow, and longitudinal moulding on the bow. L 42mm. 49

2. Colchester brooch; catchplate, pin and part of spring missing. In very poor condition, with little original surface surviving. The top of the bow was possibly decorated, as 4, below. L 69mm. 49
3. A small Colchester brooch, with the pin and catchplate missing, and the spring detached and fragmentary. It was probably plain, with short side wings and a long chord hook. In poor condition, surface flaking. Original L c. 35mm. 49A
4. Colchester brooch, with catch plate and pin missing. The surface is in very poor condition. There is a decorative band down the centre of the bow, the details of which are unclear, but it appears to be similar to brooch C8 from King Harry Lane, Verulamium (Stead and Rigby 1989, 90). The latter is of their type Cb, which have at least two decorative elements. The brooch from Woodside is too incomplete to be certain that it is of the same class, as only one decorative element has survived. L 81mm. 49A
5. Iron; Nail, in two pieces, shaft broken. Head diam. 16mm, shaft L 15mm; also another probable fragment from a nail shaft, L. 24mm. 49
6. Iron; A probable nail shaft fragment. L 40mm. 49
7. Burnt clay; Three fragments in a very fine fabric. These are probably accidentally fired, and not a deliberate inclusion in the cremation. Wt. 7g. 49.

Pig remains from F42

by Owen Bedwin

Within the cremation pit F42, 5 unburnt *Sus* bones were found. These consisted of the skull, without the mandibles (both maxillae had all deciduous teeth *in situ*), plus the right scapula, humerus, radius and ulna. Although the latter 4 could not be described as articulated they were roughly aligned, and suggest that most of the right foreleg (without metapodials and phalanges) was deposited in the grave. Cremation burials of a similar date from Stansted Airport (Site DFS), 1.25 km to the east, also contained pig skulls (R. Havis, pers. comm.).

Small Finds Reports

by Hilary Major

Metalwork

A small number of copper alloy and iron artefacts were found. Apart from those listed below, there were two nails and a copper alloy rod from the base of the plough soil, of recent date. A post-medieval horseshoe nail came from context 21. The context is late Iron Age, and the nail must therefore be intrusive.

Copper Alloy

8. (Fig. 14,2) A small plano-convex leaf-shaped plate with a central perforation, slightly damaged. The upper surface has moulded curvilinear decoration. L 11mm, W 6mm. MIA context 160

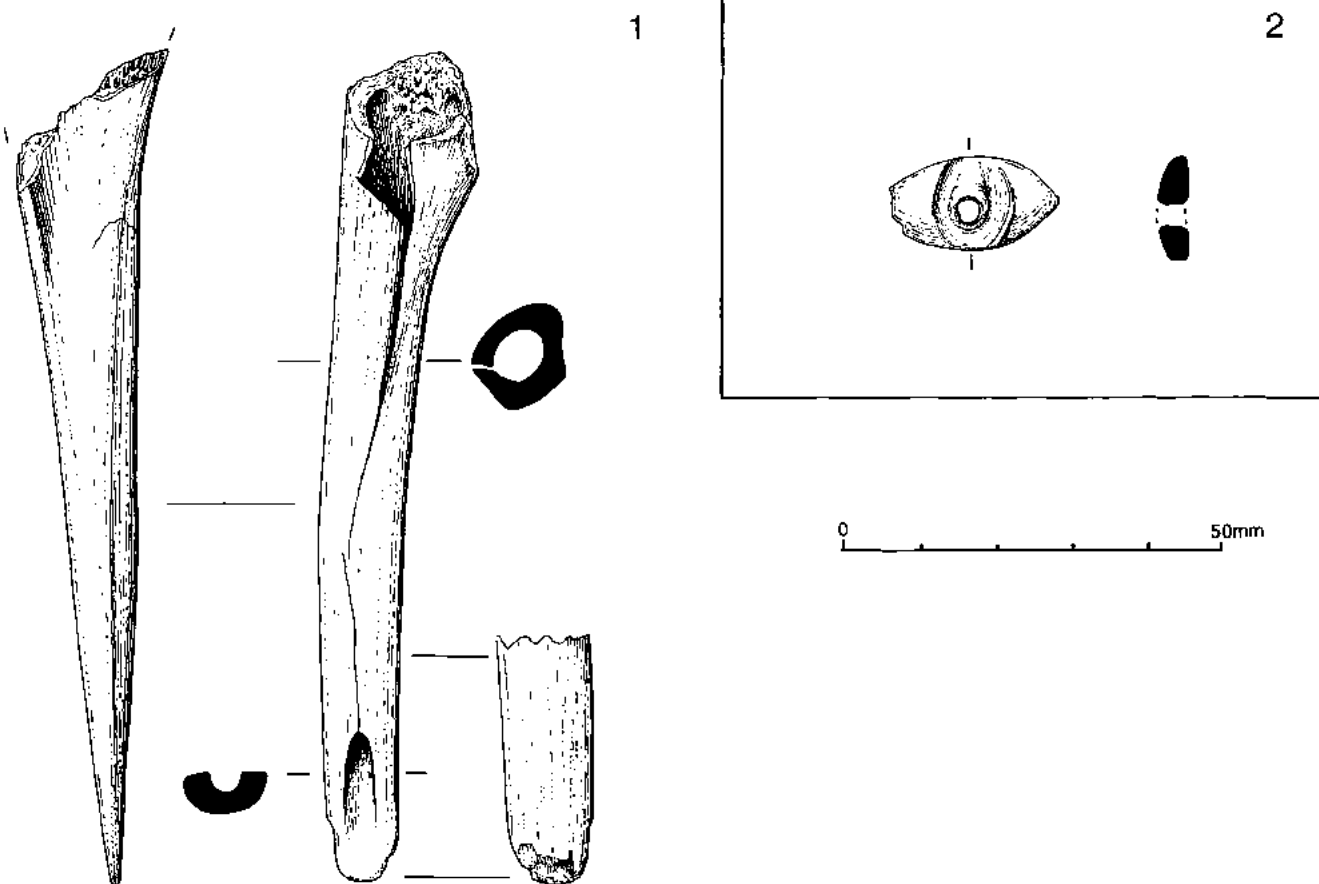


Fig. 14 Bone tool (1) and plano-convex leaf-shaped copper-alloy plate (2).

Iron (not illus.)

9. Ring, external diam. 50mm, internal diam. 35mm. LIA context 38
10. Probable nail shaft fragment. L 39mm. LIA context 121.

Worked bone

11. Bone tool made from a sheep tibia (Fig. 14,1). The utilised end is blunt, with scratches on the front which may be ancient wear. The back is more polished than the front, and there is chipping of the point which may be original. The type is well known, and was classified at Danebury as a Class 2 'gouge' (Sellwood 1984, 385). As Sellwood notes, the purpose of these tools is unknown, interpretations ranging from weaving tools to feeding spoons for young children. MIA context 52.

Fired clay objects (not illus.)

One fragment of a triangular loomweight came from context 33, a Middle Iron Age context. The fabric was very similar to that assumed to be from structural daub.

There were three small fragments from fired clay slabs, from contexts 21, 34 and 38. None of them was large enough to give any indication of their overall shape and size.

Salt briquetage

A single small fragment of possible salt briquetage came from context 2, F1, a Late Iron Age context. It was in a vegetable tempered fabric with the pinkish tinge typical of salt briquetage.

Baked clay

A total of 8259g of baked clay was recovered, mostly consisting of small fragments without surfaces, in a chalky fabric. In north-west Essex, this type of fabric is generally associated with structural daub rather than clay objects, and while there are few fragments from this site with wattle impressions, it is likely that the majority of the material is from structural daub.

Baked clay was found in features of all periods, although there was very little from the Early Iron Age. Two contexts (52 and 44) accounted for over half of the baked clay found, although the excavator reported that there was also very poorly fired baked clay in some contexts, which crumbled during excavation.

Faunal remains

by Owen Bedwin

A total of 637 fragments of bone and teeth were identified to species level (excluding the *Sus* fragments for the cremation F42; these are dealt with separately below). In general, the assemblage was very well preserved; although few bones were intact, they were mostly in good condition, with few abraded examples.

The 637 fragments were divided up among six species as follows:-

<i>Ovis</i>	306	48.1%	<i>Bos</i>	168	26.3%	<i>Sus</i>	121	19%
<i>Canis</i>	28	4.4%	<i>Equus</i>	13	2%	<i>Avis</i>	1	0.2%

The bulk of the assemblage (586 fragments) came from sealed, well-dated middle or late Iron Age contexts, as the following table shows:-

Table 1 Contexts of bone fragments.

Phase	<i>Ovis</i>	<i>Bos</i>	<i>Sus</i>	<i>Canis</i>	<i>Equus</i>	<i>Avis</i>	Totals
%	49.6	23.8	15.8	5.4	4.8	0.6	
LIA/ER No.	81	39	26	9	8	1	164
%	48.9	25.2	20.7	4.3	0.9	-	
MIA No.	206	106	87	18	4	-	421

The figures indicate *Ovis*, *Bos* and *Sus* as the three main food species, but the assemblage is not large enough to isolate any chronological trends in the local Iron Age economy. A few comments are in order, however. First, within the major cut features, the upper layers are considerably more bone-rich than the lower ones. Thus in pit F1, layers 29, 32 and 33 contain many fragments, whereas the lower layers 67, 68 and 69 have only a few scraps: this distribution parallels that of the pottery (Brown above). However, it must be noted that the upper layers had a considerably greater volume of soil than the lower ones. Secondly, of the 28 *Canis* bones, 26 were found in 2 unusual deposits. Roman context 21 yielded 4 mandibles, 2 maxillae and 3 skull fragments, almost certainly representing the skulls (or large parts thereof) of two individuals. There were no post-cranial fragments. Then from the middle Iron Age context 52, came 17 bones from the lower parts of the limbs, representing at least one complete dog's paw (the excavator noted one articulated limb, from the metapodials down). Finally, in spite of the rushed circumstances of excavation, and the relatively small area examined, well-preserved animal bone was recovered in considerable quantity. Future work on prehistoric sites in this area of the county should include a faunal recovery strategy as a high priority.

Human remains

by Owen Bedwin

From context F42 came 649g of thoroughly cremated bone. Most fragments were very small. There were no teeth, and only a few tiny skull fragments. Identifiable pieces came from a tibia, and, more significantly, part of the fused proximal epiphysis of a femur. Context 49 also produced 23g of cremated bone in small fragments; one of these was provisionally identified as part of a radius. The remains are compatible with the cremated body of a single individual, probably an adult.

Context 122 (MIA) contained 12 small fragments of unburnt human skull. Scattered human material often turns up in this way on Iron Age sites in southern England.

Flint report

by Louise Austin

The assemblage

A total of 120 pieces of worked flint were recovered from the site; 78 whole flakes, 17 broken flakes, 9 cores, 6 naturally fractured lumps with single removals, 2 hammerstones and 1 fragment of hammerstone. 25 pieces showed slight traces of patination although the vast majority were in a fresh and unabraded condition. None of the unpatinated pieces were of a particular tool type; however, one heavily patinated broken piece had invasive retouch suggestive of Early Bronze Age knapping. The rest of the flint is comparable to other later prehistoric assemblages, and without specific tool types or more extensive analysis it is difficult to attribute them to a specific date or period. However the features themselves are securely dated to the Early-Late Iron Age and the flint assemblage is compatible with that date range.

Raw material

The raw material from which the flint work was produced was dark grey mottled with light grey inclusions and frequent flaws, many of the pieces had fractured along natural fracture planes during knapping. The raw material was both nodules with white and light grey cortex and cobbles.

Technology

Apart from the patinated pieces, which appear to be residual, the flake production was uncomplicated. The vast majority of flakes have large plain burrs and prominent bulbs of percussion suggesting the use of hard hammers for their removal. Several pieces had a number of incipient cones from repeated attempts at the removal of a flake. Other pieces showed evidence of repeated battering on the cortical or dorsal surface prior to removal, suggesting that flint

nodules and cobbles used as hammer stones were then utilised as a flint source after fracturing. Two complete hammer stones were recovered. They both exhibit severe battering along the crest of ridges around their surface. Neither of these were found in contexts with flaking debitage although broken hammer stones pieces have been. It is therefore apparent that the hammer stones are curated and not just used on a particular occasion and then discarded with the rest of the unwanted debitage. The extensive battering on both the complete hammers suggest that they were used for far more than the production of the flint flakes which have been recovered from the site. Either there are other areas of flint production and dumping of waste to which these hammerstones relate or they are used in some other processes.

Location

All except four pieces were recovered from the pits. These do not appear to be *in situ* debitage from knapping events, but dumps of rubbish. Two pieces from F55 are not in the same condition as the rest of the material from the pits, and may be residual. The two pieces recovered from the ditch F62/F20 do not stand out from the rest of the assemblage in any way.

Discussion

Although the excavated area was small, the results are of significance because of the relative lack of knowledge of Iron Age settlement in north-west Essex (the Stansted Airport area excepted). Any analysis of the sites internal lay-out, however, needs to take account of the fact that the original site probably extended underneath the industrial buildings to the south and east and the A120 to the north.

In particular, the Middle Iron Age pottery is of interest in that its range of fabrics, and some of the vessel forms, contrast markedly with contemporary assemblages at Little Waltham and Mucking, implying local production of pottery. Unsurprisingly, much of the Roman pottery has links with Hertfordshire, rather than Essex.

Of note, too, is the remarkable sequence of deposits in some of the pits. Although most, if not all, of the material in these pits could be described as domestic debris, it is unlikely that these deposits reflect simple rubbish disposal. It is suggested that they may have served as a form of compost-heap, made up of alternated layers of decaying organic matter and a covering layer of re-deposited natural placed so as to keep the smell and flies down. These layers would then have been periodically dug out and used as fertilizer, resulting in the complex systems of cuts and re-cuts visible in the sections.

Some comparisons can be made between Woodside and the Car-park I and Social Club sites at Stansted Airport (Brooks and Havis 1991). Car-park I was an Early-Middle Iron Age enclosed settlement, with a timber palisade. Inside the enclosure was a round-house, two four-post structures and a rubbish pit. Immediately to the north and east of this site was the Social Club site, which consisted of a number of intercutting pit-complexes of Late Bronze Age/Early Iron Age date and a trackway and field-system of

Early-Middle Iron Age date. The pit-complexes are similar in their nature to those at Woodside, and the pottery is closely comparable. However there is no evidence that Woodside was ever enclosed and there was no trace of an attendant field-system.

Comparisons can be made also with Foxholes Farm site in Hertfordshire (Partridge 1989) which contained a quantity of Early-Middle Iron Age pits; however these do not seem to have undergone the sequence of cuts and re-cuts which characterises the Woodside pits. At Burgh in Suffolk (Martin 1988, 10-12), there was one large pit (F004), which contained layers of dark loam containing quantities of charcoal, animal bone, daub and pottery, separated by bands of yellow clay. This feature was dated to 25 BC to AD 150. Though F004 from Burgh is thus rather later in date than the Woodside pits, the description of the layers of organic material and natural is very similar, suggesting that the same processes of deposition were in use on both sites.

Comparisons can be made between the Claudian cremation burial and a group found at the Duckend Farm site at Stansted Airport (Cremation Group B), approximately one kilometre away, which also contained pre-Flavian imports (Brooks and Havis, forthcoming). Individual vessels can also be paralleled at a number of sites in Cambridgeshire, Hertfordshire and Essex (Horsley, above). Cleavered pig skulls have been also been found in graves of this period at Stansted Airport, as well as at St Albans in Hertfordshire. It is known that the pig played a significant role in the culture and mythology of the Later Iron Age, and its presence as a grave-offering probably reflects this. The burial at Woodside demonstrates the presence of a settled community of sufficient wealth to obtain imported items from the continent.

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Excavations at Osborne Street, Colchester

by D. Shimmin

with contributions by A.-M. Bojko, N. Crummy, and J. Hind

Rescue excavation of an extra-mural site at Osborne Street revealed structural remains of Roman, medieval and later date by the St Botolph's Street and Stanwell Street frontages.

Floors from a probable late 1st- or 2nd-century Roman building were uncovered in a trench (Site A) at the eastern end of the site. These were sealed by a series of well-preserved wicker-lined drains and fences of late 12th- to 14th-century date, although elsewhere much of the site was covered by a thick layer of post-Roman topsoil or dark earth. Building remains, probably outbuildings, extended back from the St Botolph's Street frontage over Site A in the late medieval period, and rebuilding of the plot continued into the 19th century. A shoemaker's workshop

may have existed on or near the site in the late 12th to mid 13th centuries.

The well-preserved foundations and tile floors of a building of 16th- to 17th-century date, which fronted onto Stanwell Street, were uncovered at the western end of the site. This had been destroyed by fire, probably during the Siege of Colchester in 1648.

Introduction (Fig. 1)

Rescue excavations took place in the Osborne Street surface car park (TL 9985 2485) prior to re-development for a multi-storey car park with shops. The site lies 150 m beyond the south gate of the

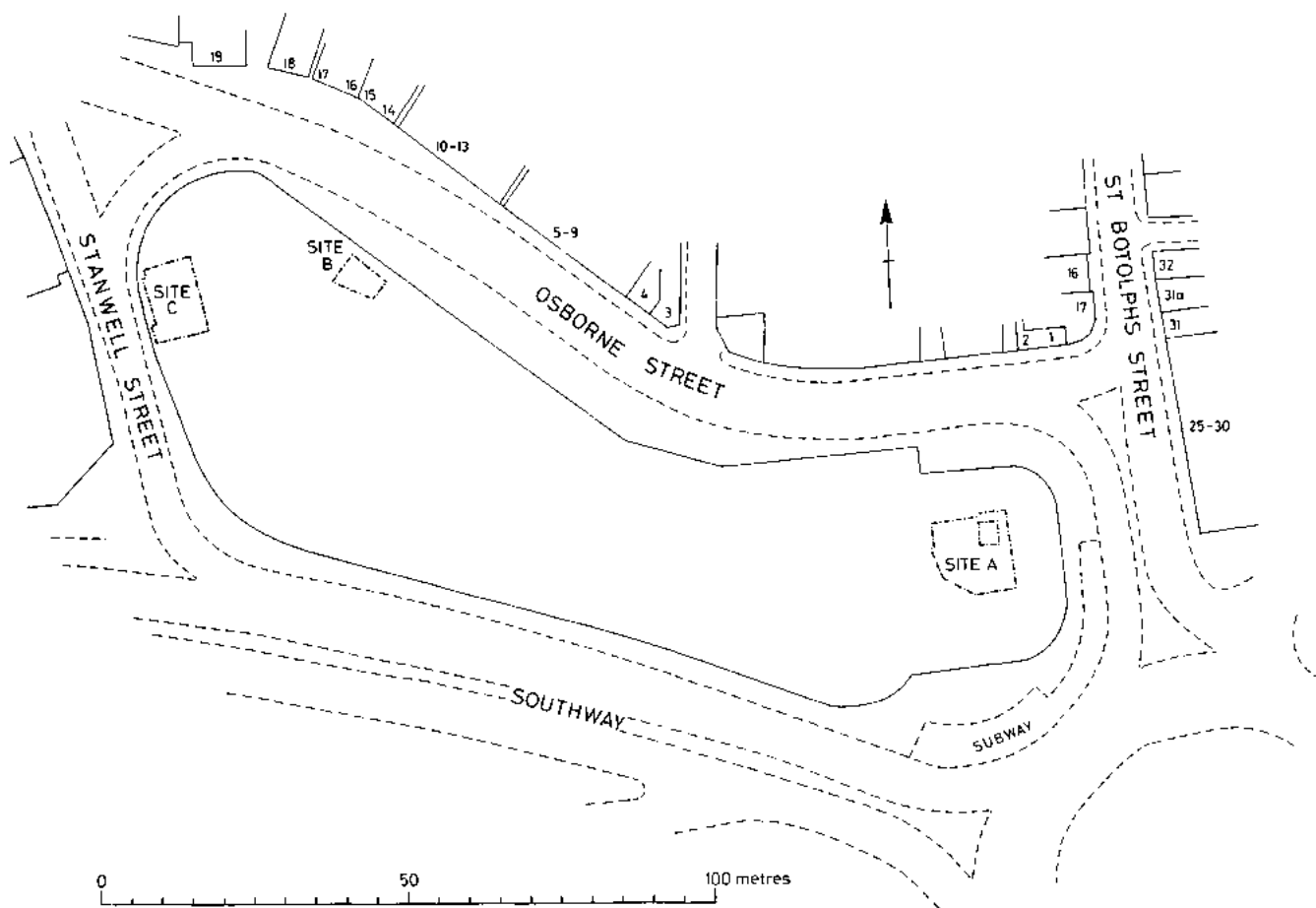


Fig. 1 Osborne Street, Colchester: site location.

Roman walled town and covers an extensive area of some 6000 square metres. There were no significant archaeological discoveries previously recorded from the site itself, although finds reported from adjacent areas included Roman tessellated pavements and cremations (Hull 1958, 244 and 294) north of the site and a 'timber structure and Roman pot' (*ibid.*, 295) to the east. However a reference to the discovery of a mosaic (*ibid.*, 244-5) has been shown not to refer to the site, but probably to the north side of Osborne Street near the junction with St Botolph's Street (*Essex County Standard*, 29 June 1907).

The site is situated on a slight north-facing slope, apparently on the south side of an underground water-course which flows west-east and in recent times surfaced further east in the grounds of St Botolph's Priory. The prevailing damp, anaerobic soil conditions on the site favours the preservation of organic remains.

Excavation

Excavation began in November 1988 in a trench (Fig. 1; Site A) at the eastern end of the site on the periphery of the redevelopment, and continued at the western end (Sites B and C) until April 1989. There was extensive machine trial trenching over the remainder of the site.

This report does not include detailed accounts of all the finds and environmental samples. This material, especially the organic remains, merits a fuller treatment than is presently possible. The archive and all retained finds, including the organic material, are in Colchester Museums (5.88). The building numbers continue the series for the town summarised in *CAR* 6, 394-5.

The phasing sequence is as follows:

1	Roman
2	c 1150/75-c 1350
2a	c 1150/75-c 1250
2b	c 1250-c 1350
3	c 1350-c 1850
3a	c 1350-c 1500
3b	c 1500-c 1650
3c	c 1650-c 1850
Modern	c 1850-1988/9

Building 178 (Period 1; Figs 2-3)

Roman deposits were located at a depth of 3.0-3.5 m in a trench on Site A, although they lay largely beyond the limits of the threatened area.

The earliest structural remains consisted of an east-west line of timber planks (AF111), probably originally vertical and supported by timber posts (AF113 and AF114), which together with a post

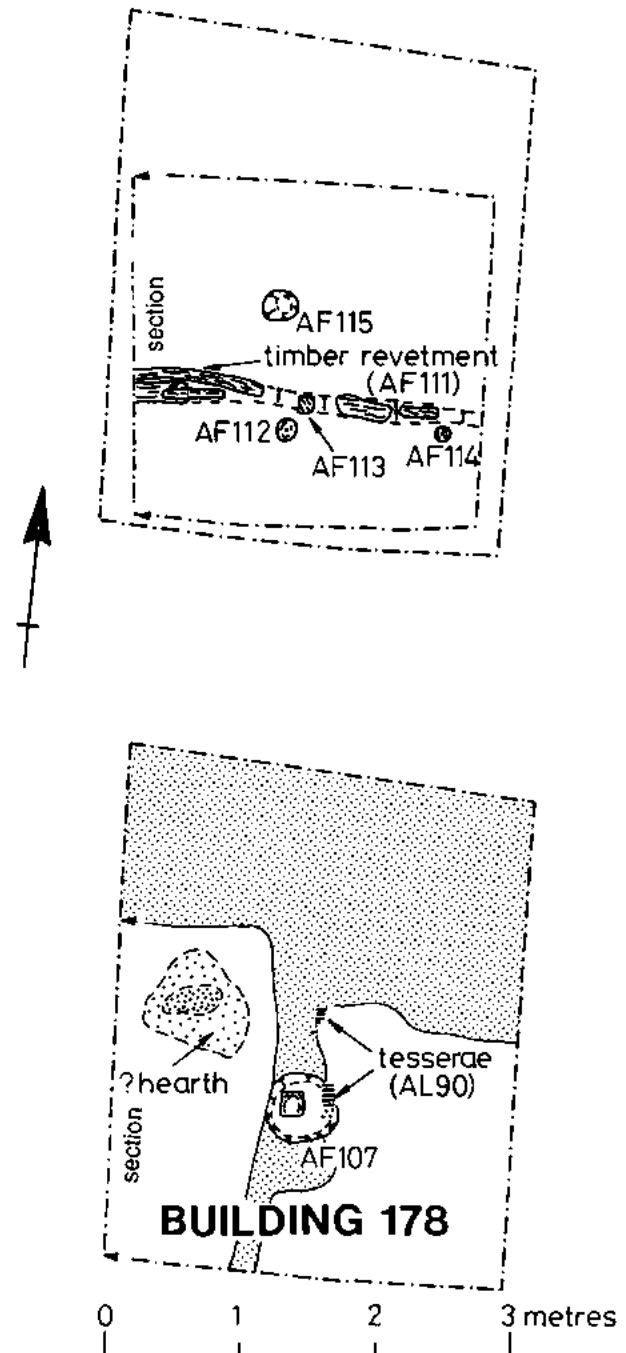


Fig. 2 Period 1. Site A: pre-building (upper); Building 178 (lower).

(AF112) and small pit (AF115) cut a thick layer of topsoil (Fig. 3; AL100). The planks may have belonged to a small building, although the limited evidence for AF111 suggests that a timber revetment or fence was more likely. There was a series of dump deposits (Fig. 3; AL95, AL96, AL99 and AL101) of probable late 1st-century date to the north of AF111.

A daub floor (Fig. 3; AL97), sealed by an

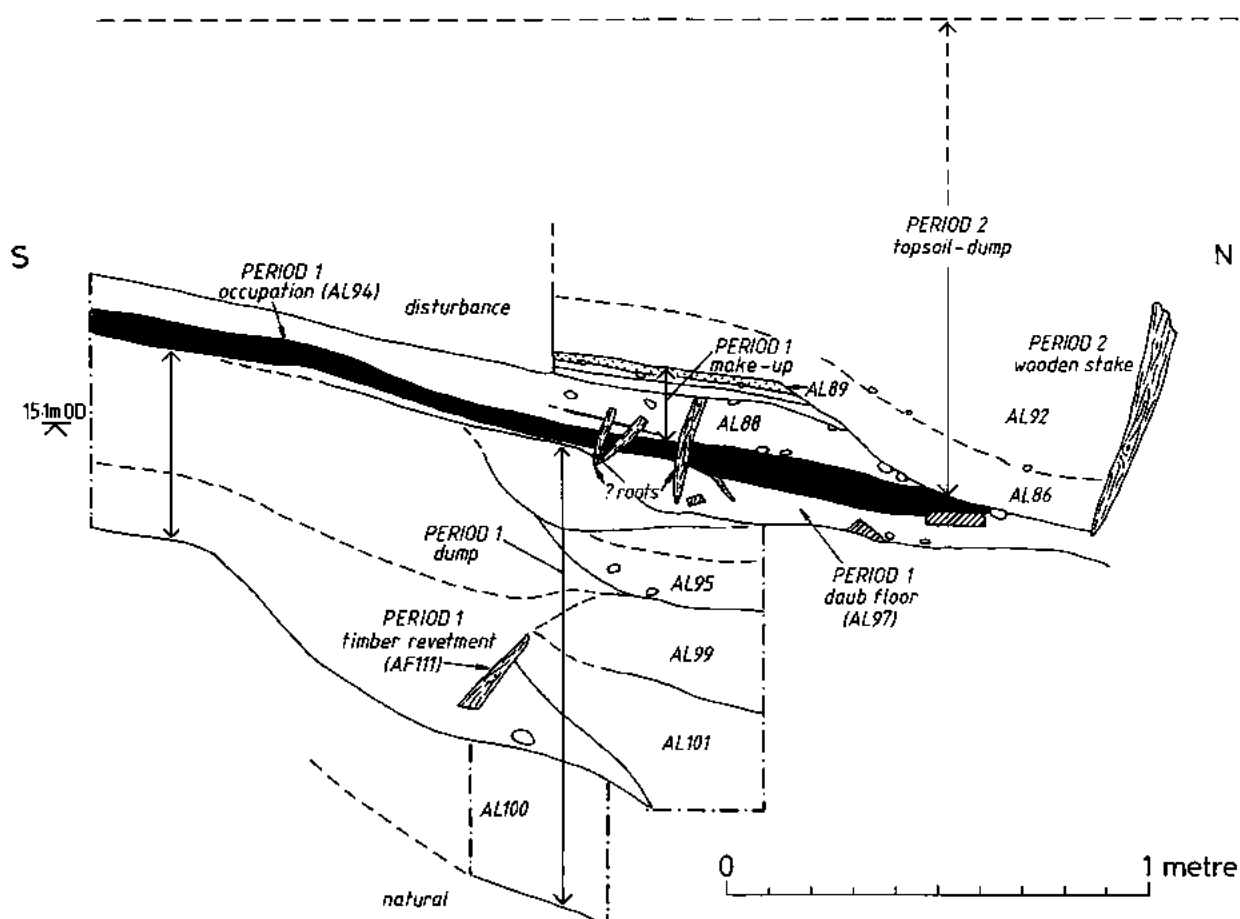


Fig. 3 Site A, section. Building 178, Period 1.

occupation layer (AL94), was subsequently laid down and was associated with a posthole (Fig. 2; AF107) containing the charred remains of a post, and a burnt area, possibly a hearth. A tessellated pavement (AL90) on a sand base (AL89) was added to the room probably in the mid 2nd century. These fragmentary remains presumably belonged to the rear of a building which fronted onto the Roman street lying beneath St Botolph's Street.

A thin scatter of Roman material was observed above natural sand along the northern edge of the site during machine trenching.

Period 2 (Figs 4-5) A series of well-preserved wooden features of late 12th- to 14th-century date was stratified at a depth of 2.15-3 m within the dark earth sealing Building 178. The features were largely of stake-and-wattle construction, and lined the sides of shallow gullies or drains, which were presumably associated with properties to the east of the excavated area on the St Botolph's Street frontage. Two main phases (Periods 2a and 2b) were recognised and a quantity of leather scraps was associated with these features which may derive from a nearby shoemaker's workshop.

In Period 2a there was a west-east drainage gully (Fig. 4; AF99/AF104), in which a section of stake-and-wattle lining survived up to five wattles high in the north-west corner. Some of the stakes appear to be of alder. The eastern half (AF99) was less well-preserved, but included larger posts and a lining incorporating small planks, and was apparently fed by a south-north drain. The latter initially consisted of a narrow gully (AF103), in part wicker-lined. This was probably replaced on a slightly more westerly alignment by the much-disturbed shallow drain (AF98/AF100), the northern end of which (AF100) also included lengths of short planks in addition to wattles. A length of stake-and-wattle construction (AF96), surviving up to nine wattles high, may indicate a further replacement lining or alternatively may represent the base of a fence.

The west-east drainage gully was recut (Figs 4 and 5: AF94/AF95) in Period 2b, and again included the fragmentary remains of wicker lining, mostly oak and elm, along the sides. A shallow gully (AF92) apparently flowed into AF94/AF95. It was associated with two lines of stakes (AF88, AF91), which probably represented a secondary wicker lining, and a gravel

spread (AL81) to the east. To the west lay the base of a probable fence (AF89), consisting of oak stakes and large branches.

Building 179 (Period 3; Figs 6-10)

Limited excavation on Site A revealed a sequence of deposits relating largely to a single property, which by the late 14th century had extended back over the site from the St Botolph's Street frontage further east. Occupation probably continued into the 19th century and can be subdivided into three main phases (Period 3a-c). The structural remains consisted largely of mortared plinths, initially of stone and peg-tile and later of brick, which presumably supported timber-framed buildings, probably outbuildings towards the rear of a yard area. However, some timber-framing and other wooden remains also survived.

In Period 3a (Fig. 6) the earliest structural evidence, probably forming the north-west boundary of the property, consisted of well-built mortared plinths (AF62/AF73) about 0.6 m deep, made of septaria, cobbles and occasional peg-tile fragments. The initial extent of building on the site is unclear due to later disturbance, although the fragmentary remains of a north-south foundation (AF44/AF65) may have subdivided the area. Other early features in the central area included an east-west slot (AF87), a short length of foundation (AF74), and a pit (AF83), together with possible traces of daub floor (AL63, AL69). A large west-east drainage gully (AF75) immediately south of plinth AF62 was probably a continuation of gully AF72, which cut plinth AF73. The gully AF72 extended eastwards from an area of dark earth (AL71) beyond the property to the west, and apparently cut the remains of a fence (AF81).

To the north of plinth AF62 was a narrow dog-legged foundation (AF41/AF68), which probably belonged to a separate, perhaps slightly later, building. A series of make-up/floor levels (AL53, AL60, AL66, AL67) and a line of stakes were excavated against the north section.

A large curving drainage gully (AF49) was subsequently dug across the site. This flowed from the west, and the sides were lined with wooden stakes, probably supports for a wattle lining. A shallow plinth (AF69) of peg-tile set in daub for a small semi-circular structure was also built immediately to the north of the gully, and both new features suggest that AF75 probably went out of use. Incorporated into the plinth AF69 was the earlier foundation (AF65), the eastern edge of which was supported by a line of tightly-packed oak stakes (AF82). A stump of foundation (AF70) was added to the east end of plinth AF68, perhaps to support the north-east corner of the structure. The gully (AF72) at the western end of the site was replaced by another (AF56) which cut through plinth AF73 slightly to the south. AF73 was partially rebuilt (AF58), and layers of dark earth (AL50/AL65)

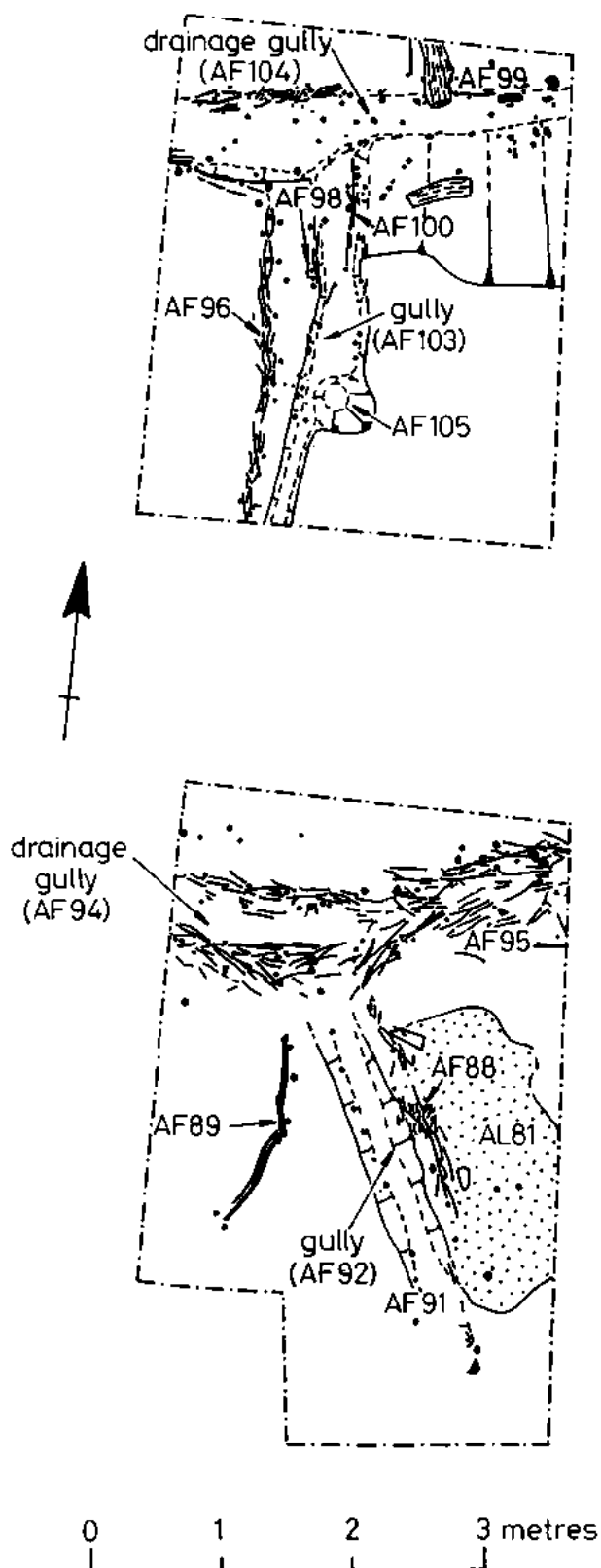


Fig. 4 Site A. Period 2a (upper); Period 2b (lower).

continued to accumulate.

An oven (AF50) with a base of vertically-laid peg-tiles and sides of peg-tile and some brick

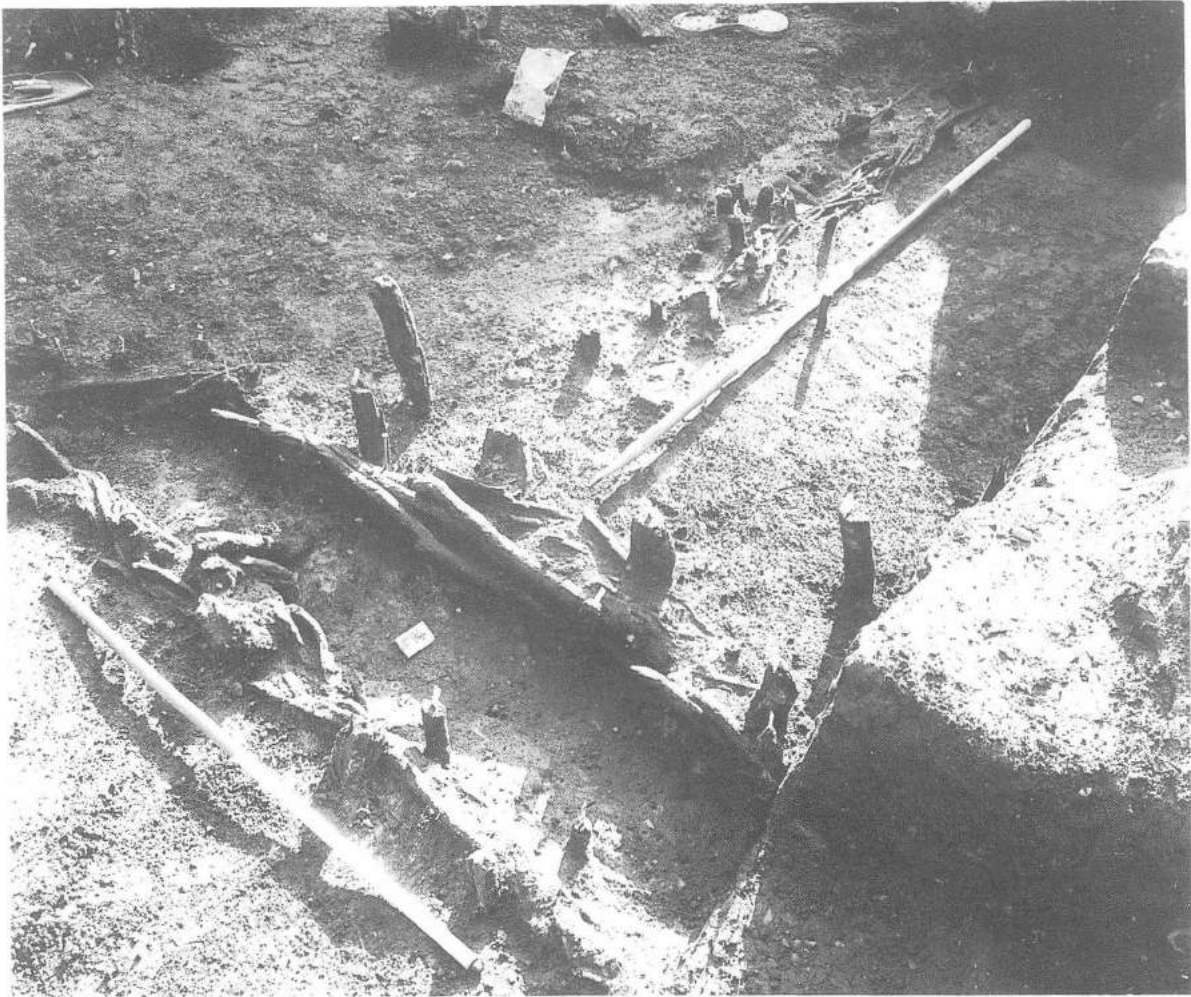


Fig. 5 Site A. Period 2b wicker-lined gully, AF94.

fragments set in daub, similar to examples excavated at Middleborough (eg *CAR* 3, 190-4, 199-201) and Angel Yard, was built against the plinth AF69 and the area refloored in daub (AL52). When AF69 was eventually no longer in use, it was sealed by an occupation deposit (AL45). To the east of gully AF49 a post-pit (AF80) containing two wooden posts cut a thick series of dump layers (AL62, AL70), and a hollowed-out timber (oak) drain (AF64) dated to late in Period 3a.

The large east-west foundation (AF62) went out of use in Period 3b, although the adjacent foundation to the wall was rebuilt (Fig. 7; AF61) and appears to have been incorporated into Building 179, perhaps as a party wall. A north-south foundation (AF37/AF57/AF28) was built across the site. The northern end (AF37) survived to 0.35 m high and was constructed of septaria, peg-tile and brick, including a course of peg-tile neatly laid in herring-bone pattern, presumably intended to be visible. The southern end (AF57/AF28) was less well-preserved but apparently included the edge of an east-west return (AF27). The north-south foundation further west was rebuilt

(AF51) and was of similar construction to AF37. There was no evidence for the superstructure associated with these foundations, but they may have supported a large barn-like building.

A west-east timber drain (AF43) was laid along the northern edge of the building and reused AF62 as a base. The drain was constructed of a bed of clay, with two small oak tree-trunks forming sides, leaving a narrow gap between, and a third trunk, pegged in place, on top to form a lid. The extent of AF43 to the west and east of the site unfortunately could not be traced, although it was conceivably intended to convey water from a source further west for use in an industrial process on the site.

Immediately north of AF43 a length of foundation (AF48), with a neatly constructed southern face consisting of up to sixteen courses of peg-tile, was added against foundation AF61. There was a probable post-hole (AF63) at the east end of AF61.

The ground-plates of a small timber-framed structure (AF60) were set in a shallow pit (AF54; Figs 7 and 8), 0.4 m deep, immediately west of AF37.

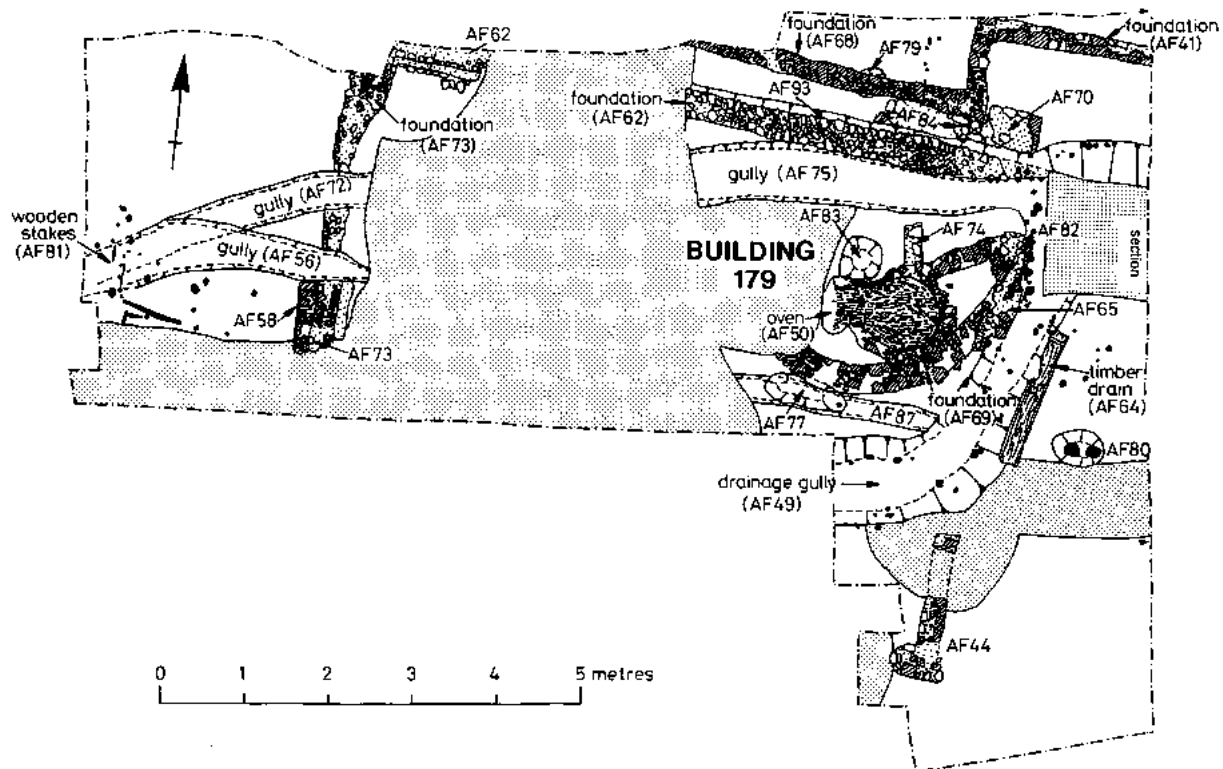


Fig. 6 Site A. Building 179, Period 3a.

The western and part of the southern sides had been destroyed, although the surviving ground-plates had mortice and tenon joints, as well as mortices to take the upright studs, and a course of brick infill survived *in situ* on the northern side. The structure presumably supported a small outbuilding or perhaps a room within a larger building, probably used for storage.

A large timber-lined pit (Fig. 9; AF71) was dug in the possible open area to the east of AF37, and the drain AF43 apparently went out of use. The pit was over 1 m deep, with the plank-lined sides resting on probable reused ground-plates and supported by squared posts in the corners. Several narrow oak strips were recovered from the bottom of the pit and a penny of Henry VIII (1526-44) came from the backfill, but there was little indication of the function of the pit other than storage.

A well-preserved, wooden, mortar-mixing barrel (AF38; *CAR* 3, 203) was set into dark earth (AL40) immediately west of the foundation AF51. The sawn-off barrel survived to a height of 0.35 m and consisted of 24 staves bound by two wooden hoops, with traces of mortar adhering to the lower 0.2 m of the inner surface. The barrel was probably used for storing slaked lime, and dated towards the end of Period 3b. A shallow gully (AF47) cut the dark earth to the south.

Late in Period 3b the northern foundation was rebuilt (AF36; Fig. 7 inset). Immediately to the south the timber-framed structure (AF54/AF60) went out of use, and a clay-filled pit (AF40) was dug, in which part

of an oak barrel-hoop was uncovered *in situ*, presumably the remains of a barrel used for storing liquid. This was subsequently replaced by a similar feature (AF34), containing part of a barrel surviving two hoops high. An area of edge-on peg-tile floor (AF42) was laid to the north of AF36.

In Period 3c Building 179 was rebuilt on a broadly similar alignment. The north-south wall foundations (Fig. 10; AF23, AF31) were of rather irregular construction, mainly of brick with a rubble base. The east-west foundation was rebuilt in brick (AF24), although there was no definite evidence that it continued west of AF23, perhaps suggesting that this area was external. To the east of AF23 were the remains of a brick floor (AL30), a brick pier (AF17) and a brick tank (Fig. 10; AF26). There was a west-east brick drain (AF18) to the north of AF24, associated with two north-south brick foundations (AF21 and AF22) and a brick tank (AF30). These features probably indicate that the site continued to be used for outbuildings or workshops.

Dark earth (AL38) continued to accumulate west of AF31, which was cut by a brick drain (AF33) extending into the remains of a wooden tank (AF32). Limited excavation in the south-east corner of the site revealed a group of timber piles (AF15), associated with a cobbled surface (AL31).

Probably shortly after Osborne Street was laid out in the mid-19th century, a large brewery, with massive brick foundations (Fig. 10; AF1, AF2), was constructed over the site; this later formed part of

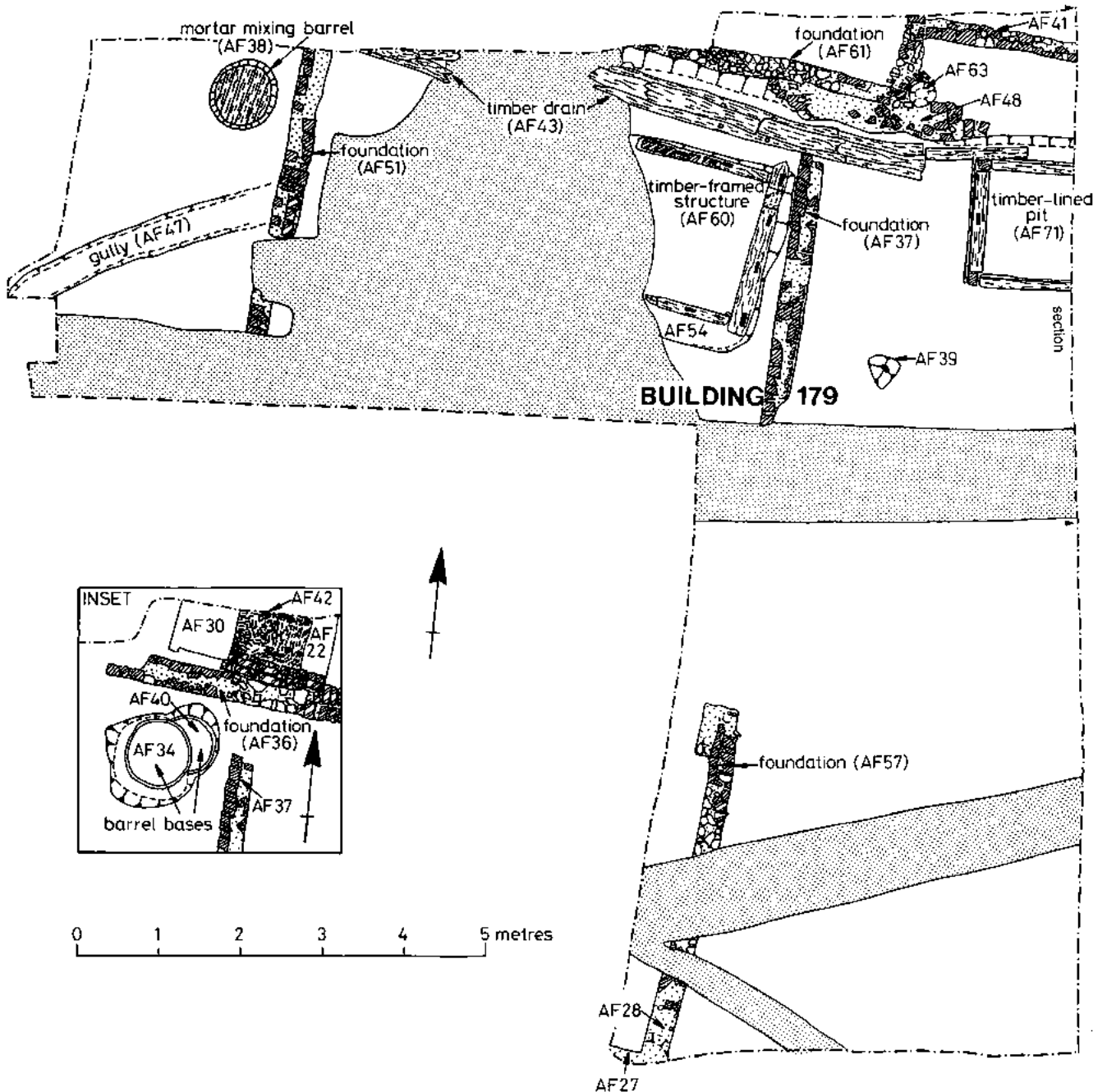


Fig. 7 Site A. Building 179, Period 3b.

H L Griffin's furniture depository. Hollington's clothing factory, formerly J. Kavanagh's boot factory, later stood immediately south-west of the excavated area prior to the bombing raid on 23 February 1944. A surface of stone setts (AL3) across the southern part of Site A probably belonged to the yard of the former Woolpack Inn.

Building 180 (Period 3b; Figs 11-13)

The remains of a substantial building were excavated at the western end of the site (Site C). Building 180 fronted onto Stanwell Street, although a narrow strip

along the frontage itself and the eastern end of the building were not available for excavation, and it did not prove possible to excavate fully the early phases of the building, which made for difficulties in interpreting the surviving ground plan. The wall foundations consisted of mortared stone, tile, and occasional brick, plinths, which would have supported a timber-framed superstructure, probably with a peg-tile roof. The floors were largely of tile, in some cases at least replacing earlier daub floors, while surprisingly no hearths or chimney-stack bases were excavated.

Room 1 had a well-preserved diagonally-set tile



Fig. 8 Site A. Building 179, timber-framed structure, AF60, viewed from the west.

floor (Figs 11-12; CL8), which, though much worn and much repaired, was probably originally of yellow and black/brown glazed tiles. There was some evidence for replacement tiles in the central part of the floor, although this was obscured by a large repair of unfrogged brick. There may have been an earlier daub floor (CL3/CL4). In the north-east corner of the room two narrow parallel lines of brick and tile (CF5), surviving up to three courses high, enclosed a fragmentary brick floor, and perhaps supported a small wooden compartment. This sealed an earlier rubble ?foundation (CF21), which apparently extended beneath CL8 and may therefore pre-date Building 180. Only a short length survived of the plinth (CF33) on the south side of Room 1, although the tile floor had a well-defined southern edge.

To the east of the north-south foundation (CF6) another large room (Room 2), bounded by east-west foundations (CF10, CF11), extended into the east section. Initially this had a daub floor (CL31) associated with some flat stone and tile fragments (CF32). There was a small ?compartment in the north-west corner of

the room defined by plinths (CF7, CF15). The floor was subsequently tiled (CL23), though tiles survived only at the southern end of the room. Two brick-lined post-holes (CF9, CF16) were inserted into the floor at the western edge of the room. The eastern side (CF15) of the ?compartment went out of use, although CF7 was apparently retained. A tile floor (CL21) was also laid to the north of CF7.

The extent of the rooms to the south of CF11 and CF33 (Rooms 3 and 4) was uncertain. If CF2 were the remains of a foundation then Room 3 would have been a narrow passage, although it is possible that CF2 was no more than a rubble spread. Room 3 had a daub floor (CL49), subsequently replaced by a floor of tiles and some unfrogged brick (CL7). The earliest floor surface in Room 4 consisted of peg-tile fragments set vertically in daub (CL46), possibly from an external path. This was sealed by a daub floor (CL43) associated with a shallow slot (CF17), along the south side of foundation CF11. The bottom of the slot was lined with brick and tile fragments, presumably for a narrow timber-framed structure or possibly a joist.

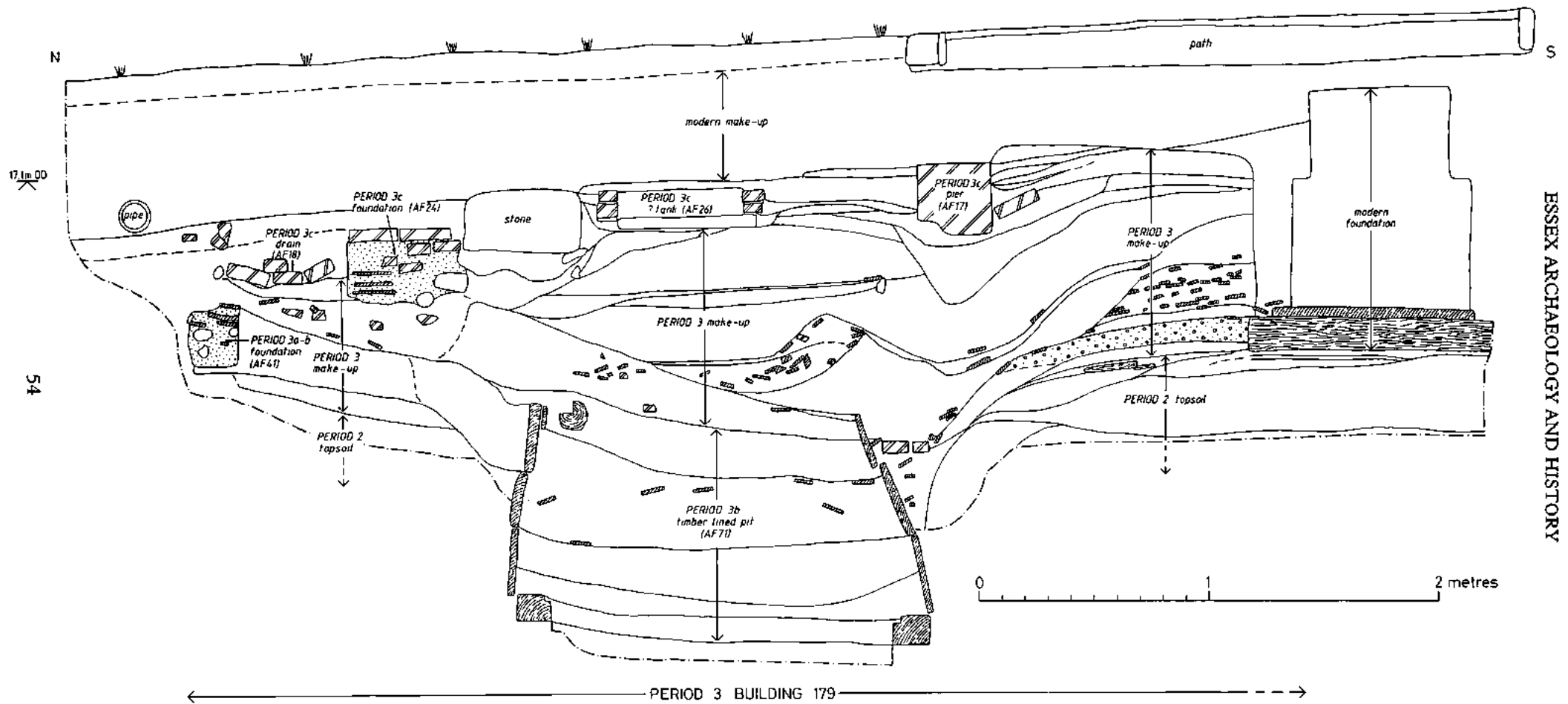


Fig. 9 Site A, east section, showing timber-lined pit AF71.

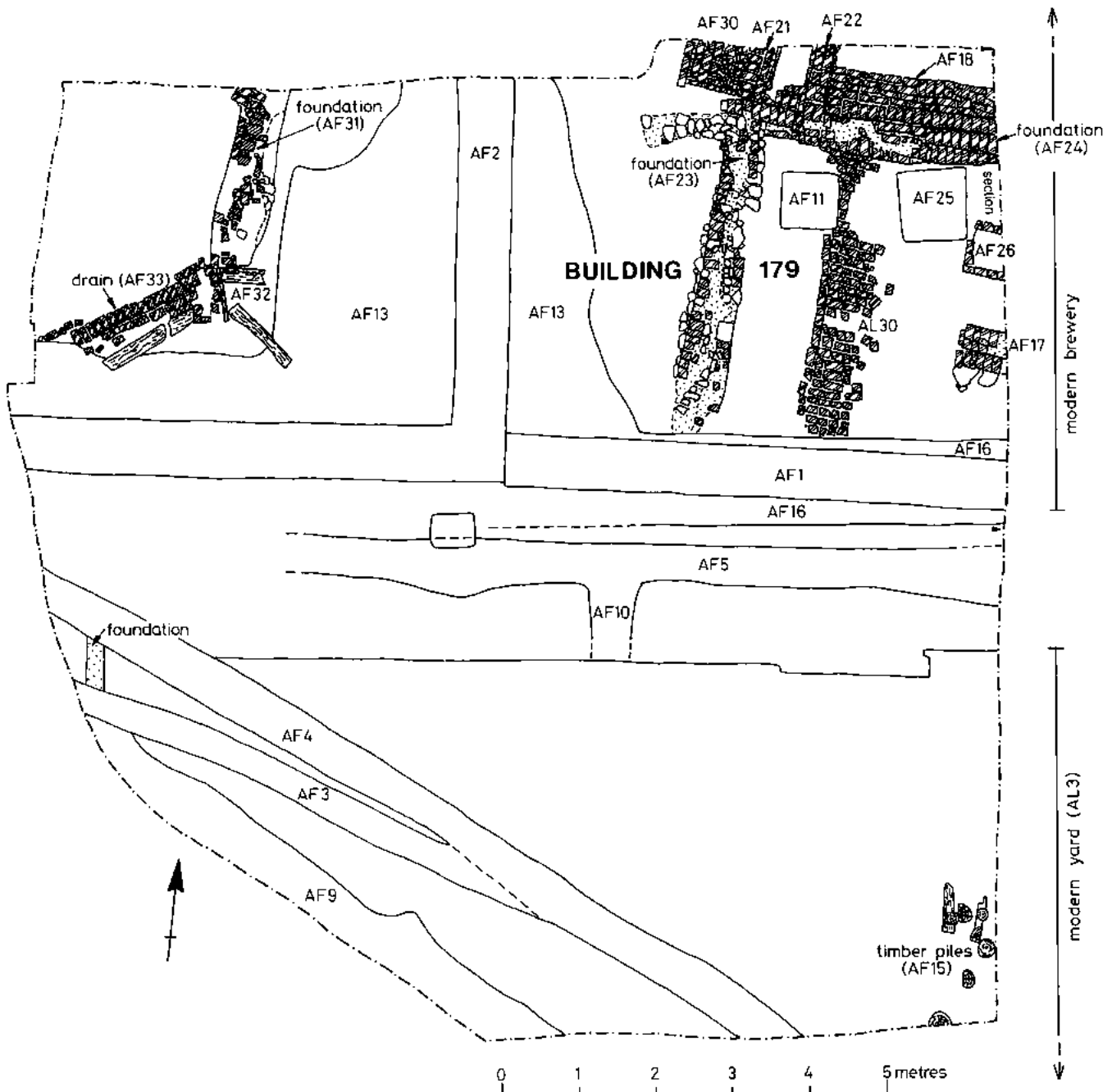


Fig. 10 Site A. Building 179, Period 3c, and modern features.

Subsequently the room was given a tile floor (CL24).

There was a further range of rooms (Rooms 5-7) along the southern edge of the building, north of foundation (CF3), although the northern extent was again unclear due to later disturbance. Both Rooms 5 and 6 initially had a daub floor (CL51). Room 5 was separated from Room 6 by a narrow slot (CF4) 0.1 m deep, which probably supported a partition wall and which contained iron nails and charcoal fragments. The daub floor in Room 5 was replaced with tiles (CL5), and that in Room 6 largely with voussoir bricks (CL6). At the eastern end of Room 6 a mortared tile plinth

(CF28) with associated post-holes (CF25, CF35) was subsequently replaced by a narrow mortar-lined slot (CF8), 0.1 m deep. In the small area of Room 7 available for excavation, a brick and tile floor (CL20) replaced an earlier daub floor (CL40). The area to the south of the southern wall foundation (CF3) consisted of weathered dump-deposits, including a possible very shallow gully (CF26; not on plan), and was probably external.

Despite the problems associated with the interpretation of the plan of Building 180, it is possible to suggest that the building consisted of an open-hall

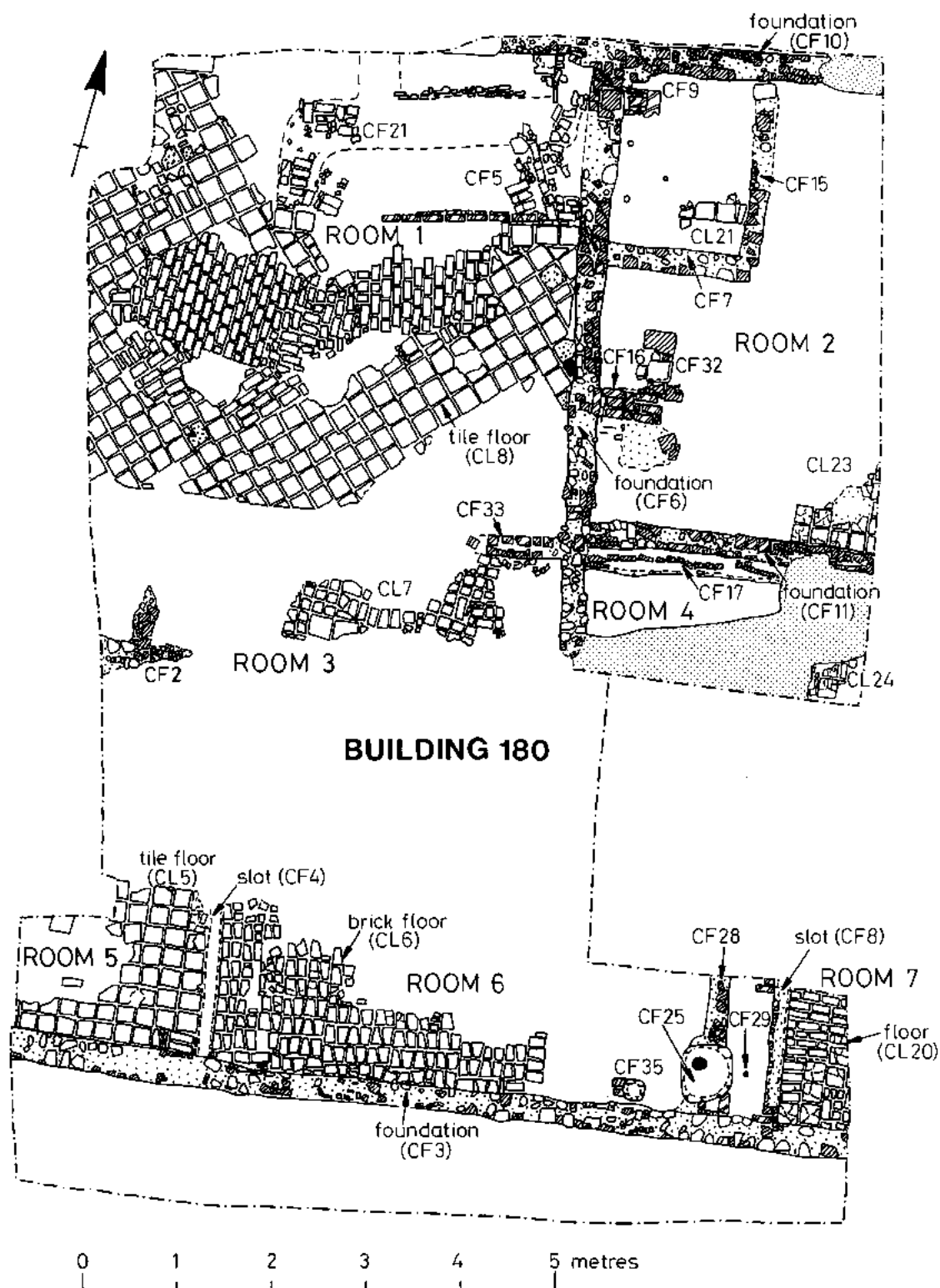


Fig. 11 Site C. Building 180, Period 3b.

structure (Room 1) on the frontage, with a cross-passage (Room 3) to the south and the remains of a north wing (Room 2) to the east. Rooms 5-7 were probably a range of service rooms forming a south

wing, while Room 4 perhaps represents a later extension.

The evidence for the destruction of Building 180 included scorched floors and the charred remains of



Fig. 12 Site C. Building 180, Period 3b, viewed from the north.

ground-plates in CF4 and CF8, while the foundations and floors were sealed by a layer of destruction debris (CL14, CL17 and CL19) 0.5 m thick, consisting of fragments of burnt daub, charcoal, brick and tile. The dating evidence strongly suggests a mid-17th century date for this horizon and it seems likely that Building 180 was burnt down during the Siege of Colchester, probably following the attack on the nearby St John's Abbey gatehouse on 14 July, 1648.

Excavation of a trial trench (Fig. 13; Site B) some 30 m to the east of Building 180 revealed a north-south stake-and-wattle fence (BF5), sealed by deposits of dark earth (BL1-BL6). This was probably a boundary fence of late 16th-century date at the rear of Building 180.

The finds

by N. Crummy and J. Hind

Coins and tokens

Only seven coins were present in the small find assemblage, and only three were from well-stratified contexts. One, from Phase 3a rubble spread possibly from Building 179 (AL68), proved to be residual

Roman. The other two, a penny of Henry VIII (?1526-44) from the Phase 3b timber-lined pit in Room 1 of Building 179 (AF71) and a token of Louis XIII (1610-43) from Phase 3b dump (CL18), appear to be contemporary with their deposits.

The pottery

The pottery, approximately 100 kg, has been spot-dated. It is about 0.25 m³ in volume and is stored in find number order.

Only a few kg of Roman pottery was recovered: some stratified in Roman levels associated with Building 178, some residual in Period 2a contexts: a very little residual in contexts later than Period 2a. A high proportion of the datable sherds belonged to the 1st century.

Most post-Roman material in Period 2a contexts belongs to the late 12th or 13th century, and only a little may be as early as the 11th century and probably residual, while Period 2b contexts contained a considerable amount of residual earlier medieval pottery.

Some contexts associated with Buildings 179 and 180 may provide valuable later medieval or post-medieval small groups, but many appear to contain very mixed material. A considerable quantity of 18th- or 19th-century pottery was recovered from modern and Period 3c levels.

Of particular interest, from Period 3b dump/topsoil AL40, is part of a sgraffito ware vessel, dated to c. 1400, bearing an incomplete inscription which includes the word 'potter' (*Colchester Archaeologist*, 3, 13). Though by this period a surname need not necessarily match an occupation, there is a strong possibility that this is the signature of the potter himself. No evidence of pottery manufacture was found at Osborne Street, but there was a kiln about 200 yards to the south-east (CMR 1908, 18-19).

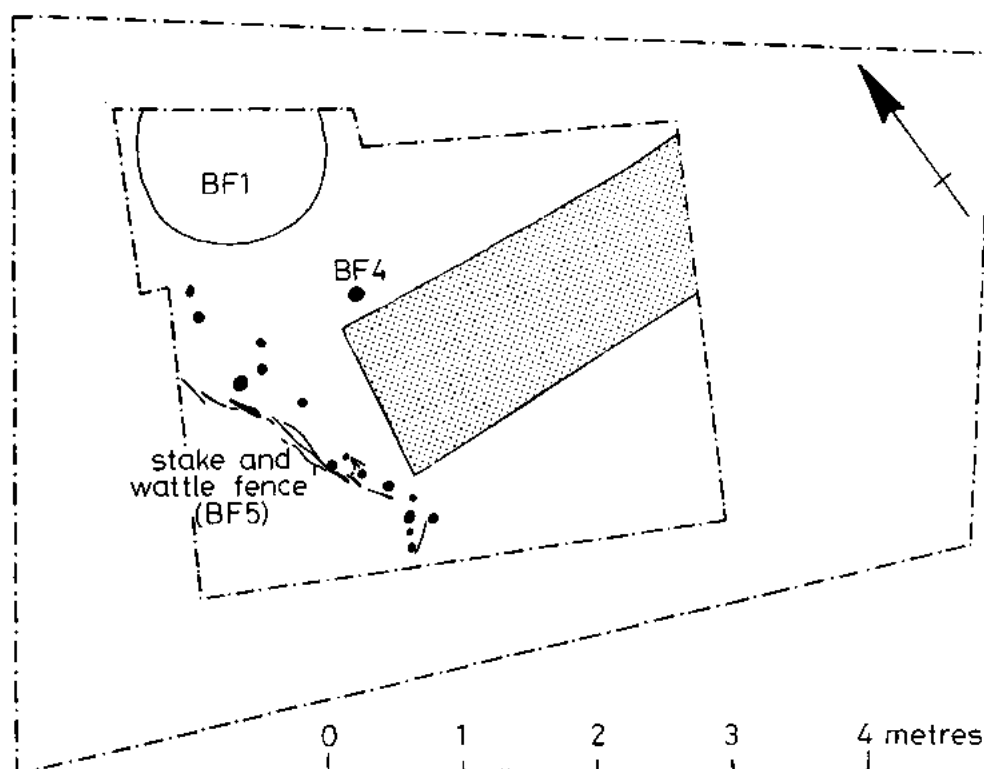


Fig. 13 Site B. Period 3b.

Clay tobacco pipes

Fifty-nine clay tobacco pipe bowls could be identified. The types used are those in the typology for Colchester described in *CAR* 5, 47-66.

The earliest bowl present is of Type 2, dated c. 1600-40 (*ibid*, 47). It derives from the Period 3b brick floor, CL6, in Room 6 of Building 180. The bulk of the assemblage is composed of mid/late 17th-century forms, 21 of Type 4 (c. 1640-60), 24 of Type 6 (c. 1660-80), three of Type 7 (c. 1670-1700), and six of Type 8 (c. 1680-1710; *ibid*). Most are residual in later contexts, or in the late Period 3b/early Period 3c demolition debris of Building 180 on Site C. One Type 4 bowl from this material is decorated on both sides with a design of a bunch of grapes, while another from an unstratified context on Site C bears a fleur-de-lis at the bottom of each side. An unstratified Type 8 is marked WB in relief on the sides of the foot, the initials of William Bartly (*ibid*, 63-4), and another from modern topsoil is marked with a crowned flower (*ibid*, 64).

The 18th century is represented by only four Type 9 (c. 1700-40; *ibid*, 52) bowls, all from modern or unstratified contexts, and one marked EB in relief on the sides of the foot, for Elizabeth Bland or Edward Bland (*ibid*, 63).

No bowls later than 1740 were noted, but a foot fragment from a modern machine trench (BF3) marked SR in relief on the sides of the foot is a product of Stephen Rand, who worked from the 1820s to 1850s (*ibid*, 64).

The glass

Approximately 8 kg of glass was recovered, most 19th or early 20th century in date and deriving from unstratified or modern contexts. A moderate quantity, particularly from Site C, is stratified in Period 3b levels. One body sherd of Roman date, probably from a small phial of transparent self-coloured bluish glass, derived from Period 2a dark earth AL87.

The tile

Approximately 250 kg of tile and brick were examined and about 80 kg have been retained, a large proportion being medieval and later tiles, chiefly from the floors of Building 180.

Roman tiles, mainly residual in post-Roman contexts (especially in Period 2a), composed about half the assemblage. Most were tesserae or fragments of roof tiles, and those from Site A undoubtedly derived from Building 178, in which there was at least one tessellated floor (AL90). Make-up/dump (AL95) probably associated with Building 178 contained roof tile fragments in the distinctive buff fabric produced by kilns at Eccles, Kent, and probably of 1st-century date (*CAR* 6, 259-60).

Building 179 on Site A contained no tile floors, but many contexts within it contained fragments of glazed floor tiles, most of Flemish manufacture. A Period 3c foundation (AF23) contained two complete 17th-century statute bricks, with proportions close to 4:2:1, and a Period 3 foundation trench (AF46) contained two complete peg tiles mortared on each side. From a Period 3a gully (AF56), probably associated with Building 179, came a complete Flemish lozenge-shaped floor tile, glazed brown, and with a central depression on the underside.

Four rooms in Building 180 had tile floors, Room 1 (CL8), Room 2 (CL23), Room 3 (CL7), and Room 5 (CL5), all dated to Period 3b.

The floor in Room 1 was very worn and patched, and the tiles had been set diagonally. Four types of tiles were present in the sample from CL8 retained for identification. The first, probably 14th century in date but reused in the floor, measures 147.9 mm square and 23 mm thick and retains traces of a yellow pattern inlaid on a brown background. A better-preserved example came from Period 3b demolition debris/dump CL19 in Building 180. Four tiles would be needed to complete the pattern. The second type measures 230-40 mm square and 30 mm thick and is of Flemish manufacture. All are very worn, but retain traces of yellow from a white slip and glaze.

On one the slip may have been applied to form a pattern, but the tile is too worn for this to be certain. Unglazed tiles form the third group. They are slightly smaller than the yellow tiles at 210-20 mm square and 30 mm thick, and are of local manufacture. The fourth group consists of small fragments of tiles glazed brown, the original size unknown, and the fabric obscured by mortar on the broken edges. At least one of these fragments was used to create a straight edge against a wall.

In Room 2 the tiles used in the floor (CL23) were approximately 200 mm square and 30 mm thick, and were unglazed local products, while in Room 5 (CL5) the tiles are the same as the third group in Room 1, 210-20 mm square, 30 mm thick, unglazed and locally-made.

Two Flemish tiles were used in Room 3 (CL7), measuring 105-10 mm square and 27 mm thick. The surface colour is unknown, but dribbles of glaze, fired to brown, remained on the sides of the only complete tile.

Organic finds

Over 300 leather scraps derived from contexts ranging in date from Roman to modern. Each piece was cleaned and drawn in outline (conservation archive, CM), and the pieces frozen. About half the fragments came from Period 2 deposits on Site A, principally drains, dump, and dark earth, dated c. 1150/75-c. 1350, and later medieval contexts (Period 3a; c. 1350-c. 1500) were also well-represented. Waterlogged deposits are rare in Colchester, and this assemblage of medieval leather is unique in the town. A detailed study including full conservation, freeze-drying, and identification of stitching, hide, and, where appropriate, shoe type, is clearly needed.

Two Roman contexts apparently contained scraps of leather, make-up for the tessellated floor in Building 178, and the soil associated with the pavement itself. As the fragments from the latter context were identical in character to those from Period 2a, it seems likely that some contamination of the fragmentary Roman levels occurred.

The Site A Period 2a (c. 1150/75-c. 1250) assemblage is very idiosyncratic, consisting chiefly of triangular offcuts and narrow strips. Both shapes may simply represent offcuts from larger pieces of leather, but both are also found in the manufacture of shoes of this period. Triangular inserts were used to reinforce weak areas of the uppers, especially in the quarters around the heel (Grew and de Neergaard 1988, 10, 13, 14), and strips were used as drawstring laces, or, if triangular in section, as rands, sewn between upper and sole to improve water-tightness. It is therefore possible that a shoe-maker's workshop lay close to, or on, the site.

A few similarly-shaped offcuts also came from the Site A Period 2b (c. 1250-c. 1350) drain AF94, and the dump levels of this period contained several fragments of shoes. Both soles and uppers can be identified, including a child-sized sole associated with an upper which appears to have a row of crescent-shaped ornamental cut-outs. The small quantity of material, and the low number of offcuts, from this period compared to that from Period 2a suggests that these pieces represent casual loss through wear, rather than a workshop.

On Site A shoe fragments predominate in Period 3a (c. 1350-c. 1500), and two well-preserved soles conform to the usual shape of this period, ie waisted and with a pointed toe (though not the exaggerated 'poulaine' sometimes found in the late 14th century). Both shoes and clothing occur in Period 3b (c. 1500-c. 1650). A large fragment from the front of a leather jerkin or jacket came from the timber-lined pit AF71 in Building 179, Room 1, which also produced a penny of Henry VIII (1526-4). Period 3c (c. 1650-c. 1850) and general Period 3 contexts on Sites A and B contained mainly

shoe fragments, including a reasonably complete, but very worn, heeled shoe in BL6 topsoil/dump.

There seems no reason to believe from the evidence of the Period 3 material that it derives from a workshop on or near the site, rather, like that from Period 2b, it appears to represent casual loss. However, it must be stressed that no close examination of the material has taken place, and this interpretation can only be tentative.

Fragments of wood also survived in the damp conditions, most notably the Period 3b barrels and a number of associated bungs, but also part of a bowl made of willow (SF 5.88 1) from Period 3c dump AL32.

Metalwork

Metalwork was not prolific, an exception being several iron bands and band fragments from Period 3b barrels.

Acknowledgements

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Author: D. Shimmin, Colchester Archaeological Trust, 12 Lexden Road, Colchester.

Abbreviations

CAR Colchester Archaeological Report
CMR Colchester and Essex Museum Report

Bibliography

- | | |
|------------------------------------|---|
| Crummy, N. 1988 | CAR 5 The post-Roman small finds from excavations in Colchester 1971-85 |
| Crummy, P. 1984 | CAR 3 Excavations at Lion Walk, Balkeine Lane, and Middleborough, Colchester, Essex |
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The Othona Community site, Bradwell-on-Sea, Essex: the extra-mural settlement

by Maria Medlycott

Archaeological excavation at Bradwell-on-Sea, Essex, in 1992/3, prior to building work, revealed the presence of late Roman activity, dating from the mid-third to early fifth century AD, to the north of the Roman Saxon Shore fort. This activity consisted chiefly of the digging of a quantity of shallow irregular gullies, possibly for drainage or for horticultural/agricultural reasons. It is clear that the area excavated was not located within the area of extramural settlement, although the density of features suggests settlement nearby.

1.0 Introduction

The excavated area is situated 160m to the north of the Roman 'Saxon Shore' fort known as *Othona* (Essex SMR PRN 31, Scheduled Ancient Mon. Essex 33). The fort is customarily identified as 'Othona', as listed in the *Notitia Dignitatum*, and is thought to have been founded c. 250-270 AD. The main gateway on the west wall of the fort is straddled by the Saxon chapel of St. Peter-on-the-Wall (Essex SMR PRN32), founded by St. Cedd in c. 653 AD. The chapel is recorded by Bede as having been sited within a *civitas* known as *Ythancestir*, indicating that there was once a Saxon settlement nearby. The site is referred to as *Effecestra* in the Domesday Book (Rumble 1983), and was recorded as having a fishery and salt-pans. The destruction of the settlement by the incursion of the sea, is noted by William Camden, who attributed the information to Randulphus Niger (1170-1199). Excavations have been carried out within the fort itself, mainly in the last century (Barford, forthcoming), but no archaeological work had been undertaken outside the fortifications themselves.

The planning application to build a new community building on the Othona Community site to the north of the fort (TM 0031 0830) provided an opportunity to investigate the environs of the fort and chapel. (The Othona Community is an ecumenical Christian community, founded after the Second World War, and dedicated to Christian study and peace.)

Following the procedures set out in PPG16, an archaeological condition was placed on the proposed works. As the Community is a charity, funding for the archaeological works was provided by English Heritage, following the submission of a MAP2 report. In 1991 an evaluation was undertaken; four trenches

were examined, revealing Roman, Saxon and medieval activity in the area. On the basis of this evidence it was decided to excavate fully the area of the proposed building, this excavation took place in 1992-3. The preparation of the MAP2 design and the fieldwork were undertaken by the Essex County Council Field Archaeology Group.

2.0 Geology

The site lies on the eastern tip of the Dengie Peninsula (Fig. 1). The whole area is low-lying, and most of the peninsula is below the 30m contour. The peninsula is bounded by the Rivers Blackwater and Crouch, to the north and south respectively, and there are extensive mud-flats to the east. The geology of the eastern end of the peninsula consists mainly of a ridge of London Clay, forming the bulk of the area, bordered by the remains of the Bagshot Beds to the south and patches of thin terrace gravel to the east. The fort itself stands on the north-eastern end of the London Clay ridge, approximately 8m above sea-level, surrounded to the north and south by alluvium and to the east by salt-marsh. There is a creek leading through the present day salt-marsh up to the fort; this may have served as the harbour approach in Roman and medieval times. The sea-level, however, has changed considerably since the Roman period; indeed half of the fort has been washed away, and the remainder is about two metres above the salt-marsh. The ground slopes gradually upwards to the south, towards the chapel, which is on the highest point of the ridge.

3.0 Excavation

The following description of the evaluation and subsequent excavation is a summary of the site archive (Medlycott 1993), the archive and finds are to be lodged at Colchester Museums (Accession No. 73.1991).

3.1 The evaluation trenches (Fig. 2)

Four evaluation trenches were stripped and excavated in 1991 (Medlycott 1991); these are shown as 1-4 in Figure 2. Trenches 1 and 2 were placed so as to examine the area of the proposed community building, trenches 3 and 4 were located in the area of the proposed car-park and garden.

THE OTHONA COMMUNITY SITE AT BRADWELL

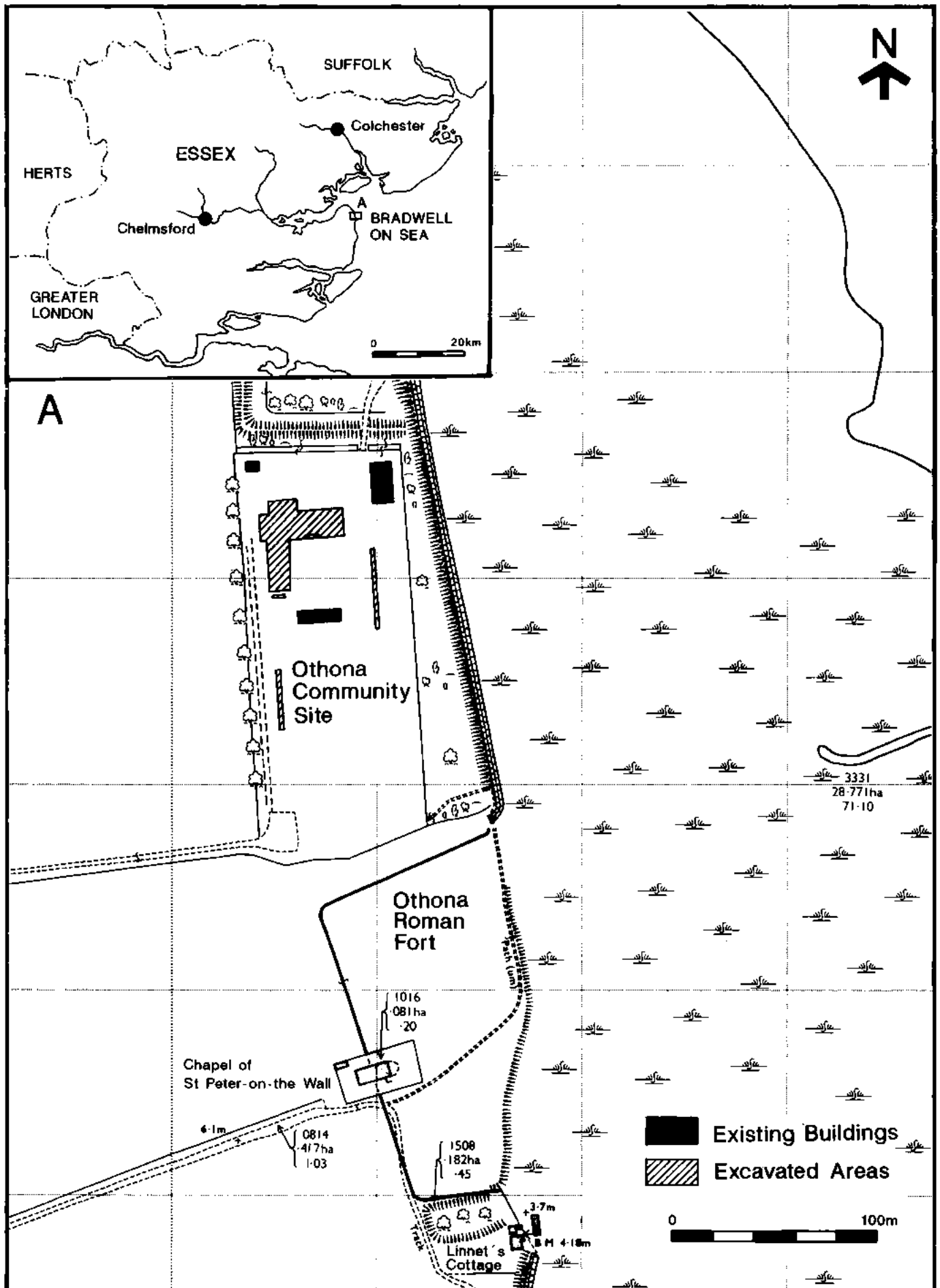


Fig. 1 Othona Community, Bradwell-on-Sea; site location.

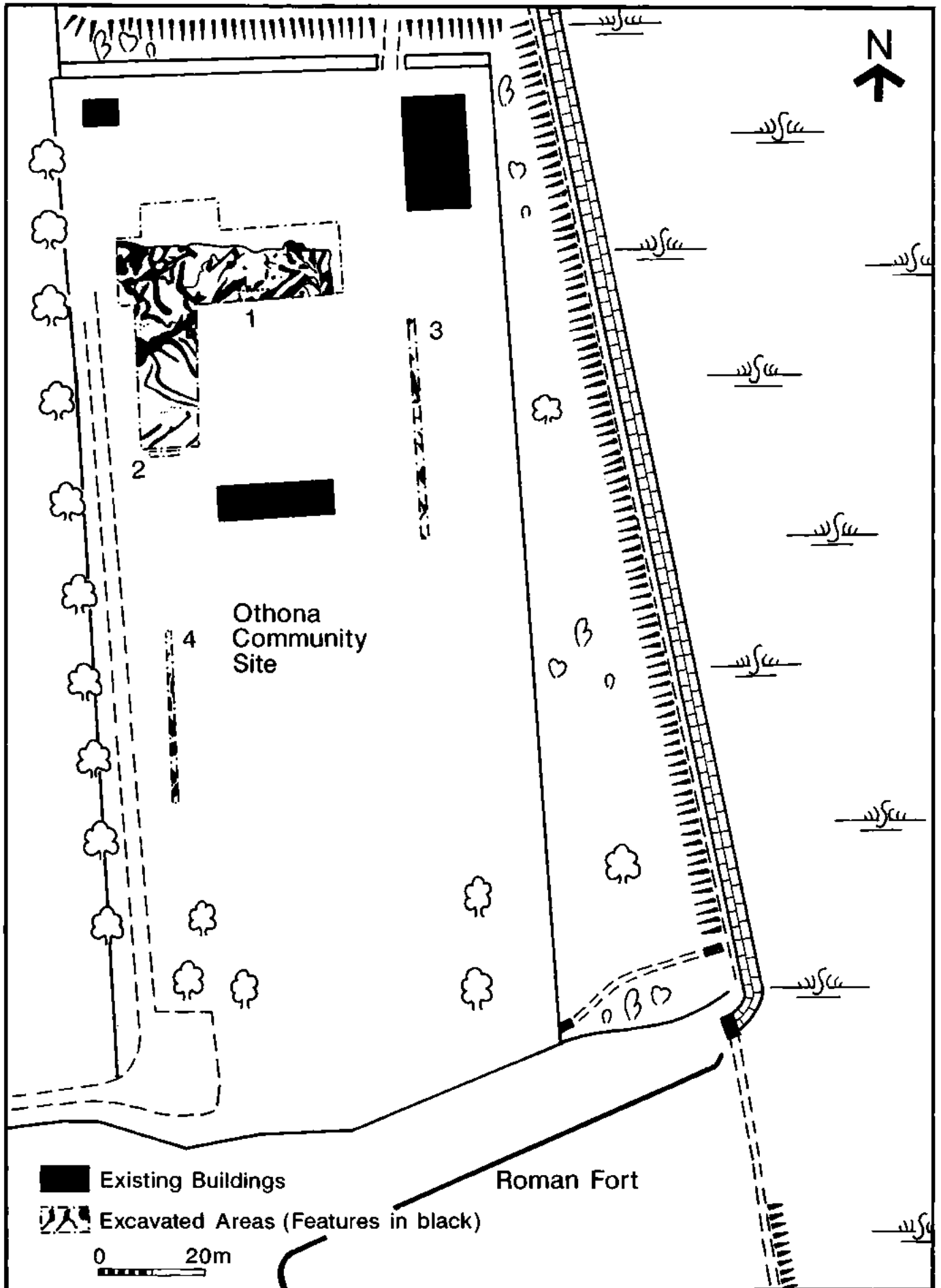


Fig. 2 Location of excavation and evaluation trenches.

The earliest finds from the evaluation are 14 worked flint flakes/blades; these are prehistoric in origin, but are residual in Roman contexts. The principal period of activity appears to have been during the later third-early fourth centuries. Features included post-holes, gullies, pits and ditches, but the trenches were too narrow for any firm idea of a site plan to emerge. However, the ditches and gullies lay on a general north-west/south-east and south-west/north-east axis. One feature (Trench 3, context 19) contained Saxon pottery. There were a further two features (contexts 25, 31) which were datable to the early medieval period. A layer (554), dated to the late twelfth to early fourteenth centuries, covering all the other features, was present in each of the four trenches.

3.2 Full excavation

On the strength of the evidence gained from the evaluation phase, a full-scale excavation was undertaken. An L-shaped area (45x10m by 40x15m) was stripped to a depth of about 0.35m, its dimensions and location determined by the extent of the foundations for the proposed building (Figs 2 and 3). Evaluation trench 1 had been placed within this area.

The site had been under grass and temporary buildings. The top-soil averaged a depth of 0.35m. The sub-soil is a clay, containing occasional patches of gravel. The site is 5m above sea-level, with a slight slope down to the north-eastern corner. It was stripped by machine; initially only the topsoil was removed, and test-pits were excavated by hand through the underlying layer (554). The intention of the sampling by hand of layer 554 (c.5% of the total area), was to recover dating evidence and to determine that it contained no features. The remainder of this layer was removed by machine to reveal the underlying features. The excavation and recording of these features was severely hampered by extremely wet weather which caused extensive flooding.

3.2.1 Prehistoric features There are six features which can be tentatively ascribed to the prehistoric period (Fig. 3), on the basis of these containing prehistoric pot or flint and being cut by Roman features. 50 was a curved shallow gully in the southern part of the site. There is a possibility that 50 contained a row of stakeholes along its length; three were visible in its easternmost segment. 95, on the western side of the site, was a gully containing prehistoric pot; it was cut by 75, 96 and 168, all of which were undated. 161, in the centre of the site, was another shallow gully, containing flint flakes only. At the easternmost corner of the site were three features which may be prehistoric in date; 113, 123 and 124 (Fig. 3, inset).

3.2.2 Roman and undated features The site next appears to have been occupied during the mid-third to very early fifth centuries AD. This period of activity is

represented by a series of intercutting features, 120 in all (Fig. 3). They were mainly gullies of shallow to medium depth (0.15-0.75m) and irregular plan, with silty clay fills. There were also a few post-holes and a number of stakeholes. It must be noted that the amount of Roman pottery recovered was slight, on average less than ten sherds per feature; their dating in consequence is an indication rather than a precise identification. Those features containing a larger quantity are therefore specifically mentioned in the text. The following description begins in the south-western corner of the site and proceeds northwards and eastwards. The undated features have been grouped in with those of a Roman date, as it is probable that they actually belong to this period.

Context 45, in the south-eastern corner was a round-bottomed ditch, on a NE-SW axis, dated to the late 4th/early 5th centuries AD. Parallel to this was 47, a shallow gully, which cut 63, a possible post-hole. Parallel in turn to 47 was 62, another shallow gully, filled with a distinctive grey-white fill, possibly the result of extensive leaching. 41-44 were four very small stakeholes, each about 8cm deep and set in straight line. Immediately to the north-east of these were three very shallow 'post-holes', 48, 51 and 52. 51 was Roman; 48 and 52 are undated.

Approximately at right-angles to gullies 45, 47 and 62 was a shallow gully, 49. This was orientated to the NW-SE, and terminated just short of the western edge of the site; at its terminus it cut 65, forming in effect a right-angled corner with it. 81 was a steep-sided, flat-bottomed gully, containing a quantity of Roman pottery dated to the late 4th-early 5th centuries AD. 81 cut 85, a ditch, which was dated to the same period. 85 in turn cut 97, a shallow gully dating to the early-mid 4th century AD. 83, a gully, cut 82, another gully; both were Roman in date. The relationship between 82 and 85 was unclear.

Context 84 was a shallow depression, possibly cut to the north by 87, a ditch or pit. 87 has a *terminus post quem* of the mid 4th-century AD. 87 was cut by 91, a gully of Roman date, and cut 90, another gully. It is possible that 91 and 85 are the same feature. 92, to the west of these, was not investigated due to flooding. To the west of 92 were four small stake-holes, 98-101; these were notable for their very high charcoal content. To the north of these was 102, a shallow gully, which was cut by 96, a gully. The relationship between 96 and 75 and 168, which were also gullies was unclear. 168 does cut 75 however. To the east of this group was 93, a curved gully of medium depth. 88 was a pit with a high charcoal and pottery content, dating to the early-mid 4th century AD. To the east, 88 cut 167, a shallow cut feature, which in turn cut 166, a very small gully of Roman date.

At the western edge of the site was 74, a shallow gully, badly disturbed by the modern central drain. To the north of this was 78, an amorphous spread

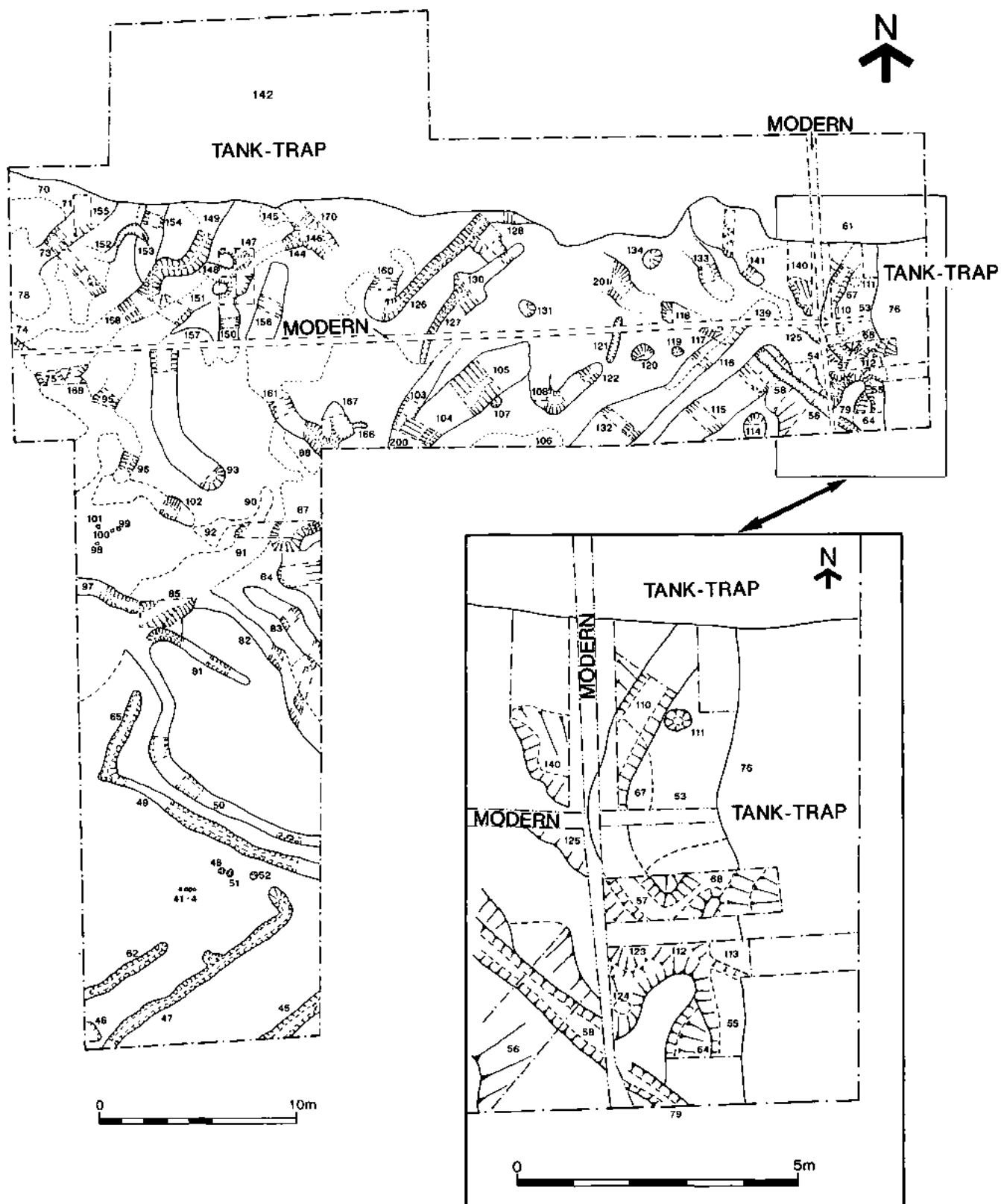


Fig. 3 Detailed plan of excavated area.

tentatively interpreted as the remnants of the overlying layer 554 (see medieval section below). 78 probably overlay 73, a gully, which cut both 71 and 159, both amorphous features. 71 was dated to the early-mid 4th-century. 71 in turn cut 155, another ill-defined feature. 155 was also cut by 152/153, a shallow curved gully, which cut 154, a gully, to its east. 154 in turn cut 149, a sinuous gully, probably the same as 158. 149/158 cut 151, a shallow gully. 149 also cut 148, a very small gully which ran at right-angles to it. 148 cut 163, a cut feature which cut 165, which cut 162. 162 was also cut by 150, a gully which also cut 164. 156, a gully lay immediately to the east of this group. To the north-east 144, a gully, was cut by 170, a possible post-hole. 145, an amorphous feature, cut 146, the relationship between 170 and 146 is unclear. 146 belongs to the late 4th/early 5th-centuries AD.

Context 160 was a gully which was largely obscured by an area of extensive waterlogging. It was cut by 126, which contained a quantity of Roman pottery of early-mid 4th-century date. 126 may have turned a right angle at its northern end to become 128. It is possible, however, that 128 was actually the outer edge of 142, the tank-trap. 126 also cut 129 and 143, both shallow depressions, these were also cut by 127, a gully which ran parallel to 126, also dating to the early-mid 4th-century. 127 cut 130, another shallow depression. 106, an amorphous feature on the southern side of this grid-square was not excavated. To the north-west of 106 was a series of intercutting gullies. 105, a gully, cut 107, a shallow posthole. 105 and 104 are probably the same, both dated to the early 4th-century AD. 104 cut 200 which in turn cut 103, which cut a shallow depression, 169, which cut the terminus of 127. 105 also cut 108/122, a right-angled gully at its northern terminus. 131 was a shallow post-hole.

Context 201 was a curved gully, but was extremely indistinct and its full plan could not be established; it was dated however to the late 4th/early 5th-century AD. It is possible that 201 and 118, immediately to its east, were the same feature. 118 was also dated to the late 4th/early 5th-century AD. 118 was cut by 117, a gully which ran along the length of and cut the top fill of 116. 118 and 116 may originally have formed a right-angled feature. 132 to the south is interpreted as a continuation of 116. 121 was a very narrow, steep-sided slot, containing much charcoal and pottery. It was damaged by the central drain. To the east of 121 were two shallow post-holes, 120 and 119. To the north, was another shallow post-hole, 134. To the east of this was a gully, 133, which dated to the early-mid 4th century AD; it was heavily disturbed at its northern edge by 142, a tank-trap. 141 was another shallow gully which could not be traced in the amorphous spread of unknown date to its north. Again this area had been heavily disturbed. To the east of this was 140, a possible tree root-hole.

Context 58, a steep-sided narrow slot cut 115, a

shallow gully at right-angles; 58 belonged to the late 4th/early 5th-centuries AD. Further east it also cut 56, a shallow depression. 114, to the south of these, was a shallow post-hole. It is possible that 58 was the same feature as 79 further east, a narrow slot on the same alignment, but their fills were radically different. It is equally possible that 79 was actually a side-branch of the modern drain. At the eastern end of the site was a series of intercutting features, mostly of unknown function, badly disturbed by 76, a tank-trap. 67 was a shallow circular depression filled with burnt material dating to the late 4th/early 5th-centuries AD, as was 111. They cut 53, which cut the top-fill of 110, a curved ditch dated to the late 4th/early 5th-centuries AD. It is probable that 110 and 57, to the south, were the same feature. 57 was cut by both 68, a post-hole containing burnt material dating to the late 4th/early 5th-centuries AD, and 69, a small gully. To the south was 55, an amorphous Roman feature, which cut 112 and 64, both shallow features. 125 was also an irregular feature of unknown function.

3.2.3 Medieval features Below the topsoil, but overlying the Roman and prehistoric features, was a layer (554) of silty clay loam. Seventeen test-pits (1000-1017) were hand-excavated through this, 2% of the total area. The intention was to recover data that might indicate the origin of this layer and its date. The finds recovered date to the Roman and medieval periods; the Roman finds (which are the most numerous) are thought to derive from the truncating of underlying Roman features. The medieval pottery dates to the thirteenth-fourteenth centuries AD. The soil micro-morphological study of layer 554 found it to be a probable estuarine silt, that had been affected by early medieval agricultural activities.

3.2.4 Modern features The most recent features on the site were a number of field-drains, dug post-1960, which cut across the site. The most intrusive of these have been marked on the excavation plan. Another feature dating to the Othona Community's period of occupation was a tree-planting hole (46) in the south-western corner of the site. Two features (61/142 and 76) have been dated to the Second World War and have been interpreted as tank-traps. They were filled with redeposited natural, as well as a quantity of barbed wire and electric flex.

4.0 Specialist Reports

The following reports are all summaries. Full catalogues and reports are in the archive report.

4.1 Prehistoric pottery

by Nigel Brown

The following contexts contain one or two sherds of undatable flint-tempered pottery (567, 590, 597, 599, 606, 611, 664, 714).

4.2 The Roman Pottery

by Katherine Horsley

Introduction

The excavation produced over 4kg (601 sherds) of late Roman pottery. The material ranged from the late third to the early fifth century. The pottery was classified using the fabric and form series established in Going's Chelmsford Mansio report (1987) and which is now standard for all excavations undertaken by ECC Field Archaeology Group.

The fabrics present included:

Nene Valley colour-coat (2), Hadham oxidised red wares (4), other colour-coats (7), miscellaneous oxidised wares (21), Oxfordshire white wares (25), miscellaneous buff wares (31), Hadham/fine grey wares (36/39), romanising grey wares (45), sandy grey wares (47), Rettendon wares (48), late shell-tempered wares (51), grog-tempered wares (53), 'Mayen' wares (54) and samian (60).

Catalogue

Two contexts (664 and 717) contained material of a late third to early fourth-century date, although context 664 was present in an early to mid fourth-century feature.

717 (fill of 97) Misc. pottery: fabrics 2, 4, 47

Gully 126

This gully contained early to mid fourth-century material, including two fully flange-rimmed dishes B6, a beaker H41 and a jar rim and bodysherds in Rettendon ware. There is also a flanged bowl in a Nene Valley colour-coat.

617 (fill) Misc. pottery: B6 (47), C8 (2), H41 (36/39), (48)
625 (fill) Misc. pottery: E6.1 (36/39), G21 (47), (4), (25), (48)

The contexts below all appear to be contemporary and contained material of early to mid fourth century, including Rettendon ware. Apart from gully 126, most of these features contained little diagnostic material and as such the dates are somewhat tentative.

661 (fill of pit 88) Misc. pottery: B6 (47), G24.2 (48), (2)
629 (fill of ditch 133) Misc. pottery: fabric 48
679 (fill of gully 118) Misc. pottery: fabrics 47, 48
724 (fill of cut 71) Misc. pottery: fabric 48

Gully 104

664 (top fill) Misc. pottery: fabrics 2, 4, 36/39, 47
654 (bottom fill) Misc. pottery: fabrics 2, 36/39, 47, 48

The features below all appear to be contemporary and share a mid fourth to early fifth-century date. The diagnostic fabrics include Hadham oxidised ware, Oxfordshire white wares, Mayen ware and late shell-tempered ware. Context 593 contained an, as yet, unrecognised colour-coat, while context 679 contained a bodysherd in sandy grey ware with 'Romano-Saxon' dimple decoration, similar to a fine grey ware beaker from Burgh Castle (Johnson 1983, fig. 40.76).

590 (fill of ditch 110) Misc. pottery: lid-seated jar (Fulford & Bird 1975, fig. 1.3) (54), C8 (36/39), (47)
593 (fill of ditch 81) Misc. pottery: D5.2 (25), jar rim (51), (2), (47)
711 (fill of ditch 85) Misc. pottery: G24.2 (48), (4), (54)

These features contained bodysherds of late shell-tempered ware and Mayen ware in small amounts but very little other diagnostic material giving only a tentative late fourth to early fifth century date.

559 (fill of ditch 45) Misc. pottery: fabrics 47, 51
567 (fill of pit 67) Misc. pottery: B6 (36/39), (54)

576 (fill of post-hole 68) Misc. pottery: fabrics 47, 51
660 (fill of gully 146) Misc. pottery: fabric 51

Gully 58

597 (top fill) Misc. pottery: fabrics 4, 47, 54
598 (fill) Misc. pottery: fabrics 47, 51

Gully 127

628 (top fill) Misc. pottery: fabrics 36/39, 47, 54
636 (fill) Misc. pottery: fabric 47
646 (bottom fill) Misc. pottery: fabric 47

Cut 201

657 (fill) Misc. pottery: fabrics 47, 51
667 (fill) Misc. pottery: fabric 47

Discussion

The bulk of the Roman pottery could be securely placed in the early fourth to fifth-century date range with the occurrence of diagnostic fabrics such as Rettendon ware, Mayen ware and late shell-tempered ware. However, the presence of some sherds of late Antonine samian and two contexts of a late third to fourth-century date would suggest that activity in the area started from the mid third century onwards and ceased sometime in the early fifth century. This is supported by the material from earlier excavations inside the fort (Barford, forthcoming). As has come to be expected from Essex sites, the most common fabrics present were the sandy grey wares.

The only imported material from Othona was a number of sherds in Mayen ware, including a lid-seated jar rim (Fulford and Bird 1975, 172, fig 1.3). As only a small number of sherds in this fabric were found and all were present in features in close proximity at the eastern edge of the excavation, it seems possible that all the sherds are part of the same vessel. This would suggest that gullies 58 and 118, ditches 85 and 110 and pit 67 are all contemporary. The presence of Mayen ware at Othona is entirely in keeping with the known distribution of this import, which appears to be confined to the south-east coast and the Thames estuary (Fulford and Bird 1975, 181). It is possible that distribution of this ware was confined to military and official sites for some reason, and it is present at all the Saxon Shore forts except Brancaster.

Othona has a similar selection of non-local wares to Brancaster (Hinchcliffe 1985) and Burgh Castle (Johnson 1983), including Nene Valley colour-coat, Oxfordshire red colour-coat, Oxfordshire white wares and late shell-tempered wares. Although no Oxfordshire red colour-coat was found during the most recent excavations, previous assemblages from the area inside the fort (Barford, forthcoming) have included this fabric. Interestingly, also present at all three sites were the Hadham grey and oxidised red wares, products of the Much Hadham kilns, usually encountered as a product with a more localised Essex/Hertfordshire distribution.

In summary, Othona has the expected assemblage of wares usually found on a fourth to fifth century site in Essex. The only exception is the imported Mayen ware, the presence of which is in keeping with a coastal military site and within the limited distribution area of these wares in England.

Roman pottery from the evaluations

by Colin Wallace

The small amount (65 sherds) of Roman pottery recovered seems to fit without difficulty into a later third-fourth century date-range, as would be expected on this particular site.

The fabrics identified were: Nene Valley colour-coat; Hadham oxidised ware; misc. oxidised wares; Oxfordshire white ware (mortarium, Young form M18); Hadham grey ware; late black-surfaced ware (inc. a fully-flanged dish rim, Going B6); sandy grey wares (inc. dish rim, B6.2); Rettendon-type ware; late shell-tempered ware and Mayen ware.

The Oxfordshire mortarium is a later third century form, B6

dishes are dated later third-fourth centuries while Mayen ware was imported from the Rhineland during the fourth and early fifth centuries and late shell-tempered ware is only present in quantity from the 360's AD onwards. However, the size of the assemblage, the condition of the sherds (mostly small, abraded and with only three recognisable rims amongst the bodysherds), means that only a late Roman *t.p.g.* can be applied to most contexts, rather than a more specific date range.

4.3 Saxon Pottery

by Susan Tyler

The Saxon sherds were all discovered during the evaluation phase (Trench 3 [Fig. 2]). They comprise shell-tempered (Fabric 12A) and sand-tempered (Fabric 3) wares. The sand-tempered fabrics are not closely datable and could belong anywhere within the date range AD 450-900. The two sherds of shelly ware bear a superficial resemblance to St. Neots ware, but are more likely a local product (Cunningham's fabric type 12A) probably belonging to the tenth century.

Context 507

2 base sherds: Cunningham's fabric 12A.

2 ?base or body sherds: Cunningham's fabric type 3.

1 base sherd: Cunningham's fabric type 3.

Context 554

1 base or body sherd: Cunningham's fabric type 3.

4.4 Medieval Pottery

by Helen Walker

All the medieval pottery recovered dates to the eleventh to early thirteenth centuries. Sherds were recovered from contexts 527, 535 and 554. The only medieval pottery of note is a single sherd of Hedingham fine ware from context 554, showing applied strip decoration. It probably belongs to the late twelfth to early thirteenth century.

4.5 Plant Macrofossils

by Peter Murphy

14 bulk samples of feature fills were processed. Macrofossils from the bulk samples are listed in Table 1, which is based on a scan of the flots and residues. Abundance is represented on a 4-point scale.

The flots from the samples are largely composed of modern intrusive roots, with very small amounts of charcoal and exceedingly rare charred cereal remains and hazel nutshell. Commonly, rural Roman sites produce abundant charred cereal remains, reflecting large scale processing of spelt and other cereals. There is certainly no evidence at all for cereal processing, which no doubt reflects its unusual location as a settlement area adjacent to the fort.

Table 1 Macrofossils from bulk samples.

SAMPLE NO	1	2	3	4	6	7	8	9	10	11	12	13	14	15
CONTEXT NO	554	554	554	559	586	588	598	617	664	683	593	670	661	619
Callostoma sp.	1												1	1
Littorina littorea (L)	1	1				1		1						
Littorina saxatilis-group	2	2	1			1								
Littorina cf littoralis (L)		1			1									
Littorina sp							1		1					1
Hydrobia ulvae (Pennant)	2		1								1			
Hydrobia cf ventrosa (Montagu)														1
Buccinum undatum L.														1
Nassarius sp	2					1								
Nucula sp	2					1								
Mytilus edulis L	1	1	1	1	1	4	1	1			1	1	1	1
Ostrea edulis L	1	1											1	
Cerastoderma edule L/cerastoderma sp	3	3	2	1	1	2	1	2	1		1	1	2	2
Cerastoderma sp (juveniles)	2													
Macoma balthica (L)	2	2				1							1	
Scrobicularia plana (da Costa)	1	2	1			1								
Balanus sp(p)	1	1	1		1	1					1			
Bone fragments				1	1	1	1	1	1	1	1		1	1
Charcoal	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Corylus avellana (nutshell frags.)								1						
cf Avena sp (caryopsis)				1										

The non-floating residues from these samples are mostly composed of very fragmented and abraded marine mollusc shell with occasional abraded scraps of bone. Intact shells are very rare. Quantities of shell fragments vary from a few scraps to 3.2kg of sediment-encrusted shell from sample 7. There are small numbers of terrestrial mollusc shells (*Vallonia* spp, *Helicella itala*, *Candidula* spp, *Ceciliodes acicula*), but in view of the abundant modern roots and the fresh appearance of many specimens it is thought that most of these are recent and intrusive in the deposits.

The marine shell assemblages are largely composed of intertidal to shallow sublittoral species. In overall composition they closely resemble that of shell ridges ('cheniers'), examples of which can be seen on the modern marsh-edge east of the fort. Cheniers represent natural death assemblages of shells, which progress across the seaward edges of salt-marshes by mass movement during storms. It is possible that the abraded shell fragments were transported directly to the site by this means. However, deliberate importation of shell might have been another process contributing to assemblage formation. Some of the shell could represent degraded and fragmented food refuse, particularly the abundant mussel shell from sample 7. Another possibility is that cheniers in the vicinity were 'quarried' as a source of dead shell to raise the ground-level or to improve drainage of the clay-based soils of the site for cultivation. The use of shell for such purposes has been proposed at another coastal site in Essex; the Roman and medieval site at Canvey Island (Wilkinson and Murphy 1987). It is clear that the taphonomy of these shell assemblages is likely to have been complex, involving inputs from a number of sources, natural and anthropogenic.

4.6 Mollusc report

by Katherine Reidy

Only six contexts produced fragments of shell large enough to be recovered through excavation. Four species were identified (*Ostrea edulis*, *Cerastoderma edula*, *Buccinum undatum*, *Macoma balthica*). Of note is the *Ostrea edulis* from 554 which had a hole drilled near the umbo, c.4mm in diameter.

4.7 Small finds

by H. Major

A full catalogue of all the small finds is included in the site archive. None are illustrated.

Copper alloy

Two copper alloy objects were found, including a small rod fragment from context 586.

- 661 Part of a plaque, possibly a belt plate, with rivets at two corners. W 14mm, surviving L 18mm.

Iron

Fifteen pieces of ironwork were found, including nine nails. The rest of the material consisted of unidentifiable fragments, apart from the two objects listed below, which may be parts of the same knife.

- 597 Knife point; straight backed. L 56mm, max. W 23mm.
597 Joining fragments from a cylindrical bone handle, with a square sectioned iron tang surviving inside it. The surface of the bone has eroded away. L 43mm, diam. 16mm.

Shale/jet

- 671 Fragment from a plain armlet with a longitudinal groove along each side of the outer face. Visual inspection suggests that it is jet, or a similar substance, rather than shale. Internal diam. 72mm, section 7x4.5mm.

Glass beads

Fragments of six or seven small glass beads came from the excavation, with another one having come from the evaluation trenches. Three shapes of bead were present; cylindrical, bun-shaped and sub-globular. All were in blue or blue-green translucent glass.

Spindle whorl

A single spindle whorl was recovered.

- 617 c. 40% of a discoid spindle whorl made from a flat pot sherd with a well smoothed, rounded edge. Diam. 40mm, diam. of perforation 6mm, 6mm thick. K. Horsley notes that the sherd is a sandy grey ware, with an oxidised surface, and is not closely datable.

Stone catalogue

The only worked stone from the site (excluding flint) was a Roman quern fragment in millstone grit from an evaluation trench. A fragment of greensand from 664 may have been brought from elsewhere, perhaps Kent. Greensand querns have been found in pre-Roman contexts in Essex, although there have been none of Roman date. They are, however, found in other parts of the country. Two fragments of septaria may have been building rubble.

Objects of baked clay

A fragment from 561 was possibly from a loomweight, perhaps rectangular in shape. If this is a Roman loomweight, it is a rare example.

A possible, very small, piece of salt briquetage came from 664. Salt production along the eastern coast of Essex appears to have ceased by the 3rd century AD, so this fragment (if it is briquetage) is probably residual.

4.8 Coins

by Steve Wallis

Three coins were recovered from the excavation, and were examined by M. Winter of the Colchester and Essex Museum. All three were in poor condition. Two coins, (contexts 507 and 657), were only identifiable as copies of late 4th century issues.

The third coin (unstratified), had lost its legend and mint mark, but was probably of a type minted at Trier. The reverse shows two soldiers with standards, and originally had the legend 'GLORIA EXERCITVS'. The bust on the obverse wears a helmet and cuirass. If the identification with Trier is correct, the original legend was either 'CONSTANTINVS IVN NOB C' or 'FL IVL CONSTANTINVS NOB C', and the individual concerned is one of Constantine the Great's sons and a future emperor, either Constantine II or Constantius II. The coin probably dates from AD 330-5.

Coins recovered during the evaluation

by Philip McMichael

- 507 Copper alloy coin; 11mm diameter. Surface corroded, edge damaged, detail illegible. Possible 'Barbarous Radiate', 270-290 AD.
525 Copper alloy coin; 19mm diameter. Very good condition. Obverse: Laureate head facing right, Legend — 'CONSTANTINVS AVG'. Reverse: Gateway (with two towers/turrets) 'SOL' over the centre. Legend — 'PROVIDENTIAE AVGG'. Mintmark, P LON (London: 324-325/6 AD). Probably originally 'silver-washed', probably a 'follis'.

4.9 Building materials

by H. Major

Structural daub

464 fragments of baked clay were recovered, with a total weight of 4438g. Over half of the material came from a single feature, 67, dated to the late fourth/early fifth-century. Most of the baked clay from this, and other, contexts derived from structural daub, predominantly in the same, rather sandy, fabric. A number of pieces had vague wattle impressions.

Brick and tile

436 fragments of tile (mainly Roman) were recovered from the main excavation, weighing 12,475g. The assemblage included roof tile, flat tile and a small amount of box flue tile. There were no signatures, or other markings on the tile.

A single piece of shell-tempered tile was noted (probably from a flat tile), although it was not from a secure Roman context. Shell-tempered Roman tile is rare in Essex, although it has previously been noted from this site.

4.10 Faunal remains

by Rosemary Luff

Approximately 4 kilograms of animal bone were presented for assessment. This is a very small assemblage with a poor state of preservation; much of the bone is eroded with few intact epiphyses and many of the jaws have fragmented thus leaving teeth loose. Any attempt at a precise quantification would produce spurious results, hence only the presence of species has been noted: cattle, horse, pig and sheep/goat. However cattle does appear to be the dominant *taxa* with both meat-bearing and non-meat-bearing bones being present. Butchery marks were not noted but some of the bone has been burnt, for example contexts 598 and 617.

4.11 Flint report

by Louise Austin

A total of 39 pieces of struck flint were recovered, including 26 unretouched blades, flakes and fragments, 5 cores and fragments, a spall, 5 retouched flakes and blades and a leaf-shaped arrowhead. These were recovered from features right across the site except for those in the most north-westerly corner. Almost all the pieces are residual in Roman contexts.

Morphology and technology

There is a division between blade production and flake production. The blade production uses exclusively good quality flint. No blade cores were found. However the dorsal scar on the blades and blade fragments suggest that both bipolar and uni-polar blade cores were used to produce the pieces.

The flakes however do not have a structured production technique. The cores show an unstructured, *ad hoc* removal strategy (Herne 1991) resulting in flakes being removed from any suitable surface, either natural or resulting from a previous removal. A high proportion (70%) of the flakes have wide butts which are either plain or cortical (12 out of 17) although the numbers are too small to make statistically justifiable statements.

The arrowhead can be described for ease of comparison as Green's type 3c leaf-shaped arrowhead (Green 1980). It measures 42.5mm long, 18mm wide and 5mm thick. Examples of leaf-shaped arrowheads occur from the earliest Neolithic, c.3500 b.c., through to the full early Bronze Age, c.1300 b.c. (Green 1980, 93-7).

Discussion

There are three features in which flint artefacts have been found which do not contain or cut features with later material (49, 50 and 161). However, none of these are unequivocally prehistoric. The condition of pieces found in the three features without later datable artefacts is identical to that of the other residual pieces and it is likely to be purely circumstantial that these features have not incorporated later material.

4.12 The soil micromorphology of Layer 554

by Richard Macphail

Summary

A soil micromorphological investigation of medieval layer 554 found it to be a probable estuarine silt, and little related to Roman occupation. It was, however, later probably affected by early medieval rural activities.

Discussion

Layer 554 is not a ploughed or biologically reworked soil originating from occupational or constructional materials, as seen in the dark earth of the cities (Courty *et al.* 1989; Macphail in press). Some fine fragments of burned soil and rare possible residual mortar occurs, but no large amounts of daub or mortar are present. Instead, the dominant component is clay poor silt and fine sand. At Brean Down,

Somerset, estuarine silts were employed for hut construction, and these contain high amounts of amorphous organic matter, phytoliths and diatoms (Macphail 1990a), whereas estuarine incursions on the River Blackwater produced clean silts (and charcoal) without noticeable amounts of diatoms or phytoliths (Macphail 1990b, plates 6 and 7). The major component of layer 554 could therefore be estuarine silts. This could have resulted from a marine incursion, as the deposit is generally a uniform thickness across the site. Estuarine silts have been utilised as manure (Bell 1990), but the resulting microfabric would be far more heterogeneous, with admixtures of organic matter and local soil, if that had been the case at Bradwell-on-Sea.

It can be therefore suggested that the Roman site was sealed by an estuarine incursion. Water tables did not remain high, however, as there are no gley (mottling and pyrite spheroids) features to indicate this. Rather it seems likely that post depositional human (early medieval) activities may have affected this estuarine silt. Earthworms may have worked-in inclusions of burned "humic" soil (burned manure?), fine bone and phosphatic granules (coprolitic) (Macphail in press) from a cultivated upper surface. Dusty clay coatings testify to some kind of surface disturbance, such as cultivation, and occasional phosphate rich infills may suggest some sort of manuring (with calcareous fragments) including material from middens. This upper cultivated horizon has probably been subsumed into the modern topsoil. Lastly, layer 554, was more recently influenced by possible ploughing of the overlying present day topsoil (layer 549), which has mixed in more organic soil into the silty layer 554.

5.0 Discussion

The earliest use of the excavated area was during the prehistoric period and is represented by very small quantities of pottery and worked flint. The pottery was too small and abraded to be diagnostic in nature (see 4.1), however, the flint is thought to be possibly Neolithic or Early Bronze Age in date (see 4.11). Though the majority of prehistoric finds were residual in Roman contexts or surface finds (as in the case of the leaf-shaped arrowhead), there are six features which can be tentatively ascribed to the prehistoric period. The presence of stakeholes along the length of one segment of F50 also raises the question whether this feature actually represents the foundation of a wattle fence. It does not seem that the main focus of prehistoric activity was within the excavated area, but certainly it was within the vicinity.

The area was then abandoned until the later Roman period, at which time most, if not all, of the c.120 features in the main excavated trench were dug. It should be noted too (Fig. 2) that the evaluation trenches all show a comparable density of similar features.

Interpretation is nevertheless difficult. The repertoire of features is extremely limited; mostly gullies (straight or curved), plus a few pits, postholes, stakeholes and poorly defined depressions. All were shallow; fills showed little variation. Finds were few also, but what does emerge from those contexts containing enough pottery for a secure date, was that the earliest features were of the third to fourth centuries, and that the majority were fourth to early fifth century in date. This time span matches the Roman fort itself (Barford, forthcoming).

However, the edge of the fort is 140 metres south of the main excavation area (Fig. 1), and there were no specifically military items from the Othona Community excavations. It is likely, therefore, that the area to the north of the fort was not under direct military control. However, the features do not correspond either to what might be expected from an extra-mural civilian settlement.

There would seem to be two possible explanations for these shallow features. Either the site was as prone to flooding in the Roman period as it is now, and the gullies represent a series of attempts at drainage. Alternatively the gullies could have been dug for horticultural purposes, such as allotments to feed the fort and its *vicus*. Though the outline of each gully is very irregular, the majority do conform to either a NW-SE or NE-SW orientation. A number of gullies were set at right-angles to each other (F65/49, F58/115, F144/146, F126/128 and F116/118). It is possible that some of these gullies represent plot boundaries. It is of interest that though the gullies have a tendency to lie along one of two orientations, the fort itself and indeed the current coastline lies also along a northwest-southeast axis, with the main gate on the western wall. This similarity in orientation between the civilian settlement and the north-west edge of the fort suggests that the civilian settlement was at least roughly aligned to the fort itself. Also, at Othona the dating evidence for the civilian phases is contemporaneous with that of the fort itself. It is suggested that the extra-mural settlement proper was either situated to the immediate north of the fort or to the west, in either case, placed upon the higher, better-drained ground, as the fort itself is.

The site appears to have been abandoned in the early fifth century AD. There was no evidence for any Saxon occupation on the excavated area, though the evaluation trenches do show that there was at least some Saxon activity in the vicinity. There was a build-up of soil (layer 554) over the site in the twelfth-fourteenth centuries AD, this also contained finds derived from the underlying Roman contexts. The site appears to have remained as arable land until the Second World War when tank-trenches were dug across and subsequently back-filled with military debris. The final phase of occupation on the site is that of the Othona Community itself.

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The Liberties of the Borough of Colchester

by the late J. Horace Round

[NOTE. This article is the second to be published under the arrangements described in the editorial note in *Essex Archaeology and History* 24 (1993), 153. It was written in or after 1907, but was left unfinished.

The ancient borough of Colchester, to which the article refers, comprised the town and the four outlying parishes, or 'Liberties' of Berechurch, Greenstead, Lexden, and Mile End.

Besides completing the article, I have omitted some passages in Round's draft, while incorporating in the text a few of his longer footnotes, and appending to it several new footnotes, distinguished by an asterisk *. The article was read in draft by Dr Janet Cooper, to whom I owe some helpful comments. She tells me that the forthcoming history of Colchester, in *V.C.H. Essex* volume nine, will shed further light on the problems discussed here. W.R. POWELL]

As I emerge from the Colchester Road from my own manor of West Bergholt¹ I leave behind me the hundred of Lexden, in the county of Essex, and enter the parish and manor of Lexden, within the boundaries of what, a wayside stone informs me, is the 'Borough of Colchester'. At the bottom of the valley a tiny bridge [St. Botolph's bridge] here crosses the trickling brook,² the course of which was followed by the governing body of Colchester as it 'perambulated', centuries ago, the boundaries of the borough. Nothing could be less suggestive of a borough, in the usual sense of the word, than the scene which meets the eye. In front of me a steep ascent rises to the brow of the hill. To the left, fields, meadows, and the inevitable golf-links; to the right, a small, gorse-clad common, a copse, and, in front of it, a whitewashed cottage with a high-pitched gable. I seem to be entering a parish at least as rural as that from which I have emerged. Of a town there is no sign.

What then is this 'borough of Colchester', which has so strange a portal? According to the Ordnance Survey it contains 11,324.833 acres, excluding foreshore and tidal water, and extends, at one place, 5 miles from east to west, and at another nearly 6 miles from north to south. To realise how exceptional is such an area as this, we need but to turn to *Township and Borough*, the lectures in which Professor Maitland³ discussed that problem which had for him so marked a fascination, the origin of our ancient boroughs. Speaking of boroughs, the boundaries of which 'have provided wide enough room for fields and meadows and pastures', he cited the cases of Derby, which contained within its limits 1,660 acres, Northampton, with its 1,520 acres (including 'a considerable quantity of agricultural land'), and Bedford, which comprises 2,164 acres.⁴ As against such figures as these the Professor pointed out that 'the fortified space was never

large', and that 'intramural Oxford contained little more than 80 acres'. At Colchester the 'fortified space' enclosed by the Roman wall is stated to be 108 acres.

The borough of Colchester, as we see it today, is divided, for municipal purposes, into four wards, and for ecclesiastical purposes, into sixteen parishes.⁵ With the evidence afforded by the names and the areas of these parishes I shall deal later. To the observing eye there are still discernible within the boundaries of this vast borough indications of its early days. The plan of the main street; the curious lack of buildings in the east, as compared with the western portion of the intramural space; the convergence of the roads leading to the town: in all these there are clues to be followed up. Even today, in so modern a work as *Kelly's Directory*, we find the four outlying parishes of Berechurch, Greenstead, Lexden and Mile End receiving, under 'Colchester', separate mention.⁶ On the other hand, there is nothing in that work to imply that the borough was other than homogeneous in origin. This, indeed, might be a not unnatural deduction from the fact that its western boundary is still formed by a prehistoric rampart known as Gryme's Dyke.⁷ Even Mr Cutts, in his valuable little book on Colchester — the best modern history of the town⁸ — was influenced by that earthwork in assuming its homogeneity. In his chapter on 'The Saxon Burgh' he wrote:⁹

This district was the area included within the Colne and the Roman river on the north, east, and south, while the western boundary was in dispute. This is the area, taking Gryme's Dyke as its proper western boundary, which I supposed to have formed the *oppidum* of Camulodunum, to have been appropriated as the *ager* of the *Colonia*, and to have been plundered by the Saxon settlers who formed the hundred of Colneceaster.¹⁰

Nevertheless, I shall have to take this borough of Colchester to pieces.

The Liberties

Even as late as 1811 Berechurch, Greenstead, Lexden, and Mile End were stated, in the Census, to constitute the 'Liberties' and not to be within the town of Colchester.¹¹ The distinction was familiar to Morant, who devoted to 'Parishes within the Liberty' a separate chapter in his history of Colchester.¹² He printed the perambulations of 1637 and 1671, both of which are headed as 'Colchester (or "The Town of Colchester")', and the Liberties thereof.¹³ The taxation roll of 1296, also mentioned by Morant, and abstracted by Mr George Rickword in a valuable paper, shows that the

four townships (*villate*) of Mile End, Greenstead, West Donyland [*alias* Berechurch], and Lexden, though separately taxed, were within the Liberties of the borough of Colchester.¹⁴ The earliest recorded perambulation of the boundaries of the borough, which dates from 1245-6, includes the four townships.¹⁵ Mr Benham has pointed out that the opening word of this perambulation was originally *Banleuca*, over which is written in a later hand, *Libertas*, thus equating the two words.

In the learned edition of the *Dialogus de Scaccario*,¹⁶ in the text of which the word *leugata* occurs twice (pp. 73, 152), the editors annotate it thus (p. 175):

The *leugata* or 'lowey'¹⁷ of a town is the district immediately surrounding it, over which the privileges or jurisdiction of the town extended... other forms are *leucata*, *bannaleuca*, and sometimes *leuca* simply, cf. modern French *banlieu*, 'suburbs'. In England the conception died out early, and only survived in local usage, e.g. at Pevensey, where the district subject to the jurisdiction of the castle was called the 'lowey' or 'league'.¹⁸

The reference, in the perambulation of 1245-6, to the *banleuca* of Colchester, links up with the charter granted to the borough by Richard I in 1189, for in that charter the hunting rights of the burgesses within the *banleuca* are assured.¹⁹

Parishes and Churches

The evidence afforded by the names of the Colchester parish churches is so important that it is not easy to understand why everyone has overlooked it. The sixteen recognised parishes within the historic boundaries of the borough have been treated as all of the same character, and as affording, therefore, no clue to our problem. To this day, however, we find them divided by their names into two distinct classes. Four of them bear the names of the villages in which their churches stand: the four outlying villages within the ancient Liberties of the borough. The other twelve are distinguished by the names of their patron saints. Now this, in England, is the recognised distinction between the rural and the urban parish. The normal English village contains but one parish and one church; and to this church it has given its own village name. But our towns — especially ancient towns such as Norwich or the City of London — are divided ecclesiastically into many small parishes, which are normally distinguished by the names of their patron saints.

The evidence of the names borne by Colchester churches strongly favours the following theory. The town originally comprised the area covered by the twelve parishes bearing the names of their patron saints. Outside it lay the area covered by the four parishes (or 'vills' as Mr Maitland would have termed them), of Berechurch, Greenstead, Lexden and Mile End, which at some remote date were added to the town, and became its Liberties. It is an interesting and suggestive fact that a valuation of Colchester churches made for taxation purposes in 1428 is found, on

careful examination, to draw two distinctions between the four churches in the Liberties, on the one hand, and the other churches in the borough.²⁰ It gives the former the names of their vills, and it assigns to them alone the style 'parochialis'. An extract from the return will make the point clear:

Ecclesia Sancti Runwaldi valet...
Ecclesia parochialis de Lexden valet...
Ecclesia parochialis de Mylende valet...
Ecclesia Sancti Petri Colcestre valet...

The two classes, as I have styled them, may be set forth thus:²¹

A. The Liberties

Berechurch 1,377 acres. Greenstead 1,501 a.
Lexden 2,334 a. Mile End 2,352 a.
Total 7,564 acres.

B. The Town Parishes

All Saints 285 acres. Holy Trinity 102 a.
St. Botolph 905 a. St. Giles 1,502 a.
St. James 238 a. St. Leonard 82 a.
St. Martin 16 a. St. Mary at-the-Walls 487 a.
St. Mary Magdalen 65 a. St. Nicholas 14 a.
St. Peter 51 a. St. Runwald 13 a.
Total 3,760 acres.

The contrast here is startling. The four parishes within the Liberties contain an area twice as large as that of the twelve town parishes. We thus reduce the original Colchester to an area by no means excessive for an Essex vill or parish. The parish of Stanway, which adjoins Colchester on the west, has an area of 3,436 acres. Boxted and Great Horkesley, adjoining it on the north and north-west, each contains 3,177 acres. Ardleigh and Elmstead, on the north-east and east, have areas of 5,062 acres and 3,725 acres.²²

If we turn to a neighbouring county, we find Professor Maitland writing as follows:²³

The vill, town and borough of Cambridge contains above five square miles of land.²⁴ As vills go in Cambridgeshire it is not extravagantly large. Larger vills are to be found outside the fen... Also it had some fifteen or sixteen parish churches.²⁵

Cambridgeshire, however, belongs to that group of counties which are called after their chief towns, and which are supposed to have been the result of an artificial scheme.²⁶ Essex stands altogether outside that scheme, and Colchester has a history of its own. Cambridge, moreover, appears to have had no Liberties, and has been mentioned only for purpose of comparison.

At Colchester the history and grouping of parishes have been unduly obscured by the loose language of Newcourt, which was carelessly repeated by Morant. Newcourt wrote that Colchester 'contains in it sixteen parishes, whereof are contained within the walls eight... without the walls eight.'²⁷ This was only a slip, for he elsewhere speaks, rightly, of 'parish churches'. Morant, who ought to have known better, for he was

not only the historian of Colchester but also rector of St-Mary-at-the-Walls, wrote that 'the whole town, with the Liberties, is divided into sixteen parishes, whereof eight are within the walls, four without, and four within the Liberties'.²⁸ It is true that he appended a footnote explaining that 'By the parishes within the walls, I mean those whose churches stand within the walls, but the bounds of most of them are not confined therein, but extend without, and even run a considerable distance into the country'. It is unfortunate, however, that he devoted a separate chapter to the parishes 'that lie without, but near the walls'.²⁹ For this arrangement conveys the impression that there was some real distinction between these four parishes (St. Botolph, St. Giles, St. Mary Magdalen, and St. Leonard) and the eight which had their churches within the walls. For the only real distinction, as I have said, is between the four churches in the Liberties and the twelve others.

Colchester as a Hundred

I have now carried back the analysis of the borough of Colchester as far as 1189, the date of its first charter. We have seen that its Liberties and its parishes alike point clearly to its having been composed of two distinct elements: an urban nucleus, and a surrounding ring of rural villis. The charter of 1189 assists us by speaking of the *banleuca*, but does so in an incidental way which shows us that this was already in existence. This supports Mr Benham's contention that the charter is evidence of Colchester's pre-existent institutions rather than the grant of new ones.³⁰ It must, however, be admitted that he himself does not appreciate its significance. Indeed, he shows no interest either in the word *banleuca* or in the existence of the Liberties. What he mainly relies on is the one word 'confirmed' in the charter. The actual phrase is *concessisse et presenti confirmasse carta nostra*. This is Englished as 'granted and by this our present charter confirmed'.³¹ No doubt this is less strong than *dedisse et confirmasse*,³² but this interesting and important charter requires to be examined clause by clause before we can say how much of it involves a fresh grant, and how much merely confirms existing privileges. Only one who is specially qualified by the study of our early borough charters can interpret aright their bearing.

All that can be attempted here is to select such clauses as clearly refer to the period before the charter. The first of these relates to the payments due on the river Colne or on either of its banks, from ships trading there. It is specified that the burgesses might apply these payments towards their annual *firma* (rent) to the king, as they had done under Henry I and Henry II.³³ The second of these clauses states that the markets and customs of Colchester should remain in the same state as when they had been confirmed on oath by the burgesses before the justices in eyre under Henry II.³⁴

The statement, implicit in the first clause, that the burgesses were already paying the *firma* under Henry I, is supported by the Pipe Roll of 1130, which records that Hamon de St. Clair accounted for it in that year.³⁵ The second clause does not carry us as far back, but it is extremely important, for it recognises the right of the burgesses to determine on oath their market rights. This should be compared with the document, drawn up under Henry II, which records the sworn testimony of the burgesses of Newcastle-upon-Tyne as to their laws and customs under Henry I.³⁶

A third clause of the charter of 1189 reads as follows: 'No forest officer shall molest any man within the Liberty, but all our said burgesses may hunt within the Liberty of Colchester the fox, the hare, and the wild cat'.³⁷ This somewhat ambiguously worded clause did not, as has been supposed, grant a general exemption from the forest laws. At that period licences to hunt in the forest were often granted, but were usually limited to the inferior kinds of game, as in this case.³⁸ As to Colchester:

The actual Forest district subject to the Forest laws included not only that anciently known as King's Wood Heath, and in modern times as Mile End Heath, but, as appears by the perambulation of 1301, the castle and the whole town within the walls.³⁹

It is evident from this clause of the charter that the *banleuca* was already in existence in 1189, but this does not throw any light on the problem of its origin. How and when did this area, essentially rural in character, become the Liberties of Colchester?

* * *

Conclusion

Round left his questions unanswered. After his death in 1928, William Page, his literary executor, showed the draft of this article to Professor James Tait of Manchester, who commented:⁴⁰

He [Round] was evidently just about to find the solution of the rural parishes of the borough in the creation, at some date earlier than Domesday, of the hundred of Colchester: not a very early date, as the inclusion of the place-name of the hundred of Lexden within the Liberties shows.

Some years later, in his book *The Medieval English Borough*, Tait elaborated this view.⁴¹ He pointed out that Colchester was one of fourteen Domesday boroughs forming hundreds or half-hundreds in themselves. Most of these were in East Anglia, Essex, and Kent, including Ipswich and Maldon. 'The distinction between a borough which was a full hundred as Colchester was, and one which, like Ipswich, ranked only as a half-hundred, was financial, not administrative or judicial'. At Ipswich the whole borough was styled a Liberty and comprised the town, fringed by parts of six rural parishes, which straddled the boundaries of the neighbouring hundreds of Bosmere, Carlford, Claydon, and Sampford.⁴² Maldon, like Ipswich, was assessed as a half-hundred. This, said Tait:⁴³

Is a most interesting case, for here we get a glimpse of the process of forming a borough. The borough in this instance was clearly cut out of the hundred of Witbrichtesherna (later Dengie), by which is entirely surrounded except on the side of the Blackwater estuary, since Little Maldon, though it remained in the parish of St. Mary in the borough, was left in its old hundred.

The ancient borough of Maldon comprised the small urban parish of All Saints, and the parishes of St. Peter and St. Mary (later amalgamated), which were partly rural. Maldon's charter of 1171 mentions the *banleuca* of the borough.⁴⁴ Its charter of 1555 refers to the 'borough, liberty and precincts'.⁴⁵ Norden (1594) describes the town as 'a Liberty of itself within the hundred of Dengie'.⁴⁶

Tait supposed that Colchester had become a separate hundred 'by the annexation from Lexden [hundred], probably not long before the Conquest, of four adjacent villis including the hundred *caput* itself'.⁴⁷ Round had put forward a similar view many years earlier.⁴⁸

Lexden [hundred]... contains two parishes⁴⁹ which are cut off from the rest of the hundred by the Domesday hundred of Colchester... This arrangement obviously suggests that the district of Colchester had, at some time, been taken out of Lexden hundred, a suggestion supported by the fact that Lexden parish is itself within the borough boundary.

Tait's theory that Lexden and other rural parishes (later called the Liberties) had been annexed to Colchester by 1086, rests mainly on Domesday Book, which devotes a separate section to 'The Hundred of Colchester'.⁵⁰ This begins with a description of the estate held in 1066 by Godric, a free man, consisting of four 'manses', a church, and four hides of land in Greenstead. After Godric's death his sons had divided the estate into four parts, of which, in 1086, two were held by the king, one (including the church) by Count Eustace of Boulogne, and one by John son of Waleram. The Domesday commissioners stated that the king was not receiving the customary due from the shares of Eustace and John. They also reported the claim by the burgesses of Colchester that five hides of land in Lexden, which had belonged to the aforesaid land of Godric, were 'liable to the customary due and the borough levy'.⁵¹ This statement should be compared with the entry, under the King's Lands, for Stanway, in Lexden Hundred.⁵² In 1086 there belonged to Stanway a *berewita* (outlying estate) of four hides 'called Lexden', which included, apparently, 16 sokemen with two hides and 36 acres of land. The *berewita* may have been identical, at least in part, with the land in Lexden that had belonged to Godric's Greenstead estate; the 16 sokemen may have been burgesses of Colchester.⁵³ Round suggested that Peter de Valognes, who as sheriff of Essex was farming the king's manors in 1086, had some time previously detached Lexden from Colchester and annexed it to Stanway, thus increasing his income while evading taxes. He cited this as an example of 'the guilt of the king's reeves' revealed by Domesday Book. It was, he

said, 'the aggression of a royal reeve on the rights of royal burgesses'.⁵⁴ In this case, at least, the wrong seems to have been righted, for Lexden was eventually restored to the borough of Colchester.

Domesday Book does not mention the other two places later constituting Liberties of the borough: Berechurch (*alias* West Donyland) and Mile End. This is to some extent a semantic problem. These two names are not recorded before the 13th century.⁵⁵ Five holdings called Donyland figure in Domesday, all under Lexden hundred. Two of them were held in 1086 by Count Eustace, who had retained two hides in demesne while subinfeudating 25 acres to a certain Robert.⁵⁶ Robert's holding had belonged in 1066 to Godric of Colchester, who was probably identical with the pre-Conquest lord of Greenstead. Eustace's larger holding included 1½ hides previously belonging to Edric of Easthorpe, and ½ hide which had previously been held by a free man and later by Ingelric the priest, Eustace's predecessor. Of the latter, the Domesday commissioners reported: 'The hundred (court) knows not how he (Ingelric) came to have it.' Elsewhere in Donyland were the holdings of Ilbodo (1½ hides and eight acres), Haghebern (½ hide and 12 acres), and Moduin (one virgate).⁵⁷

All these five holdings have been assigned by historians to East Donyland, presumably because they are entered in Domesday under Lexden hundred. Dr Cyril Hart appears to identify Eustace's two-hide holding with one quarter of the eight-hide estate in Donyland mentioned in the will of Aethelflaed (dated 962 x 991), and the holdings of Ilbodo and Haghebern, taken together, with a second quarter. He suggests that the other two quarters 'had become incorporated in Berechurch, which is not mentioned by name in Domesday Book, being included, presumably, in the Colchester portion of the Domesday survey'.⁵⁸ If we accept Dr Hart's equation it is not unlikely that Berechurch was in 1066 part of Godric's estate of Greenstead and Lexden. That estate was large enough to subsume Berechurch; and Aethelflaed, the 10th-century owner of Donyland, had also held land in Greenstead.⁵⁹ On the other hand, we must allow for the imprecision of early place-names, and for movements in the land market over the century before Domesday. We do not know the exact location of 'Donyland' in Aethelflaed's day nor at the time of Domesday, and it is possible that the five holdings of that name in 1086 included one or more in West Donyland.

Mile End took its name from its position about a mile north of Colchester town. It had become a parish by 1254, with a church appropriated to St. Botolph's priory, Colchester.⁶⁰ In the Middle Ages this was a forest area, including King's Wood, which, for centuries after Domesday, was a prominent feature of the borough.⁶¹ Before the 13th century there had probably been little settlement there. While the earlier history of Mile End is obscure, there may be a

connexion with Count Eustace, who was one of the principal benefactors of St. Botolph's priory,⁶² and who in 1086 held, besides his lands in Greenstead, a substantial estate at Boxted, adjoining Mile End to the north.⁶³

The Domesday evidence relating to Colchester and its Liberties may now be summarized. By 1086 Colchester had become a separate hundred, having probably been taken out of the surrounding hundred of Lexden. It already included Greenstead. The burgesses also claimed Lexden as part of the borough. That vill was also entered under Lexden hundred as an outlier of Stanway, having possibly been detached from Colchester after the Conquest. Berechurch and Mile End are not named in Domesday. Berechurch may in 1086 have been part of Greenstead; the status of Mile End is not known. It will be seen from this summary that Colchester already had a *banleuca*, although the term is not used and the area is not defined.

Dr Hart suggests that Colchester became a hundred in the period immediately following the death of Ealdorman Byrhtnoth in the year 991, when his estate was 'up for grabs'.⁶⁴ While there is no firm evidence for that theory, it cannot be ruled out. Less plausible, however, is his 'assumption that most of the Domesday boundary of the borough was the same as

that shown on the borough map drawn up by George Gilbert in 1845.'⁶⁵ The dispute, recorded in Domesday, over the status of the vill of Lexden, suggests that the *banleuca* was still inchoate in 1086, and it cannot be assumed that the four vills that eventually constituted the Liberties were all annexed to the borough simultaneously. Even in the 13th and 14th centuries there were occasional conflicts of jurisdiction between the burgesses, as lords of the hundred of Colchester, and the lords of the manors within the Liberties.⁶⁶ Of particular interest is the case submitted by the burgesses to the Exchequer Court between 1313 and 1317, against Robert FitzWalter, Lord FitzWalter, 'to show that his manor of Lexden is within the bounds of the hundred of Colchester.'⁶⁷ After summarizing the historical evidence, they added, in words that recall the complaint of their predecessors to the Domesday commissioners concerning the five hides in Lexden:

If the manor of Lexden should be separated from the borough of Colchester, this would be greatly to the injury and prejudice of the king... and also of the borough of Colchester... The manor would then belong to the foreign hundred of Lexden, which is in the fee of Lord William Gernon, and... the tenants of Lexden manor would have to be answerable to him, to the deprivation and loss of the king.



Plate I Abandoned section of the old Colchester Road, West Bergholt, looking east across Colchester by-pass to West House Wood. (Photograph Avril H. Powell 1993.)

The scene which Horace Round describes in the opening paragraph of this article will not immediately be recognized by the modern traveller. Colchester Road, West Bergholt, has been diverted, widened, and embanked. St. Botolph's brook has been occluded, and a modern viaduct, spanning the new Colchester bypass, has replaced the 'tiny bridge'. But on either side of the

bypass can still be seen a short, abandoned section of the old Colchester Road along which Round used to travel (Plate I). Beside the eastern section is the 'copse' that he observed — now, as West House Wood, preserved by the Essex Wildlife Trust — and near it, on the modern road, is a sign welcoming the traveller to 'Colchester — Britain's Oldest Recorded Town'.

Notes

- 1 * For the descent of West Bergholt see J. Foster, *Our noble and gentle families of royal descent* (1883), 165. J.H. Round had inherited the manor on his father's death in 1887.
- 2 * St. Botolph's brook. Cf. Morant, *Hist. Essex* (1768), i (Colchester), 97.
- 3 * Round had been a friend and admirer of Maitland; see *The Letters of Frederick William Maitland*, ed. C.H.S. Fifoot (1965).
- 4 F.W. Maitland, *Township and Borough* (1898), 8. * For other extensive ancient boroughs see V.D. Lipman, *Local Government Areas, 1834-1945*, (1949), 7-15.
- 5 Sixteen historic parishes are recognized by Newcourt, and by Morant after him. The status of St. Mary Magdalen has been questioned, and St. Runwald's church has been pulled down, but the argument in this paper is not affected thereby.
- 6 *Kelly's Directory Essex* (1906 and later editions).
- 7 * See also J.H. Round, 'Gryme's Dyke, or the outward trench of Wyldenhey', *E.A.T. N.S.* xviii, 1.
- 8 E.L. Cutts, *Colchester* (Historic Town series, 1888). * Cutts had been the first honorary secretary of our Society (1852-66). Round had reviewed this book critically when it appeared: *St. James's Gaz.* 22 May 1888; *Athenaeum* 16 June 1888; cf. B.R.O., D/DRh Z10/4, pp. 34, 38.
- 9 E.L. Cutts, *Colchester*, 62, cf. 12.
- 10 But Mr. Cutts held that Greenstead was a later addition.
- 11 *V.C.H. Essex*, ii, 353.
- 12 Morant, *Essex*, i (Colchester), 130.
- 13 * *Ibid.* 95-6.
- 14 *Ibid.* 46-7; *E.A.T. N.S.* ix, 126f. * George Rickword was borough librarian of Colchester (1896-1926). He edited the *Transactions of our Society* (1907-19); see *E.A.T. N.S.* xxi, 343. In 1327 the four hamlets (*hamelette*) were taxed along with Colchester: *The Medieval Essex Community*, ed. J. Ward (1983), 16.
- 15 Morant, *Essex*, i (Colchester), 95n; *Colchester Oath Book*, ed. W.G. Benham (1907), 4.
- 16 *Dialogus de Scaccario*, ed. A. Hughes, C.G. Crump, and C. Johnson (1902).
- 17 * Cf. *O.E.D.* s.v. 'lowy'.
- 18 * For other local examples of the *banleuca* see *Medieval Latin Dictionary*, i, ed. R.E. Latham (1975), 179.
- 19 * *Cal. Chart. R.* i, 410-11; *Charters of Colchester*, ed. W.G. Benham, 1. See also below.
- 20 *Feudal Aids*, ii, 210. * The Norwich Taxation of 1254 also distinguishes between the four churches in the Liberties and the other churches in the borough: *E.A.T. N.S.* xviii, 123.
- 21 *V.C.H. Essex*, ii (1907), 353-4.
- 22 * *Ibid.* 349.
- 23 F.W. Maitland, *Township and Borough*, 452-3.
- 24 * In 1834 Cambridge comprised 3,470 acres: V.D. Lipman, *Local Government Areas, 1834-1945*, 7.
- 25 These were all distinguished by the names of their patron saints. Maitland speaks elsewhere (*ibid.* 100) of 'the seventeen medieval parishes'. * Cf. F.A. Youngs, *Guide to the Local Administrative Areas of England*, i (1979), 47-8, which lists 17 ancient parishes.
- 26 F.W. Maitland, *Domesday Book and Beyond*, (* Fontana edn. 1960), 229.
- 27 R. Newcourt, *Repertorium Ecclesiasticum Parochiale Londinense*, ii (1710), 161-2.
- 28 Morant, *Essex*, i (Colchester), 105.
- 29 *Ibid.* 120.
- 30 *Charters of Colchester*, ed. Benham, preface, p. i.
- 31 * *Cal. Chart. R.* i, 410.
- 32 This stronger phrase does not seem to have been used in borough charters.
- 33 'Consuetudines aque et ripe ex utraque parte habeant dicti burgenses nostri ad perficiendum firmam nostram sicut habuerunt tempore domini regis patris nostri et tempore Henrici avi ejus.'
- 34 'Sint fora et consuetudines in tali statu quam fuerunt confirmate juramento burgensium nosterum Colecestrie coram justiciariis errantibus domini regis patri nostri.'
- 35 *Pipe R. 1130* (Rec. Com.), 138.
- 36 * W. Stubbs, *Select Charters* (1913 edn.), 132.
- 37 *Cal. Chart. R.* i, 411: 'Nullus forestarius potestatem habere aliquem hominem infra banleuca vexare, set omnes prefati burgenses nostri venari possunt infra banleuca Colecestris vulpem et leporem et catum.'
- 38 W.R. Fisher, *Forest of Essex*, 201; *V.C.H. Essex*, ii, 144, 157, 168.
- 39 Fisher, *Forest of Essex*, 17, cf. 396-7.
- 40 * E.R.O., D/DRh Z8, J. Tait to W. Page, 8 Dec. 1928. For Tait (1863-1944) see *D.N.B.* He had known Round for many years, and wrote his obituary for the *English Historical Review*, xliii, 572-7.
- 41 * J. Tait, *The Medieval English Borough* (1936), 45n, 48-9, 70.
- 42 * *V.C.H. Suffolk*, i (1911), 694 cf. 690n. Boenere and Claydon, which were separate hundreds in 1086 (*ibid.* map f.p.357), were later united.
- 43 * *Medieval English Borough*, 49.
- 44 * Morant, *Essex*, i, 331n.
- 45 * *Ibid.* 332.
- 46 * J. Norden, *Description of Essex* (Camden Soc. 1840), 22.
- 47 * *Medieval English Borough*, 48.
- 48 * *V.C.H. Essex*, i (1903), 406.
- 49 * East Donyland and Wivenhoe.
- 50 * *V.C.H. Essex*, i, 574f.
- 51 * 'Ad consuetudinem et scotum ciuitatis'. In his *V.C.H. Essex* edition of *Domesday Book* (i, 574), Round, following the Record Commission edition, misreads this passage. Cf. *Domesday Book, Essex*, ed. A. Rumble (1983), note to 90-B2; *Domesday Book, Essex, Facsimile* (1862), p. xxi. But in his earlier study, 'The Domesday of Colchester', *Antiquary*, vi (1882), 7, Round's reading is correct.
- 52 * *V.C.H. Essex*, i, 432.
- 53 * J.H. Round, 'The Domesday of Colchester', *Antiquary*, vi, 7.

- 54 * Ibid.
- 55 * *P.N. Essex*, 372, 376.
- 56 * *V.C.H. Essex*, i. 466a and b.
- 57 * Ibid. 561a and b, 560b.
- 58 * C. Hart, *Early Charters of Essex*, no. 18.
- 59 * Ibid.
- 60 * *E.A.T.* N.S. xviii. 123. In the early 13th century Mile End was in St. Peter's parish (*Colch. Cart.* ii. 442), whose church was also appropriated to St. Botolph's priory.
- 61 * Fisher, *Forest of Essex*, 15, 24, 116; Morant, *Essex*, i (Colchester), 134.
- 62 * *Regesta Regum Anglo-Normanorum*, ii, no. 775.
- 63 * *V.C.H. Essex*, i. 465.
- 64 * C. Hart, 'Essex in the 10th century', in *The Battle of Maldon: Fiction and Fact*, ed. J. Cooper (1993), 198. I am grateful to Dr Cooper for allowing me to consult the proofs of this book in advance of publication.
- 65 * Ibid. 194, and fig. 13.
- 66 * *Rotuli Hundredorum* (Rec. Com.), i. 155, 163; R. Britnell, *Growth and Decline in Colchester, 1300-1525* (1986), 29-31; *Red Paper Book of Colchester*, ed. W.G. Benham (1902), 50; *Essex Sessions of the Peace*, ed. E.C. Thurber (1953), 61f; W.R. Powell, 'Lionel de Bradenham and his Siege of Colchester in 1350', *E.A.T.* 3rd Ser. xxii. 68-9.
- 67 * *Red Paper Bk. of Colchester*, 50.

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The Granary at Cressing Temple

by D.D. Andrews, Tim Robey, Pat Ryan, and Ian Tyers

This paper analyses the fabric of the building known as the Granary at Cressing Temple, and concludes that it was built in 1623 as a maltings with a granary at the upper floor. It is also argued that it was one of a pair of similar buildings flanking the approach to the now demolished Great House at Cressing. The re-used timber in the Granary is shown to be of considerable interest for both the history of the site and the surrounding landscape.

Introduction

Cressing Temple is best known for its two 13th-century barns, but the former farm complex includes another imposing agricultural building lying to the south of the farmhouse and barns, and forming the west side of what was in recent times the farmyard (Fig. 1).¹ When Essex County Council acquired the site in 1987 to safeguard the future of the barns, this building was called the Court Hall, though previously it had been known as the Granary. As well as this identity crisis, its date was also uncertain, a wooden plaque inscribed '1623' in a gable being regarded as unreliable. This article assesses the evidence for the date of the building and its function. It also puts it in the context of the development of the site lay-out at Cressing Temple, and, to a lesser extent, of other buildings of comparable type.

The Granary is of ten bays and two storeys, about 32m (105 feet 6 inches) long and 7.5m wide (24 feet 6 inches). It is timber-framed, weatherboarded or brick-nogged at the ground floor, and plastered above (Plates 1 and 2). There are two gables on its west elevation, the more southerly one old, the northern one of modern construction. The ground floor, except for the north end, is divided into stables, whilst in the south half of the first floor there are grain bins (Figs 2-4). Neither these grain bins nor the stables are original. Adjacent to its north-east corner is a much rebuilt structure which now houses toilets.

The Granary was surveyed in 1988 when it was re-tiled. On this occasion, the roof was examined in detail by Dr Oliver Rackham. In 1991, the building underwent a further phase of refurbishment, the room at the north end of the ground floor being repaved, and the north half of the first floor being repainted with plaster repairs where necessary. Repairs were also carried out to the plinth, ground-sill and brick nogging, and the spiral stair fire escape was added to its southern end. Archaeological excavations were carried out in

the toilet block and the room at the north end of the ground floor of the Granary in advance of this building work.

The fullest account of the granary is that by Hewett (1969, 157-59). He illustrates the face-halved bladed scarf joints used in the top-plates (p. 184), and the central tenons with spur bearings that occur in the floor construction (p. 200). Hewett accepted the 1623 date for the building. The building has more recently been assigned to the late 16th century (Wadhams 1990, 16), the 1623 date and the gable in which it occurs being thought to represent a change of use of the building to a court hall. In an unpublished paper, Rackham (1989) has analysed the re-used rafters in the roof. Prior to the publication of this report, two tree-ring dates had been obtained for the building: after 1575 for one unprovenanced timber (Fletcher *et al.* 1985); and c.1415 for a re-used rafter removed in the 1988 re-roofing and dated by Ian Tyers of the Museum of London.

Historical summary

Cressing Temple was granted to the Knights Templar in 1137, passing to the Hospitallers when the Templars were suppressed in 1312. By the early 16th century, the property was being leased to secular tenants. After the dissolution of the monasteries, Sir John Smyth, a baron of the Exchequer, acquired Cressing Temple. The Smyths, who changed their name to Nevill for reasons of inheritance, held it for over one hundred years. They were almost certainly responsible for building the 'Great House' mentioned in a number of 17th-century documents. Henry Nevill, an ardent Royalist, was obliged to sell his Essex properties in 1657 to pay debts incurred as a result of the Civil War.

At the beginning of the 18th century, the owner, one Thomas Davies, is said to have shot himself at Cressing Temple. His brothers sold the estate to Herman Olmuis, a wealthy Dutch merchant, in 1703. For the next two centuries, the property was leased to tenants. It is probable that the Great House was demolished soon after Olmuis' purchase.

Because of the changes of ownership in the second half of the 17th century, we have some useful lists of the farm buildings at that period. A 1656 particular describes the farm as comprising 'a good dwelling house, 2 great barns, stables, malthouses, corne chambers and all other conveniences...' (ERO D/Dac 96).

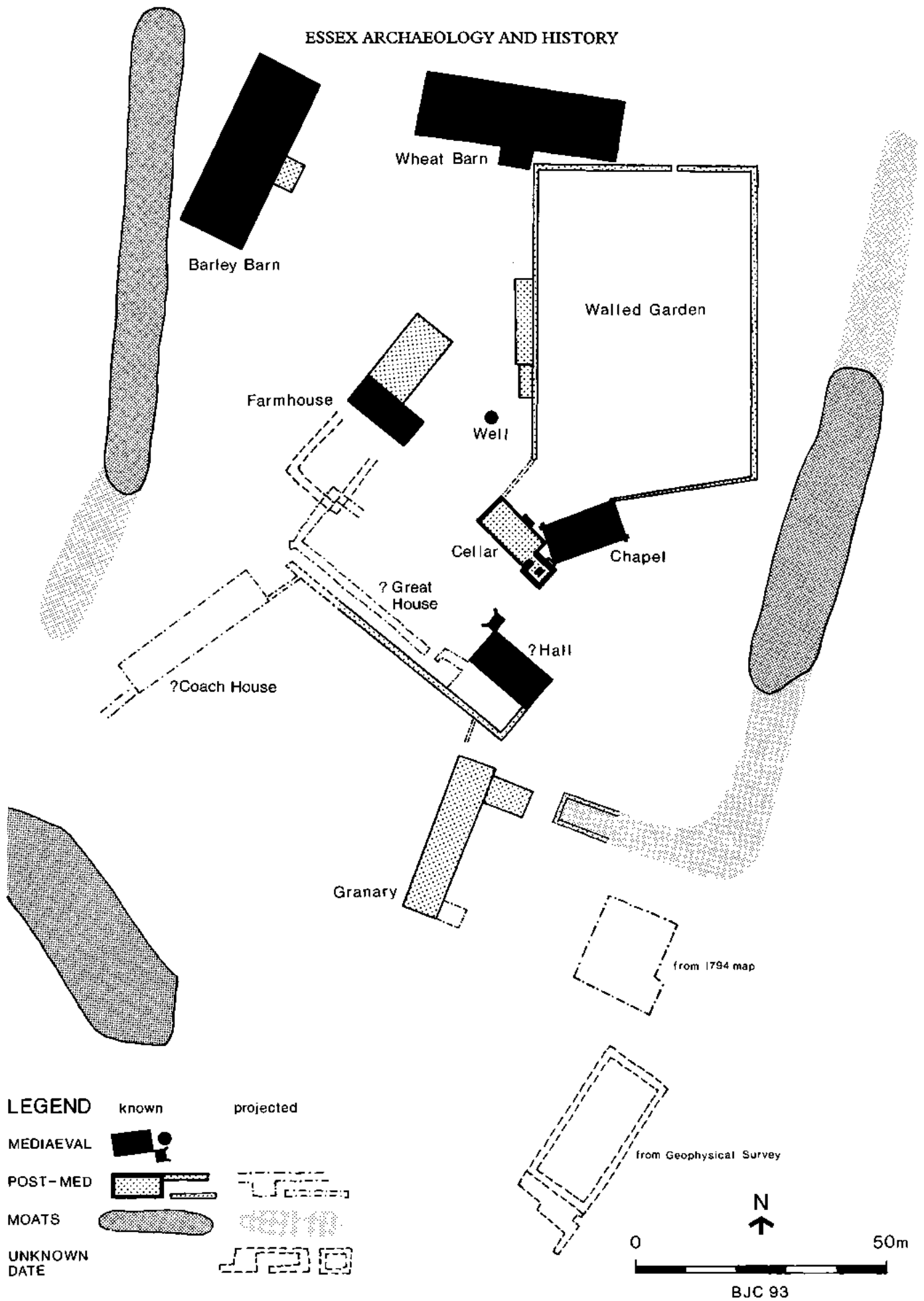


Fig. 1 Plan of Cressing Temple, showing known buildings and those projected from geophysical surveys and documentary evidence.

A conveyance of 1662 refers to 'the Chief Mansion House with the coach house, malthouse, mill house, brewhouse, dovehouses, stables and the rooms over the said stables and malthouse...' (LRO DG5 607). A later particular of 1669 mentions 'a brewhouse and a dairy, two dovehouses well stocked, a very faire malting office, granaried above quit through, and a faire stables, and a coach house above one hundred foot in length and granaried above quit through' (ERO D/DAC 97). It will be argued below that the existing Granary is identifiable with the 'malting office granaried above quit through'.

Description of the Granary as originally built

As is to be expected, the original ground-sill has been very extensively replaced, but a small portion survives on the south side. It is recognizable because the studs are pegged into it. The plinth is made of Tudor bricks, but is too obscured by mortar and dirt for an accurate assessment to be made of the brickwork. The ground-sill itself rests on a conspicuous mortar bed which probably includes tile levelling courses.

Much of the frame consists of re-used timber, to such an extent that we have distinguished the new timber in the structure by terming it 'new build'. Most of the roof, the tie-beams, the wall plates and the studs are re-used timbers. New timber was used for the principal rafters, most of the purlins and storey posts, the framing of the west and much of the east wall at the first floor, and the floor construction. The new timbers are generally substantial and massive, but knotty and of indifferent quality. A certain amount of elm is present. The storey posts and the binding and bridging joists are made from quarter trees. A feature of some of the new-build timber, especially the tie-beams at the south end of the first floor, are large under-bark channels and boreholes of the longhorn beetle *Phymatodes testaceus* (Linn.), which suggests that they had been lying in damp conditions on the ground, perhaps even where they had fallen on the forest floor, for some time before being used.²

Externally, the wall finishes were probably much as they are today, that is, weatherboarded at the ground floor and rendered above. Relatively little survives of the side walls at the ground floor, something which may explain why it is not evident today where the original entrance was. In the east side, bays A and B have been disturbed by the adjacent building, and bays C, D and E have been rebuilt. In the west wall, bays F-J were rebuilt in 1953. The studs (which are cased with boards) were noted in the 1991 refurbishment to be replacements; they are splay-jointed with the girt, and do not correspond in position with those at the first floor. The brick nogging comprises Tudor bricks imported to the site (which at Cressing Temple have been called Granary Tudors). This repair was occasioned by the eastward lean of the building which,

in the absence of guttering, has caused rainwater to wash down this wall.

The studs in the walls are closely set at eighteen inch (450mm) centres, or with one foot (300mm) intervals between them. Where the studs survive at the ground floor, they are of re-used timber. The walls were made with wattle and daub with horizontal laths sprung between the studs, but there is no wattling groove in the soffit of the girt. The absence of pegholes in the girt shows there was never a stud wall in the east side of the southernmost bay (bay J), a fact explained by the presence of an adjoining structure marked on the earliest plan of the site, an estate map of 1794 (ERO D/DU 191/68; Plate 3).

The first floor, the timbers of which have survived virtually intact, was made with two north-south bridging joists per bay. The bridging joists have central tenons of the type illustrated by Hewett (1969). Several of them have free tenons, presumably an indication that the builders had difficulty getting timber long enough for the job. The common joists have rather variable soffit tenons which are generally housed and can sometimes be seen to have diminished haunches. The bridging joists are joggled either side of the tie-beams. In the southernmost bay, they are very close together, to enable one of them to be jointed into the single off-set storey post in this wall. In the north wall, the bridging joists were also probably mortised into storey posts, but the bottom of this wall has been rebuilt in brick and the girt shown on the survey is a replacement.

Three types of common joist occur in the construction of the first floor:

- 1) flat-section with square arrises, sawn, probably two cut from each tree
- 2) narrow-section joists, substantial with square arrises, sawn, several probably having been obtained from one tree
- 3) rough-looking, with a lot of bark and sapwood and rounded edges, being made from individual small trees roughly axed or adzed to shape.

Of these, the most common are the flat-section joists. In the second most southerly bay (bay I), rough-looking joists have been set in mortices cut for flat-section ones; and in the southernmost bay, they have been placed in mortices made for narrow-section ones. Whereas it would be natural to conclude that these different types of joists, and these discrepancies, indicate different builds or the use of reclaimed timber, this is not the case. There is no obviously re-used timber in the floor construction, which was of a single build, a fact clearly indicated by an excellent sequence of carpenters' marks. These consist of scribed Roman numerals, and run systematically from the north to the south end of the building. It is true that the joists on the east side of the building lack marks, but their

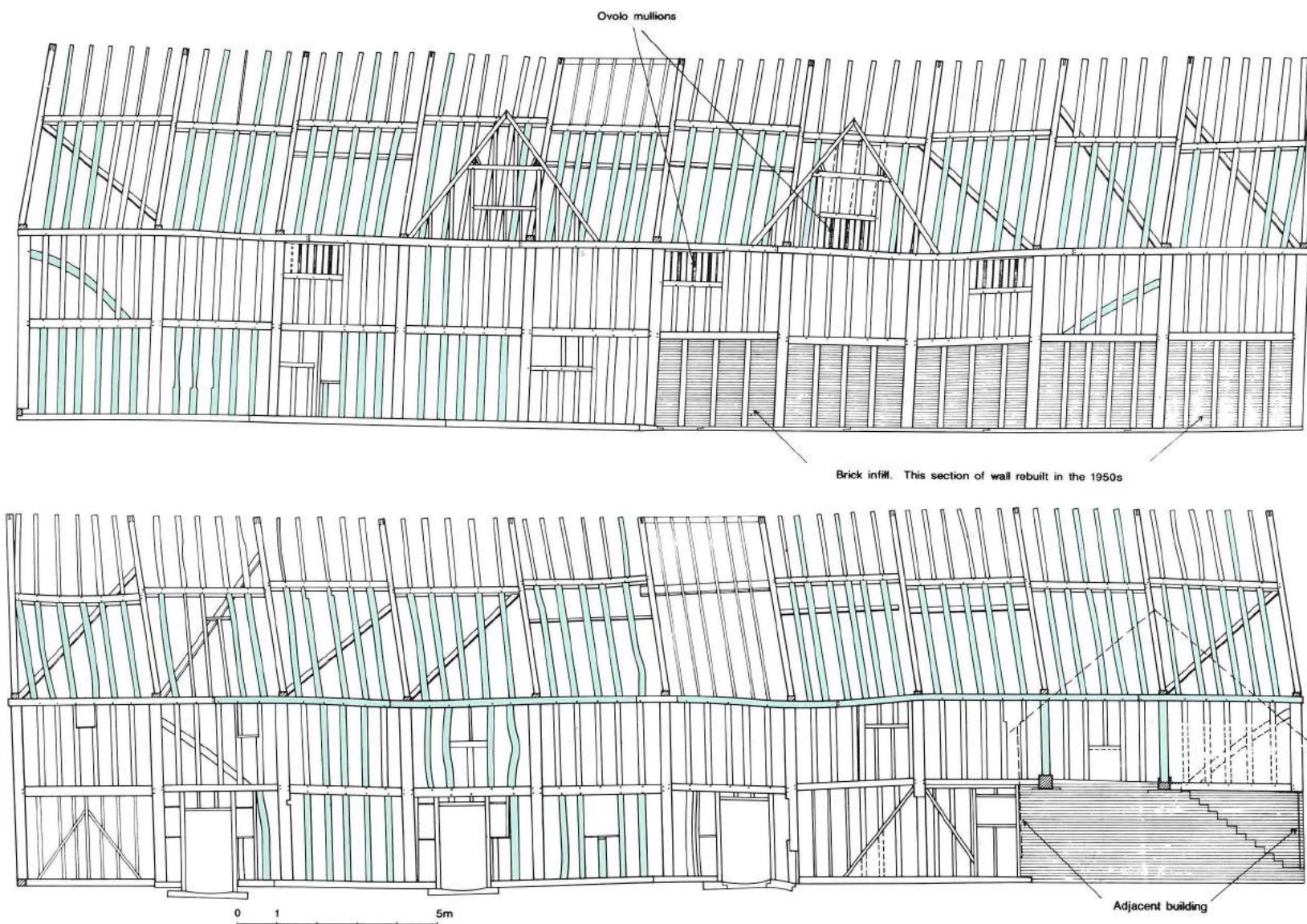


Fig. 2 The Granary, east and west elevations (re-used timbers original to the 1623 construction shaded).

THE GRANARY AT CRESSING TEMPLE



Plate 1 The west side of the Granary.



Plate 2 The east side of the Granary, with the former kiln, now the toilet block.

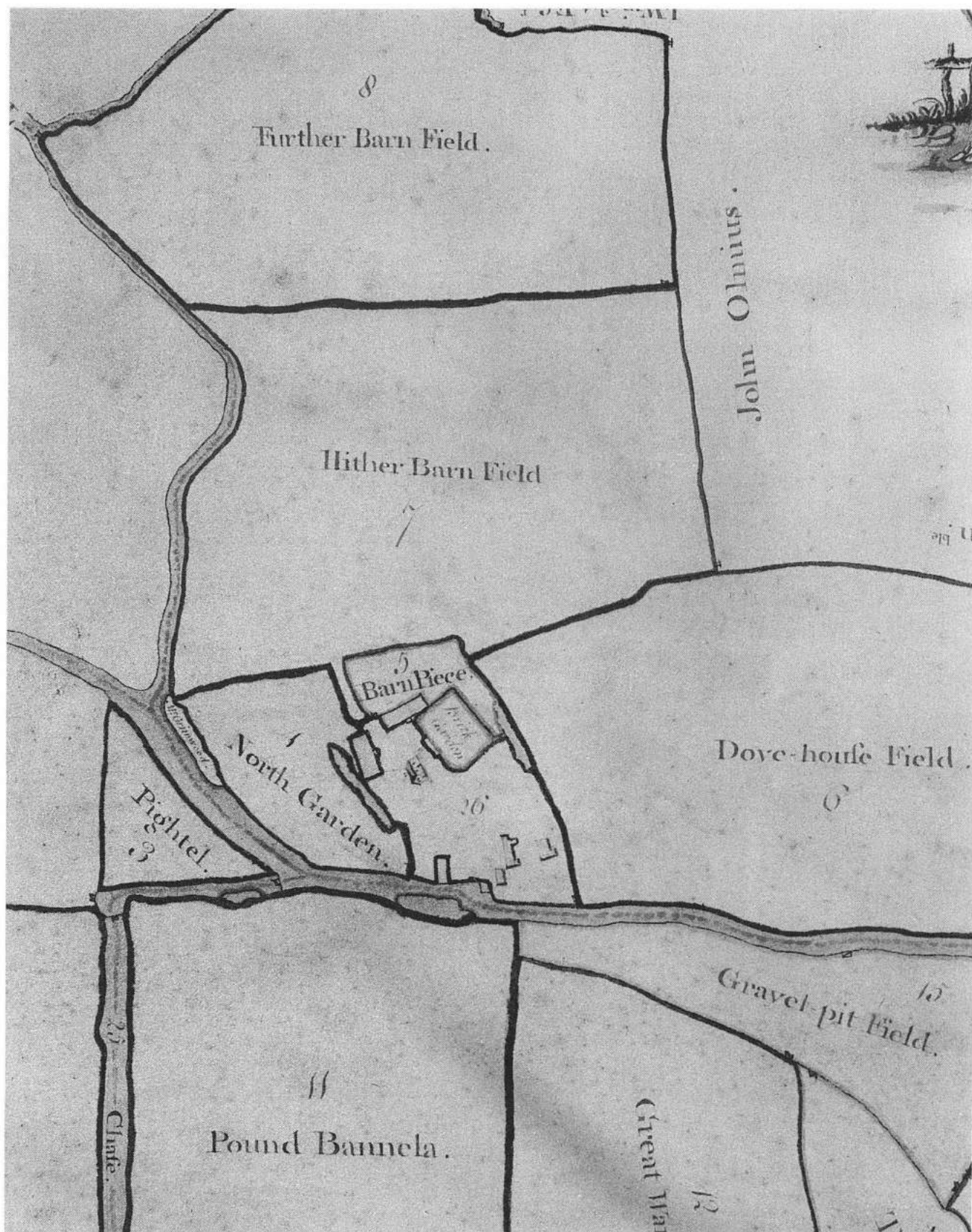


Plate 3 Estate plan of Cressing Temple, 1794 (courtesy of Essex Record Office).

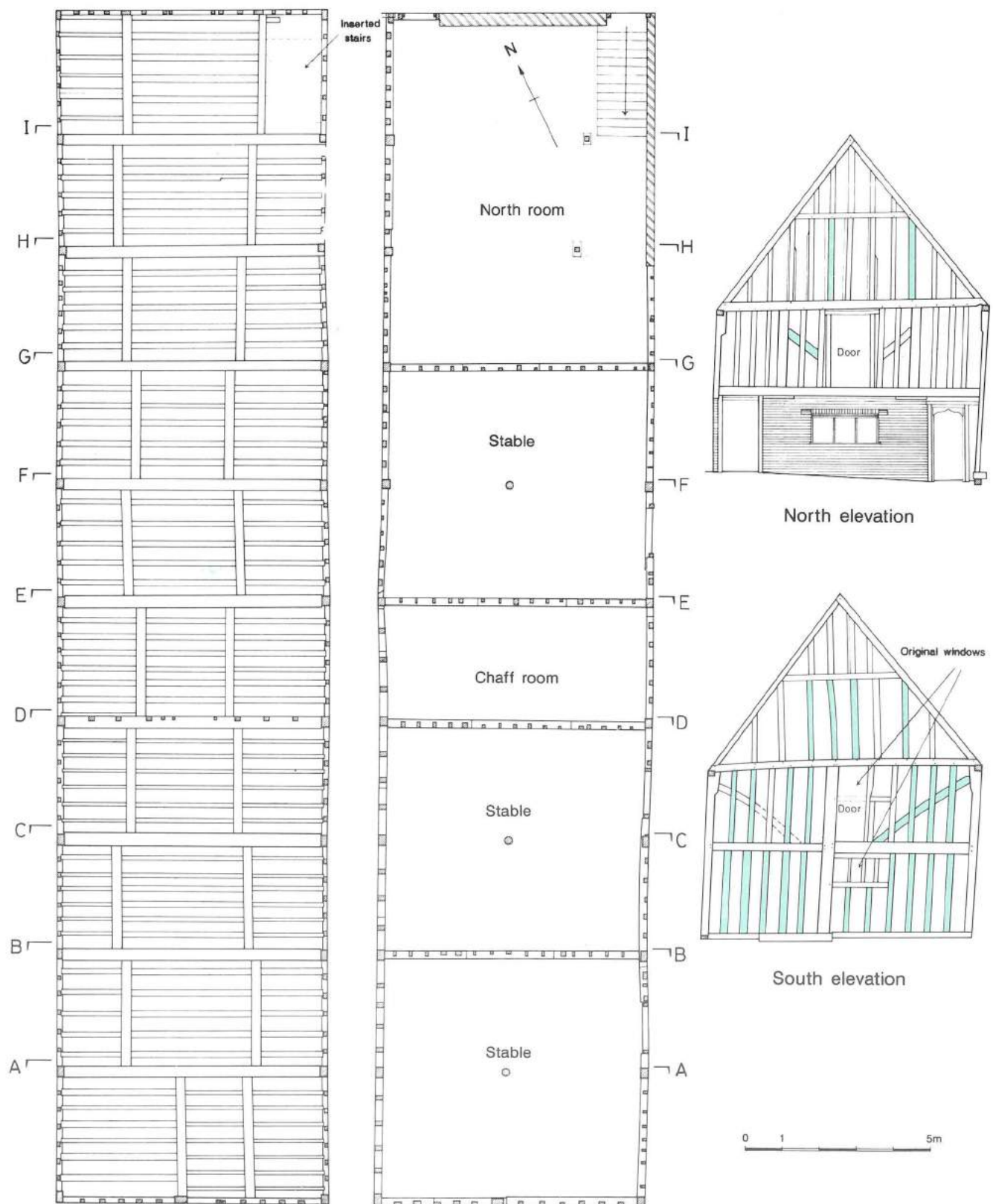


Fig. 3 The Granary; floor plans and north and south ends (re-used timbers original to the 1623 construction shaded).

absence here is consistent for the full length of the building, the character of the timbers is not different, and in fact in some places on this side there are traces of marks in red ochre. It seems likely that the different types of joist reflect a difficulty experienced in obtaining sufficient timber of a particular type. This is supported by the fact that most of the narrow section and rough-looking joists occur at the south end of the building which the carpenters' marks indicate was framed up last.

The ground floor was originally a single open space. The partition walls which exist today are 18th-19th century insertions. The first floor was ceiled, with laths tacked to the under-side of the floorboards and rendered with lime plaster. In places there are quite extensive remains of this ceiling. Elsewhere, its presence is betrayed by whitish marks on the joists and floorboards. There is no evidence of a gap in the joists for a stair: it is unclear how access was obtained to the first floor. At the first floor, where the wall framing has survived largely unaltered, there is no obvious sign of an external entrance at this level.

At the ground floor, there was a window in the middle of the south wall, 5 foot (1.5m) wide by 2 foot 6 inches (760mm) high. It was made with a false lintel, mortised and tenoned at its ends. It had three mullions, with four rods set between them. The ground floor was probably provided with similar windows in the west side at every other bay. Only two of these have survived the extensive rebuilding of the west wall. The best preserved, in bay E, is about five feet wide. The mortices for the cill are longer than is required to accommodate the tenons. The window has alternating mullions and rods, with no separately made lintel. (The existing mullions are replacements.)

The upper storey seems to have been sub-divided from the first into two parts by a partition at bay F. The partition, the framing of which is admittedly obscured by the infill, is considered original because the studs are pegged, it is not made with primary bracing, and the riven oak laths and the clay daub look contemporary with the building. Both rooms at this level are open to the roof, which is made with joggled butt purlins. The tie-beams, which have arched braces to the principal posts, are rather low and consequently obtrusive.

As already indicated, much of the timber in the upper storey is re-used. This is analysed below. Those parts built of new timber comprise all but two of the storey posts, the principal rafters, almost all the purlins, many of the rafters above the purlins, the studs of the west wall and many of the studs in the east wall. The principal rafters, tie-beams, storey posts and braces are marked with chiselled roman numerals quite distinct from the carpenters' marks on the floor joists. This might be interpreted to indicate that the roof has been altered, but there is no structural evidence that this is the case. It may be that chiselled rather than

scribed marks were used because of the harder re-used timbers in the trusses,³ or that a different carpenter was responsible for the roof.

The two gables in the west elevation have been regarded in one case as a later addition to the roof, and in the other as a modern fabrication. The southern gable is unquestionably old, with carpentry similar to the rest of the building and a blocked window with ovolo mullions identical to those of the windows below the wall plate. Because there are mortices in the purlin for rafters behind the gable, it has been concluded, incorrectly, that it was an addition. Examination of the rafters running behind it does not reveal any obvious traces of nails, indicating that the rafters here never had battens, and therefore that the gable is original.

Furthermore, there is evidence that there were four gables along this side of the building. The wall plate here was made of new timber, not re-used as on the east side. Nevertheless, a number of empty mortices occur in the face or upper surface of the wall plate. These in fact form a fairly regular pattern, two or three pegholes at intervals of about 18, 25 or 36 inches (460, 640 or 910mm) being interrupted by a gap of about 63 inches (1.6m). The latter would have been for a 5-foot (1.5m) window like that in the surviving old gable. There are three empty mortices in the purlin behind the old gable where it seems likely that rafters were never fixed. Examination of the roof in the area of the three proposed gables shows that in each instance there are three replacement rafters. Apparently the roof was designed to be fully framed-up irrespective of the gables, but when it was built three rafters were omitted opposite each gable. It is worth noting that the stud-work of the old gable is systematically pegged, whereas, because of the slightly irregular pattern of pegholes, the others seem not to have been. The occasional pegging of studs is a practice typical of later 17th-century carpentry, but not in fact typical of the Granary. This proposed symmetrical arrangement of gables and windows makes better sense than a building with a solitary gable as has previously been believed to be the case (Fig. 5).

There were windows at regular intervals in the west side of the building at first-floor level, located in the gables and between them just below the wall plate. The north and south walls also originally had centrally placed windows, both now partially blocked and partially replaced by later doors. These windows were all similar and resembled the ground-floor ones. They were 5 foot wide and 2 foot 6 inches high with ovolo mullions. The tops of the latter are set in a separate timber lintel nailed to the soffit of the wall plate. The cills are mortised to the studs and posts, these mortices, like the comparable ones at the ground floor, being about twice as long as they need be. This makes it look as if they were designed to facilitate the insertion of the windows at a later date, but the absence of pegs in the wall plate for studs that might have

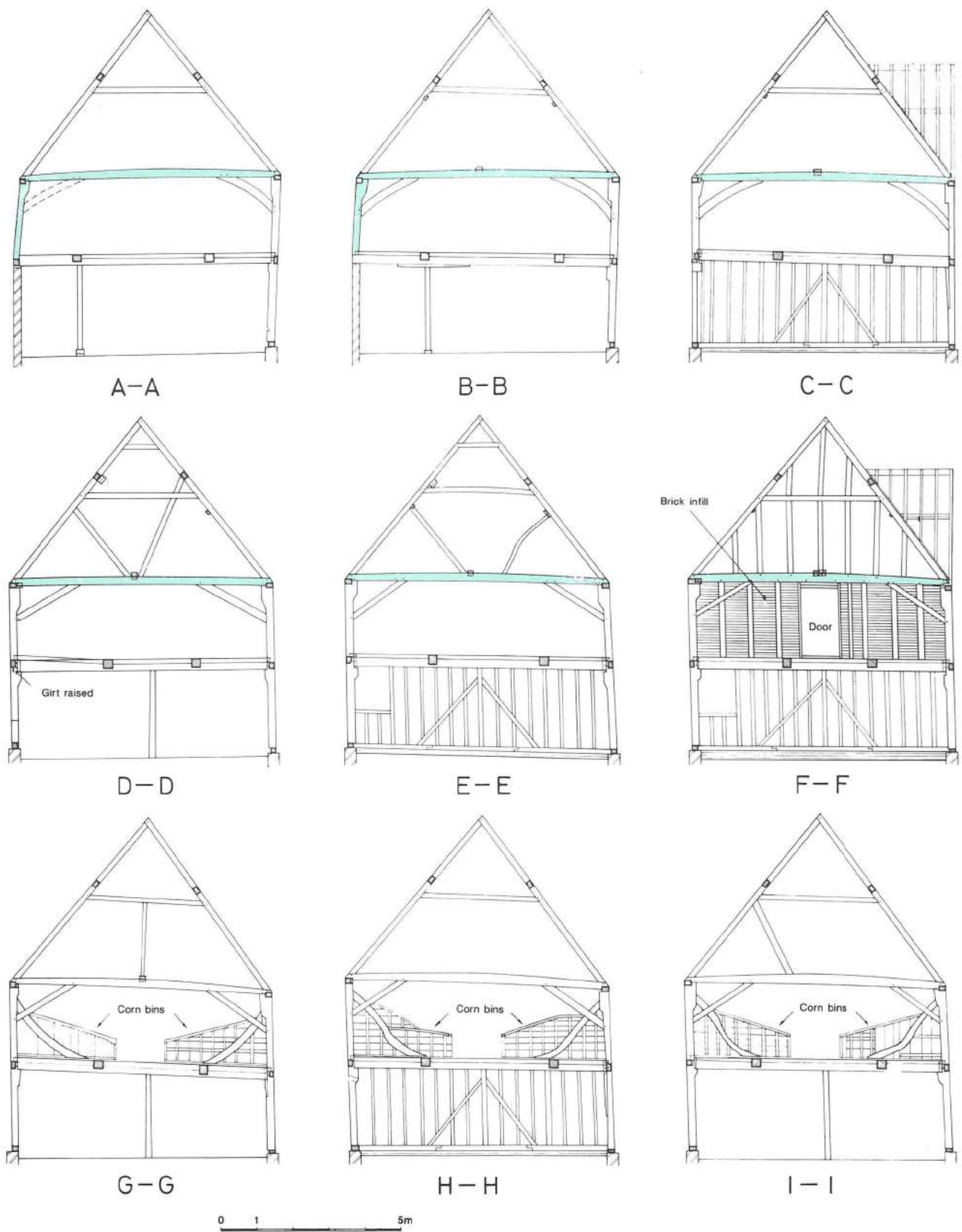


Fig. 4 The Granary, sections taken at principal trusses (re-used timbers original to the 1623 construction shaded).

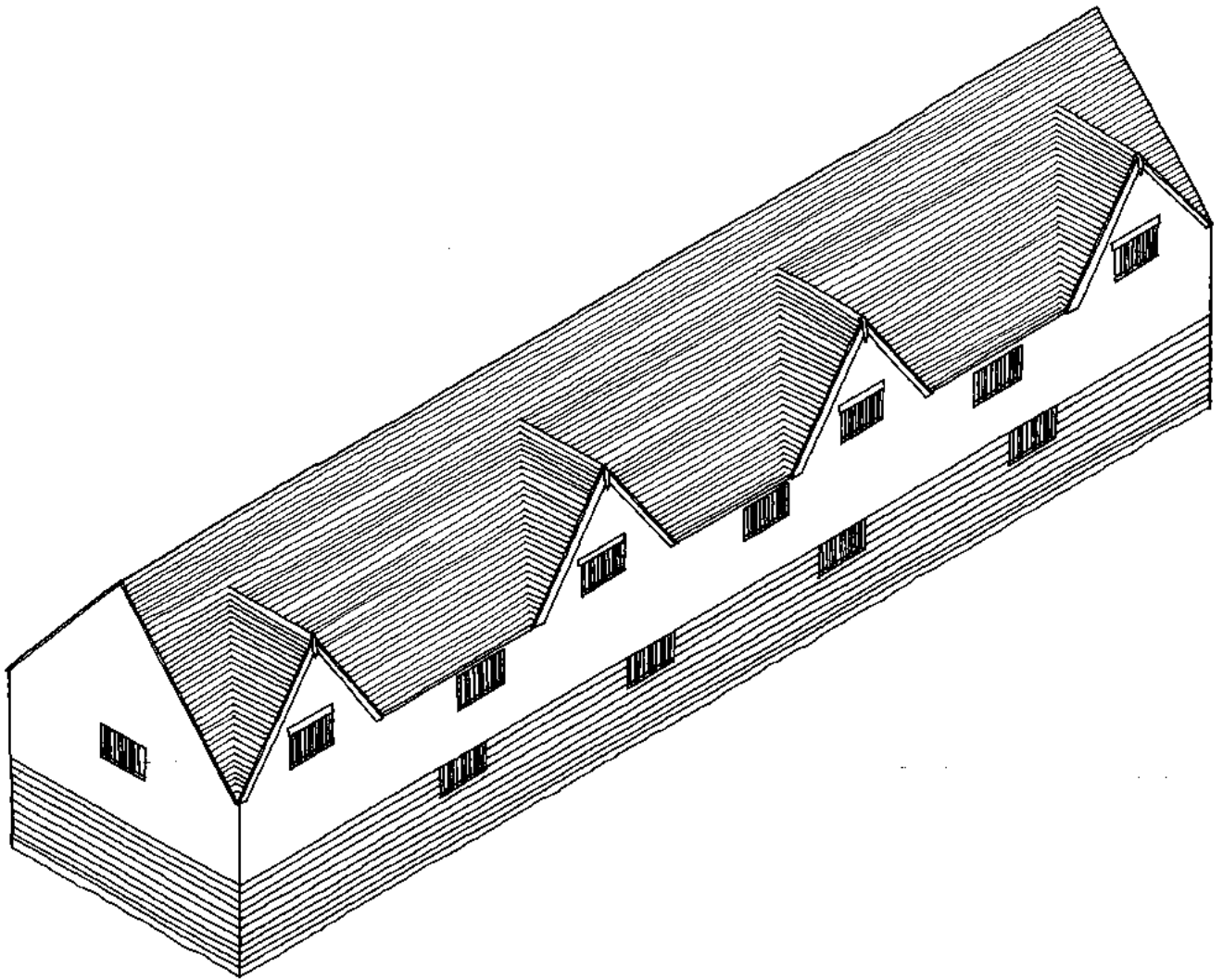


Fig. 5 Isometric reconstruction of the Granary as originally built.

pre-dated the windows indicates that they are original features. A slight rebate cut externally in the window surrounds would have held a metal window frame, secured with iron nails of which remains can be seen in the mullions. It is clear therefore that the windows were originally glazed. These windows were fixed and could not be opened, with the possible exception of a single casement in each window, indicated by what seems to be the remains of pintles. In the east wall, there seems to be evidence for a single original window in the fourth bay from the north. There are mortices for a cill, but no clear sign of either mullions or a false lintel. It is notable that all the original windows in the building are of a standard size and design, an apparently off-the-peg product obtained from a local joiner.

Today, the windows are simply closed by sliding shutters that run on battens nailed to the studwork. Although all the shutters and most of the battens are modern, battens survive for the now defunct window

in the south wall which are of some considerable age as they pre-date the insertion of the door. They are probably not original, as it seems unlikely that windows of this sort would have such shutters, and also because the ground-floor windows show no evidence of ever having had shutters.

Whilst the gables and windows in the west side reveal this to have been the 'show' side of the building, they do not explain the almost total absence of windows in the east side, especially as it was later felt necessary to open five small windows in this wall. It is more likely that this situation arose because of the presence of buildings on the east side. There is today the adjacent building that now houses the toilets. Much of the wall plate on the east side has rotted and had to be repaired with wooden straps attached both internally and externally. This could be interpreted as evidence for a former valley gutter, and hence for the existence of more buildings on this side. The 1794

estate map (Plate 3) clearly shows an adjoining building at the south end of the east side. Close scrutiny of this map also suggests that the building was wider between this annex and the modern toilet block, presumably because there were adjacent structures.

One problem which so far remains unresolved is where the entrance of the Granary was originally located. No evidence of a doorway has been found at the ground floor, but it could have been in those sections of the north and west walls which have been rebuilt.

The re-used timber in the Granary

Most if not all the surviving studs at the ground floor, and some in the north, east and south walls at the upper storey, are made from re-used timber. Characteristic evidence for this consists of dowel holes of the sort usually associated with benches and shelves, trenches for external braces and occasional peg-holes and mortices. At least three of the braces at the first floor are also re-used. The re-used studs have not been examined in detail.

At the first floor, there is an abundance of re-used timber which may be divided into the following categories:-

1. *Roof timbers*, comprising rafters and at least two fragments of collar purlin, presumed for the most part to be from the same crown-post roof. The lower part of the Granary roof, below the purlins, is made almost entirely of re-used rafters which are similar in dimensions (6-7 inches or 120-175mm wide by 4 inches or 100mm deep) and appearance, being notably weathered and peppered with nail holes. Rackham's conclusions about this roof were that there are 54 rafters with collar trenches, representing at least 30 rafter couples; that the rafters were at least 18-25 feet long with collars at least 6 feet down; that they had wind-braces pegged on their undersides, indicated by the presence of peg-holes; that a rafter with two collar trenches indicates that there was a gable; that the roof had been retiled three times, there being four sets of nail holes; and that the tiles were small late medieval ones, not the large early type about 1 foot (300mm) long with which the two great barns were originally covered (Rackham 1989; 1993).

A re-examination of the roof timbers has made it possible to refine these conclusions. From the fragments of collar purlin, it is possible to estimate that the bay divisions were at least 14 feet long, and contained at least nine rafter couples. It is apparent from plotting the position of all the re-used rafters on the survey drawings that originally all the 54 pairs of rafters below the purlins (except for the twelve missing ones behind the gables, see below) were made from reclaimed material (Fig. 2). The few rafters in this position that are not re-used are modern replacements. Some pieces of

re-used rafters also occur in the upper part of the roof above the purlins, and as studs in the south, north and east walls, and in the partition wall. Whilst some of these resemble the re-used rafters of the lower part of the roof, others do not. Whatever the case, the rafters represent a minimum of 48 rafter couples which may have come from the same roof.

The rafters have been re-used the right way up, usually having been cut immediately below or just above the collar trench. In many cases, it is possible to detect the edge of the collar trench just as the rafter enters the purlin. The condition of the ends of the rafters will have determined how they were re-used. Many of them must have been rotten, as 57 of the rafters, more than half, preserve evidence of collar trenches, suggesting that they were cut relatively high up their original length. (That the rafter feet were indeed recut is suggested by the freshly cut appearance of their bases visible where the adjacent brick building at the north-east corner abuts the Granary roof.)

The rafters measure about 10-11 feet (3.0-3.35m) from the beginning of the collar trench to their existing base. Allowing for the trimming of the foot, this dimension must originally have been about 12 feet. Measurement of the collar trenches indicates an original roof pitch of about 53-54 degrees. A roof with such a pitch and tie-beams of the length of the existing tie-beams would require rafters about 18 feet (5.5m) long. Assuming the distance between the rafter foot and the collar, and the collar and the apex, to be in the proportion of about 2:1, the rafter length above the collar would have been about 6 feet (1.8m). This matches the dimensions of the existing rafters above the purlins, which are 6-7 feet (1.8-2.1m) long. From this it can be concluded that the roof from which the re-used rafters came was much the same size or only a little bigger than the existing one. It also seems that only one new rafter was obtained from the re-used ones: allowing for the top and bottom of them being cut down, the originals were not long enough to have provided the rafter above the purlin as well as that below it. Furthermore, as has already been observed, the character of the rafters above the purlins also looks rather different. In particular, many seem of a slighter scantling than would be caused by the natural taper of the timber alone, and it is suggested that they come from a smaller roof than those below the purlins. A roof with rafters 25 feet long, a possibility suggested by Rackham, would be from a very large building indeed, measuring perhaps 29 feet wide.

The rafter with two collar trenches indicates a gable and hence a roof hipped at one end. It is not smoke blackened. Nor are any of the rafters obviously so. One rafter has a series of dowel holes in its soffit to take rods for daub infill. The use of vertical rods for daub infill is also evident in the framing of the rebuilt west end of the Wheat Barn, which as shall be seen is contemporary with the re-used timber in the Granary.

As to the evidence for re-tiling, the nail holes on the re-used rafters are grouped in sets of two, three and four. The number in each group must depend not only on the frequency of re-tiling, but also on the number of nails used to secure each batten to a rafter, and also on whether two battens were butt-jointed on a single rafter. In many cases, there are pairs of nail holes suggesting either that battens were being butted together or else that two nails were used per rafter. The position of the nail holes to either side of the rafter rather than in the centre line supports this latter suggestion. We believe that there is only evidence for about two re-tilings.

Table 1 List of re-used timber in the Granary roof.

Number of rafter couples between principals of existing building originally made with re-used rafters	54
Total number of re-used rafters of all types at present existing in the Granary	103
Re-used thin rafters ?from a different roof	11
Rafters with collar trenches 1) in roof	57
2) in partition & south wall	3
Rafters with collar trenches half-way down them	
1) in roof	16
2) in south wall	1
Thick rafters above purlins (similar to the main group of re-used rafters)	7
Thin rafters above purlins	9
Maximum length of rafters from collar trench to existing foot	11'1" (3.39m)
Maximum length of rafters above purlins	7' (2.13m)
Maximum length of original rafter remaining above collar trench	5'3" (1.6m)
Average rafter dimensions are 6" wide, 4" deep (150 x 100mm)	
Angle of roof pitch estimated from collar trenches is 53-54 degrees	
Crown-post brace mortice width	1 1/4" (30mm)
Collar width (from shadows on collar purlin)	4 1/2-4 3/4" (115-120mm)
Intervals between collars	14-15" (355-380mm)
Minimum number of collars between crown-post braces	5
Minimum distance between crown-post braces	7'
Distance between crown-post and brace mortices (7 1/2" and 9-10" (190mm and 230-255mm) long respectively)	34" (860mm)
Estimated number of collars between crown-posts	9 minimum
Estimated minimum bay length	14' (4.5m)

2. Eight of the eleven *tie-beams* are re-used (Fig. 6). They are similar in character and six at least of them must be from the same building. They all carry the same distinctive face-mark, and they are all similar in appearance, patina and size. The tie-beams in the gable ends are, however, of slightly greater scantling. As the other tie-beams show no evidence of weathering, this may be because those in the end walls were always used externally. The peg-holes are slightly larger than those contemporary with the Granary (about 7/8 inch or 22mm as opposed to 5/8 inch or 15mm). Two of the tie-beams spanned a space open to a crown-post roof. The others belonged to fully framed partitions. In these, the lower pegs are at rather variable intervals but generally 27-32 inches (685-810mm) apart, whereas the top ones are much more consistently 30-31 inches (760-790mm) apart. These beams have wattling grooves on their upper and lower surfaces. The mortices on their upper surfaces were apparently for studs that framed the apex of a roof, as on at least two tie-beams, each mortice has been marked with a distinctive type of carpenter's mark, presumably because they had to receive studs of differing lengths. The tie-beam in the north gable wall seems to have had a 5-feet (1.5m) wide window above it, and an aperture of similar size below it; the first to the south (truss AA) had a door 5-feet (1.5m) wide below it; and that in the south gable wall had a 5 feet diamond mullion window below it.

3. The *wall plates* in all but the southernmost bay of the east wall are made of re-used timber, comprising three old wall plates and two old tie-beams. Two of the wall plates have dovetails to house the ends of tie-beams. All the timbers have wattling grooves, and relatively widely spaced peg-holes like the tie-beams discussed above. The two tie-beams had diamond mullion windows 5 feet (1.5m) wide, with an interrupted groove for a pair of shutters which met at the middle of the windows. Large dowel holes occur at the middle of the window and at the end of the shutter grooves. Both these timbers have a mortice on their upper surfaces above the mid-point of the window for a crown post (Fig. 6). These two tie-beams must have come from the gable ends of a building with a crown-post roof. Since apart from the crown post there are no mortices for studwork above the tie-beams, it is tempting to associate these timbers with the rafter with the dowel holes, as this represents a type of infill construction in which studs were not necessary.

4. Two *storey posts*, first and second bays, east side. The visible parts of these posts are unweathered. Unfortunately, they have been cut off below the girt where the wall has been replaced in brick. The post at truss B has a mortice for a brace in its jowl. A mortice on its north side is at the right level for a window cill.

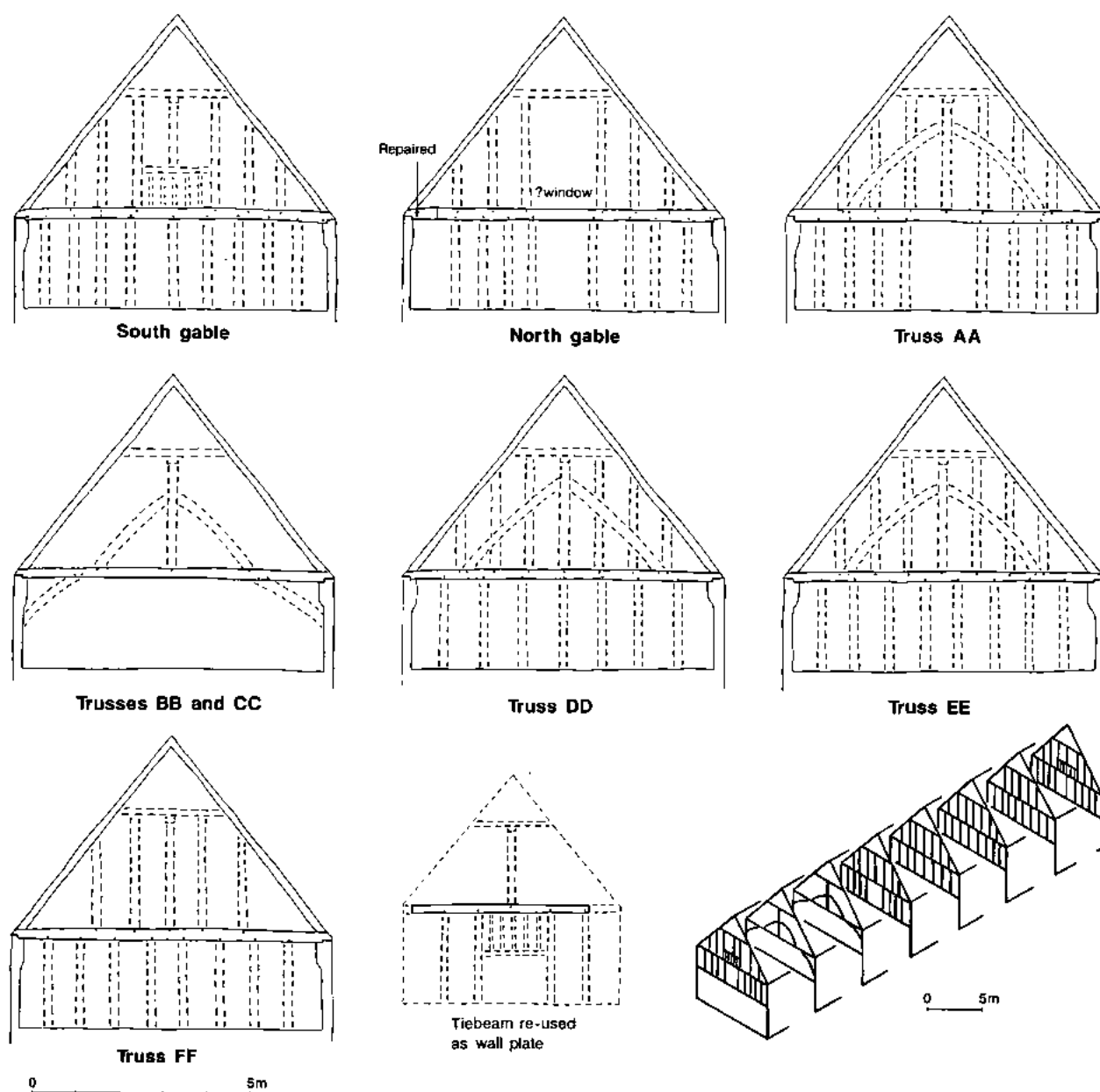


Fig. 6 Drawing illustrating some of the more significant re-used timbers in the Granary. The tie-beams are shown as they are today in the Granary, studs and braces being indicated where there are empty mortices. The tie-beam re-used as a wall plate is reconstructed at the maximum length that can be reliably estimated for it. The diagram at bottom right illustrates the sort of building that can be reconstructed assuming that all the Granary tie-beams came from the same original structure.

This re-used timber has been analysed in detail, partly to eliminate the possibility that it is related to the use and development of the standing building, and partly because it is likely to contain the only surviving evidence for former buildings at Cressing Temple which have disappeared without trace. Unfortunately, this evidence is not easy to interpret. At least two, and possibly three or more buildings are represented. The rafters could certainly come from a building of the size and scale of a barn, as Rackham postulated, but also

from the same building as the tie-beams. The other re-used elements are not from a barn. The tie-beams are from a building which had a three-bay open space, but which otherwise seems to have had a series of partitioned-off rooms. If the two gable-end tie-beams are indeed associated with the six internal ones, then this building cannot be linked with the rafter which bears evidence for a gablet and hence a hipped roof (cf. Fig. 6). This raises the question of how many roofs the rafters are derived from. The tie-beams and apparently

associated wall plates re-used in the east wall are from a building of at least three bays with windows at each end, possibly a cross-wing. The thinner rafters, if not from a barn, could have been from either of these or indeed any other building. Similarly the storey posts, and the studs and braces, cannot be conclusively related to any of the postulated buildings.

Dendrochronology

Method

Tree-ring dating or dendrochronology is an independent dating technique that utilises the pattern of narrow and wide rings within a sample of timber to determine the calendrical period during which the sample grew. In England there are now a large number of oak (*Quercus*) reference chronologies which together span the last 1500 years, and similar sequences exist for other European countries. There are, however, several limitations to the technique:

- 1) It is necessary that enough rings are obtained from any one sample to be able to find reliable cross-correlations with other tree-ring sequences: for oak in the U.K., the minimum acceptable number of rings is widely held to be 50 annual rings.
- 2) Since not every sample provides a uniquely datable sequence, it is sensible to take multiple samples from any feature for which a date is desired.
- 3) The date of the tree-ring sequence of the sample must not be confused with the date of the usage of the tree. In particular, the felling year of the tree can only be determined by obtaining samples that have complete sapwood and either bark or identifiable bark edge. Such samples, that also have enough rings, are infrequently available in many buildings, and analysing non-complete material naturally leads to less precise although no less accurate results. For England, we currently apply an estimated sapwood number of ten minimum and 55 maximum to incomplete material, although it must be remembered that these are technically only the 95% outer limits of a continuous distribution.
- 4) The date of felling of a tree is not necessarily the date of construction of the building. Evidence for the past practice of seasoning timber is scanty, and can usually be assumed not to have occurred in most buildings. However, it could be that it took several years to accumulate suitable material, and the dates of the timbers would therefore not be the same as each other or as that of the actual construction. More complex situations arise where buildings are repaired and tree-ring samples are obtained from the repairs without their true nature being understood, or where buildings are reconstructed utilising re-used or long-stored timbers without this fact being known to the dendrochronologist.

For these reasons, it is recommended that a full survey of any building is undertaken specifically aimed at identifying later phases or possible re-used timbers. An examination is then made by the dendrochronologist who inspects the key timbers to determine the likely numbers of rings and the presence of sapwood and/or bark edge, thereby determining the potential of the building for analysis.

Following earlier limited analyses, there has since 1991 been a systematic programme of tree-ring analysis of the major timber buildings at Cressing, taking into account their building history. This has been successful in not just dating the buildings, but also in establishing a tree-ring sequence for Cressing and for the county as a whole (Tyers 1993a). The objectives in sampling the Granary were to add to and build upon this previous work, and to help make sense of the structural analysis presented above. More specifically they were:

- 1) To date the Granary
- 2) To date the five groups of re-used material (i.e. storey posts, rafters, tie-beams, studs, and wall-plates)
- 3) To compare the Granary timbers with those from elsewhere at Cressing.

Thirty samples were taken, of which one was unsuccessful and four had insufficient rings. Samples which had been taken on previous occasions and which were also considered comprised one, unprovenanced, taken by Hewett in 1970 (Fletcher *et al.* 1985); three taken from re-used rafters in 1988 during the repairs occasioned by the 1987 gale; and one from a bridging joist repaired in the 1991 restoration.⁴

Table 2 The number of timbers successfully analysed and dated from the Granary.

Timber type	Element	Suitable samples	Dated timbers	Felling date
New build	Binding joist	4	4	1621/22
	Bridging joist	2	1	1622/23
	Common joist	2	0	-
	Principal rafters	4	4	1622/23
Re-used	Studs	1	1	1399-1444
	Storey posts	2	2	1407-37
	Tie-beams	5	5	1411-49
	Wall plates	2	2	1414-51
	Rafters	8	8	1410-35
TOTAL		30	27	

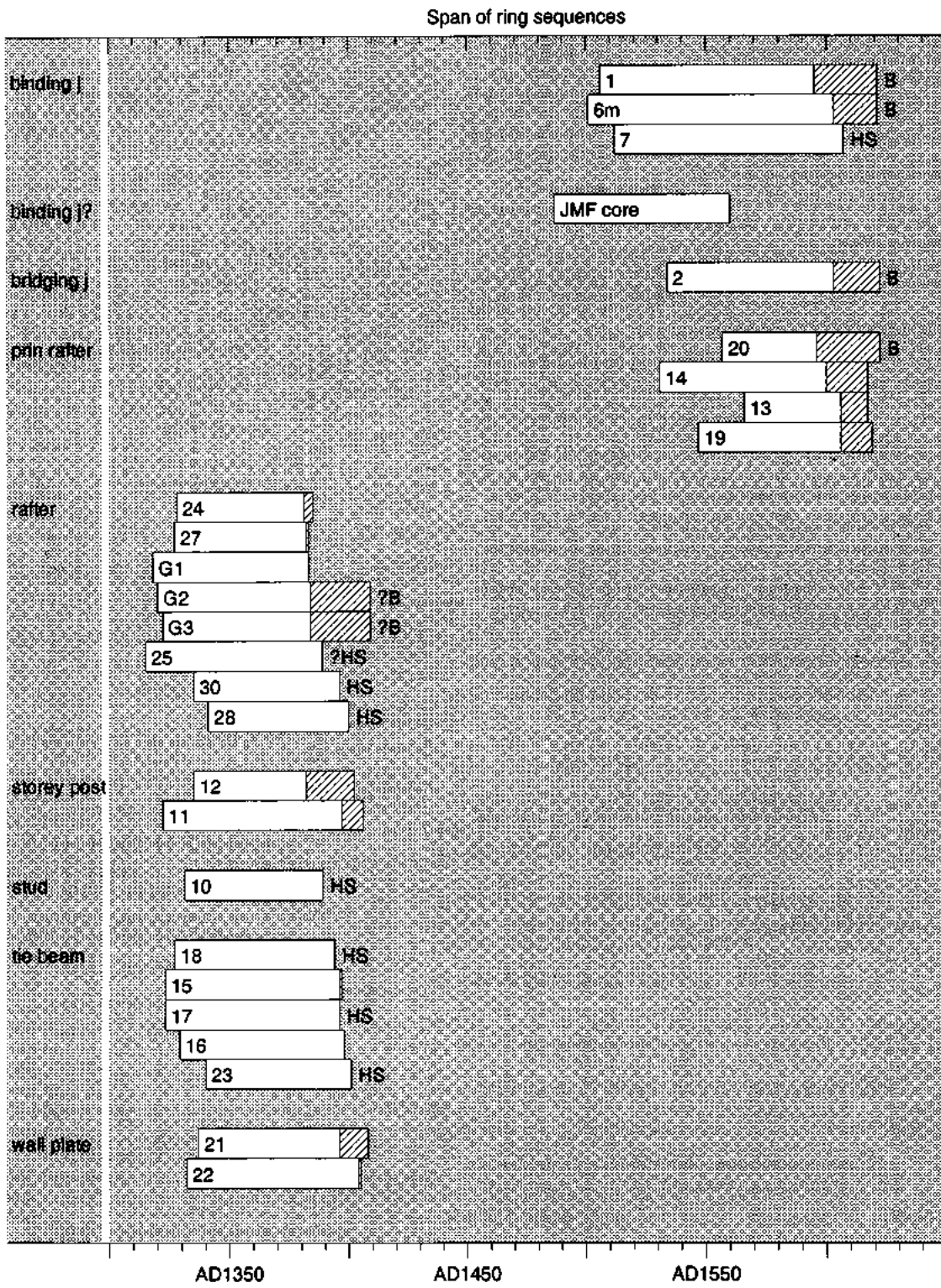


Fig. 7 Bar diagram for dated tree-ring samples from the Granary.

There was marked difference in the friability of the sapwood between the 'new-build' and re-used timbers. Thus although it was relatively easy to sample the new-build sapwood, none of the re-used material produced a complete core. This has been a persistent problem at Cressing, but it should be noted that more sapwood survived from the Granary cores than had been the

case with the sampling at the Barley and Wheat Barns. A reason for this improvement may have been the use of larger diameter corers in the Granary.

The tree-ring sequences were measured and compared with each of the others to determine which cross-related. Groups of cross-related sequences were formed into working mean sequences and each of the

unlinked timbers was compared to the working means until no further internal matching between the samples could be found. Nine timbers from the new-build phase were linked into one sequence, a further two were matched together but not to the main group, and eighteen from the re-used timbers were linked into a third chronology. Only one timber, a common joist, was not matched to a sequence. These mean sequences were then matched against local and regional reference chronologies, giving the dating results shown in Figure 7.

The 'new-build' timber

Four of the nine dated cores from this phase were complete to bark edge. Two binding joists were felled in winter 1621/spring 1622, whilst both a bridging joist and a principal rafter were felled in winter 1622/spring 1623. It is worth drawing attention to this slight chronological discrepancy, although the clear thrust of the result is that the date on the gable is a true indication of the date of the building. The other cores, with less complete ring sequences, all produced results consistent with this dating.

It was unfortunate that none of the storey posts were dated but their tool-marks and patina are similar to the other 1623 material. More problematic are the common joists, which also could not be dated and which as has been seen are of three types. However, there is a continuous series of carpenters' marks throughout the floor construction indicating that it is contemporary with the rest of the building.

The re-used timbers

The results from the five groups of different structural elements were all very similar. The combined date for all eighteen timbers is 1414–1437. Only one sample, a rafter, had *probable* bark edge. It gave a date of 1409/1410. This could be possible for the assemblage as a whole, but it would be unwise to base such a conclusion on the evidence of a single sample without well-defined bark-edge. It should also be noted that a wall-plate and a tie-beam have sapwood boundaries at 1404 and 1401 respectively, which, applying a minimum sapwood number of ten, pushes their felling dates out beyond 1409/1410.

The similarity of calculated felling dates for all these groups suggests that each element type was derived from the re-use of a single building, or a multi-building complex of single or closely separated construction dates.

The early 15th-century building phase at Cressing

To the conclusion that the re-used timber in the Granary came from a building that formed part of the Hospitaller complex at Cressing Temple it could be objected that the timbers could have been obtained from anywhere in the locality or even further afield. This argument can, however, be overruled, on the grounds of the extensive matching and similarity in

character between all the re-used Granary material and the material in the 15th-century repairs in the two great barns (Fig. 8). The quality of the cross-matching is remarkable, and is certainly indicative of the timbers being derived from the same source. Furthermore, nearly all this material includes slow-grown trees that started growing around 1320. Although the evidence falls short of absolute proof, it is clear that there was an extensive re-modelling of the manorial buildings in the early 15th century. The walls of the western half of the Wheat Barn were rebuilt and the midstrete added, the aisles of the Barley Barn were reconstructed, and now it is possible to point to the erection of an extensive building or group of buildings which survive only as re-used elements in the Granary.

Woodland management in the Cressing Temple area

The extensive similarity between all the tree-ring sequences from the re-used elements allows a tentative reconstruction to be made of some of the woodland on the estate during the 14th and 15th centuries. It is perhaps not a coincidence that all of these re-used timbers and the contemporary material from the Barley and Wheat Barns are dominated by timbers whose sequences begin between 1315 and 1325. This coincides with the period when the Templars were suppressed (1312) and the Hospitallers took over their properties, a process that was often by no means straightforward and in some places not complete till 1338 (Perkins 1910). Although nothing is at present known about what happened at Cressing at this time, these timbers possibly originated in a phase of regeneration subsequent to woodland clearance for profit either by the Hospitallers or by someone who temporarily enjoyed ownership of the site. The rafters are long and straight and the ring sequences are noticeably slower grown than both the earlier and later material at the site (Fig. 9), as well as the rest of the contemporary material. There is a particularly notable tendency to extremely slow growth in the later parts of the rafter sequences. This perhaps points to a rather dense stand of 100-year old oaks producing the timber utilised for the rafters. There are some later 15th-century Wheat and Barley Barn rafters that appear to show that this tendency to very slow growth amongst the 1320-start-date group continues after the 1410–30 period. This is confusing since it might have been expected that trees would have been released by selective thinning and begun to grow faster. This might imply that the rafters actually represent the product of clearing large areas of woodland rather than selective felling.

The Granary timbers have previously been noted as comprising a very mixed group of timber (Rackham 1989). With the recognition of so many re-used timbers in the building, it is now clear that many of the larger new-build elements are actually quartered trees. The presence of elm amongst the new-build timbers points to the use of hedgerow trees for the larger

THE GRANARY AT CRESSING TEMPLE

Building	Felling date range	No. Samples
Barley Barn		
Original	— AD1205-30	8
Aisles	— AD1410-45	7
Rafters	— AD1490++	5
Crown-post	— AD1510++	1*
Late-repairs	— AD1737-75	2
Wheat Barn		
Original	— AD1257-80	11
West-Aisles	— AD1420-50	5
Porch	— AD1410-50	5
Rafter	— AD1410-50	1*
Rafter	— AD1497/8	1*
Granary		
re-used	— AD1409-35	18
Original	— AD1622/3	9
Calendar years	AD1250 AD1500 AD1750	

Fig. 8 The current state of Cressing tree-ring interpretations.

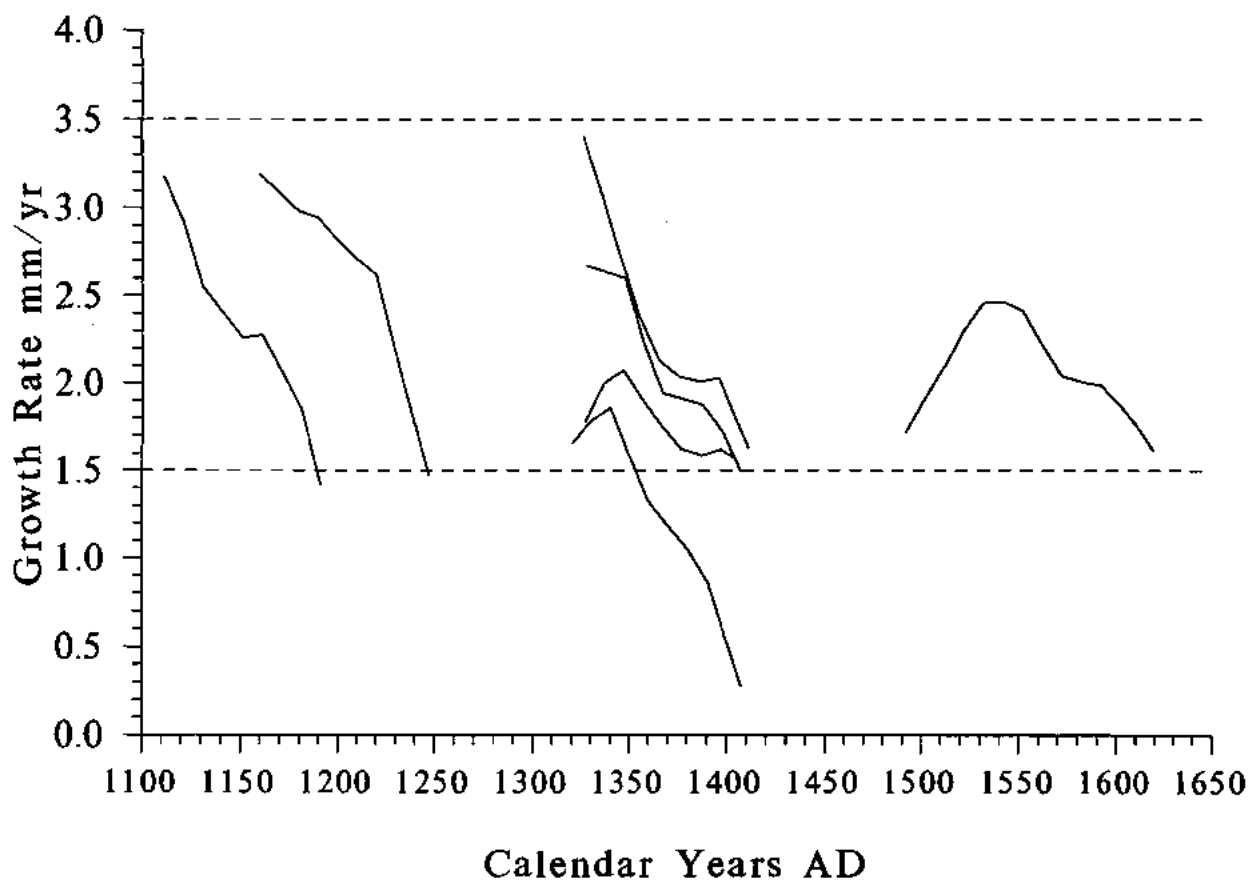


Fig. 9 Average smoothed growth rates of dated material from Cressing. Note the apparently aberrant nature of the Granary rafters.

elements in the Granary, as indeed do the general shape and character of the larger oak timbers. If this was so, then obtaining suitable trees for the smaller structural members may have been difficult, which would be one reason why there is so much re-used timber in the frame. There does not seem to be any identifiable pattern of usage with the elm; it is almost as if it was used interchangeably with the oak.

The problem of sapwood estimates

The discrepancies in the dating of the samples from the re-used timbers raises the problem of sapwood estimates, which may now be in need of revision. The ranges used here were from analysis of all the data available in 1984/85. Several possible trends were noted, a geographical trend in sapwood number was proven, and a tree-age and growth-rate effect were hinted but the available data was inadequate for extensive analysis (Hillam *et al.* 1987). The amount of data available now is vastly increased and re-examination of these conclusions is somewhat overdue.

The reason that this is important is that the slow-grown re-used material from the Granary may be so unlike our normal samples that any attempt to apply the usual sapwood statistics is fraught with difficulties. It could be argued that the balance of probability suggests the samples of re-used timber were from trees felled in a single phase between 1410-20. This is supported by some of the few medieval court rolls that survive for the manor. A short run of rolls from 1423-1442 records instructions to the woodward to supply timber for the repair of demesne buildings, but nowhere is there any mention of new buildings at Cressing Temple itself (ERO D/DBW M100 f.1 & 17). This implies that the buildings pre-date 1423, and makes the alternative interpretation of the apparently conflicting sap data as indicating two or more building phases in the re-used Granary material very improbable.

Extension of the Cressing and Essex tree-ring master sequences

The data obtained from this sampling exercise made it possible to make several extensions to the Cressing and Essex tree-ring sequences (Figs 8 and 10). The new-build chronology provided a 120-year extension to the Cressing 2 sequence. The re-used material extended it backwards by five years but more significantly fills out its internal replication for a significant period. The new-build chronology also extended the Essex county chronology by 80 years. These and several other new pieces of work mean that there are now only two gaps of 8 and 31 years to fill respectively before a continuous Essex sequence from AD 1105-1737 can be constructed.

The building adjacent to the north-east corner of the Granary

This building (Plate 2), which measures 8.5 x 7.2m, has been adapted since 1987 as a toilet block. Although a patchwork of many different types of brick, it is possible to identify five building phases:-

- 1) East and south walls, to a height of about 6 feet 6 inches to 7 feet (1.98-2.14m). These have a plinth and are built for the most part of 16th-century 'Garden Wall Tudors', with a large proportion of brickbats. There are a few later bricks which look small, square and well made, typical of the 17th century or early 18th century, and which may be original to it. The tendency in the original brickwork is to English Bond, though there is little consistency in the way the bricks have been laid. The mortar is made with fine sand with a high proportion of lime.
- 2) Top of south wall, top and northern 6 feet (1.83m) of the east wall, and entire north wall. These parts of the south and east walls are in red brickwork, mainly

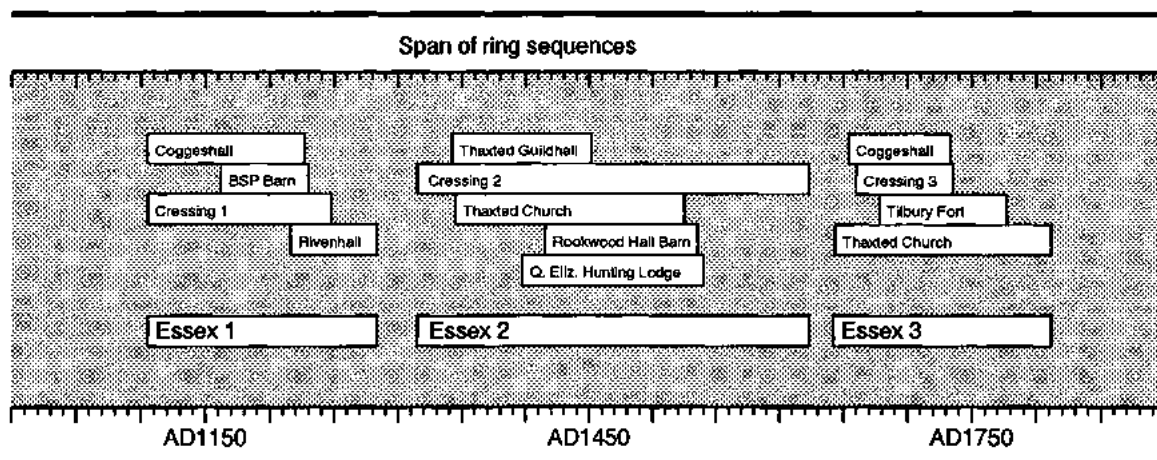


Fig. 10 Current state of Essex tree-ring sequences.

Garden Wall Tudors, but also including 17th- to early 18th-century bricks, bonded with a gritty mortar which occurs in 19th-century repairs in the walled garden. The north wall is of London Stock-type bricks, but seems to be of the same date because it is made with the same gritty mortar and appears to be of one build with the north end of the east wall.

3) The west wall, which can now only be examined from inside the Granary, seems not to be integral with this building but instead a rebuild of the ground-floor wall of the two northernmost bays of the Granary. The reason for thinking this is that the courses in this wall do not line up with those in the south wall of the adjacent building. The brickwork of the west wall is difficult to assess because it is partially obscured by unweathered struck pointing. It mainly comprises Garden Wall Tudors, but it includes some 18th-19th century bricks and a few kiln floor tiles. The mortar looks somewhat gritty, which also points to a 19th-century date. Alterations to the wall are evident at the base which has been patched and rendered possibly as a result of damage caused by activity within the Granary, and at the top of its southern half, where the top four courses are in different brickwork bonded with a slightly different mortar. The lowest of these courses is in newer soft reds, and the top three in London Stocks. This seems to represent a raising in height of the wall to replace the girt which may have decayed subsequent to an initial underbuilding. This wall may be a separate phase relating to structural problems in the Granary, but it may also be contemporary with the northward extension and raising in height of the building.

4) A large patch is present at the south-west corner of the building where it adjoins the Granary. The bricks of which it is made suggest a late 19th or early 20th-century date.

5) The north wall has been substantially rebuilt since the Second World War, apparently re-using the original Stock bricks (R. Martin pers. comm.).

Of these, only 1, 2 and 3 are of much significance. Phase 1 might be contemporary with the construction of the Granary, or could be assigned to the later 17th century or early 18th century if the later type of bricks present are indeed original to it. Phase 2 represents a northern extension of the building and the raising of it in height by about 3-4 feet. This occurred after 1794 as the estate map of that date shows the building with its north wall not coterminous with that of the Granary which is the situation today. The brickwork would suggest an early 19th-century date for this phase. Phase 3 may well date from the same time as, or soon after, phase 2, reinforcing the picture of a major remodelling of the building sometime in the first half of the 19th century.⁵

This modest building is revealed as being older and more complex than was thought. The presence in a farmyard of any brick building earlier than the 19th century is somewhat exceptional, and its function is therefore a matter of some interest. It is argued below that the building was a kiln for a malting.

Excavations in the Granary and toilet block

Archaeological excavations were undertaken in 1991 in the northern room of the Granary prior to re-flooring. Levelling during earlier flooring episodes and a general scarcity of artefacts meant that many features were difficult to date, although several were certainly pre-medieval. Among a number of medieval features excavated two structures were identified and deserve a brief mention here.

Later repairs and flooring episodes have effectively erased all evidence of the original building phase of the Granary in the areas excavated. The plinths for the east and west walls were extensively rebuilt in the late 18th or early 19th century, whilst the north wall and northern part of the east wall were replaced in brick shortly afterwards. During the insertion of a wooden floor in the 19th century and its modern replacement in concrete, all earlier floor levels were removed, leaving a gap in the sequence of layers between the 15th and early 20th centuries. Several features probably date to this period, but the most significant discovery comprised a rectangular stone cistern with an associated brick sluice and drain, described in detail below.

When the building adjacent to the Granary was converted to toilets in 1989, a watching brief on service trenches revealed a number of features. These were recorded but no further excavation was undertaken and the interpretation and dating of the various layers and features was difficult as a result. Nevertheless, three principal phases were identified and the investigation has added to our understanding of the structure.

The Granary: medieval features

The first of the medieval features comprised a U-shaped trench and a parallel shallow slot (1, Fig. 11) running north-south across the room. Whether these represent a temporary fence or a more substantial structure was not clear from the short (2m) length excavated. Both features were cut by an irregular shallow pit which was filled and levelled in the late 13th or early 14th centuries. This may have been in preparation for the construction of a new building on the site.

Whether or not this was so, the existence of a building which clearly pre-dated the Granary was indicated by patches of a clay floor and a circular hearth built of broken roof-tiles set on edge in a bed of clay (2, Fig. 11). Associated with the hearth were eight or nine shallow postholes, circular scoops in the floor

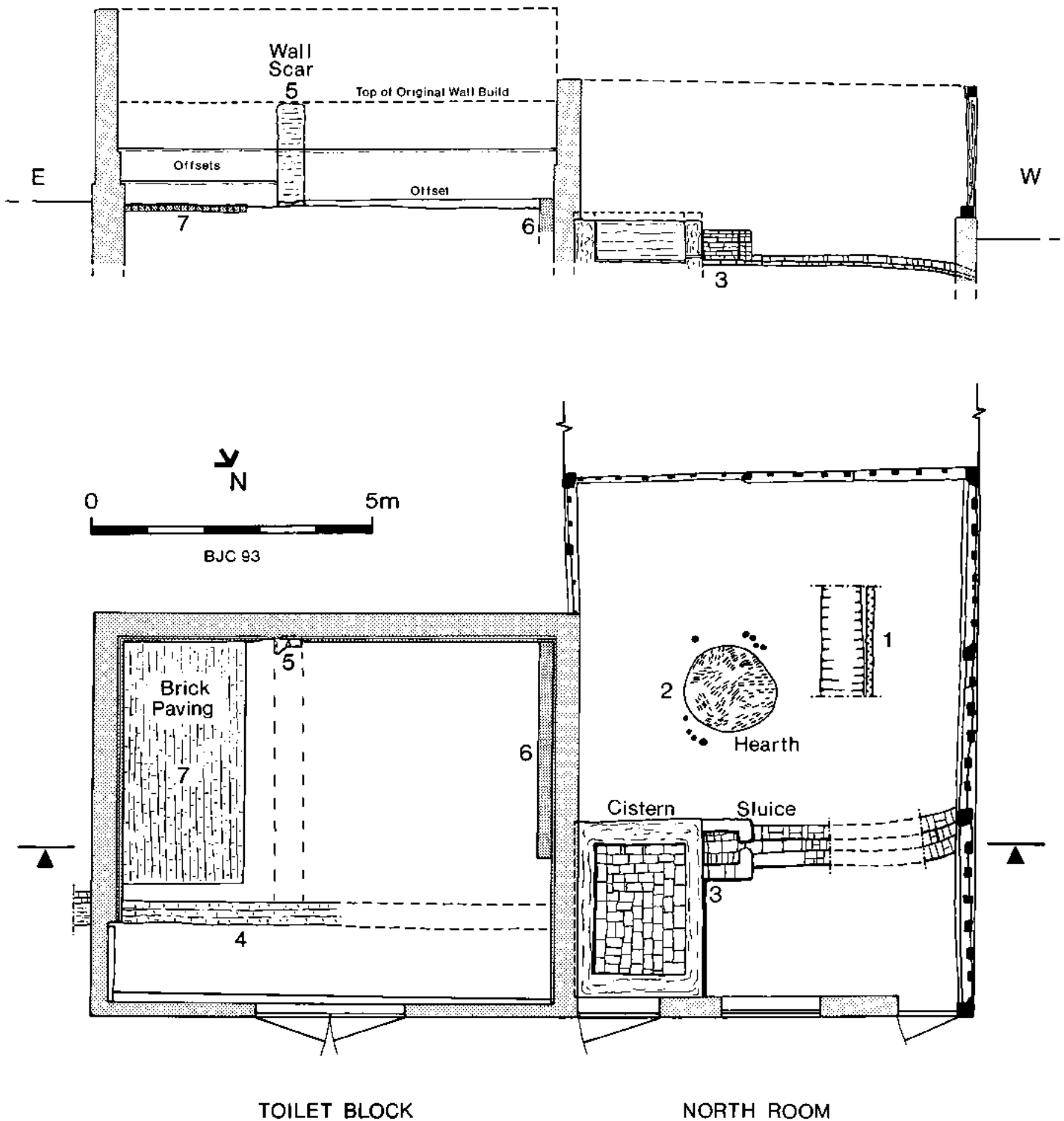


Fig. 11 Plan of the excavations in the north room of the Granary and the adjacent building, with a section and elevation (above) facing south.

which could mark the position of supports for a spit or cauldron over the fire. The hearth itself is relatively large (5ft 5in or 1.65m across) and evidently contained a hot fire: the tiles are partially sintered and deformed

and the clay floor to the north was heavily scorched by hot coals raked from the fire. No other features could be associated with this building phase with any certainty.

The cistern and drain

In the north-eastern corner of the room are the remains of a rectangular cistern (3, Fig. 11) measuring 10 feet by 8 feet (3.1m x 2.45m). The sides, which survive to a maximum height of 2 foot 6 inches (760mm), are built of a mixture of flint, re-used building stone, and pieces of brick and tile, and were plastered on the inner face. A scar in the wall above the cistern suggests that it was once over 3 feet (1m) deep. The floor consists of a layer of roof-tiles, both medieval and later types, on a thick bed of hard white mortar. A 30mm wide hole at the base of the tank in the south-western corner provided an outlet into a brick-built sluice and drain, which ran across the room and out under the west wall plinth. From there it is thought to flow into a 17th-century drain which has been found running south from the walled garden parallel to the Granary and perhaps as far as the pond across the Braintree-Witham road.

The sluice consisted of a brick tank (650mm square internally) between the cistern and the drain. A medieval Coggeshall-type brick was set across the entrance to the drain, presumably to trap silt and small particles flushed from the cistern and to direct the flow of liquid down into the relatively shallow drain. Apart from a few Coggeshall-type bricks used in the floor, the sluice and drain were built of Garden Wall Tudor bricks. The top course of brickwork showed no signs of mortar, but the fact that a robber trench had been cut to the drain in the 19th century suggests that the drain was originally capped, possibly with flat stone slabs which would have been worth removing for re-use.

Stratigraphically, the drain post-dates the cistern, but the time difference between the two may be minimal. No trace of an earlier drain was found and it was not possible to say whether the drainage hole in the cistern was part of the original build or was added later. Equally the 19th-century brick rebuilds of the north and east walls of the room now obscure the relationship between the cistern and the original timber structure of the Granary. Most probably the tank was part of the original design or was added soon after the completion of the building.

The excavations revealed no clues as to the exact purpose of the cistern. The evidence presented in this paper leaves little reason to doubt that it served for steeping barley to make malt. Indeed, in recent times the feature, which was visible as a boarded area in the concrete floor in the north room of the Granary, was commonly known as the "steeping-pit".

The toilet block

Two main phases of activity may be recognized from the excavation records, corresponding, first, to the smaller lower building identified in the analysis of its fabric (see above) and, second, to the remodelling as the building which exists today. The original building phase of this structure is represented above ground by

the lower half of the south and east walls. In the excavations, a wall footing (4, Fig. 11) was found bonded to the base of the east wall and running across the building from east to west, 5 feet 3 inches (1.6m) south of the present north wall. This was clearly the remains of the original north wall, enclosing a building 25 feet 4 inches x 14 feet 10 inches (7.72m x 4.54m) internally. A short eastward continuation of this wall has been found in excavations outside the toilet block.

A wall stub (5, Fig. 11) 9 feet 3 inches (2.8m) in from the east wall appears to be part of the original build. To judge from the scar in the brickwork above it, it seems to have extended at least 5 feet 6 inches (1.7m) up the wall, to the full height of the original build. This must have been a partition wall, creating a room about 4.5m square in the western part of the building. An internal offset extends along the south wall from the Granary to the wall stub but is absent further eastward, where, however, there is an offset 300mm higher.

A low brick wall (6, Fig. 11), at the same level as the lower offset, ran along beside the west wall, stopping short of the north wall. It is unclear to which phase this belonged: it is considered to be most probably associated with the earlier. Part of the base of the west wall may represent an earlier build which belongs with this phase. No floor levels contemporary with this phase were identified, but it is clear that the floor level was significantly lower than it is today.

This square room, with the offset in the south wall and possibly the low wall to the west, is interpreted as the site of a drying kiln which would have had a system of flues at the ground floor and a cone-shaped flue above. The eastern part of the building was presumably a service area.

In the second phase, datable to the 19th century, the north wall was demolished and rebuilt in its present position, and the floor level inside the structure was raised some 600mm. A brick floor laid in the south-east corner coincides with the second phase floor level and probably relates to the use of the building as a workshop.

A third phase is represented by the mid-20th century rebuild of the north wall, evidenced by the discovery of the existing 9 inch (230mm) brick wall overlying the earlier thicker foundations.

A malting as well as a granary

As has been seen, there are several 17th-century documentary references to a malthouse at Cressing Temple. The existence of the cistern in the northern ground-floor room, as well as other features of the building, suggests that the Granary was this malthouse.

When ale and beer were the common beverage, the production of malt was a vital part of the agricultural economy. According to Harrison's 'Description of England', written in 1567, malting was mainly carried on in towns, although sufficient for their own use was

made in the households of some gentlemen and yeomen (Harrison, 135). Investigation of the historical sources has revealed an increasing number of references to maltings in the 17th and 18th centuries, showing that malt was then being produced commercially on the larger farms.

Before the introduction of scientific methods, successful malting was very dependent on the skill and experience of the maltster. A number of 16th and 17th-century writers describe the process (Harrison, Tusser and Gervase Markham in Hartley 1931, 171 and 110). It involved steeping the barley for about three days and nights in a large cistern. After the water was drained off, the barley was placed in a wooden bin or 'couch' for twenty or thirty hours. The heat generated in the soaked barley stimulated the germination process. It was then spread on the malting floor to a depth of three to five inches and turned several times a day to ensure even germination. When the 'shoot' and rootlets had reached the right length, the 'green malt' was withered by heaping up the 'piece' near the kiln in order to gain more heat and stop further growth. It was then transferred to the kiln floor and dried with a gentle heat for three to four days. Finally the finished malt was spread out to cool, and then stored in bins or sacks. Straw was considered to be the best fuel and Essex maltsters' premises generally included a 'straw house' as late as the end of the 18th century (ERO D/DO T789/10; Peatty 1992, 22). The introduction of smokeless Welsh coal in the 19th century led to the concentration of maltings on sites close to rail and water transport, and an end to the production of malt on farms.

It will be obvious that malting on a commercial scale required buildings designed for that purpose. Few of the earlier maltings survive and those that do have invariably been altered and converted to some other use. A very rare unaltered urban example is the mid-16th century malting at Boyes Croft, Great Dunmow, which was producing malt until 1940 (Essex Historic Buildings Group 1994).

James Deane, a Colchester builder of the first half of the 18th century, included a plan for a 'malting office, kiln and cistern' in his specification book (Plate 4; ERO D/DRc Z27). It shows a long building of two storeys with an open ground floor. At one end is an adjoining building which contained the cistern, and at the other end another building housing the kiln. The lower storey is of brick and the upper storey, which housed the granary, was timber-framed.⁶

Although without a brick lower storey, the Cressing Granary is strikingly similar in lay-out to James Deane's building. The lack of mortices in the binding joists indicates that originally the ground floor was open from end to end, as would be the case in a malting. The absence of studwork in the southern bay of the east side betrays the existence of a building there like that which contained the cistern on Deane's plan.

The building at the north-east corner, being of brick, is of the appropriate material to be the kiln. That it was originally lower than it is today, and the discovery of a former partition wall forming a square unit in the western part of it, suggest it may have had a cone-shaped roof like Deane's kiln. Its much altered brickwork is unhelpful for dating purposes: it may be contemporary with the Granary, or it may be slightly later than it, in which case it presumably replaces an earlier building. The partition of the first floor of the Granary into two parts seems to be an original feature, and this may have served for the storage of unprocessed barley and malt.

Deane would not have recommended that the cistern adjoin the kiln, and this may well not have been the original arrangement. However, since the dating of these features is problematic, and nothing is known about the use of the outshot at the south-east corner, it is impossible to reconstruct satisfactorily the precise way the building functioned at different times.

Building phases identifiable in the Granary

The alterations that have been made to the Granary often cannot be directly related to each other, and therefore cannot be arranged in a precise chronological sequence. For the same reason, it is often not possible to explain satisfactorily how the building has been used at different times. The structural sequence outlined below is therefore presented in what is an only approximate chronological order.

1. Original or what we have called 'new build', dating from 1623. The building was much as it is today, although later alterations have obscured the position of the original entrances. It had four gables and regularly spaced windows along the west side. There was an adjacent structure at ground-floor level against the south end of the east side. The brick building at the north-east corner either existed from the first, or else was added later in the 17th or early 18th century. The Granary is interpreted as a malting with a kiln at the north-east corner and a cistern at the south-east corner, resembling exactly the lay-out contained in a specification prepared by the 18th-century surveyor James Deane (Plate 4).

2. A number of changes can probably be assigned to the 18th century. If the stonework of which the cistern was built indeed came from the Great House, then the cistern must have been inserted at that time, although as has been observed the relationship of this feature to the fabric of the Granary is uncertain.

Modifications to the first floor of the Granary may date from the 18th century, or alternatively they may have formed part of the relatively well defined phase of alterations early in the 19th century. Doors were inserted at the north and south ends of the first floor, for lifting

sacks of grain to this level. In the process, pre-existing windows were obscured. Grain bins were constructed in the south half of the first floor. As these do not obscure the door in the south wall, they presumably accompanied or post-dated the insertion of the latter. The bins seem to have been all one construction. They incorporate much re-used timber, including some moulded pieces probably from panelling, and some old weatherboarding bearing traces of red paint, possibly from the Granary itself, as the marks left by the studs are at the appropriate intervals.

3. Several of the more significant changes that have been made to the Granary can be dated to the early 19th century, either on architectural evidence or because they can be shown to post-date the 1794 estate map (Plate 3). They include the following events:

- a) the demolition of the building at the south-east corner of the Granary shown on the 1794 map. This was accompanied by the construction of the ground-floor wall at the south end of the east side, at a point where the absence of mortices in the girt shows that originally there was no wall.
- b) the insertion of partitions at the ground floor to create three stables, a chaff store, and the room at the north end of the building. The partitions consist partly of new and partly of re-used timber, and their framing is made with primary bracing. The studs are 'turned round' and skew nailed. The ground cills for the partitions are made of re-used wall plates or girts, and the bricks in the plinths include an 18th-19th century type with kiss marks. The similarity of the partitions to the framing of the side wall where the adjacent building was suggests that the demolition of this building and the creation of the stables were all one event. The carpentry of the partitions would certainly fit a date after 1794. The function of the north room is a problem. It has no fixtures indicating that it was a stable, and unlike the other stables the partition seems never to have been covered by boarding. Nailholes on the soffits of three joists could indicate that there was stud-work beneath them. A pattern of six octagonal posts can be detected from pressure marks on the soffits of the joists. Two survive, slightly moved, both with taper burns. Their function is not known. Another feature of interest in the north room is the fact that the lower half of the storey-post at the east end of the partition wall has been replaced, either before or contemporary with the construction of the partition wall. It was probably when this repair was carried out that the binding joist jointed into the storey post was chocked up, causing the most dramatic of the humps in the floor above.
- c) the construction of the top part of the south and east walls, and the extension northwards, of the building at the north-east corner of the Granary.

The floor was also raised in height. The use of gritty mortar, and in the north wall of London Stock-type bricks, points to a date in the first half of the 19th century for this remodelling of this building, which presumably ceased to function as a kiln.

- d) the construction of the west wall of the building at the north-east corner, perhaps at the same time as c). This wall was in effect an underbuilding in brick of the girt in the two northernmost bays of the side of the Granary, rather than an integral part of the adjacent building. The brickwork and somewhat gritty mortar point to a 19th-century date. This wall is built over the partially demolished side of the cistern which must have gone out of use at this time.
- e) the north wall of the Granary has been rebuilt at ground-floor level predominantly in re-used Garden Wall Tudors, the original girt being replaced at this time. The gritty mortar and penny pointing indicates a 19th-century date. At the same time, two doors were inserted in the wall, one on the east side leading to the staircase, and one on the west side. The existence of the latter is indicated by pintles, now unused. That the doors were original to the brick wall is indicated by the presence of closers adjacent to the frames. The staircase is presumably of this phase, as otherwise there would not have been any point in having two doors. The staircase is only likely to have been built after the cistern had ceased to be of much importance, as it runs over it and would have made it difficult to use. It is likely, but impossible to demonstrate, that c), d) and e) were contemporary.
- f) all but one of the first-floor windows in the east wall are of uniform pattern with narrow glazing bars and datable to the 19th century. The southernmost one, however, may be older. It has wide glazing bars and early-looking glass, including a pane of crown glass.

4. The Cullen phase (1913-1987). It is assumed that the excellent oak joinery of some of the features of the northern ground-floor room dates from the time of Frank Cullen and his successors. Other repairs are known to have been carried out by them. Of the events listed below, a), b) and c) may pre-date the arrival of the Cullens.

- a) straightening up of the south gable, which had been leaning outwards.
- b) roof repairs, including replacement of one principal truss (truss C) and some rafters.
- c) rebuilding of northernmost gable on the west side, this being in the same style of carpentry as the roof repairs.
- d) door in north room at ground floor, with ogee moulded lintel; leaded lights of window in west wall of this room; window with oak frame and leaded lights in east wall; similar window inserted in north wall.

- f) extensive repairs to the west wall, the studs being cased-in and brick nogging being inserted between them.

Conclusions and Discussion

Tree-ring analysis has confirmed the date of 1623 which occurs on the southern gable of the Granary, putting an end to the debate about when it was built. This fits in well with the carpentry of the building, which includes face-halved scarf joints, joists with soffit tenons or else central tenons with spur bearings, closely set studs, window mullions with ovolo mouldings, and a butt-purlin roof. However, although as will be argued below the Granary was an important feature in the 17th-century lay-out of Cressing Temple, it is not a sophisticated building, nor was a great deal of money expended upon it. Much of the new timber in it was massive, probably from hedgerow trees. Indeed, there is good reason to believe that the builders experienced difficulty obtaining suitable timber. About 50% of the timber was re-used. The floor joists were obtained by three different methods of timber conversion, an opportunistic approach to the limited quality of material available.

The function of the building is not so well defined. There is no reason to accept the identification of it as a court hall which has been current in recent years, but there is also no reason to exclude the possibility that it may have had that use at times. Two types of evidence can be assessed in attempting to establish the building's use, the internal features of the structure itself, and documentary evidence.

The building had a first floor divided into two halves, and an undivided ground floor. At the north end of this is a cistern, thought to be for steeping barley to make malt. Adjoining the north-east corner is a building, either contemporary or somewhat later, interpreted as a kiln for drying malt. At the south-east corner there was a small outshot, original to the structure and demolished after 1794 (Plate 3). The plan of the building resembles that of a design for a malting made by James Deane of Colchester in the first half of the 18th century (Plate 4), except that the cistern in Deane's building is at the opposite end of the building to the kiln. Whether this was the original arrangement at Cressing is impossible to say, as the dating and relative chronology of the structures and features involved is too uncertain.

As for the documentary evidence, it has been seen above that a particular of 1669 (ERO D/DAC 97) mentions 'a very faire malting office, granaried above quit through, and a faire stables, and a coach house above one hundred foot in length and granaried above quit through'. The existence of first-floor granaries implies that the malthouse and coach house (or coach house and stables) were long buildings. If this needed confirmation, it is stated that the coach house measured 100

feet. From this it could be concluded that these were two buildings of comparable size that flanked the approach to the Great House.

Such an arrangement was common at 16th to 17th-century mansions. A grand example is Blickling in Norfolk. More apposite is Rye House in Hertfordshire, where the more modest outer approach buildings are known to have been a malthouse and a stables with a granary (Smith 1975, fig. 1). If the Granary formed part of the approach to the Great House, that explains the existence of the four gables and glazed windows. As already noted, it was built with an eye to economy. A truly grand design would have been executed in brick, as at Blickling. To judge from the date of its construction, the Granary was built by William Smyth, or else, as he was 67 years old, by his nephew and heir, Henry Nevill, who is also described as of Cressing Temple at this period. As a younger son, William Smyth may have lacked the resources to build on a lavish scale. As well as redesigning the approach to the Great House, the re-used timber in the Granary makes it clear that there was also a reorganization of the older buildings on the site.

As the gables are on the west side of the Granary, it can be inferred that the second building lay to the west of it. This is difficult to believe today, as the ground drops down in this area in an irregular fashion. It is possible that soil has been removed over this part of the site subsequent to the demolition of this building to fill in the moats or ponds. The reconstruction of this part of the site helps with the problem of identifying the location of the Great House, as its main facade would have lain on the north-south axis enclosed by the two buildings. A geophysical survey undertaken in 1993 indicated that the Great House was located at the north end of the Granary, and hinted at an alignment to the west which could represent the position of the second building (Fig. 1).

If of these two postulated buildings it is the malting which has survived today, it remains to explain why this is so. When the Great House was demolished probably in the first half of the 18th century, and Cressing Temple became a tenanted farm, there might no longer be a need for the coach house or for so much stabling. However, it seems not to have been until after 1794 that the partitions for the stables were inserted in the Granary. This raises the question of the function of the two so far unidentified buildings shown to the east and west of the Granary on the 1794 map (Plate 3).

It is also reasonable to assume that the Granary was preserved because a malthouse was still required on the farm. The later history of malting at Cressing Temple can be reconstructed from the documentary sources. A lease of the site to John Grimwood in 1758 (ERO D/DO T390) mentions a 'malting office'. Another lease of 1830 makes reference to a malting (ERO D/DO T390). By 1843, however, Jeffery Grimwood's

executors were buying in malt (ERO D/DO B21/28), and a sale document of 1882 does not include a malting amongst the various buildings on the site (ERO D/DU 191/56). That the practice was abandoned in the first half of the 19th century is indicated by the structures themselves. By the time the west wall of the former kiln (the present toilet block) was built over the side of the cistern, the latter must have gone out of use. The brickwork of this wall suggests an early 19th century date, and it was at this time that the kiln was radically altered and its sides raised in height. The presence of special kiln floor tiles re-used in the west wall also points to the same conclusion.

A multi-disciplinary approach has been fairly successful in unravelling the structural features and history of the Granary, and has also shed much light on the site, its lay-out and its economy in the post-medieval period. The medieval timber re-used in the Granary has potential for providing a similar insight into the site in the time of the Hospitallers. That this timber is all of c.1410-1420, and from a similar woodland habitat (a very different one to that from which the timber for the 13th-century barns was obtained), leaves no doubt that it all came from buildings which once stood on the site. It is clear that the early 15th century was a period of major rebuilding at the site, as the main alterations to the great barns were also carried out at that time. It may be that the site was being put in good order to be leased out, but that can only be speculation.

The re-used timber can be divided into three principal groups which represent two or possibly three or more structures. The re-used rafters could be from a building of similar length to, or longer than, the Granary. The tie-beams are from a building of comparable width, with many partitions, whilst two of the wall plates are tie-beams re-used from what seems to have been a cross-wing. With the possible exception of the latter, the character of these buildings is uncertain.

Rackham (1993) has argued that the rafters came from a barn, though Hunter (1993) has contended that a third barn was not necessary to store the grain produced by the Cressing Temple estate. Other possibilities are a stables, a cellarer's range or a lodgings. Some surviving manorial accounts of 1613 (BL Add MSS 34682) mention a malthouse with at least three chambers over it, a building which sounds as if it might have resembled the existing Granary.⁷ Since the rafters and tie-beams came from a building of comparable dimensions to the Granary, it is tempting to think that it might have been built from the timbers of a 15th-century malting. It is equally tempting to think that it might have occupied the same site, for the peg-tile hearth found by excavation within the Granary indicates that it stands on the site of an earlier building. The hearth might have been associated in that case with a kiln. Unfortunately such ideas are not demonstrable and must remain speculation, though future work at Cressing may shed light on them.

Appendix: a note on the special kiln floor tiles found at Cressing and elsewhere (Fig. 12)

Two malting floor support tiles were found in the west wall of the toilet block where it is built over the side of the cistern. More examples are to be found loose in the garden. These are of typical tile fabric (i.e. lacking any sand or other temper) and measure 640 x 155 x 18-35mm. Similar tiles are to be found *in situ* in the kiln at the Boyes Croft malting in Great Dunmow. They are supported on brick arches and used in the same manner as joists to support the 'wire' on which the green malt was spread to a depth of several inches while it was being dried in the hot air of the kiln. The brickwork of the kiln at Boyes Croft appears to be of 19th-century date.

Similar tiles been found at Hopwells Farm in Great Maplestead where the kiln was dismantled at the beginning of this century. In no instance has it been possible to identify a date for their initial use. It is known that timber joists were used in Kentish oast houses which are similar to malt kilns and were sometimes used as dual-purpose buildings.

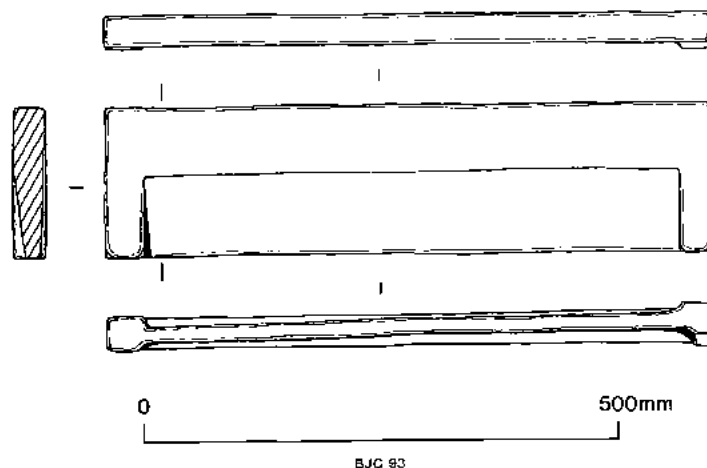


Fig. 12 A malting kiln floor support tile found in the walled garden at Cressing Temple.

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Section. The illustrations that accompany this paper have been prepared by Barry Crouch, Dave Stenning, D.D. Andrews and Roger Massey-Ryan.

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Notes

1. For the most up-to-date account of Cressing Temple, including detailed evidence for the observations on brickwork in this paper, see Andrews 1993.
2. We are grateful to Dr. D. Twinn of Bardfield Saling for this information.
3. We owe this suggestion to Brenda Watkin.
4. For a full archive of the tree-ring analysis of the Granary timbers, see Tyers 1993b.
5. Close examination of the Ordnance Survey maps reveals a further hiccup in the analysis of this complicated little building. The 1:2500 OS map of 1952 shows the toilet block as it is today, but on the 1875, 1907 and 1920 maps, and on the 1842 tithe map, it is represented as only about 5m north-south as opposed to 7m. Although this would seem to suggest that the building in its present form was not erected until after 1920, the weight of structural and archaeological evidence runs counter to this, and we believe that this is an error in the survey which was not corrected until 1952.
6. An excellent parallel for James Deane's building, and closer in date to the time at which he was writing than the Cressing Granary, is the former maltings which is now Peatlings Wine Merchants in Bradford Street, Bocking. This has a low ground floor of brick, and a timber-framed upper storey.
7. The same accounts mention the 'new garner'. It is conceivable that this refers to the granary over the stables, assuming the stable block and the Granary were not built at the same time.

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The constructive geometry in the design of the thirteenth-century barns at Cressing Temple

by Adrian V.B. Gibson

Introduction

This investigation was initiated by a day conference at Cressing Temple in September 1993 on Pre-Conquest Building Techniques. At the close of his assessment of ancient systems of measurement, Peter Huggins pointed out that the cross-section of the Wheat Barn is $2\frac{1}{2}$ rods wide and that the proportion of the bay trusses appeared to be based on equilateral triangles. Further, he suggested that the Barley Barn was similar, but based on a 3-rod width. However, the barn is slightly narrower now and appears to have been rebuilt. Unknown to him then, this slight narrowing had been realised from structural evidence (Stenning 1993). That the two approaches to the building had led to precisely the same conclusion suggested that further work on the geometry of elevations, sections and plans might yield meaningful results.

Any building analysis relies on the existence of accurate plans and elevations which, for the two Cressing barns, are only partly completed as yet. However, the existing drawings are sufficient to make valid comparisons between theory and practice in the original construction of the buildings. Another difficulty is that not only the side walls, but also the ends, of the Barley Barn have been totally rebuilt within the original plan outline, together with some internal rebuilding and re-roofing. The Wheat Barn retains far more of its original structure, but even here, the whole of the outer walling of the western end has been rebuilt and shows some displacement from the original outline.

Basic geometry

The designs of both barns have much in common. They are based on multiples and simple fractions of the once commonly used measurement, the rod, pole or perch, which is equivalent to $16\frac{1}{2}$ feet or 5.03m, referred to here as R (rod). The cross-section of each barn through the bay interval trusses is derived from an equilateral triangle and the plan is developed from this elevation with simple geometry used to set out the bay intervals.

Procedure

Wheat Barn (Fig. 1)

Section

- (1) Construct an equilateral triangle of side length $2\frac{1}{2}R$ (41 feet 3 inches, 12.57m).

- (2) Project vertical aisle walls from ends of triangle base, each $\frac{1}{2}R$ high (8 feet 3 inches, 2.51m).
- (3) Link aisle walls with triangle apex for roof pitches.
- (4) Set nave tie-beam height at half the triangle base length, $1\frac{1}{4}R$ (20 feet 7½ inches, 6.28m). Set up arcade-posts from ends of tie-beam to base and link to aisle-ties.
- (5) Construct passing-braces parallel with roof pitches and through intersection of arcade-posts with side of basic construction triangle.
- (6) Set collar height, $\frac{1}{2}R$ above tie-beam.
- (7) Construct diagonals for arcade-posts/tie-beam braces and position of purlin clasp struts. From base corners pass tie-beams at same distance from passing-braces as passing-braces are from roof pitches.

Plan

- (1) From section set off parallels for nave and aisle widths.
- (2) Centre 5 bays — strike arc lengths of nave width x 2 across nave to create double bay intervals. (Can also be done on a drawing board with a 30° set square as $\sin 30^\circ = \frac{1}{2}$.) Halve for single bays. Total length is close to $6R$.
- (3) Construct end bays narrower so that roof hip pitch approximates to side pitches and allowing venting gables to rise from collars. Total barn length adjusted to whole unit length of $8R$ (132 feet, 40.24m). End bays virtually $1R$ long.

Barley Barn (Fig. 2)

Section

- (1) Construct equilateral triangle of side length $3R$ (49 feet 6 inches 15.09m)
- (2) Project vertical aisle walls from ends of triangle base, $\frac{1}{2}R$ high (8 feet 3 inches, 2.51m)
- (3) Link aisle walls with triangle apex for roof pitches.
- (4) Divide base line into 1 : 2 : 1 proportions for nave and side-aisles. Set up arcade-posts and link at roof for tie-beam. Construct aisle-ties.

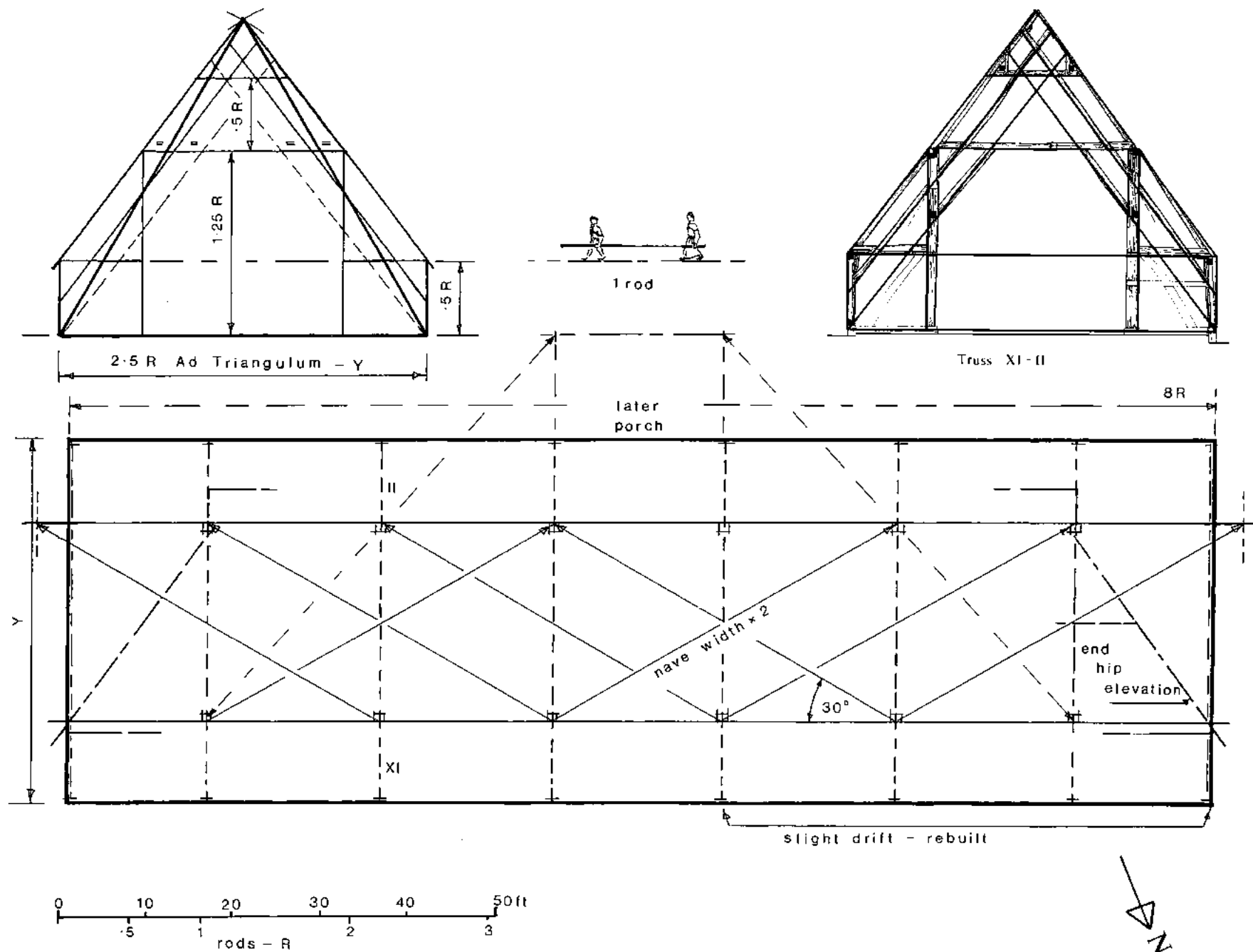


Fig. 1 The geometry of the Wheat Barn (based on a survey by M. Wadhams, B. Crouch and author).

- (5) Construct passing-braces parallel with roof pitches through intersection of arcade-posts with sides of basic triangle.
- (6) Set collar $\frac{1}{2}R$ below roof apex.
- (7) Construct diagonals for arcade-post/tie-beam braces by linking base corners with collar ends.

Plan

- (1) From cross-section, set off parallels for nave and aisle widths.
- (2) Strike arcs of nave width $\times 2$ (3R) across nave to create double bay intervals. As in the Wheat Barn, a 30° set square can be used on a drawing board. Halve for single bays.
- (3) End bays conjectural, but were probably very slightly reduced to suit end hip roof pitches and give the total barn a whole unit length of 9R. (148 feet 6 inches as against a purely geometrical length of 150 feet.)

Theory and practice

Wheat Barn, Section

Only one truss has been accurately surveyed and it is used here. It is the second from the east end, with carpenters' marks II and XI on the south and north sides respectively. Figure 1 shows there to be a good fit between the barn now and the theoretical construction lines. It appears that the carpenters did not set up from centre lines but instead used datum surfaces and edges as carpenters still do in the 'face side, face edge system' used to mark out a piece of work. In this barn, the outer faces of the arcade-posts and the undersides of aisle and nave tie-beams, passing-braces, tie-beam braces and collars seem to be the datum faces. If this is so, it explains the clustering of carpenters' marks on each truss behind the arcade-posts where arcade and wall posts, wall-plates, aisle-ties and passing-braces were originally marked. All except the marks on the passing-braces are visible from the ground when standing in the aisles. The passing-braces have their marks scribed on their upper faces but set low down adjacent to their jointing to the wall-posts.

Another observation comparing theory and practice is that the base of the fundamental triangle is close to the present base of the barn. The original floor level was apparently slightly higher than at present. As a consequence of this, the existing sills, with their accompanying curved braces, could easily have been inserted later by dropping the floor level. The sills and braces seem different from the rest of the structure as they do not bear carpenters' marks present on the other members, and could well be later additions.

Plan (Fig. 1)

The plan shown is not based on a detailed survey.

The plan is reasonably consistent but has a slight narrowing of the rebuilt west end. The double bay diagonals fit well with the post positions. It is also very clear though that the end bays are 'pulled in' from an average of 19 feet 6 inches down to 16 feet and a total length of 8R is achieved. As well as providing a rational number of rod lengths and the correct pitch for the roofs of the hipped ends to match that of the barn sides, the total length : width proportion of the barn, 1 : 3.2 is virtually identical to a double 'Golden Rectangle' ratio of $1 : 1.618 \times 2 = 3.236$. This 'perfect' proportion was often used in medieval church design, and may have been deliberately incorporated from the very commencement of the design to give a harmony to the plan. Each half of the barn either side of the 'midstrey' can be seen by an observer standing in the centre of the midstrey to have a floor plan conforming to a Golden Rectangle.

Barley Barn

Section (Fig. 2)

Fitting to a theoretical model here is more difficult than with the Wheat Barn because of major rebuilding and an exact fit now would not be expected. A 3R width however reflects well the slightly greater span already predicted (Stenning 1993). A half-rod height for the aisles consistently meets the original, now redundant, aisle-tie mortices on the rear of the arcade posts. Datum surfaces for the arcade posts were apparently on the inner faces and on the upper faces of the tie-beams. However, the arcade-post/tie-beam braces appear to be aligned to the construction lines of their undersides. The most unsatisfactory fit is where the passing braces pass the tie-beams. The lower joint to the arcade posts fits the model well but the tie-beam/passing-brace joint is consistently nearer the tie-beam centres on all trusses. The only passing-brace to survive, in truss 2, is considerably curved at this point and rejoins the theoretical line towards its top. Were, then, all the passing-braces similarly curved? There is a considerable disparity between the passing-brace/tie-beam joint position from truss to truss and it may be that members of approximately the same curve were used, aligned to the arcade posts and then jointed to the tie-beams according to their individual curved shape.

Plan (Fig. 2)

There is considerable conjecture here as the barn walls have been rebuilt to a smaller size and the interior reworked. The original 3R width is reasonably certain, tying in with constructional evidence (Stenning 1993). The three bays from truss 3 to 6 are reasonably aligned to the diagonal 2-bay construction used, giving bay lengths of approximately 21 feet 2 inches. The southern end of the barn though, becomes progressively inaccurate — truss 2 is partly misaligned and truss 1 is now considerably misplaced being 3 feet 4 inches

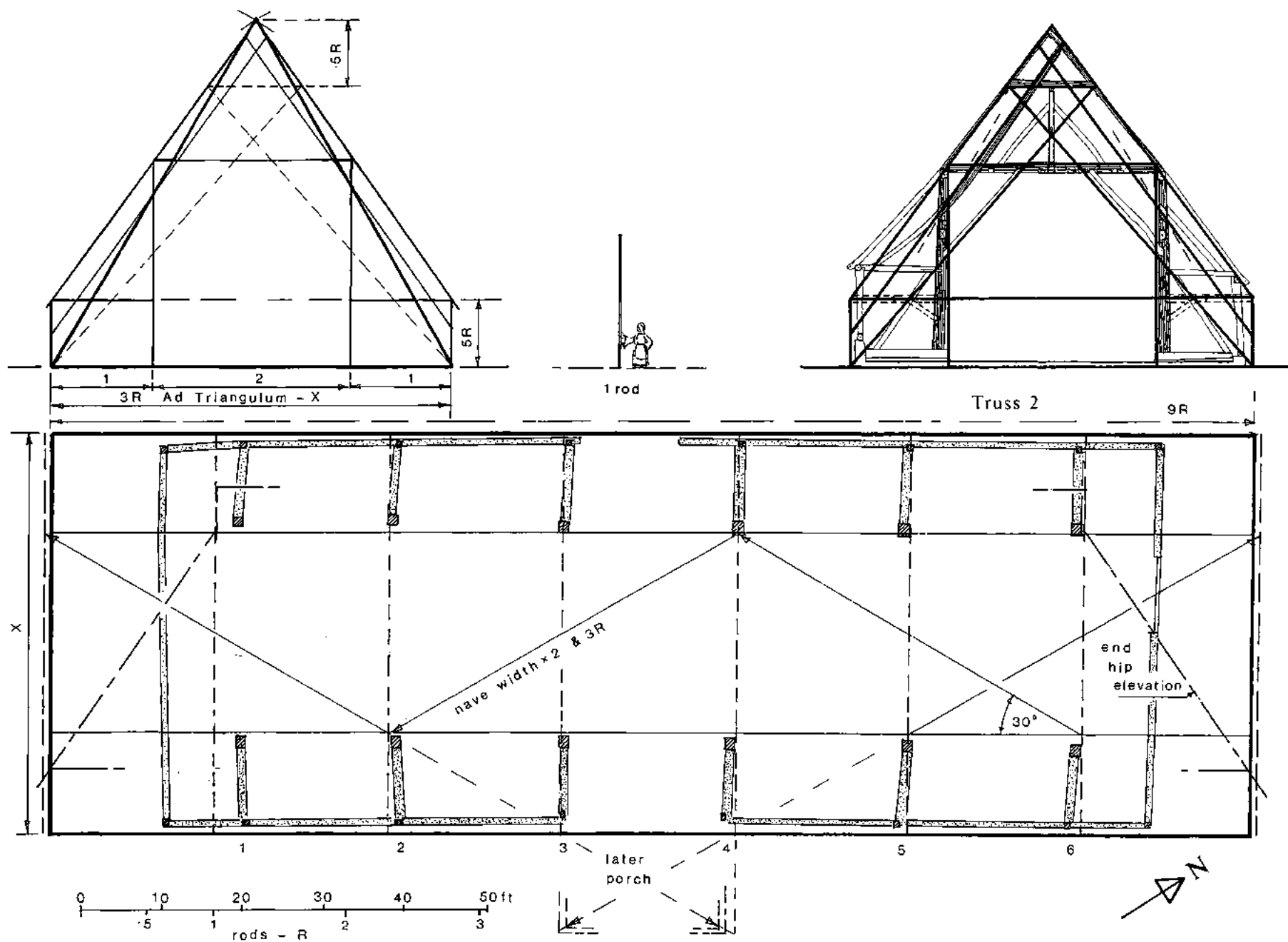


Fig. 2 The geometry of the Barley Barn (based on a survey by P. Skeet and K. Kingsley as now standing), together with suggested original outline and construction lines.

north of its original position. The north and south ends of the barn are known to have been shortened, the structure being clearly truncated. Theoretical construction suggests that the ends of the barn were one full bay long (not the present half bay). This conclusion had been proposed on constructional grounds (Hewett 1967). Extension of the bay construction to give 7 full bays would total 150 feet. However, $9R = 148$ feet 6 inches, a 1% difference. Either length would provide the appropriate span for an end hip roof pitch, approximately equal to that of the rest of the roof. The proportion of $3R \times 9R$ would no doubt be very compelling to the medieval mind, 3 and 9 being considered perfect numbers alluding to the Trinity. Also, the cross-section based on an equilateral triangle sets the roof apex height at half the base length $\times \sqrt{3}$. This may have been appreciated and thought to enhance the design.

Future archaeological research round the outside of the barn may be able to confirm this 3×9 rod predicted plan. However, the base triangle fit to the present building implies that the original ground surface was approximately where it is now, and nothing may remain of original undisturbed wall structure below ground level.

Wagon-porches

The central projecting porch on the east side of the Barley Barn is clearly an addition and is considered to be much later than either the primary construction or the fifteenth-century rebuilding of the walls. In plan, however, its outer corners quite reasonably coincide with the intersection of the projection of bay $3/4$ and construction diagonals. Only the north side of the porch is not correctly aligned, being set slightly to the south as is the associated frame of truss 4. If the plan of the porch is keyed into the overall geometry, it raises the question as to whether the present porch is a rebuild of an original one of the same plan dimension. The big wagon-porches seen on early barns are often post-medieval, but some are original and most of the great monastic stone barns in the Midlands and West Country have large projecting gabled porches. In Essex, the fourteenth-century timber-framed monastic barn at Prior's Hall Farm, Widdington still has two original gabled porches. Perhaps the Barley Barn, being so large and of high status, also had a similar porch.

The porch of the Wheat Barn, built in the fifteenth century as part of a general refurbishment, is also aligned to the older plan. Here, the outer porch corners are at the intersection of the central bay extension and the diagonals across the naves of each single penultimate bay. Was, then, a large porch added to the barn in the fifteenth century, using a similar but slightly different geometry to that of the original build?

Discussion

There has been a resurgence of interest in the use of early measuring systems and geometry. It is, though, a subject in which one can easily be overtaken by flights of the imagination and read into structures things that are not there. What is indisputable is that the cross-sections of big elaborate churches were commonly designed round a geometrical shape, usually a square *ad quadratum*, or an equilateral triangle, *ad triangulum*. From this framework the details were then developed. This system was called 'constructive geometry' (Coldstream 1991, 34-9). Plans were obviously linked to sections and bay intervals etc. were commonly derived by employing irrational proportions such as diagonals, often the diagonal of a square to give a $1 : \sqrt{2}$ ratio. $\sqrt{3}$ and $\sqrt{5}$ were also used, plus the more elaborate Golden Rectangle derived from the sum of a semi-square with its diagonal, $(\sqrt{5} + 1)/2$. The medieval application of simple geometry for areas and volumes goes back to classical times at least (Vitruvius), and it was commonly used in a more elaborate form in both medieval and Renaissance art and architecture.

For practical building by working masons and carpenters, the geometry had to be simple and easily applied using measuring sticks, large wooden compasses and set squares for drawing and strings or ropes for arcs and long measurements on the ground when setting out the full sized structure. This aspect has to be kept in mind when attempting an analysis and the most simple practical solutions are liable to be the right ones. In both the Wheat and Barley Barns, the use of a diagonal to make paired bay lengths of $\sqrt{3} \times$ the bay width is quite clear, a simple method being used to create an irrational subtle proportion.

It is becoming increasingly clear as research progresses that in England, the basic unit of measurement commonly used for medieval architecture and town planning was the rod of $16\frac{1}{2}$ feet (Huggins *et al.* 1982; Eddy and Petchey 1983, 35). Although an odd measurement to modern thinking, it is part of a simple subdivision of the mile via the furlong and chain. It has been pointed out that the foot unit length in the past, as used by various masons, differed in length. At Chartres, the long *pied-du-roi* of 325mm was apparently used for some of the work. Another mason however used the short Roman foot of 295mm (James 1982, 37-8). At Cressing Temple, the fit of the basic triangles of $2\frac{1}{2}$ and 3 rods is so good that it is safe to assume that the thirteenth-century craftsmen were using the same foot length that has come down to us today as 305mm.

Research on the plan and elevation of Nurstead Court, Meopham, Kent has revealed that this aisled hall built 1314+ by a family of knightly status which included three bishops was designed using constructive geometry with the rod as the basic unit (Cherry 1989). Further work on these lines would undoubtedly reveal other examples. The plan of the nave of Saffron

Walden Church in Essex, rebuilt by Simon Clark and John Wastell from 1485, shows the application of a strict grid of diagonals of 30° and 60° passing through salient features including the outer edges of the North and South porches. Salisbury Cathedral, for example, has a complex grid of related irrational ratios used in its design (RCHME 1993, 68-82).

Other monastic barns would obviously be good candidates for analysis but there is difficulty in obtaining accurate plans and elevations provided with large enough scales to avoid unacceptable inaccuracy creeping into an assessment.

The addition of the Cressing Barns to the corpus of buildings studied with respect to constructive geometry widens our appreciation of medieval precision used in the planning of large buildings. The proportions were the considered outcome of the strict application of a system of rules known to work practically. These rules also incorporated the perfection of geometry and the eternal harmony, be it pagan or Christian, considered to be inherent in certain proportions, often irrational in measurement. $\sqrt{2}$, $\sqrt{3}$ and $\sqrt{5}$ for example can be easily derived, by the initiated, from diagonals of squares and rectangles, using relatively crude apparatus as shown in contemporary illustrations.

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Medieval and Tudor parks of the Middle Chelmer valley

by J.M. Hunter

The valley of the Middle Chelmer (Great Dunmow to Chelmsford) supported a high density of deer parks (Fig. 1). This may have been due to the status of Pleshey as the seat of the High Constables of England and later, to the acquired status of Richard, Lord Rich, who established his seat at Leez Priory. By 1777 all had been disparked, some long before, tenant rents bringing a better return than seigniorial appearances, but the park boundaries mostly survive as hedges and it is possible on foot to appreciate something of their former extent and topography.

This paper is based on Morant¹ and interpreted with information from the tithe maps and surviving estate maps transferred on to the First Edition 6" Ordnance Survey. Considerable information must lie in manorial and estate records, and the paper should be regarded as no more than a base for further work.

The Chelmer Valley

The middle length of the Chelmer Valley, often several miles across measured between watersheds, is a gently contoured landscape, dissected by many laterals and rills. The landform and soil structure are the legacy of the Anglian glaciation, lightly modified by later meltwaters and surface erosion. It is highly fertile corn-growing land, well drained, and prehistoric farming is evident in cropmarks. The considerable area of medieval parkland, either wooded or wood-pasture, may reflect the extent of pannage in the Great Survey; the Walthams: woodland for 1,370 swine, Little Leighs: 840 swine, and Felsted: 650 swine. It would seem likely that these areas of pannage would be selected for imparking.

This is not to suggest that the wooded land enclosed was necessarily primary. Cropmark evidence in Littleley Park² and Pond Park³ show earlier clearance for farming. These are on light soils which favour cropmarks; Pleshey Great Park, however, is on heavy boulder clay where such evidence is less forthcoming.

Tenure and ownership

Pleshey "is now only an obscure village, but anciently was a very considerable township. For, even from the earliest times, down to after the year 1400, it was the seat of the High Constables of England". "... it was rendered very pleasant by the fine buildings, fortifications and parks, wherewith it was adorned". So Morant, who took a particular interest in Pleshey and the associated estates, aided by the information in national records

on the major historical figures involved.

Pleshey is a post-Domesday manor and parish. The castle was built and the associated town established by Geoffrey de Mandeville, created Earl of Essex by King Stephen. The successive Mandevilles held Walthambury, capital manor of Great Waltham, the largest parish in Essex after Writtle, and High Easter; also huge estates elsewhere and the post of High Constable. They built Walden Castle and founded Walden Abbey. A descendant, Maud, married Henry de Bohun, Earl of Hereford and High Constable and the de Bohuns continued to hold the titles and estates until the death of Humfrey at Burrow-bridge in 1322.

In 1547 Edward VI granted Pleshey and its two parks to the odious Sir John Gate who destroyed the chancel of the church with its fine tombs "for the sake of making money of the materials... such a desecration could not have been committed but by the hands of Julian or the Saracens." Gate did not enjoy Pleshey for long, being arraigned and condemned in 1553 for his support for Lady Jane Grey. The estate returned to the crown, but the great days of Pleshey were already over, on its way to become a village in the shadow of its noble earthworks.

The Great Park came into the hands of Richard Rich "that great acquirer". He had obtained in 1537 the lands and demesnes of the Priory of Little Leez, Absol Park in 1538, the manors of Great Waltham, Felsted and a formidable list of Essex estates collected from the spoils of the monasteries, and rewards for loyal service to Henry VIII. Morant lists his immense estate and dwells on his alleged perjury in the trial of Sir Thomas More and More's rejoinder on Rich's character. Whatever the truth of the matter, Rich became Lord Chancellor but found himself in political trouble with the fall of Somerset and retired quietly to his new mansion Leez Priory where, cocooned in his three parks, he "employed himself in charitable works" until his death in 1566.

In 1753 the heirs to the Rich estates sold the lands in Waltham and Leighs to the Governors of Guys Hospital. These included the Leighs Parks, Waltham Great Park and Absol Park, all by then converted to tenant farms except for a part of Littleley Park⁴.

The Pleshey and Waltham parks

Absol Park (Fig. 2)

Reaney gives many references and spellings, the earliest 1279. The name is interpreted as "the spring of

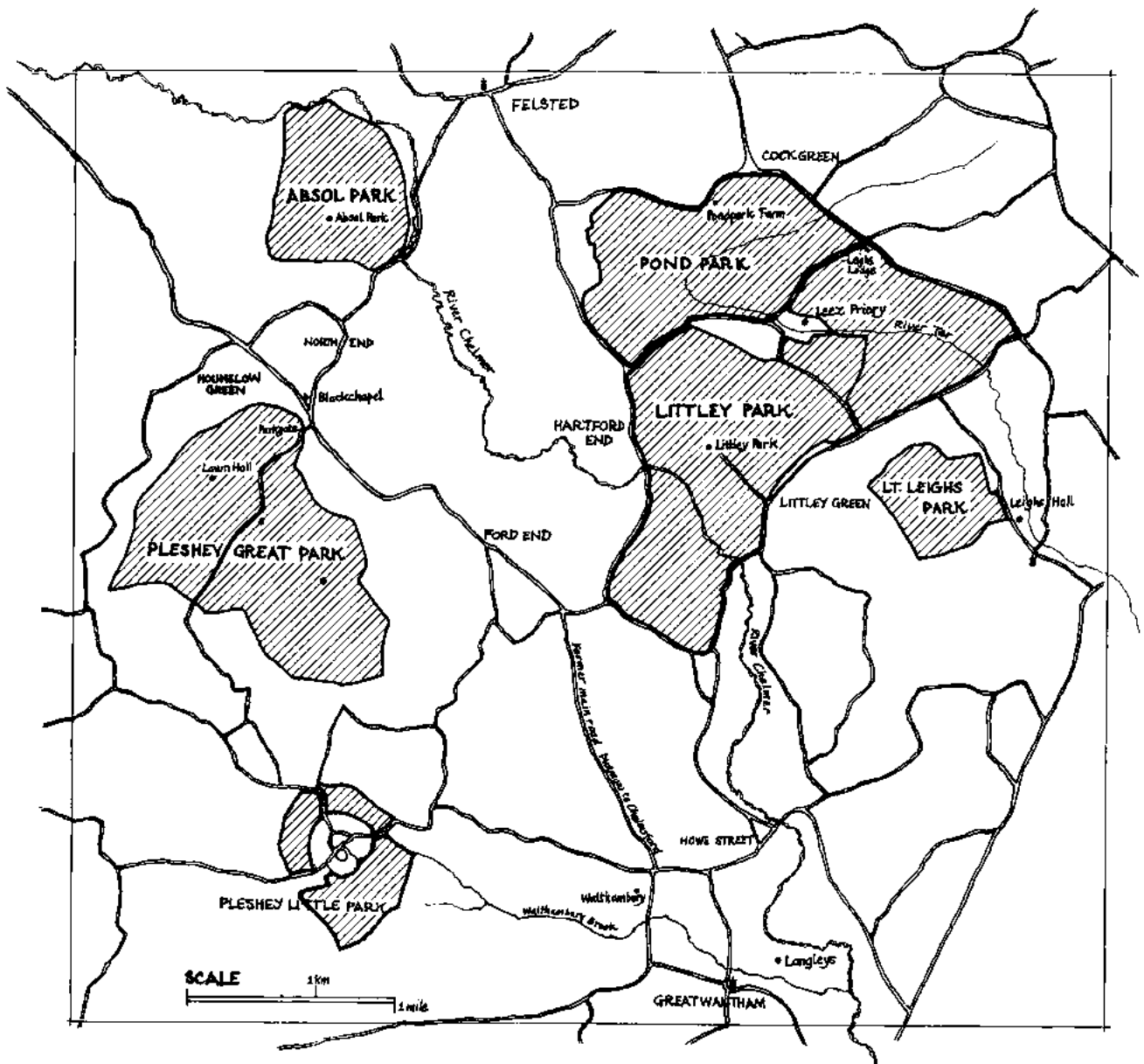


Fig. 1 Deer parks of the Middle Chelmer valley.

Eappa or Abba"⁵. Rich acquired it from Charles Brandon, Duke of Suffolk in 1538. The house is moated but the buildings are of 18th-century date. The fields dividing the former park suggest disparkment and enclosure in the 17th or early 18th century. The park comprised 271.2 acres (109.8 ha).

Pleshey Great Park (Fig. 3a)

Morant notes that in 1320 Edward I gave leave "to inclose 150 acres demesne adjoining park of Waltham and High Easter called Le Plessie, to enlarge that park which comprehendeth some of the land's belonging to Waltham-Bury and known as Pleshey Great Park as low as the year of 1566."

In 1547 Edward VI granted the manor to Sir John Gate with two parks, "le great park and le little parke de Plecy". Attaindered and beheaded in 1553, Gate's lands fell to the Crown and thence to Rich by "purchase or otherwise", incorporated with the demesnes of Waltham-Bury.

Transcribed onto the OS the Great Park comprising some 625 acres (253 ha) divides into two areas bisected by Coppice Lane, an elegant hedged green lane that survives today. Both areas well exceed 150 acres, but the measurement of the inclosure permission is probably an approximation. The southern area of 352 acres (142.5 ha) was extensively wooded and straight field boundaries suggest late planned

clearance. By 1753 it was a tenanted farm, managed from Oldpark Farm, but an earlier moated site, Old Lodge, is still evident today. The parish boundary between Great Waltham and High Easter bisects the area north/south.

The area north of Coppice Lane lies wholly in High Easter and the parish boundary defined the northern limit of the park. Lawn Hall is the farmhouse and is likely to be the former site of the lodge. The hedge pattern on the 6" OS suggests woodland boundaries in the south and elsewhere many divisions of irregular character indicate enclosures of Tudor or earlier date. Nine fields have "ley" names.

It would seem likely that this is the extension of 1320 comprising actually 273 acres (110 ha). Also it would appear that this area was disparked and converted to farmland at an early date unless certain field boundaries were already in existence and preserved in 1320.

The boundary of Pleshey Great Park is shown on a transcription of the lands of the manor of Great Waltham of 15636. The large open fields near the manor house, Lymborowe, Hundred Acres, and Waster, were already sub-divided at this date. A cluster of small commonfields about the park boundary (Fig. 3b): Frynswell (34.6 acres), Stockcroft (43.0 acres) and Smetheley (57.9 acres); these show areas of strip farming on the parish map of 1816. Other commonfields: Great and Little Reden (23.8 acres) and

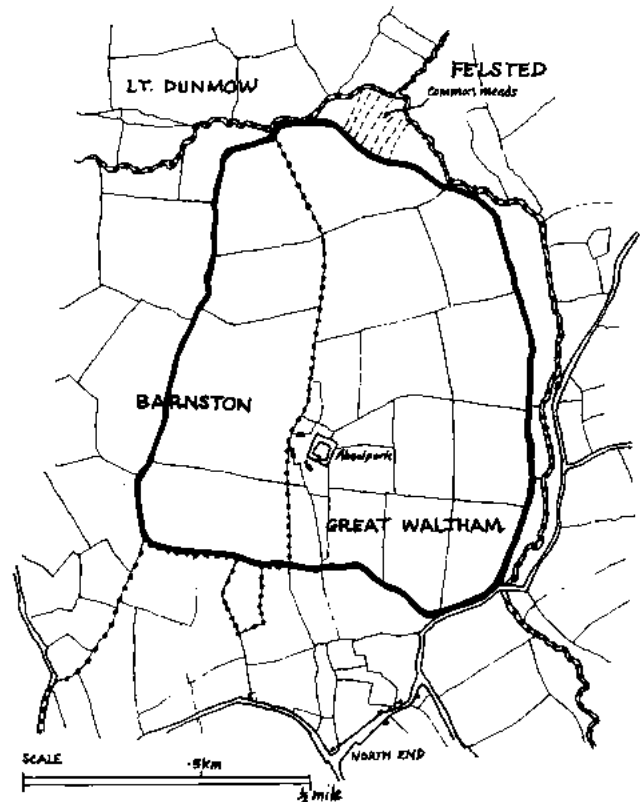
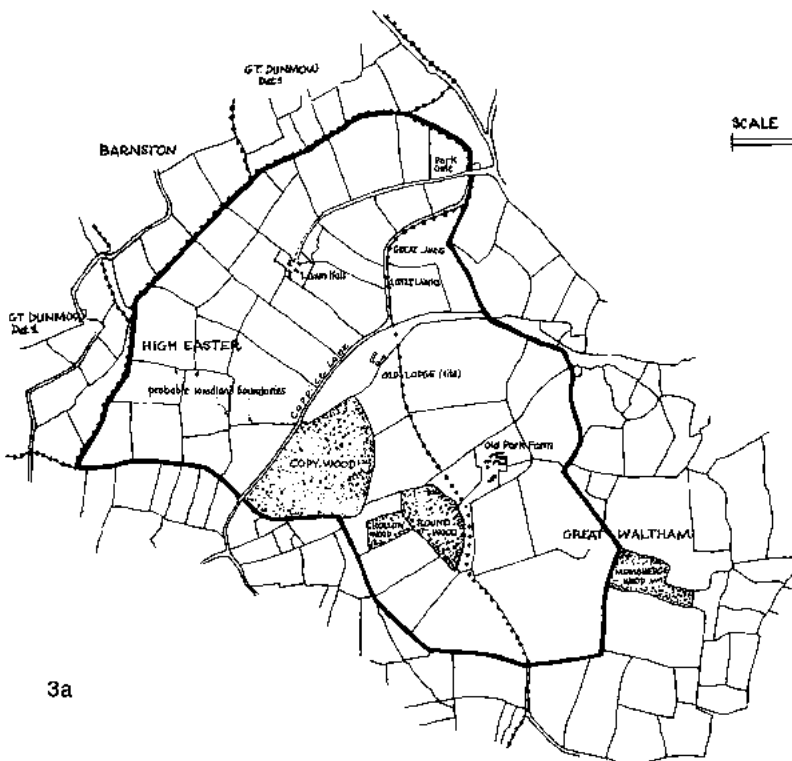
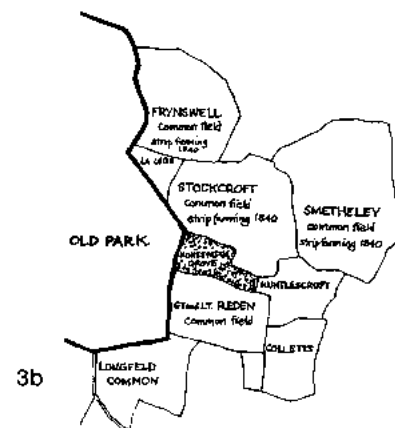


Fig. 2 Plan of Absol Park.



3a



3b

Fig. 3 Plan of Pleshey Great Park.

Longfield Common (24.3 acres) are shown fully enclosed into small fields in 1816.

Pleshey Little Park

After its brief time in the hands of Sir John Gate, the Little Park and Mount, and "other estates in the parish" were purchased by Sir Robert Clarke and held by his successors until 1720. The park had been disparked before 1777, probably long before. The boundaries suggested (Fig. 1) follow the demesne land but must be seen as provisional. Lodge Farm lies against the southern boundary of the Castle. The overall area based on these assumptions measures 159 acres (64.7 ha). The Tithe map indicates that this small parish was strip farmed in small commonfields⁷.

The Leighs parks

The three parks around Leez Priory were owned by Richard, Lord Rich. Morant describes them as "three very considerable parks. One round the house of about 413 acres, called Pond Park on account of the fishponds that were in it. Another, on the back of that, containing upwards of 400 acres. Another, about four miles in circumference, called Little or Littley Park".

There was, however, an earlier park belonging to the Prior. Morant refers to the presentment of The Prior of Leighs in 1342 for enclosing a park called Proureswode and hunting without warrant or authority. In 1381 (4 Richard 2) there was "licence to the prior and convent of Leighes to inclose and impark 100 acres of land and wood in the parish of Little Leighes"⁸. There is no obvious clue as to where this land lay.

The parks of Rich were as follows:

Little Park is considered elsewhere in more detail in this volume (pp 119-24). At its furthest extent it comprised some 648 acres (262 ha).

Pond Park and the un-named third park are less well documented than Littley Park and may have comprised demesne land of the priory, emparked by Rich at the same time as he extended Littley Park northwards to abut the others. A fine map of 1775 (Plate I) shows Pond Park divided up into fields with irregular boundaries indicating a far earlier date of enclosure, and the field names are descriptive rather than the numbered acres of late divisions. There are scattered trees throughout of varying density indicating the whole area as pasture, and one woodland, Boots Wood, which had been grubbed by the time of the first edition 6" OS. The field boundaries are also well-stocked with standard trees. The explanation of this somewhat puzzling landscape could be that Rich left the hedges as cover when he emparked it and in due course they were re-used and perhaps restored when the land came back to farming use. There is no

indication of the great series of ponds fed by the infant River Ter, clearly dry at this date. There appear to have been constructed by the monks for dual purpose as fishponds and mill ponds⁹.

Pond Park measures approximately 471 acres (190 ha) compared with Morant's 413 acres. The third park, assuming it defined by roads to the north and its abutment "on the back of" Pond Park, measures 325 acres (131 hectares) against Morant's vague "upwards of 400 acres". Together, the parks at 796 acres are not far from Morant's figure. The two parks on reversion to farmland were farmed respectively from Pondpark Farm and Leighs Lodge. There is a reference in the Guys Hospital Papers to Leeze Park (1662) which may give a name to Morant's un-named park.

Little Leighs Hall. This park is not mentioned by Morant but appears in an estate map by John Walker and his son of 1609¹⁰. It is divided into fields and there is no sign of a pale, so it was probably disparked at this date. Field names: "Greate", "Newe", "Further" and "Home" qualify "Parke", and there is "The Laune". It was a small park of some 140 acres (57 hectares). The estate was acquired by Richard Rich.

The map is interesting in other respects (Fig. 4). It shows trees growing freely in clumps — a feature one associates with planting styles of a much later date; they are not formal roundels. Also there is a spring or



Fig. 4 A transcription of the area of the former park, showing spring and clumps. From "A trewe platt of the Mannor of Little Leighs Haule within the Countie of Essex" — John Walker, 1609 (ERO T/M 320).

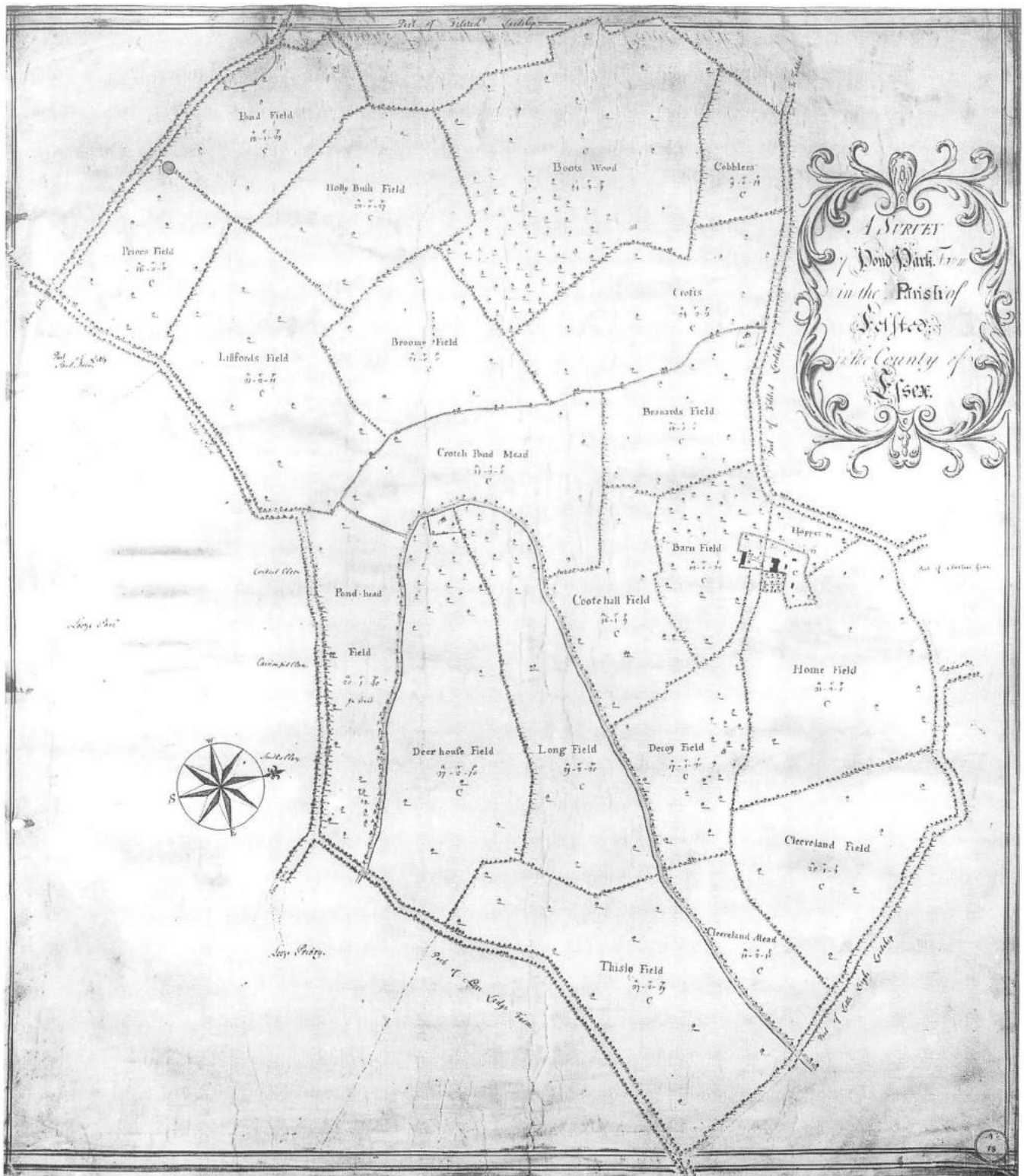


Plate I Pond Park, from an estate map of 1775 (EROD/Dz 19).

shaw, a narrow linear wood along a field boundary. Springs are depicted on many estate maps of this time and are described in the "Particular of Cressing Temple Manor 1656".¹¹ Springs in Essex unfortunately are now virtually extinct.

In the time of Richard Rich, this cluster of parks occupied some 2,991 acres (1,210 hectares). Langleys, Great Waltham, survives but has been excluded from this survey as it is post-Tudor in origin.

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Littley Park, Great Waltham — historical survey

by J.M. Hunter

Littley Park was a medieval deer park of considerable size, subsequently enlarged in the reign of Henry VIII by Richard, Lord Rich. A long avenue of elm was planted by his successors, and a number of monumental bollings still stand. Subsequent disparking to create tenant farms is documented. The main lineaments of the park survive in today's landscape.

Topography and soils (Fig. 1)

The terrain is glacial drift plateau dissected by the River Chelmer. The valley slopes are head and the flood plain alluvial. Four springs emerge on the northern side forming shallow rills, and the land below the break of slope (60m contour) has remained pasture. The higher land has "hot spots" and gravelly areas.

The medieval park (Fig. 2)

Morant¹ states "here was a park, even from the ancientest times". Little or Littley park, was about 4 miles in circumference, and Morant refers to a deed of 1295 of Avicia, wife of Henry de Litle of Little Legh, indicating a family of note. Within the park was a chapel built of timber.

Other references are to Litt(e)lehey(e), 1247², and to Littley Park in 1376³. Littlehey Park appears in the Pleshey Castle Building Accounts in 1440-41 and 1464-65 and so was a part of the Castle estate with mention of fences and new bridges. But earlier (27 Edward I 1298) Humphry de Bohun, Earl of Hereford and Essex, held the honour of Mandeville, Manor of Great Waltham ... and also a certain park which is called Littley⁶.

The Park, it would appear, dates back at least to the 13th century, a time when roads and boundaries could be adjusted to fit to park perimeters in wooded or waste areas. It lay away from the more settled areas and was wholly in the parish of Great Waltham; while probably mostly woodland or wood-pasture, this would appear secondary, as cropmarks show that much of the area was once farmed with evidence of linear features, trackways, enclosures and possible ring ditches⁴.

The northern boundary of the medieval park was the hundred/parish boundary and the area enclosed 420 acres (170 ha). The lodge, situated on the site of and preceding the later farm, Littley Park, would have had a clear view over the whole enclosed terrain. The

oldest part of the farmhouse appears to date from the later 15th century and to be the lodge.

The Tudor park (Fig. 3)

In 1537 Sir Richard Rich, Chancellor of the Court of Augmentation, was granted the site and lands of Leighs Priory — and acquired much else in central Essex. He proceeded to build the mansion that still stands in part, as the capital seat for himself and his family. Littley Park was extended northwards to include land belonging to the Priory in the parishes of Felsted and Little Leighs. "This park and manor (Great Waltham) became the property of Lord Rich as well as Leighs Priory Estate and he enlarged this park by adding land which had belonged to Leighs Priory in Felsted and Little Leighs."⁶

Tudor parvenues enjoyed the respectability conferred by deer parks, and Morant refers to a second park, Pond Park of about 413 acres surrounding the house, and a third, "on the back of that" of upwards of 400 acres. The perimeter of Rich's Littley Park measures approximately 5 miles, and encloses some 648 acres (262 ha). The Causeway would have been his formal approach to Leez Priory from the south.

To Rich's descendant, Henry, Earl of Holland, appears the credit for the planting of the avenue along the Causeway, over a mile and a half in length. It would seem that the great avenue at New Hall, Boreham, was planted in 1624 by John Tradescant for George Villiers, Duke of Buckingham, probably the first axial avenue to a great house in Britain⁵. Rich's heirs would hardly wish to be outdone by an estate so near at hand, particularly as their avenue would be far longer. Unfortunately they chose to plant elm rather than the imported lime and the remaining trees, as at Wimpole, Cambs, succumbed to the virulent strain of Dutch Elm disease imported in the 1960s.

Disparking (Figs 4 and 5)

The Leez Priory estate descended to the Earls of Manchester and in 1723 was sold to the guardians of the young Duke of Buckingham. At some date before this, the southern and western areas of Littley Park were converted to farmland with the steading, as today, at the site of the lodge (Fig. 4). In 1753 the estate was sold again, to the Governors of Guys Hospital who would clearly prefer rents to the prestige

Fig. 1 Littley Park landform.

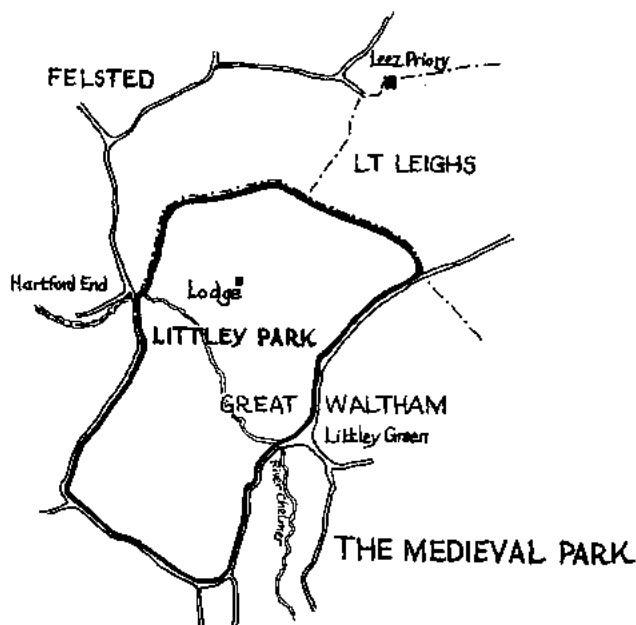
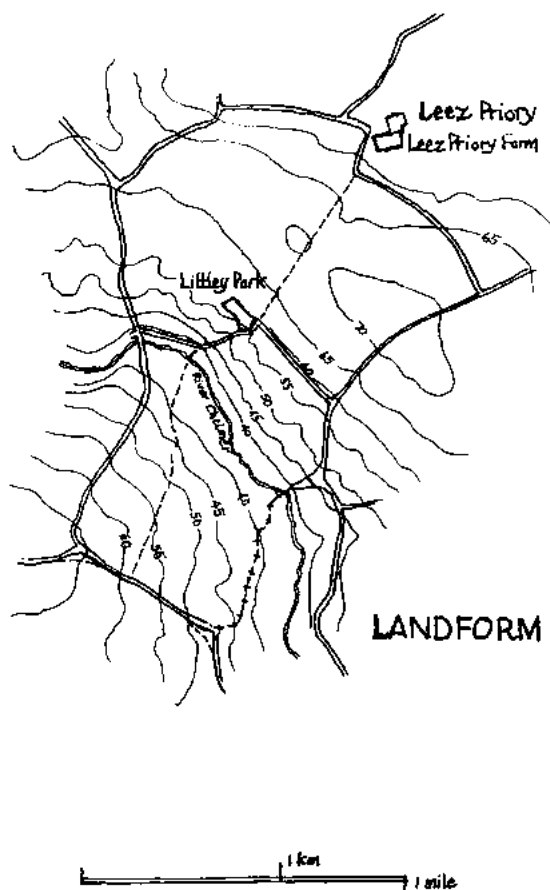


Fig. 2 Littley Park: the medieval park.

of a park, and the remaining area of 327 acres (132 Ha) was disparked and laid out as a tenant farm based on Priory Farm (Fig. 5). A surveyor's sketch map of 17536 is headed: "Underneath is Littley Park as inclosed before 1723. The dots describe the boundary as inclosed within pale and rail in 1753 and then fully stockt with deer".

At some earlier phase, a smallholding called Appletrees had been sold separately. It is suggested that a cross wing in Appletree Cottage is of C15 origin⁷.

Chapman and André's *Map of Essex* (1777) shows total disparkment, but the avenue still intact from Crow Gate to Littley Park. In addition, an irregular pattern of trees is shown immediately adjacent Leez Priory in the field named Romly Marsh. As Morant said in 1768: "They (the parks) are now dispark'd and converted into farms."

Roads through Littley Park were originally private and gated. The first edition OS 6" survey (1881) shows Chapel Road (Littley Park to Littley Green) as a road and also the park road from Leez Priory to Littley Green. The road from Hartford End to Littley Park was only made up and adopted after the last War.

The chapel

The existence of a chapel, long disused, was to lead to long arguments over tithes. The chapel was sited near the present farm, Littley Park, and appears to have been closed when Richard Rich built a new chapel in his mansion on the site of Leighs Priory. It was described as "Litely Chapel now used for a Barn with the chapel yard six acres of land" (17 Eliz 1575). This was confirmed by a parliamentary survey of church livings (1650 Commonwealth) which referred to "certain lands and Tithes of considerable value".

The matter continued as a dispute over tithes to come before the Chelmsford Summer Assizes in 1818. The submissions are included in The Guys Hospital papers⁶.

The landscape in 1993

In the post-War period of agricultural improvement many of the hedges planted after disparking were swept away to create larger fields. The fine perimeter hedges marking the park pales remain and so also those of the pasture fields lying north of the Chelmer. From a viewpoint of landscape appreciation, a new balance has been attained and it is agreeable. The public is well-served by rights of way and the Causeway is a bridleway. From it the parks of both Henry de Litle and Richard Rich can be seen and enjoyed as landscape. It is noteworthy that later walled parks such as Braxted and Audley End are virtually free of public rights of way — magistracy and major landowners were in accord.

LITTLELY PARK, GREAT WALTHAM

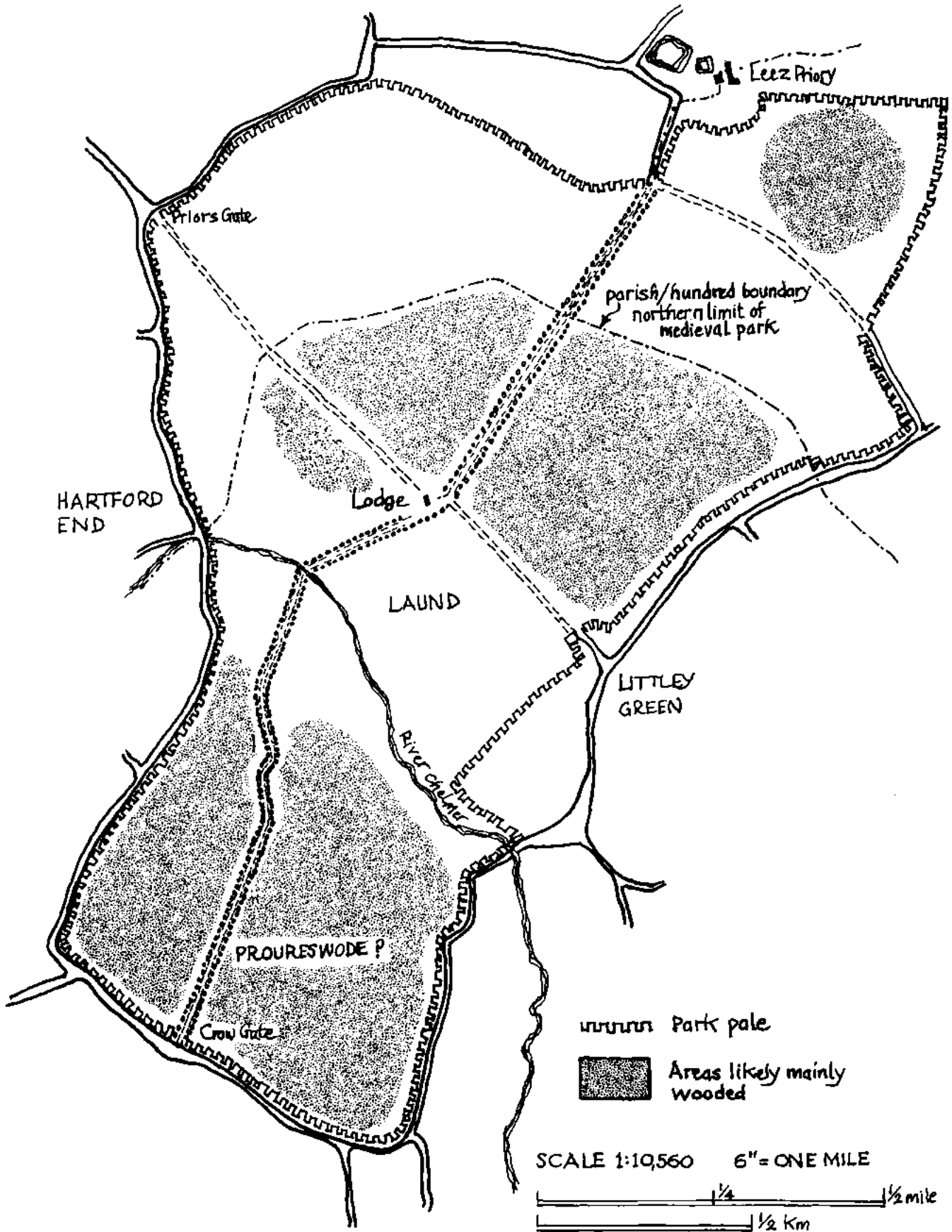


Fig. 3 Littlely Park c. 1640.

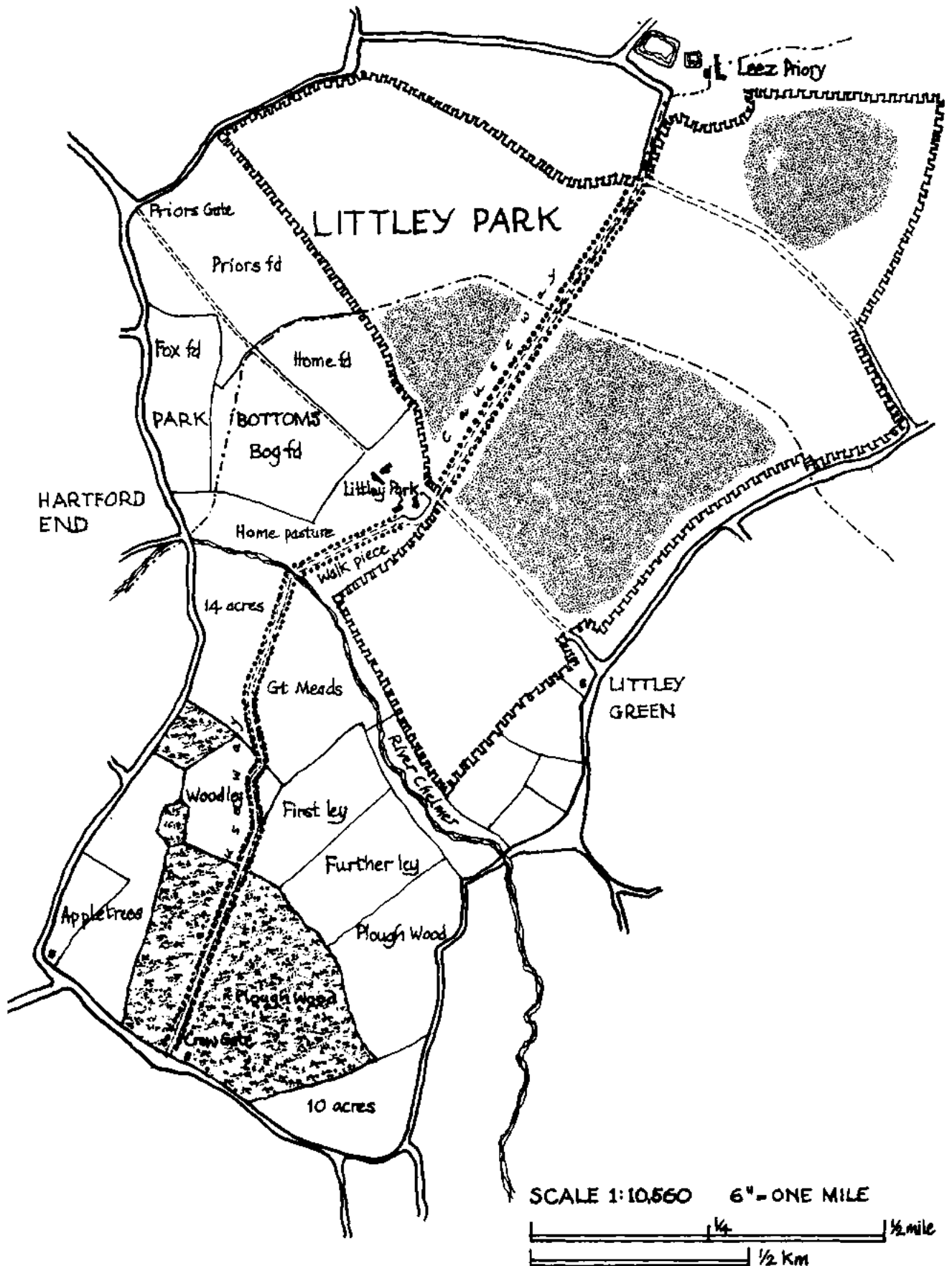


Fig. 4 Littleley Park c. 1720.

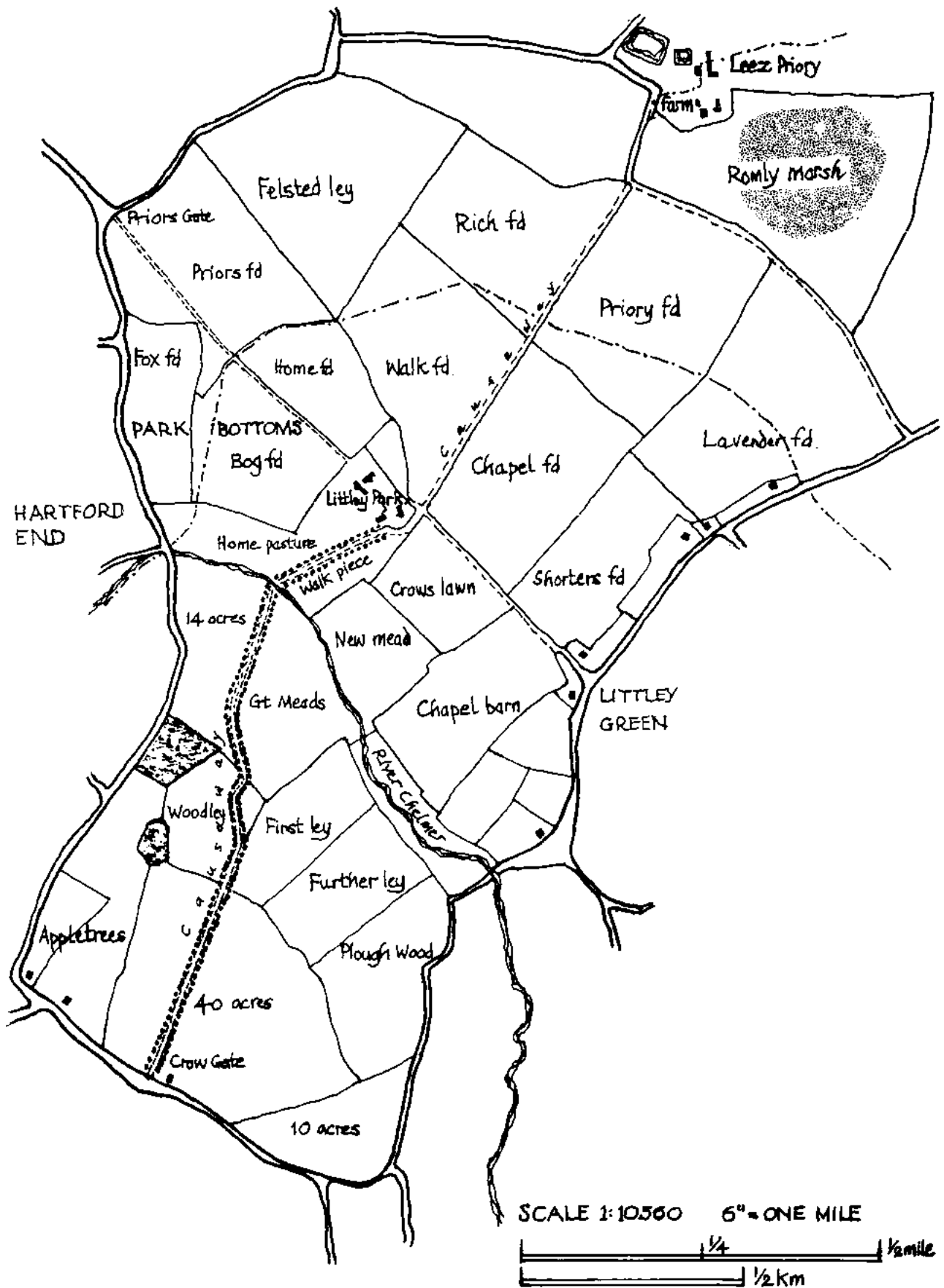


Fig. 5 Littlely Park c. 1777.

Public rights tend to survive where exclusive landscapes were converted to farmed landscapes at an earlier time. Littlely Park Farm has been farmed by the same family for the last hundred years, first as tenants and later as owners.

The present owners, Mrs Sally Reynolds and Mrs Jean Woods, are mindful of the amenities and traditions of this unusual and beautiful tract of land. At the time of writing they are considering a re-planting of the avenue, possibly with the small-leaved lime (*Tilia cordata*), a scarce and ancient native tree occurring in this area of Essex and evident in a hedgerow on the farm. A few bollings of the ancient elm pollards still stand (Plate I).



Plate I Littlely Park; one of the ancient elm pollards.

It should also be noted that a series of pill-boxes follow the western side of the Chelmer, relics of the GHQ line, the principal line of defence against invasion in 1940. Now lichen-crusted and merged in scrub, these already appear venerable monuments that form a part of the landscape's visible history.

Note on field names

North of the River Chelmer, the field names used on Figures 4 and 5 are those of the survey of 1753. For those south of the river, for lack of earlier documentation, they are those of the Great Waltham Tithe Map 1840⁸.

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The buildings of Littley Park

by Brenda Watkin

The line of the ancient Causeway, through Littley Park, is marked by three interesting building complexes of varying age, size and status. To the north, now much reduced in size, stands Leez Priory, originally of Augustinian foundation but modified and enlarged by Richard Lord Riche.¹ At the southern end of the causeway, where it joined the main Chelmsford to Great Dunmow road is Crowgate Cottage. Situated on high ground above the river valley the cottage lies parallel to the Causeway. The third group, the Littleypark complex, lies approximately centrally between the northern and southern buildings of the park and has a commanding view across the valley to Crowgate Cottage and the plateau to the north.

Leez Priory (Fig. 1)

Much has been written about Leez Priory and its Inner and Outer Courts² but little has been written about the two "barns". These lie to the south of the outer gatehouse and are now in separate ownership. Orientated on a north/south axis they effectively frame an approach centred on the outer gatehouse. They are built of brick, not with English bond as one might expect at this time, but with a course of stretchers alternating with a course of headers and stretchers. This unusual brick bond was also employed at Woodham Walter Church and the brick barn at Ingatestone Hall.³

Major works were undertaken, possibly in the early eighteenth century, to convert these buildings into barns which resulted in the demolition of a central section of brickwork from the elevations facing the approach. New timber framed midstreys were then built to cover these openings. To provide the free uncluttered interior requisite for a barn the partitions and the first floor were removed. In the western building this involved sawing through the main bridging joists which were housed into the brickwork some 3.4m (11' 0") above ground level. This has left the neat profiles of a soffit tenon joint with diminished haunch⁴, the housing joint of the common floor joists. Scars in the brickwork show where the chimney stack was removed from the northern gable, windows blocked and window and door positions changed. An original four-centred arched doorway of chamfered bricks opens into the southern bay. It is 3.1m (10' 3") high to the apex and 1.4m (4' 6") wide and set into a projecting brick surround with three cant bricks to the head. This feature, now with the arch mutilated, is also mirrored on the

eastern barn. Ventilation slits close to the possible stall positions, marked by timber inserts, have also been blocked at a later date.

The queen-post roof is constructed from high quality oak of substantial section and tiled externally with plain handmade clay tiles. The paired common rafters are pegged at the apices and supported by side purlins housed into the collars fixed to the principal rafters. Wind braces of curved profile are also mortised and pegged to each side of the principal rafters at bay divisions, and rise to the purlins. Empty mortises to the underside of the tie beam and remnants of internal plaster denote the extent of the heated first-floor chamber to be two bays in length.

Although both buildings were designed to frame the approach to Leez Priory, and are of similar form with an outshot on the side furthest from the central approach, there are slight variations in each building.

In the eastern barn the bridging joists are lodged onto a corbelled ledge in the brick walling and not built in, the eaves detail is dentilled and the lean-to does not extend the full length of the barn. Although of similar roof construction, the timber is inferior in quality and section, and the wind braces are of nearly straight profile. The eastern barn had two chambers, at first-floor level, each of one bay depth at the northern end as evidenced by the empty mortises to the underside of the collars and tiebeams of these bays. The access to these could have been gained by the stairs positioned at the south-west corner where the scar of their removal is clearly visible. This building was plastered throughout at both ground and first floor level and contains the largest number of witch warding symbols yet found in an Essex building.⁵ These symbols can also be found scribed into the plaster of the blocked windows of the western barn. A variant of the AM (Ave Maria) symbol is incorporated into the brickwork by the use of flared headers on the northern side of the arched doorway.

The roof construction of the western barn would appear to be of similar quality and date to the remaining buildings of the Outer Court and fit within the second quarter of the sixteenth century. The inferior quality of timber displayed in the eastern barn and variations in style suggest a date later in the sixteenth century.

Now much altered, the buildings were originally two storied, with the ground-floor height in excess of 3.4m (11' 0") and have evidence for a heated room

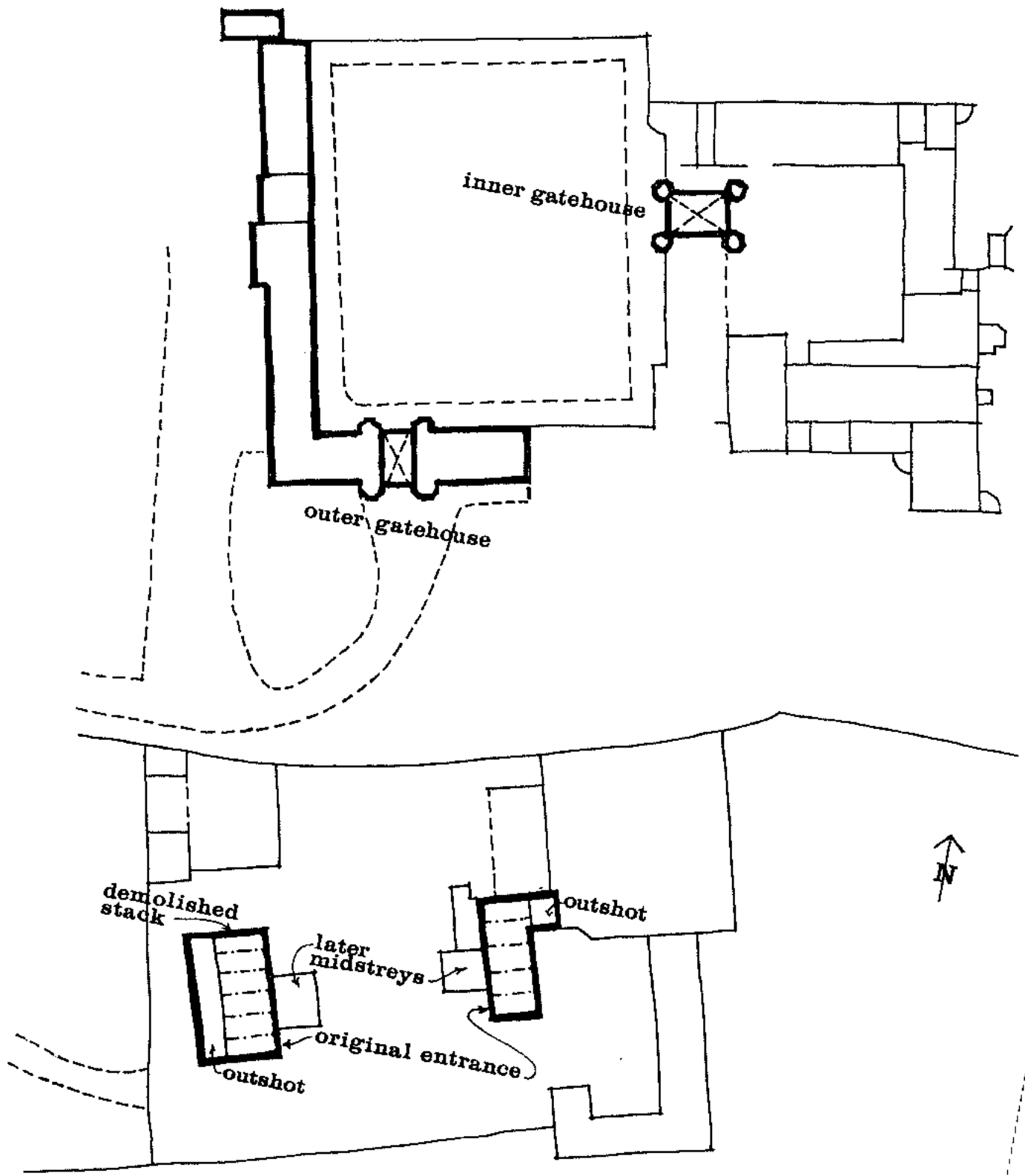
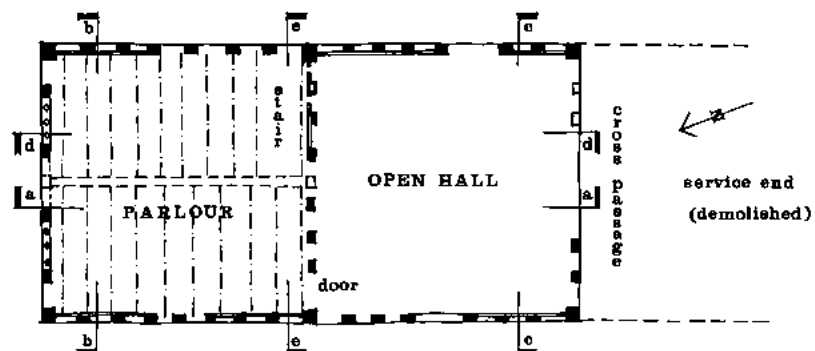


Fig. 1 Leez Priory complex.

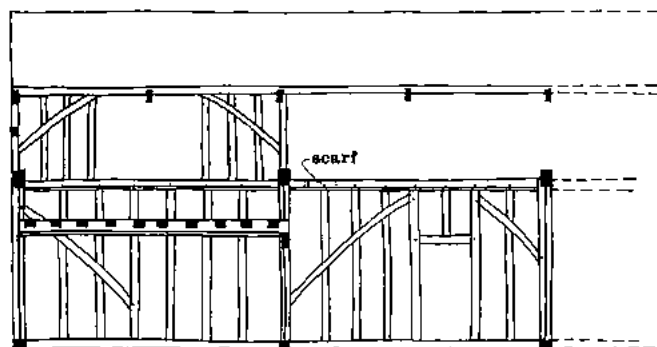
CROWGATE COTTAGE : HERTFORD END

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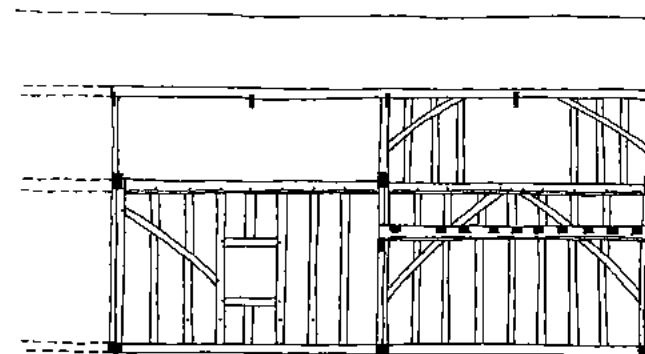


GROUND FLOOR PLAN

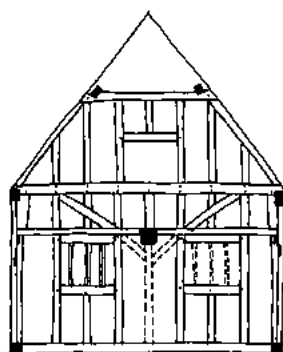
Fig. 2 Crowgate Cottage: plan and sections.



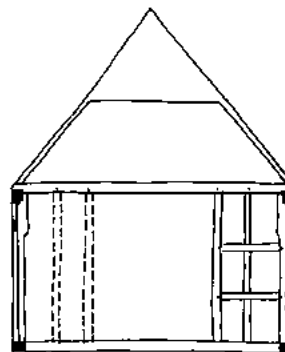
SECTION a-a



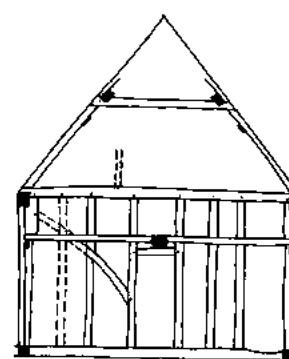
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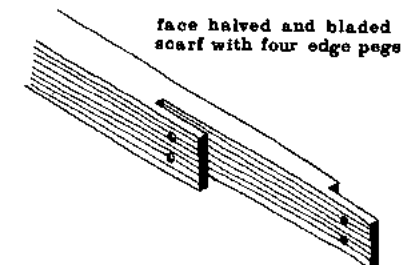
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SECTION c-c



SECTION e-e



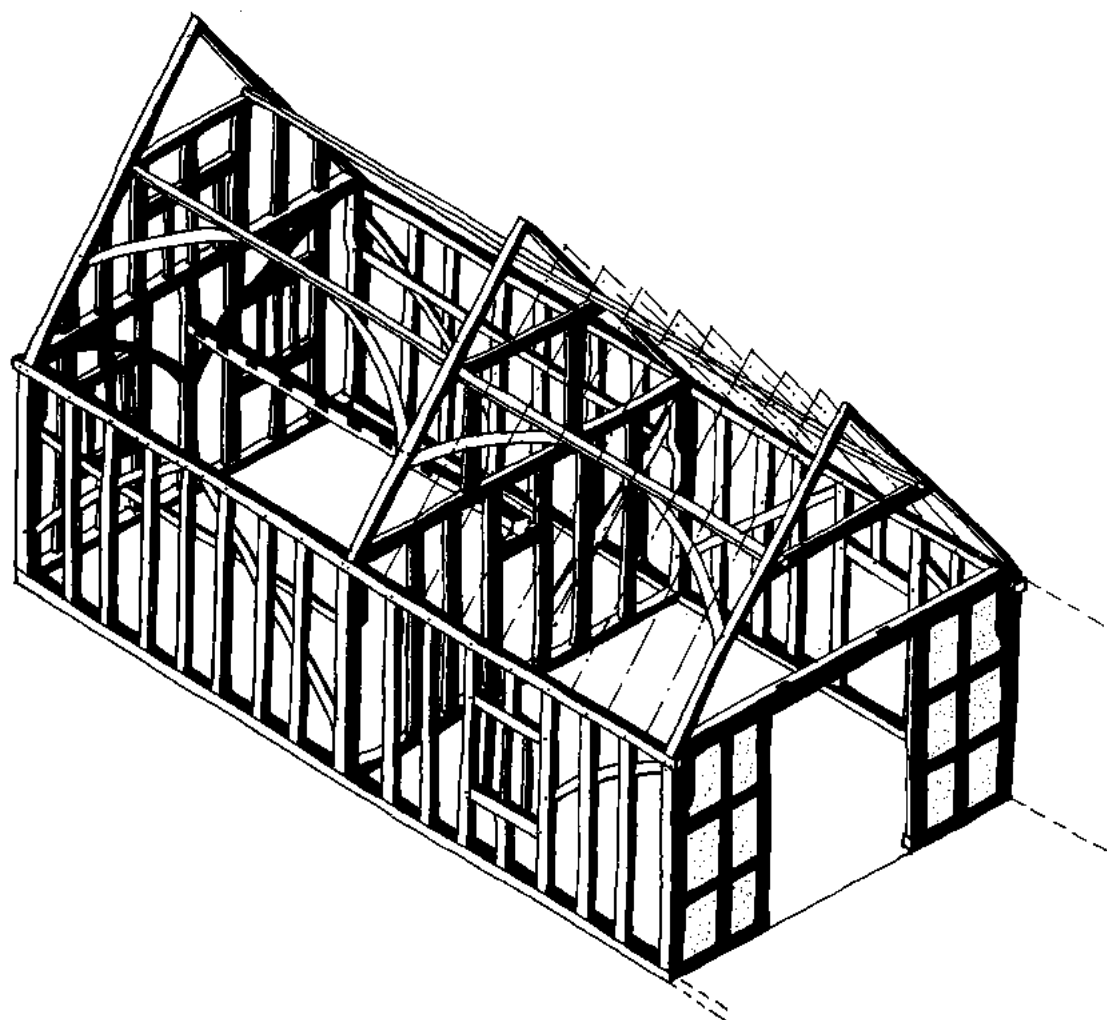


Fig. 3 Crowgate Cottage: conjectured reconstruction.

and further unheated rooms at first-floor level. The blocked ventilation slits and possible stall positions with the high ceilings and high, wide doorways gives further credence for their original use as stables, with lodgings to the first floor. Flanked either side of the approach to the outer gatehouse they would have created, in effect, a base court.

Crowgate Cottage (Figs 2 and 3)

At the southern end of the Causeway stands Crowgate Cottage, a thatched building with a later tiled extension to the southern side. This was recorded in 1988 when extensive renovation works were undertaken. These revealed that the building contained the high end chambers and open hall of an inline hall house.⁶ The cross passage and service rooms would have stood on the site of the later extension.

The one and a half storey building is constructed of good quality oak in the traditional close-studded pattern. The main storey posts are jowled and the slightly curved braces are trencled to the internal face of the studs. Flat-section floor joists are housed into

the axial bridging joist by the use of a soffit tenon joint with diminished haunch. These were supported at their outer ends by floor clamps tenoned into the storey posts and pegged to the upright studs. Evidence remained for two diamond mullioned windows either side of the central post in the northern wall of the parlour, one of which contained the three original diamond mullions. The first floor was lit by a window above the tie-beam. The open hall had been floored at a later date but evidence for a draught screen still survived to the cross passage. This was made up of upright studs with horizontal rails and the openings infilled with wattle and daub, creating a panelled effect. The wall plates were all chamfered with run-out stops and joined using a face halved and bladed scarf joint with four face pegs. The main bridging joist to the parlour was also chamfered but with lambs-tongue stops.⁷ The roof is of coupled rafter construction with side purlins and collars at bay divisions. Slightly curved wind braces were tenoned into the principal rafters, rising to the purlins. The hall window had an opposing opening but no evidence was found for a cill position.

All the visible dating features give a time span of 1570-1590, with the building conforming to the typical plan-form of a medieval inline hall house.⁶

Littleypark Farmhouse (Figs 4 and 5)

Littleypark Farmhouse is positioned approximately half way along the Causeway between Leez Priory and Crowgate Cottage. The building is of complex plan and consists of three major builds with an extensive remodelling in the early nineteenth century.⁸

Each phase of the building is undertaken in timber-framed construction with the earliest build of two storeys being of six bays in length. The front two bays, of similar width, form chambers at both ground and first-floor level. A narrow bay divides the front chambers from the rear two bay chambers with a further narrow end bay beyond the rear chambers which previously acted as a smoke bay. The narrow bay between the two chambers now contains the staircase, and it is proposed that this was its original function, providing access to the two upper chambers. The

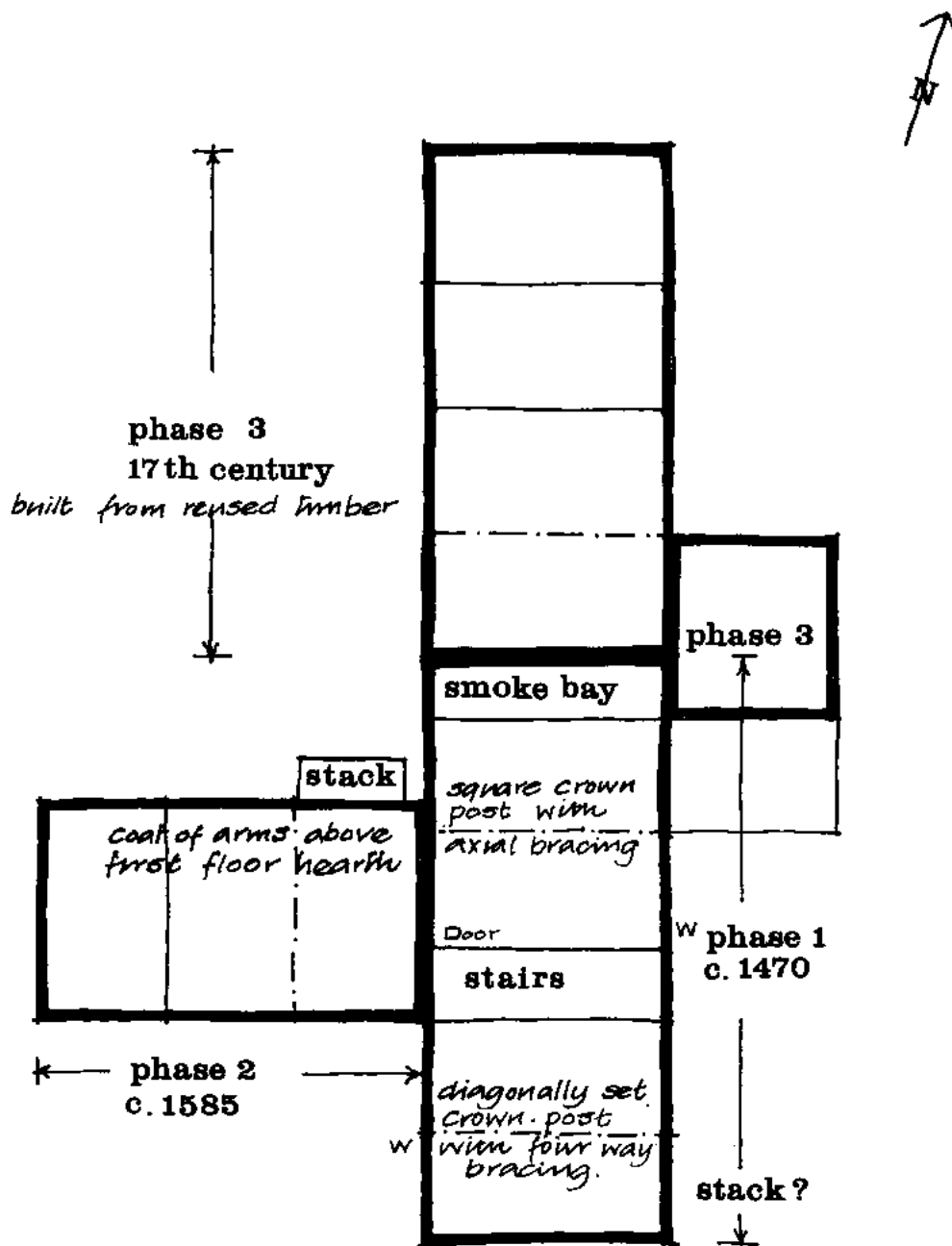


Fig. 4 Littleypark farmhouse: phases of development.

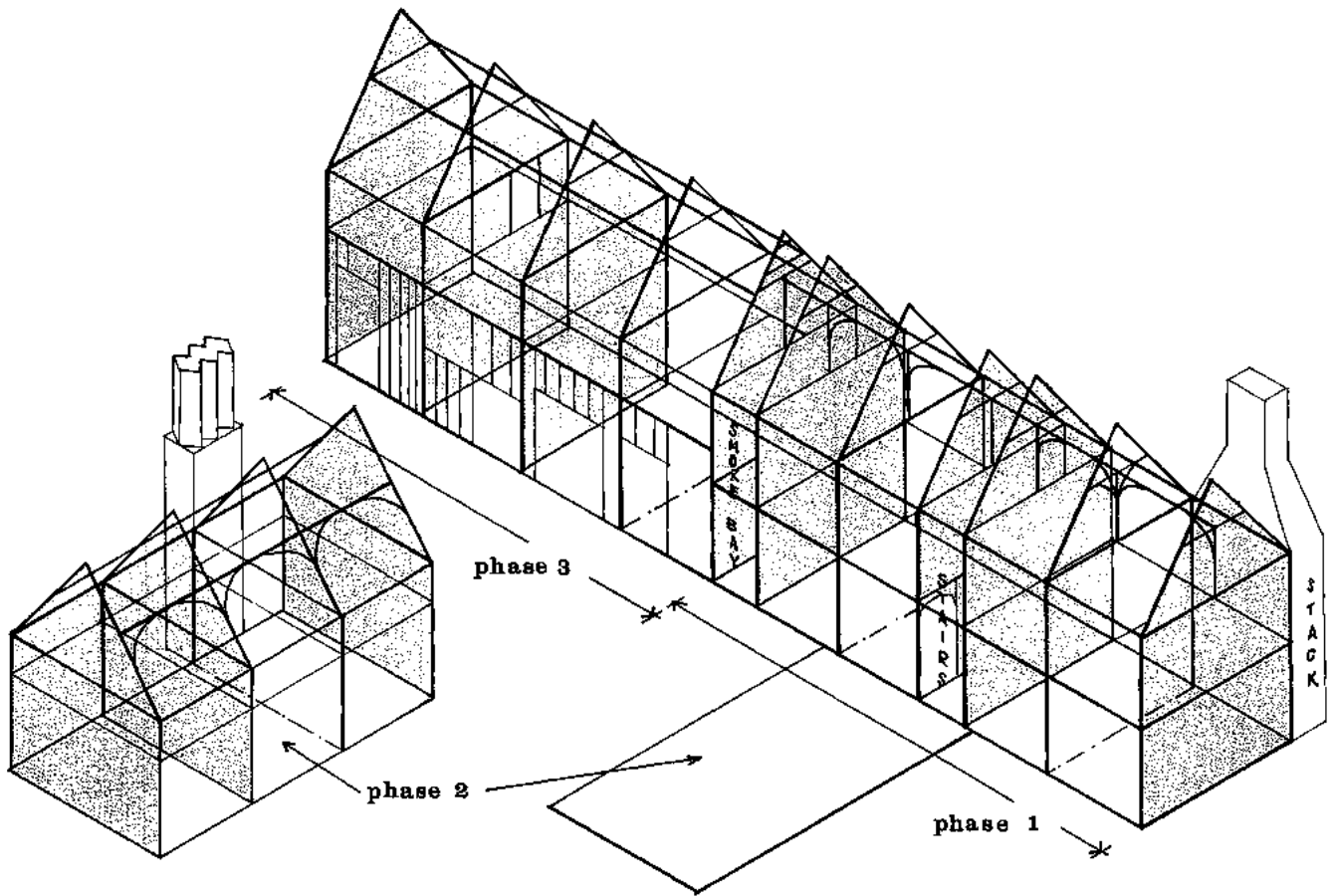


Fig. 5 Littlepark farmhouse: phases of development. Shaded areas indicate existing walls.

modernisation of the early nineteenth century has resulted in the interiors being completely plastered so that only limited evidence is visible internally. A four-centred arched door head survives between the stairs and the rear chamber at ground-floor level, and a cupboard under the stairs shows evidence of a good quality oak frame with trenched braces.

At first-floor level, an unpegged section of wall plate to the front bay of the chamber in the eastern wall could be the position of a demolished timber or brick stack. The important front chamber was unlikely to have been left unheated, and it is certain that the rear chamber was heated, as evidenced by the smoke bay. The wall plates are joined by the use of an edge halved and bridled joint⁹ and the former jowled tops of the storey posts have been hacked back, most probably at the time of the nineteenth century remodelling. Part of the original smoke bay is now opened into the current corridor on the first floor but still retains evidence of soot blackening to the wall plate.

The roof has survived virtually intact and is constructed from oak, "well converted", to give a minimal amount of sap wood. The main front chamber, now ceiled at tie-beam level, would have been open to the apex with the roof plastered between the rafters, as evidenced by the bleaching of the oak by the lime in

the plaster. The central cambered tie-beam has the crown post unusually set diagonally onto its top face (Plate I). The four-way curved bracing is chamfered following the arrises of the crown post and rises to the collar purlin and rafters. So far only four such crown posts have been identified in Essex. The others occur at Horham Hall, Thaxted;¹⁰ The Angel, Broomfield¹¹ and Black Hall, Moreton;¹² all of the buildings are accorded dates c. 1470 or earlier. Original infill still survives between the studs of the partition dividing the front chamber from the stairs at a height above the tie-beam. It consists of a typical incised pattern of double-lined vertical chevrons between a double-lined border with a pecked pattern of random paired holes. The rear chamber has a simple square section crown-post roof with curved axial bracing to the collar purlin. The smoke bay still retained within the roof has substantial areas of soot-blackened daub to its enclosing partitions.

The second phase consists of a three bay one and a half storey extension set at right angles to the stair bay and rear chamber of the first phase. A fully framed stud partition divides the one end bay from the two bays adjacent to the existing build. A later access has been provided at first-floor level which has resulted in the tie-beam being cut. The only evidence for windows

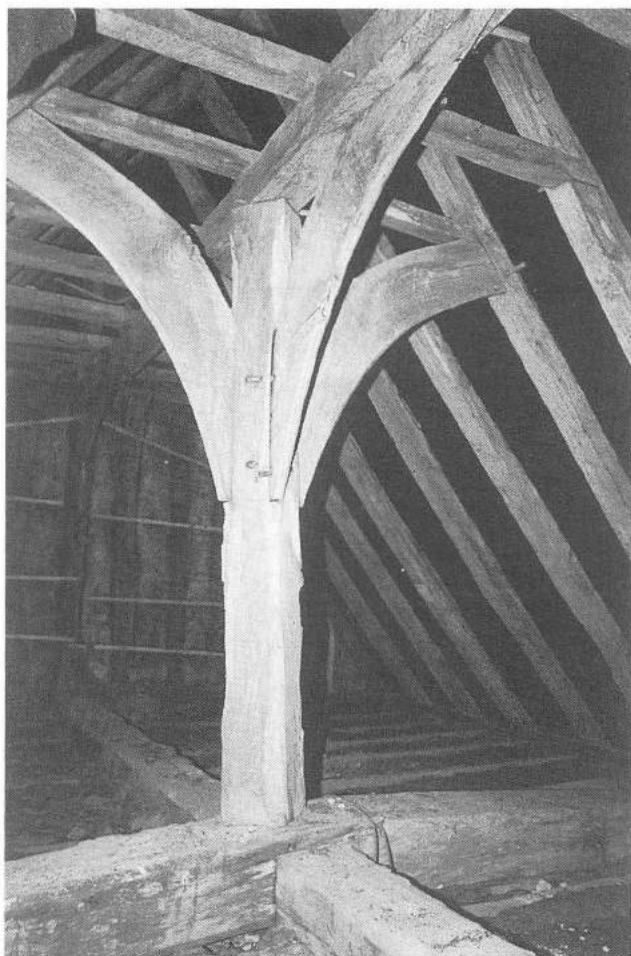


Plate I Littleleypark farmhouse crown post.

is below the wall plate on the first-floor level. They are of ovolo moulded mullions with central timber comes to restrain the leaded light panels. The roof is built of paired rafters with collars, and, at the principal trusses wind braces rising to the side purlins. A brick stack with three concertina shafts is positioned to the rear (north) of the range heating the two bay chambers. At first-floor level a coat of arms is visible through the later plaster.¹³ It consists of a fesse with three roundels in chief and represents the arms of the Devereux family. This family became linked with the Riche family on the marriage of Penelope Devereux, daughter of Walter Devereux Earl of Essex, to Robert, grandson of Richard Lord Riche (Fig. 6). As noted in Morant¹⁴, she "forsook him and was married in his life time to Charles Blount Earl of Devonshire". Certainly the style of the stack and framing would tie in with this late sixteenth century date.

The third phase is constructed of reused timbers and of four bays set inline with the earliest range. Although of similar eaves level to the first phase, the higher ground-floor height results in the upper rooms being set into the roof slope. Part of this range is still

used for storage and previously the first floor was used as a granary. It is suggested that the range has always had an ancillary use and in view of the height at ground floor level could have provided stables with hay loft/granary over.

The development of Littleleypark can be clearly defined by its three main phases. However it presents more problems when deciding its previous functions through the years. Of late fifteenth century date, the original range consisted of four heated chambers with separate access from the central stairs and lobby. Whilst lodges can conform to the standard medieval house type¹⁵ this building contains more similarities to the ranges of lodgings as found pertaining to large medieval halls. Similar building forms were recorded by David Stenning at South Benfleet and Newlands, Roxwell. These are thought to be the lodgings (now The Anchor Public House) range of South Benfleet Hall, and to Newlands Hall¹⁶.

If not a domestic building then its position relative to the medieval park would have given a clear view over most of its extent and would have admirably performed the function of a lodge. This would still be a necessary function whilst Richard Lord Riche was busy extending the original park boundaries. Could the additional wing with the Devereux coat of arms have been a present to the new bride of Robert Riche, or simply to celebrate the joining of two influential families. As to the last build it would appear to have been added at a date sometime in the seventeenth century. Was this when the southern and western areas of the park were converted to farmland and provided stabling with hay loft and granary over, for the building's change of use to a farmhouse?

Conclusion

The uniting feature between the buildings discussed is clearly the Causeway running across Littleley Park. All of the buildings had a function that set them apart as specific examples of their type. However, with all of the later alterations that function can only be suggested by their relationship with the landscape and other buildings until proven by documentation.

The stables and lodging ranges to Leeze Priory would have effectively framed the entrance to the Outer Gatehouse before the later changes of ownership and access. Whilst the dating features cannot be said to be of a specific date the use of the unusual brickbond sets these buildings in context with Woodham Walter Church and the brick barn at Ingatstone Hall. All of these buildings were commissioned by influential Essex families with the date for the consecration of Woodham Walter Church being 1564. In 1623 a similar approach was achieved at Cressing Temple with the paired buildings, aligned to the south of the now existing farmhouse. Unfortunately only one of these survives namely the stables/granary (courthall).

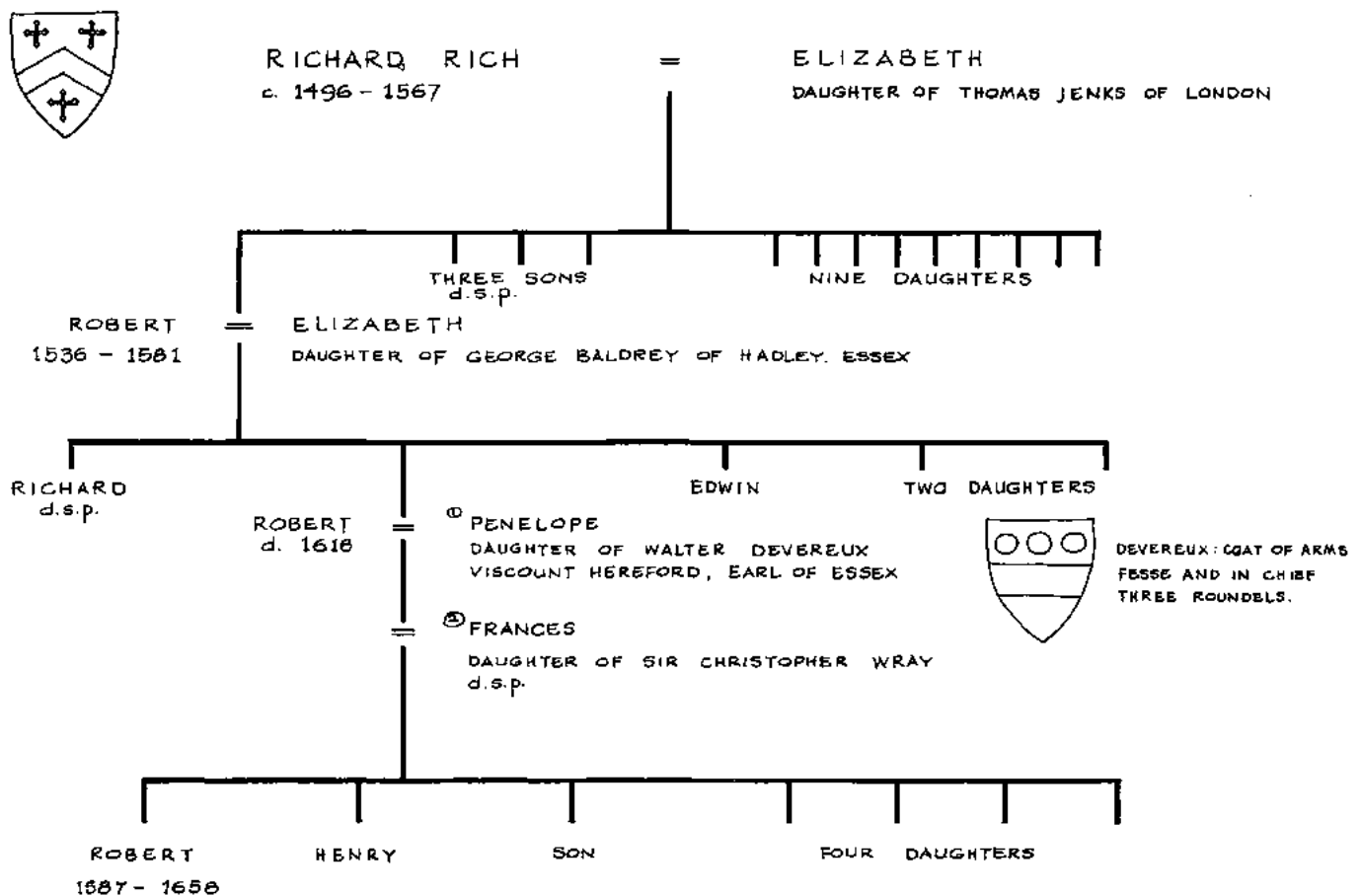


Fig. 6 Family tree of Richard Lord Riche.

The Lodge to Little Park would appear to be the c. 1470 build now incorporated into the farmhouse. Originally containing four heated chambers it is set within the park and had commanding views over its full extent. With the extension of the park under Richard Lord Riche the lodge appears to have had a continued use and it was left to his grandson to add the later wing. The date for the final change of use from a lodge to a farmhouse is uncertain, but the final additions and remodelling appear to relate to the period of disparking and the reversion to farmland.

From the second quarter of the sixteenth century, longwall jettied houses with smoke bays or brick stacks were becoming the prevalent house type for the yeoman farmer. Crowgate Cottage is dated to the late 16th century but is of a conservative type, still with an open hall. Was there an external stack covering the framed opening on the eastern side of the hall?

Situated at the southern extent of the park and the Causeway and of similar date to the extension of the lodge, could this dwelling have been built as the new residence for the parker or ranger of Little Park?

Author: Brenda Watkin, 'Ashley', Willows Green, Chelmsford.

THE BUILDINGS OF LITTLE PARK

Notes

- 1 Howard, M. 1987 *The Early Tudor House — Architecture and Politics 1490-1550*, 149.
- 2 Chancellor, F. 1895 EAT Vol. V. *Leez Priory*. 44-48.
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- 3 Ryan, P.M. 1989 *Woodham Walter: A Village History*, 24.
- 4 Hewett, C.A. 1980 *English Historic Carpentry*, 282.
- 5 Timothy Easton has undertaken an extensive study of scribed patterns contained within circles and associated symbols. These can take the form of rosettes, in full or in part, as recorded in 17th-century German literature on witchcraft. As yet unpublished his findings will eventually be printed within the forthcoming *Encyclopedia of Vernacular Architecture of the World*, edited by Paul Oliver.
- 6 An inline hall can consist of an open hall with floored end or ends, usually of one and a half storeys, but always under a contiguous roof.
- 7 McCann, J. 1985 "The Introduction of the Lamb's Tongue Stop — some new evidence," *Historic Buildings in Essex*, No. 2, 2.
- 8 Many Essex farmhouses were modernised at this time, perhaps as the result of the profit gained from the high corn prices during the Napoleonic wars.
- 9 Hewett, C.A. 1980 *English Historic Carpentry*, 267.
- 10 Horham Hall Guide Book. "This solar was the solar of Large, built about 1470, and later Sir John Cutte retained this room as his solar."
- 11 Watkin, B.A. unpublished drawings and notes. 1990.
- 12 I have Anne Padfield to thank for bringing this building to my attention. Extract from the list description of Buildings of Special Architectural or Historic Interest for the parish of Moreton. --"Said to have been the meeting place of the guild of All Saints, founded 1473."
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The Red Lion Hotel, Colchester

by D.F. Stenning

This paper presents a detailed description of the remarkable early 16th-century timber-framed building complex known as the Red Lion in Colchester.

An attempt is made to establish the sequence of building and the functional inter-relationships of the numerous rooms. Comparisons are made with other contemporary buildings and the scant documentary evidence is examined and evaluated.

Whilst the original purpose of the complex remains unclear, a convincing link with the important Howard family is established and a likely construction date is deduced.

Introduction

The Red Lion is a magnificent complex of timber-framed buildings, fronting the south side of Colchester High Street. In 1987, the property was purchased by a new owner and a major programme of repairs, alterations and improvements was set in hand, involving the complete opening-up of the fabric and providing ample opportunities for inspection and evaluation.

During the progress of the contract virtually every surviving member and much of the substructure was opened to view, enabling a detailed examination to be made.

The author, and others, were able to study the surviving features and to make drawings of the various parts. Unfortunately, as with most ancient buildings, the fabric proved to be far from complete. Over the centuries, buildings are constantly altered and adapted and each change obscures the original concept.

The Red Lion has long been regarded as something of a mystery, partly as a result of a lack of documentary records. At the beginning of the survey, it was hoped that a detailed examination of the buildings would bring to light sufficient evidence to determine its use, and to allow it to be dated with some accuracy. However, although a wealth of information was obtained, some major areas remain unknown, particularly where fabric has been removed. In addition, our knowledge of other comparable urban structures is somewhat sketchy and at present seem insufficient to allow for a full understanding.

The purpose of this study is therefore, to present, as completely as possible, the information discovered as a stepping stone on the path to knowledge. Obviously, with studies of this kind, it is tempting to speculate without a firm factual base. Conversely, it is

all too easy to provide a mass of survey material without attempting any analysis or trying to weigh its particular value. There is little doubt that all ventures of this kind deal with degrees of 'probability' rather than certainty and the student of architectural history should be wary of this fact.

General site layout (Fig. 1)

The various building blocks are disposed to form a dense urban complex. The O.S. map of 1876 shows the Red Lion as part of an area of commercial building, between the High Street to the north and Culver Lane to the south. The documentary evidence suggests that a large block of land, bounded by Culver Lane, Lion Walk and Eld Lane, once belonged to the Red Lion and may well have contained buildings. The particular alignment of Lion Walk, centred on the Red Lion courtyard, may be coincidental, but could also suggest an earlier through route.

Figure 1A shows the northernmost part of the site at its earliest recognisable stage, prior to the major redevelopment that forms the principal part of this study. Some way back from the frontage stood the 'southern halls', which still survive and which will be considered in greater detail later. The shaded areas represent missing buildings which were clearly in existence at this time, in that their presence helped to determine the later layout.

Figure 1B illustrates the major redevelopment at its first, formative, stage with the new complex filling much of the available site area.

The east wing is of three storeys in height, is jettied to the frontage and penetrates well into the site. It seems appropriate to regard this as a drastically extended version of the domestic 'service' crosswing as found in the typical medieval house. Attached to its flank, some way back from the frontage, is a block at right angles, containing two 'halls', one on top of the other. This again reflects the standard domestic plan, although the halls are in duplicate and set deep within the site. That these two ranges are contemporary, and form part of a considered 'design', is proven by the detail. The fenestration of the crosswing's west elevation is carefully placed to take account of the hall block, which obviously covered part of the facade.

As originally conceived, the rest of this west elevation was an *external* wall and was elaborately decorated for display. All horizontal members were richly

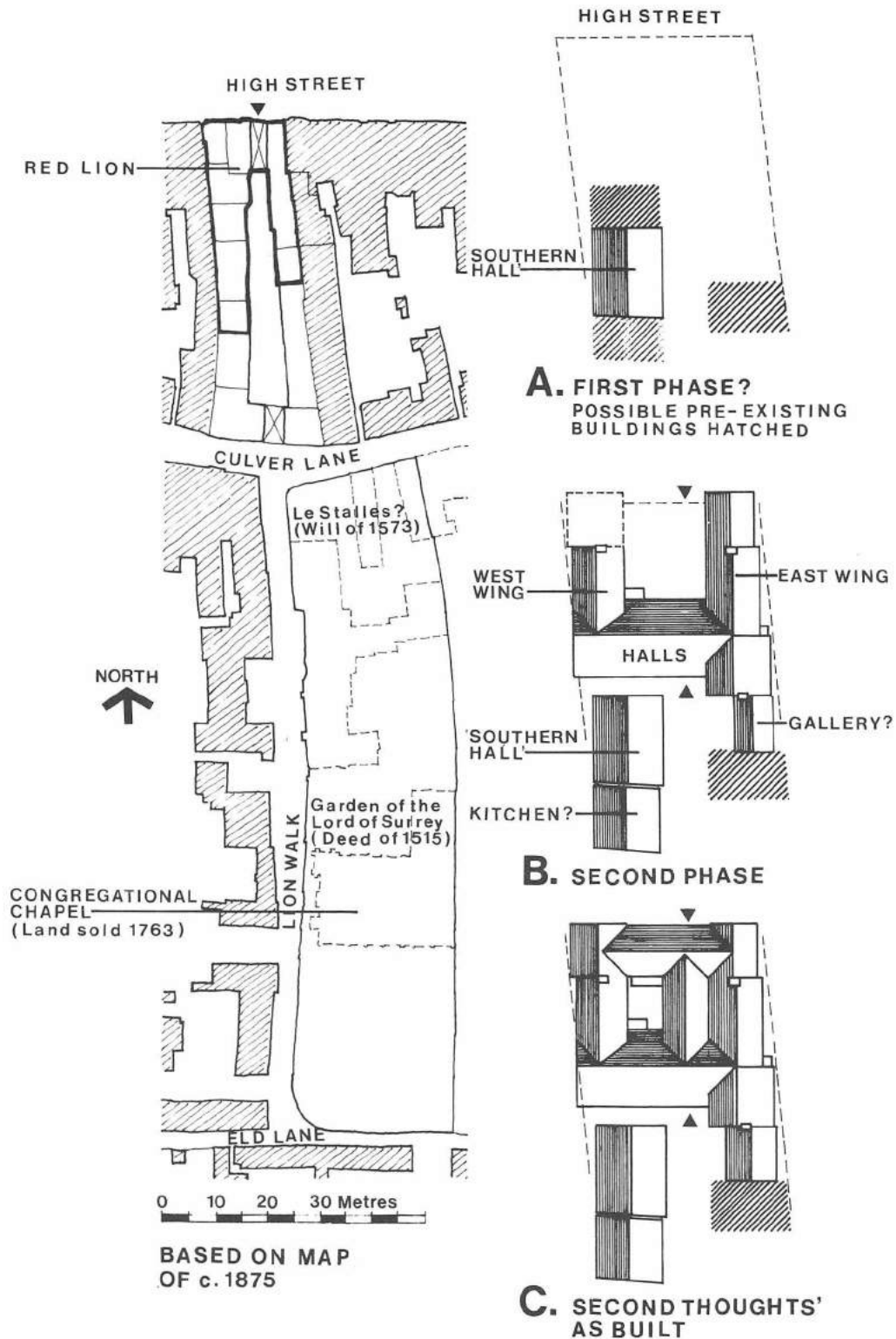


Fig. 1 The Red Lion, Colchester. Site location (left) and general phase plan (right).

moulded and the principal posts had attached vertical shafts which rose the full height of the elevation.

The three-storey west wing also seems to have formed a part of the original design concept. The

north-western corner of the hall range takes structural support from the western wing and thus the two structures seem physically inseparable. This short wing, which returns to the frontage, presents problems

of interpretation, to which we will later return.

We are therefore presented with an original concept which provided a forecourt-like arrangement to the High Street frontage. This seeming likeness to a typical Parisian 'hotel' may, of course, be misleading. It is quite conceivable that this forecourt area contained pre-existing buildings at this stage which our builder was unwilling, or unable, to demolish.

The principal entrance to the complex, which was to remain unaltered through the centuries, was via the eastern side of the court. The easternmost end of the ground-floor hall, contained an ultra-wide cross-passage, another resemblance to a conventional house plan. The intended access to the upper hall was probably via an external stair, but this is now impossible to prove.

At this stage in our deliberations we are forced to confront a problem of major importance. It would appear that whilst the building was being constructed this first concept was drastically changed. Detailed examination suggests that the carpenter had already produced most of the intended framing and that this needed to be modified to suit the changed circumstances of the plan (compare Fig. 1, B and C). That the same carpenter was responsible for both 'phases', is immediately apparent: the general structural concept, the carpentry technique and the consistency of the decoration all point to this fact.

The primary objective of this changed scheme was to provide a unified frontage to the High Street (Fig. 1C, 'Second Thoughts'). This took the form of a three-storeyed block, linking the cross wings and 'continuing' their jetties. It is also apparent that this frontispiece, including those parts fronting the wings, formed a single constructional unit. Hence it is clear that the scheme had been modified before the cross wings had been completed, and that their ends were modified to suit the new set of requirements. As a result of this change, the 'entrance approach' became a covered tunnel and an extension of the hall cross-passage.

The construction of the west wing seems not to have been much advanced at the time of the rethink. Its detailed design, part jettied to the east, seems to take account of the presence of the front range. However, its inner top plate (north end of east elevation) is clumsily lapped over the rear plate of the front range; a totally uncharacteristic feature. In addition, the lap is contrived at a pre-existing scarf joint, suggesting that the top plate had been curtailed.

In addition to the front range, the new scheme incorporated a further block to the rear. This three-storey structure infilled the space between the front range, east wing and hall block, leaving a small, internal court. Its western face was jettied on each floor, mirroring the detailed design of the west wing.

One effect of this change was to block large windows on each storey of the east wing. This curious

phenomenon of large windows on an internal wall effectively confused the Royal Commission investigator, who was forced to imagine an extra light well! (R.C.H.M.E. iii). The construction of this element further extended the covering of the entrance way, providing a continuous cross-passage from the frontage to the south door of the hall.

Geometry of the site (Fig. 1)

The east and west site boundaries are approximately parallel, and the frontage is not quite at right angles. This suggests that the two side boundaries constitute an ancient plot subdivision of a straight High Street, with the slight angling of the frontage representing later encroachment that produced a general curving of the street line.

Our carpenter clearly wished to take full advantage of his site and to build as close as possible to the existing boundaries. Usually, when faced with this problem, the medieval designer opted for a non-rectangular layout. The sides and front of the building were aligned with the boundaries and each compartment formed a parallelogram. Our designer had other ideas and disposed his rectangular rooms to form a stagger down the sides. The little triangular spaces left over at the edges had other uses, as we shall see later. However, this important design decision had other consequences and resulted in a multiplicity of complex frame junctions and an unduly difficult roofing problem. Can we deduce from this that our master builder was unused to working at such a large scale or on such a constricted site?

Today, the Red Lion site contains the hotel complex and the northernmost part of the Lion Walk shopping development (early 1970s). To the rear of the timber-framed buildings are a number of 19th and 20th-century buildings, that form, or formed, part of the hotel and presumably replaced earlier service blocks (Fig. 1, left).

As has been previously mentioned, the surviving timber-framed buildings represent two distinct developments (Fig. 1A and B). Having examined the general deposition of the 'Frontage Complex', we will now direct our attention to the other major element.

The 'Southern Hall'

This is a two-bay, two-storeyed building with its long axis orientated approximately north/south (Fig. 1A 'First Phase?' and Fig. 4 South-North Section). Although much repaired, it was possible to determine virtually all of its original design, although some fundamental questions remain unanswered.

Sited near, and virtually parallel to, the western boundary, its eastern elevation is continuously jettied with brackets, attached shafts and carved capitals on each major structural post.

THE RED LION HOTEL, COLCHESTER

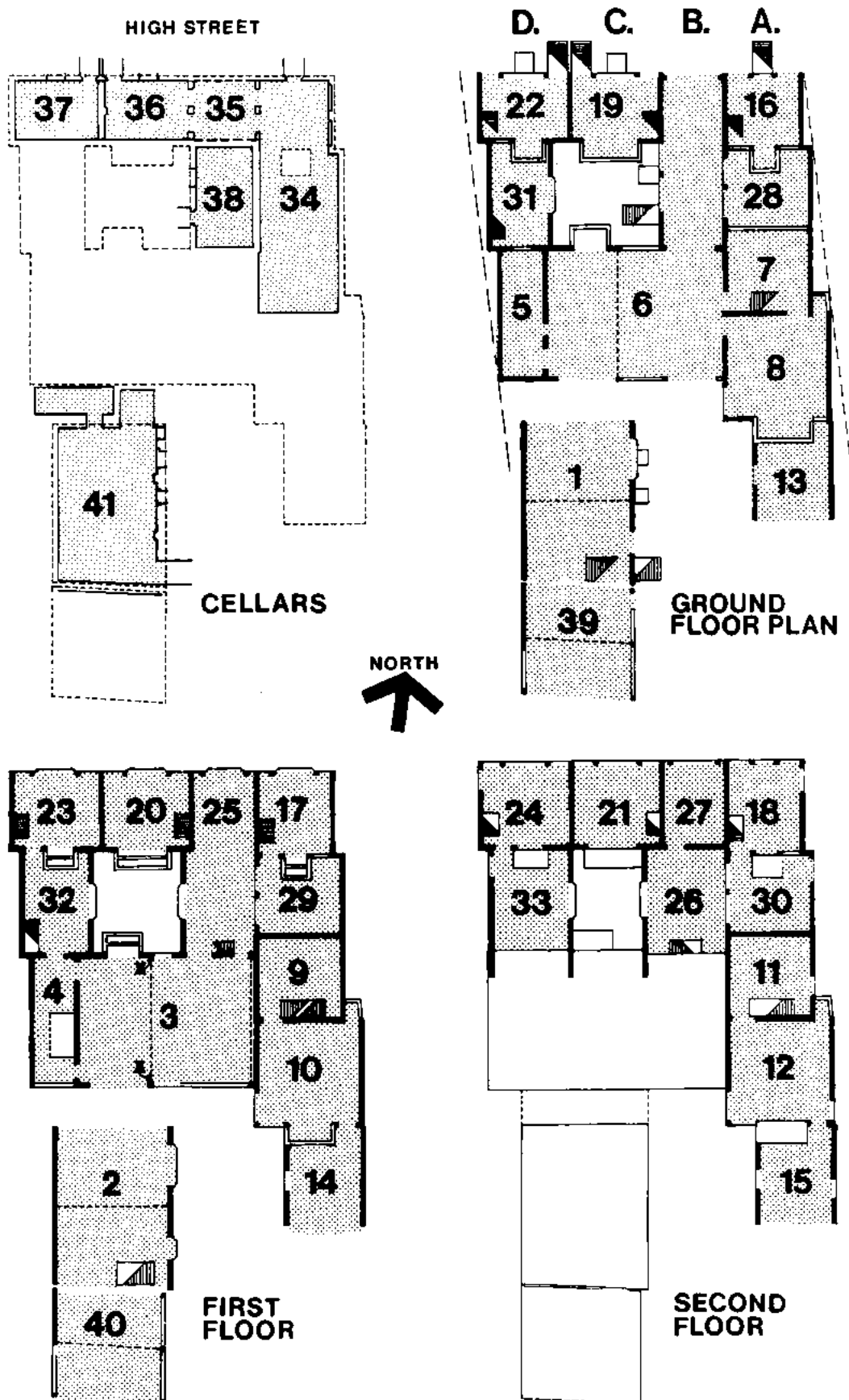


Fig. 2 The Red Lion, Colchester. Sequence of floor plans (LW = light well).

The ground floor (Fig. 2, Room 1) gives the impression of one large, lofty chamber with an impressive ceiling of moulded joists. Most of the southern bay joists are painted in red, black and ochre; possibly all are original. Unfortunately, in the northern bay, they are covered in modern, yellowish-cream paint, but are likely to have been originally the same. Access was gained through a large, arch-headed door roughly central in the east wall of the southern bay. To its immediate south, a staircase rose to the upper chamber and the usual solid-tread type seems likely. Central in the east wall of the northern bay was a wide oriel window. Already, this plan disposition suggests the usual hierarchy with a 'high end' to the north. It seems probable that this ground-floor chamber was once subdivided with some form of light partitioning. A shallow mortice, about half way up the central post, suggests this without indicating the exact layout.

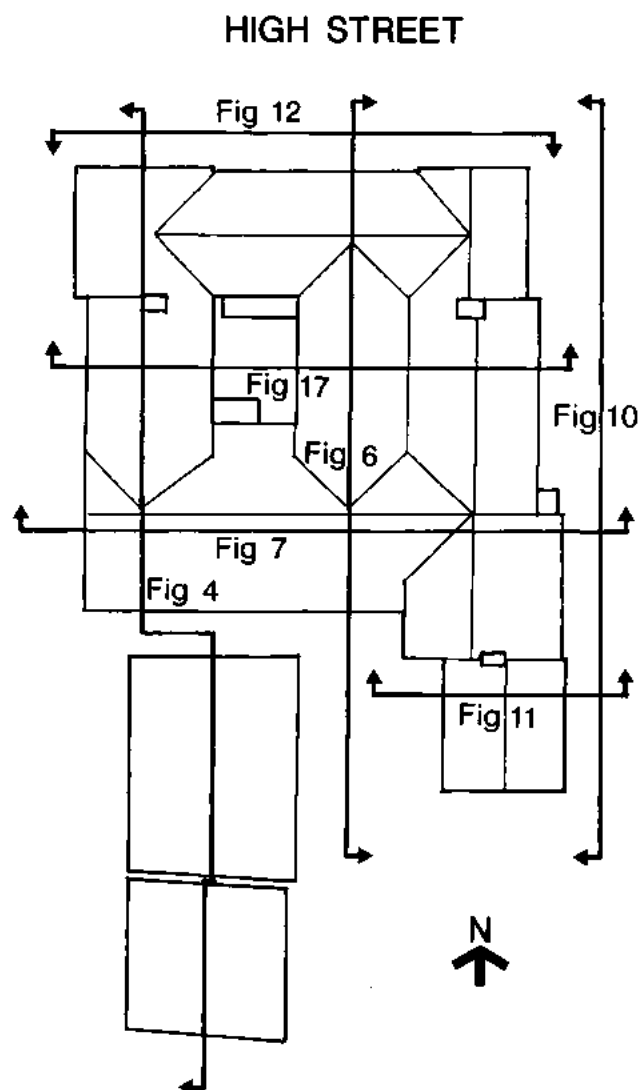


Fig. 3 The Red Lion, Colchester. Outline plan showing positions of sections and elevations.

The upper chamber (Fig. 2, Room 2) is even loftier and clearly the more important of the two. The central tie beam has simple arch braces and carries an elaborate crown post. This has arch bracing to the collar and collar purlin and is octagonal with a moulded cap and base. The crown posts over north and south tie beams are without decoration and carry longitudinal braces to the collar purlin. Central to the east wall of the southern bay was a narrow, tall oriel window immediately over the door below. The north bay had a wide oriel window, similar to that on the floor below and again emphasising 'high end' status.

The most problematic aspect of the building revolves around the design of the north and south ends. These are both 'open' frames, without any studwork, and with similar arch bracing to their tie beams. In addition, there are mouldings on the external face of each bridging joist, but no central mortices to indicate a continuation of the floors. At the north end the western top plate has clearly been truncated and the collar purlin projects about 12". From this evidence, it seems probable that the 'Southern Hall' was originally erected, between two pre-existing buildings, both of which have long since disappeared (shaded areas on Fig. 1A).

These former structures must have been of sufficient size to 'cover' the existing open trusses, thus avoiding the need for any form of infill. The framing at the northern end was easiest to examine and contained two minor clues. The north-eastern, ground-floor post displayed a mortice in its flank suggestive of a further prolongation. In size and position, a window cill seems likely, or the head member for an access to a cellar. However, it was clearly evident that this pre-existing block was without a frontage jetty. The inner jetty bressumer on the existing 'Southern Hall' structure stopped short of the end, against a carefully contrived upstand on the north-east corner post.

It has already been noted that the collar purlin, at this end, protrudes forward of the truss. The short stub of the collar purlin has been sawn off, through the end mortice of 'halved and bridled' scarf joint clearly indicating its former extension. However, the crown post itself lacks a brace mortice on its external face, as is also the case with its southernmost counterpart. Taking all this into account we are still lacking sufficient evidence to provide a convincing reconstruction of this missing building.

The most likely thesis involves a short unjetted bay, open from ground to roof (moulding on external face of bridging joint), like the hall of a tiny Wealden house.

Cellar of 'Southern Hall'

Below the southern hall, a deep cellar echoes the plan form above (Fig. 2, Room 41). Access was via external steps at the southern end of the eastern elevation and much has survived unaltered. That this was an original

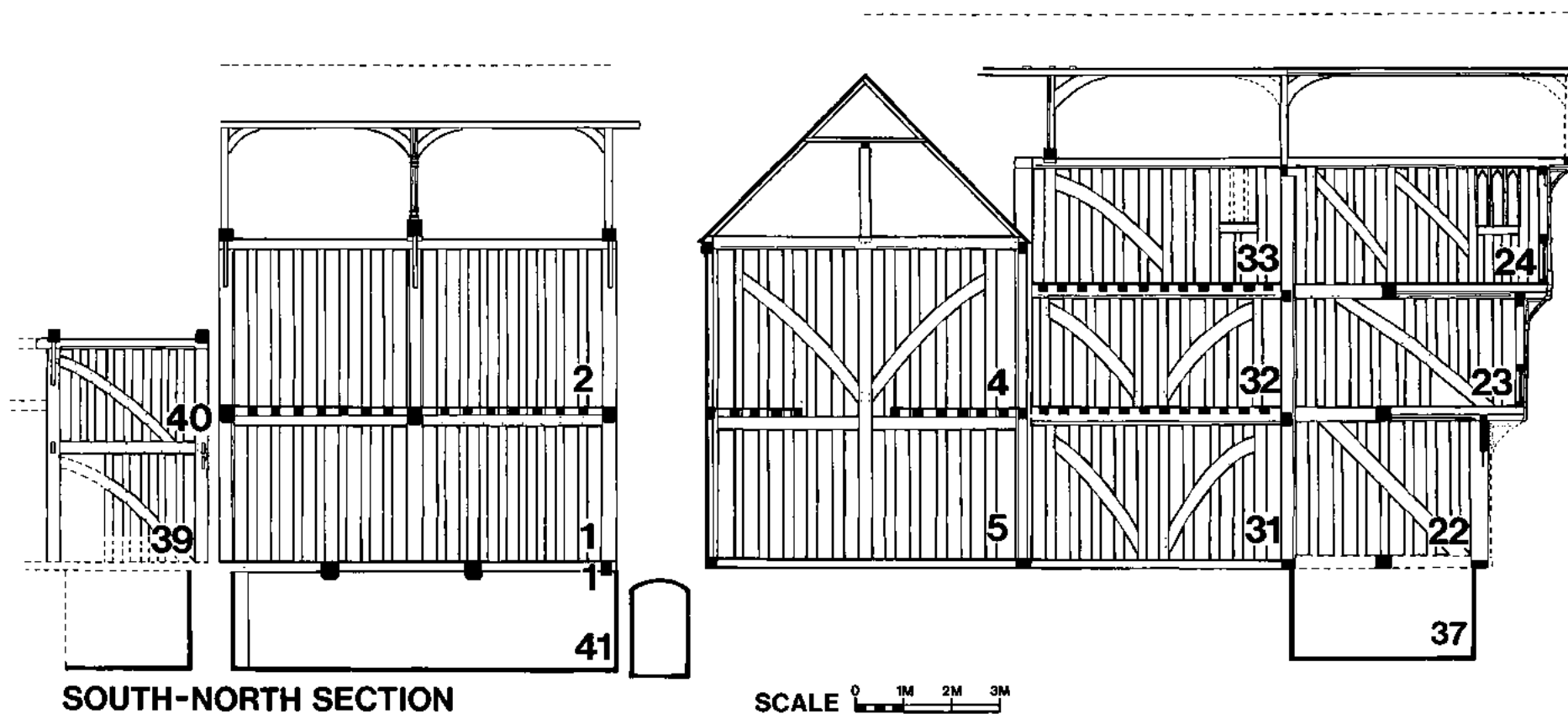


Fig. 4 The Red Lion, Colchester. Section through the west wing and southern hall, from south (left) to north (right). For position of this section refer to Fig. 3.

feature is conclusively proved by the surviving door head, framed into the structure above. Mortices in the adjacent posts point to some form of pentice over, to protect the head of the cellar opening. Two 'window' openings, with splayed reveals, pierced the eastern wall and gave light to the cellar. It is the author's opinion that the eastern and western retaining walls are contemporary with the timber structure above. These are well built and substantially of brick, but with limited areas of repair. At the northern end, most of the wall has been removed as part of a later remodelling.

It seems significant that the southern wall is slightly skewed in relation to the other walls and that this peculiar factor is repeated in the framing above. This cellar wall is relatively thick and contains stone, brick and tile, suggestive of an earlier phase. It is my opinion that this particular wall formed part of an earlier medieval building, against which the "Southern Hall" was erected.

Immediately to the north of this large cellar is an

enigmatic pair of underground chambers (Figs 2 and 5). These lie between the southern hall and the frontage complex and it is not at all clear as to which they relate. A narrow opening (now blocked) gave access to a small, brick built 'cistern' to the west, with a slightly pointed, brick barrel vault. At its western end, the summit of this vault displays a blocked opening, suggestive of the base of a chute. It has been plausibly suggested that this was a garderobe pit, related to the northern halls. To the east, the smaller chamber has rubble walls and shows signs of numerous alterations. A fragment of stone, in the ceiling above, may be part of a hearth slab of a long demolished stack. Remnants of an arched recess and traces of a segmental vault are other intriguing features that defy explanation.

An earlier description (R.C.H.M.E. iii) indicates that a dog-leg stair once rose above this space. This early 18th-century feature served the upper floors, to north and south, and was presumably unrelated to the original design.

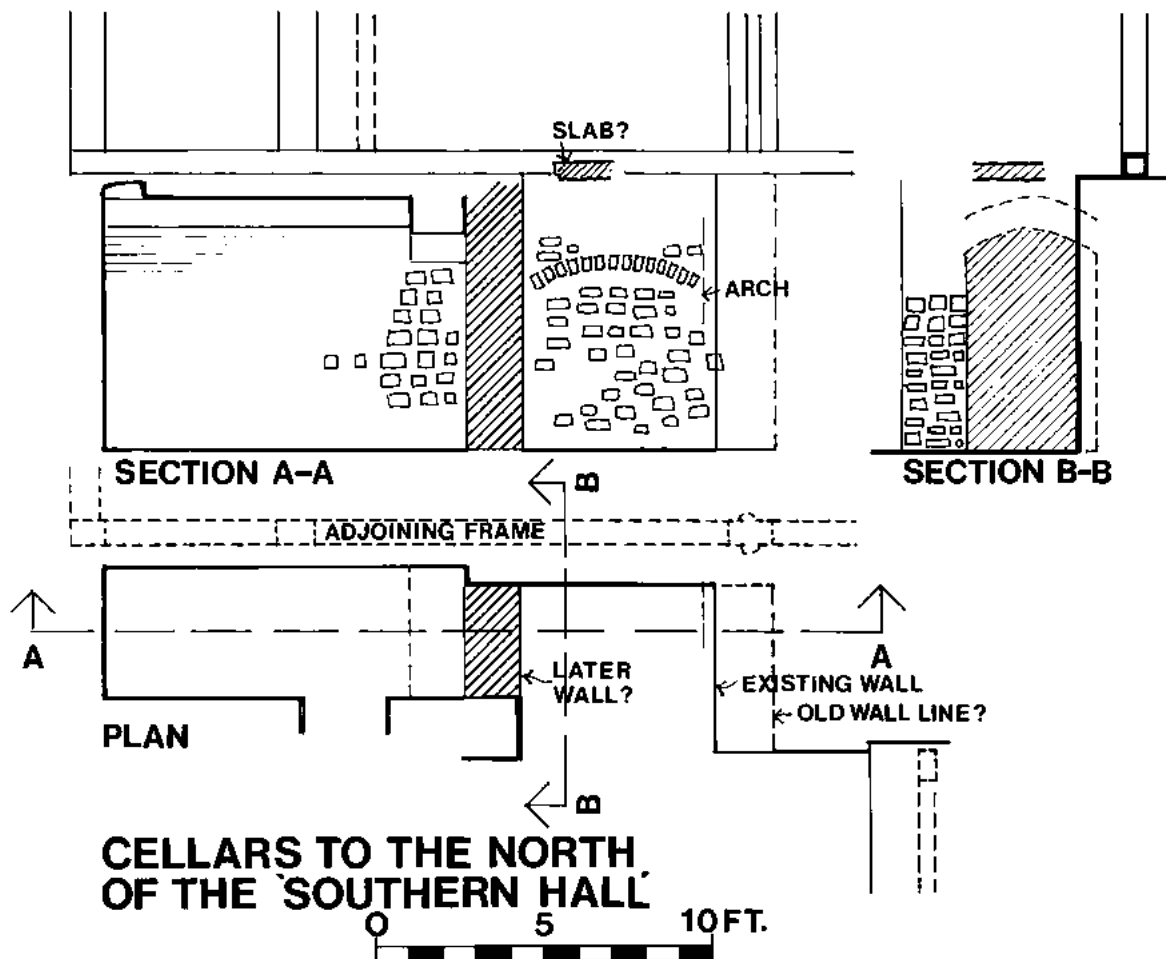


Fig. 5 The Red Lion, Colchester. Cellars to the north of the 'Southern Hall'.

Carpentry of the 'Southern Hall'

The general style of carpentry is quite unlike that of the 'frontage complex' to the north. The crown-post roof is a late, but decorative, example and very typical of the Essex/Suffolk border. The crown-post braces are noticeably thin, flat in profile, and particularly short where they feature at the gable ends. The main posts are without jowls, as was common practice in Colchester, but unusual elsewhere. No evidence was found for any wall bracing, in striking contrast to the other, later, buildings on the site. The overall effect of very long wall studs, a wide fragile-looking roof and inadequate cross bracing, tends to suggest a lack of experience of building on this scale. In contrast, the floor-joist mouldings and floor-joist joints (central tenons with soffit shoulders) and design of the oriels exactly match the frontage complex.

The well-decorated east elevation incorporates an intriguing technique not previously encountered. The blank areas of walling between the openings seem to have been infilled with masonry for the lower two-thirds of their height. Small notches, cut in the flanks of the posts, carried some kind of cill, as a base for the studs and as a head for the walling. A short length of chamfering on the corners of the posts adds credence to this reconstruction.

Dating

The R.C.H.M. investigator considered that the 'Southern Hall' post-dated the complex to the north (R.C.H.M.E. iii). Clearly it is difficult to differentiate between buildings of a similar date, especially when their carpentry is of a quite different character. Often, their disposition can provide useful clues but these seem lacking, or contradictory, in this case.

It is now suggested that the 'Southern Hall' is a structure of the late 15th century and immediately preceded the buildings to the north. It must be emphasised that this hypothesis is unproven but seems more likely on the balance of the evidence.

The frontage complex: a detailed description*The transverse halls (Figs 1, 2, 6 and 7)*

It seems sensible to begin this detailed description by examining the hall block, which was intended to straddle the site, back from the frontage. The twin halls were obviously the visual and functional focus of the complex and the task of reconstructing the circulation system must inevitably start from here.

This hall block was of two lofty storeys with one end abutting the east wing. At its west end, it appears to have terminated just short of the boundary, leaving a small triangle of redundant land. The first-floor level exactly coincides with the first floors of all other buildings on the site. This, together with many other factors, suggests that the first floor is a kind of 'piano nobile' containing the principal chambers throughout

the complex. This primacy of the upper floor probably reflects common medieval practice such as the typical guild hall or domestic first-floor hall. Although originating in a need for security, the practice came to represent a status feature and part of the sophisticated 'hierarchy of spaces' present in a medieval building. In addition, on urban sites, the ground floor was substantially given to commercial use, thus providing a further practical justification.

Today, the character of this block is difficult to grasp as a result of earlier demolition. At some unknown time in the past, a substantial part of the eastern end of Rooms 3 and 6 was completely removed, to provide an open passageway through to the south. The alteration was probably motivated by the need to provide a coach access from the High Street to stabling at the rear. Fortunately, a substantial part of the northern top plate and intermediate girt survived *in situ*, leaving at least some indication of its former design.

The structure of the hall block was so disposed as to provide for three extremely unequal bays, identical on each floor. At its east end, the two top plates and two side girts were tenoned into studs or wall posts on the flank of the eastern wing.

The block appears to have been roofed in the obvious lengthwise manner, gabled to the west, and conjoined with the wing to the east. The design of each storey differs in detail and is described separately below.

The upper hall

Like the floor below, this consisted of a large, two-bay space and a narrow compartment partitioned-off at the western end (Fig. 2, Room 3). The two interconnecting bays were unequal in size, as are the equivalent two bays of a typical 'hall house' of the region. The eastern bay, adjoining the east wing, was the larger of the two, as would customarily constitute the 'high end' of such a dwelling. In this instance this simple interpretation is possibly misleading as there are no additional factors to confirm it. The junction between the bays is defined by a pair of posts, to carry a moulded tie beam. These posts are without jowls (as in the case throughout the complex), and are moulded on their inner arrises. Heavy, knee-like braces stiffen the post/tie beam assembly and are carried on intricately carved capitals over bold attached shafts (Fig. 8).

The braces themselves have carved foliate spandrels and curious rectangular cut outs at the innermost upper corners. Their soffits carry mouldings which are continued on the underside of the tie beam, as is the normal practice in high quality work. Above this two-bay space, the tie beams support lengthwise-moulded spine beams, which in turn carry moulded ceiling joists, thus concealing the roof space. This form of cambered timbered ceiling is a luxury technique and is relatively rare in East Anglia (Alston Court, Nayland, Suffolk and The Ancient House, Thetford, Norfolk are

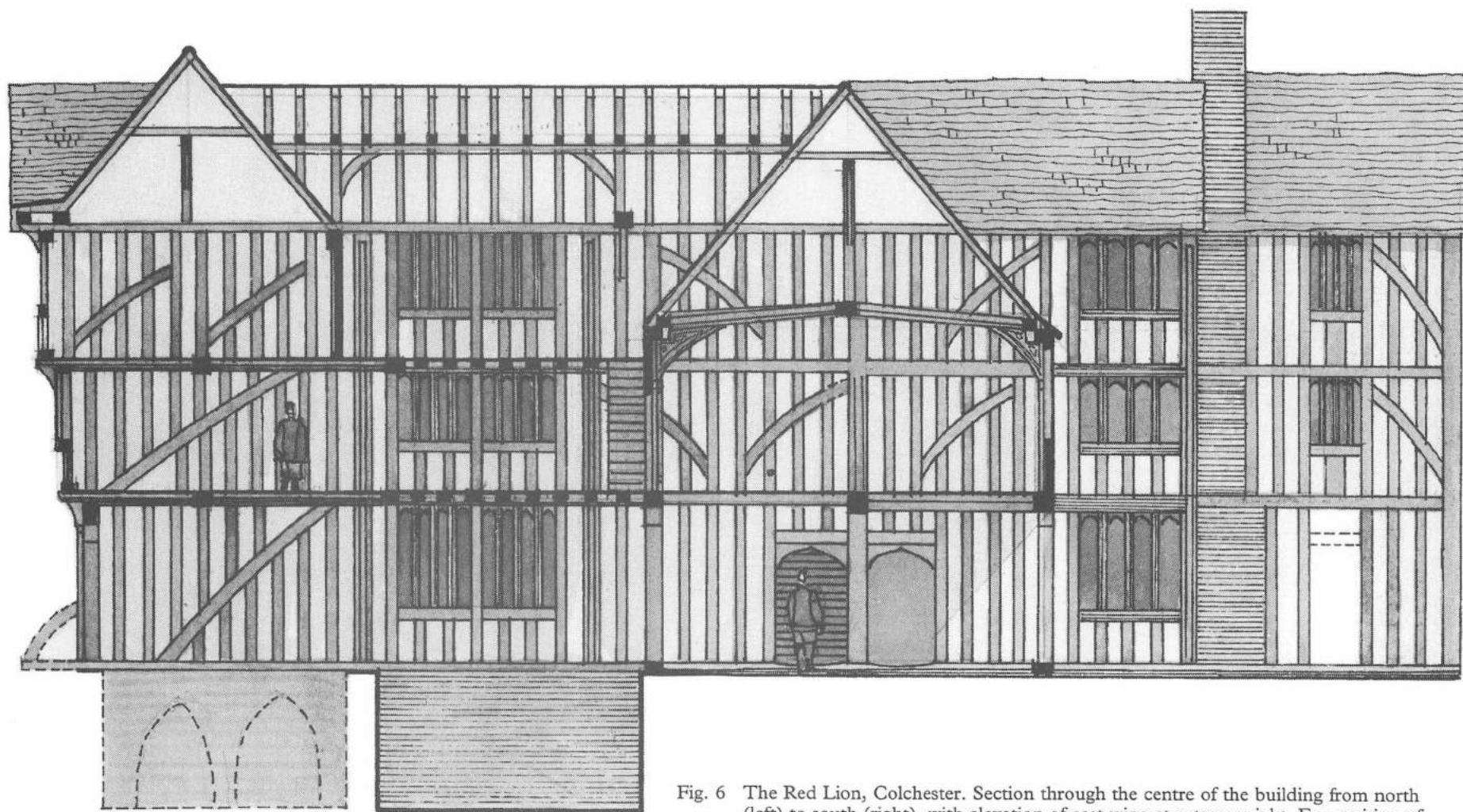


Fig. 6 The Red Lion, Colchester. Section through the centre of the building from north (left) to south (right), with elevation of east wing at extreme right. For position of this section refer to Fig. 3.

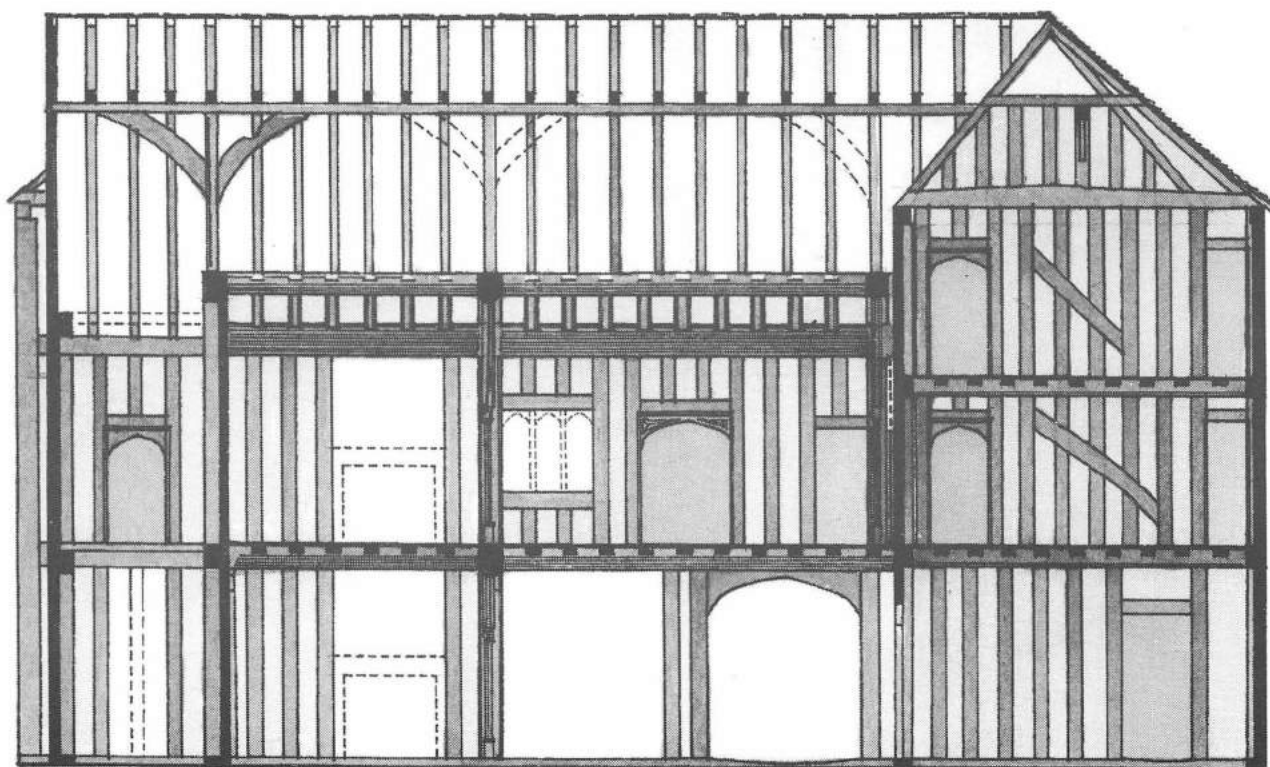


Fig. 7 The Red Lion, Colchester. Section through halls and the east wing, from west (left) to east (right). For position of this section refer to Fig. 3.

other, more or less contemporary, examples).

At the east end, a similar tie beam virtually abutted the wall of the east wing and was related to broad studs which stood on the first-floor girts. Although this tie beam has now gone and only a single mutilated wall post still survives, the former presence of attached wall shafts and arched braces could be determined.

The overall structural skeleton of this first-floor hall can therefore be determined with some accuracy. Having been subject to demolitions, alterations and numerous restorations, the secondary detail is, however, far from complete.

The north wall (Fig. 7)

The western bay of the north wall now includes a large window, gaining light from the internal light well, to the north. Although earlier writers (R.C.H.M.E. iii) accepted this window as an original feature, it is clearly relatively modern and incorporates reused timbers. Careful inspection revealed that the top plate and cornice above this window had been replaced, and the ceiling joists had received new ends. Obviously, this suggests the pre-existence of some other feature that caused this localised damage. A fireplace/chimney stack seems the probable solution and further evidence will be offered later.

The north wall of the eastern bay contained three

features of note. Immediately east of the principal post there was an original window opening of uncertain width. Beyond this was a wide door opening with moulded jambs and an arched head. Although only one jamb survived intact, a probable reconstruction can be attempted (Fig. 7).

It seems possible that this door was originally intended to lead to an external staircase before this was covered up by the gallery of the 'second thoughts' scheme. A further door opening was clearly indicated, adjoining the eastern wall post, where an appropriate rebate still displayed the original pintles. This took the form of a narrow, utilitarian opening with a simple, flat head.

The east wall (Fig. 6)

The internal elevation of this was formed by the revealed part of the east-wing flank. Because of the relative height of the hall and wing, part of two storeys of the latter could be seen from within the hall space. A major east-wing storey post falls on the hall centre line and formerly displayed an attached shaft. Whether this carried a longitudinal arch brace proved impossible to determine. The external wall bracing of the east-wing flank forms a feature of this internal wall. On the upper range the bracing appeared symmetrical, but below, the effect is somewhat chaotic. Although it is

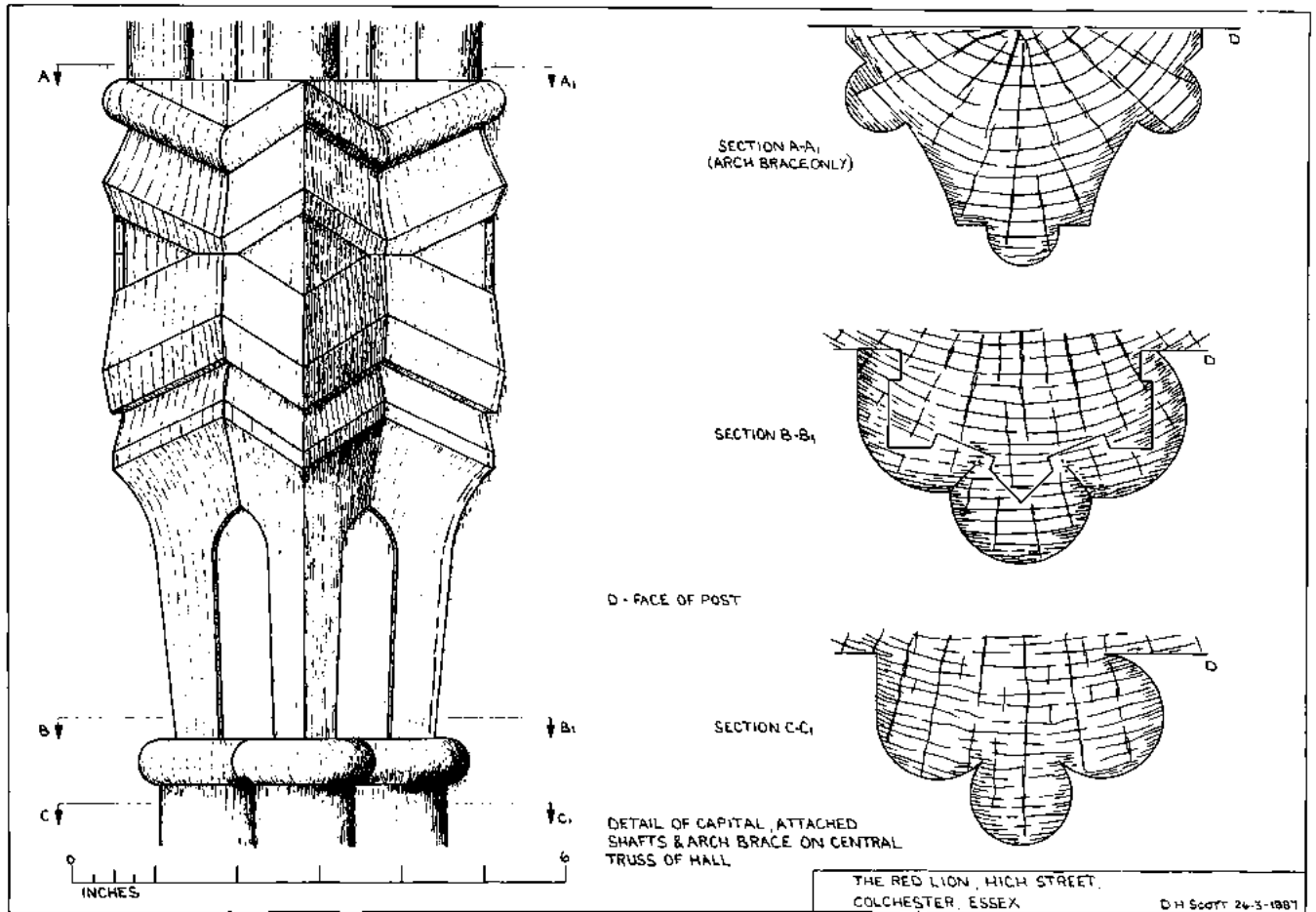


Fig. 8 The Red Lion, Colchester. Detail of capital, attached shafts and arch brace on central truss of hall.

tempting to suggest a 'high end' bench against this wall, the detail does not seem to bear this out. Large peg holes at a suitable height are certainly present, but only over a limited area. These seem more likely to have supported a bench within the east wing rather than within the hall. In any case, the central attached wall shaft would have presented an obstacle and the asymmetrical wall bracing would have spoilt the effect.

The south wall

The western bay, together with its equivalent on the floor below, provides one of the minor, unexplained, riddles of the complex. It is almost completely without infill, save for one stud at its western side. At first sight it seems a suitable situation for an external stack, but the other stack opposite (if this was an original feature) throws doubt on this idea. Other factors will be considered later, in relation to the unexplained zone of space to the south.

Most of the east bay was demolished at some earlier date. However, the off-centre main post shows evidence of a window, similar to that on the opposite wall. Its width cannot now be gauged, but one would expect extensive fenestration in the one unobstructed part of the elevation.

The west wall

This took the form of a close-studded partition with door openings at its outer limits. Nothing survives of the timber of the partition and thus the degree of elaboration, or the possible provision of wall bracing, cannot now be determined. The left hand (southern) door was relatively narrow, and that to the right (northern) of considerable width. The central part of this partition seems a more likely location for a 'high end' bench.

The narrow western bay

Passing through either of the door openings in the partition, one entered a narrow enclosed bay (Fig. 2, Room 4; Fig. 7). Here, there was no moulded ceiling and the roof was exposed from below. A crown post on the partition-wall tie beam is chamfered on its visible face and carries an elegant, longitudinal brace. The other (eastern) face of the crown post is without a chamfer and the brace is strangely mis-shapen. In this bay, the top plates are unmoulded and the 'cornice' member omitted.

The south wall

This appeared to contain a narrow central door opening with moulded jambs and a four-centred head. The

recent works revealed that this, unquestionably contemporary, fabric had been refixed to a replacement top plate and girt.

Thus it is now impossible to determine whether it formed an original feature of the design. However, probability suggests that it has always been here, rather than it having been moved from another location. It seems reasonable to suggest a circulation route involving the narrow partition door and this particular feature.

The west wall

This is a simple, external stud wall, without windows and with symmetrically disposed, internal bracing. The gable above, which was open to view, had straightforward infill studwork.

The north wall

A medium-width door, with moulded jambs and four-centred head, formed the central feature of this wall. One jamb survived intact and the other had been reused above the door head.

The floor between Rooms 4 and 5

Although this had been removed, mortices in the bridging joist indicated its former presence.

The joist-end joints were simple soffit tenons, a sign of utility and the only such joints in the complex. A lack of joints evident in part of the bridging joist can be interpreted in more than one way. Clearly it suggests a substantial, off-centre void, connecting with the bay below and possibly intended as a stair well. However, a shallow flat rebate, similarly aligned, on the gable-wall tie beam, may suggest another purpose. Could this have formed the shaft of an internal timber smoke flue, connecting with the small room below? The provision of two doorways in the hall's west partition seems to indicate some form of central obstruction, giving further credence to this possibility. The off-centre location would make some sense in ensuring that their hypothetical flue avoided the collar purlin above.

However, this proposition may be considered more imaginative than credible and the simple staircase, with its implications for routing, may nevertheless be preferred.

Ground-floor narrow west bay

Unfortunately, the north, south and west walls have all been removed, together with their respective girts above (Fig. 2, Room 5). As on the first floor, the hall/west bay partition has been largely removed, but the central post and stud mortices survive. These indicate a different arrangement from that above with a pair of door openings on the eastern side. The southernmost opening was a wide door, wider than its fellow on the upper floor, with a narrow opening by its side. The latter either gave access to the staircase and

room above, or to the previously suggested fireplace. The sparsity of information regarding the other walls makes interpreting this area difficult.

The ground-floor hall

Unfortunately, the ground-floor hall had suffered more change than that above, but important features survive (Fig. 2, Room 6).

The north wall

The wall to the west bay had been largely removed, but during the renovation works, part of the concrete ground-floor slab was broken up in that area of the light well that adjoins this wall (Fig. 7). Short projecting brick footings were revealed, and a black, soot-like substance spilled out from the sides commensurate with the base of a stack. The eastern bay is similarly damaged, but the girt survives towards the eastern end, and displays important evidence. A pair of long mortices with post mortices either side indicate the former entrance. This extremely wide doorway exactly matches the carriage arch on the front and had mouldings on both its faces.

The south wall

The east bay, as its equivalent above, contained no timber infill. The off-centre post between the two bays of the hall still remains and shows clear evidence of an internal shaft which gave the appearance of carrying the bridging joist brace. Braces to both posts remain and have foliate spandrels, similar to, but smaller than, the ones above. To the west of the post, the evidence suggests a further window, but the remainder of the wall has gone. It seems reasonable to presume the former existence of another wide door to the eastern end to complete a typical "cross-passage" arrangement.

The east wall

This is, of course, formed by the flank of the east wing and contained a pair of doors, one each side of the central post (Fig. 6). These had arched heads and were of unknown width, but have the locational attributes of "service doors".

All this is suggestive of the 'low end' and cross-passage arrangement of a typical hall house, with its associated 'high end' in the western bay. If one can imagine some form of spered partition to screen off the wide cross-passage, then the unequal bay sizes can be explained.

The west wall

The disposition of the door openings in this wall has already been described, but an additional feature deserves attention. The central post has survived *in situ* and had an attached shaft with a bifurcated top (Fig. 9B). This peculiar detail, with two incomplete arches, presents difficulties of interpretation. A similar detail has been observed in a contemporary 'low-end'

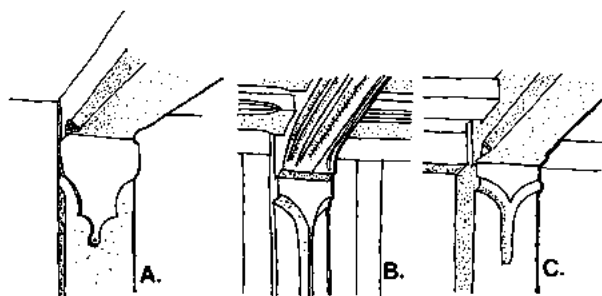


Fig. 9 Examples of bifurcated arcades.
A. Reused post, farmhouse, Little Waltham
B. The Red Lion
C. High Street, Brightlingsea.

partition in Brightlingsea, and on a reused post elsewhere (Fig. 9A and C). Whether this once formed part of a 'high-end' bench assembly, is open to debate. It seems appropriate to add that the spine beam over the east bay abutted directly into the flank of the east wing, and that all the ceiling members are as richly moulded as those to the chamber above.

The exterior

The steeply pitched roof, like the others in the complex is clad in peg tiles, likely to have been the original treatment. The off-centre, major bay dividing posts, each displayed an attached, external shaft, rising through the two tall storeys. Clearly, both were fully visible when the structure was first erected. Leaving the ground-floor hall via one or other of the east wall 'service doors' brings us to the south-east 'lodging'.

South-east lodging

The southern end of the east wing appears to consist of a self-contained suite of six rooms, related directly to the ground-floor hall (Fig. 2, Rooms 7-12). There are slight doubts about its ground-floor north wall as this has been removed, but the impression is still of a physical separation between this group of rooms and the remainder of the complex.

The three superimposed chambers (7, 9 and 11) that form the northern rooms contained wide, steep staircases and only the uppermost room had a window. The floor joists were without mouldings and the general character is that of a stairtower. Access to this tower from the ground-floor hall was from the northernmost of the previously mentioned service doors.

The three adjoining rooms (8, 10 and 12) are accessible at each level from the stair-tower and are richly moulded and decorated. The chambers on the first and second floors are amongst the most attractive in the complex and thus perhaps can be labelled as a 'parlour' and 'solar'. Each of these is well lit by windows on the south-west corner and had its own fireplace on

the southern wall. In the north-east corner, each is provided with a little narrow door presumably to give access to a garderobe tower, contrived within the triangle of unused site. Although the actual fabric of this had disappeared, the unweathered condition of the adjoining studs indicated its former presence. An unusual feature of the second-floor room (solar?) is its asymmetrical crown-post roof, a necessary device resulting from the staggered plan form. It will be noticed that the wall bracing throughout the east wing is disposed in an unusual manner. On the east elevation it is so arranged to appear within the rooms (Fig. 10), but on the west it is on the outside and appears within the adjoining rooms.

The ground-floor room of this triad (Room 8) had a similar arrangement of corner windows and probably a large fireplace on its southern wall. It seems to me to be sensible to label this 'kitchen' in view of its relationship with the rest of the complex (Fig. 11).

The three rooms (13, 14 and 15) that adjoin to the south provide further difficulties of interpretation. The timber-framed structure of this group, although similar to the adjoining rooms, is different enough to raise doubts. The junction where it adjoins the wall to the north is crudely contrived and overlaps areas of the original mouldings. However, access to the upper chambers is gained via unarguably original doors (with moulded jambs), so something must have stood here from the beginning.

This less ambitious structure has a simple, collared rafter roof (the only example on the site) and is 'open framed' on its southern end. The latter detail suggests the presence of an earlier building here, that has since been replaced by a 19th-century block. The northern end of the west elevation was specially designed to take account of the chimney stack by omitting studs and utilising the flank of the stack as a form of brick infill (Fig. 6). The stack itself, as elsewhere in the complex, has been rebuilt but incorporates some early brick. It would seem logical to suggest that the stack was rebuilt contemporaneously with this structure as that would explain the treatment of the flank. However the off-centre windows, with their miniature arched heads, were seemingly identical to those in the adjoining block. An unusual feature that does not appear elsewhere is the single wide stud beneath the cill, included to equalize the panels of infill. The floor joists throughout are without chamfers or mouldings which, with the simple design of the roof, suggests rooms of secondary status.

An interesting feature can be observed on the external face of the 'solar' tie beam. Here, above the communicating door, is a shallow horizontal rebate suggestive of fixing for a boarded ceiling.

From the above indications, a possible alteration can perhaps be deduced. As first constructed, the solar/parlour block was linked to a pre-existing building, by a narrow three-storey gallery. Not many years

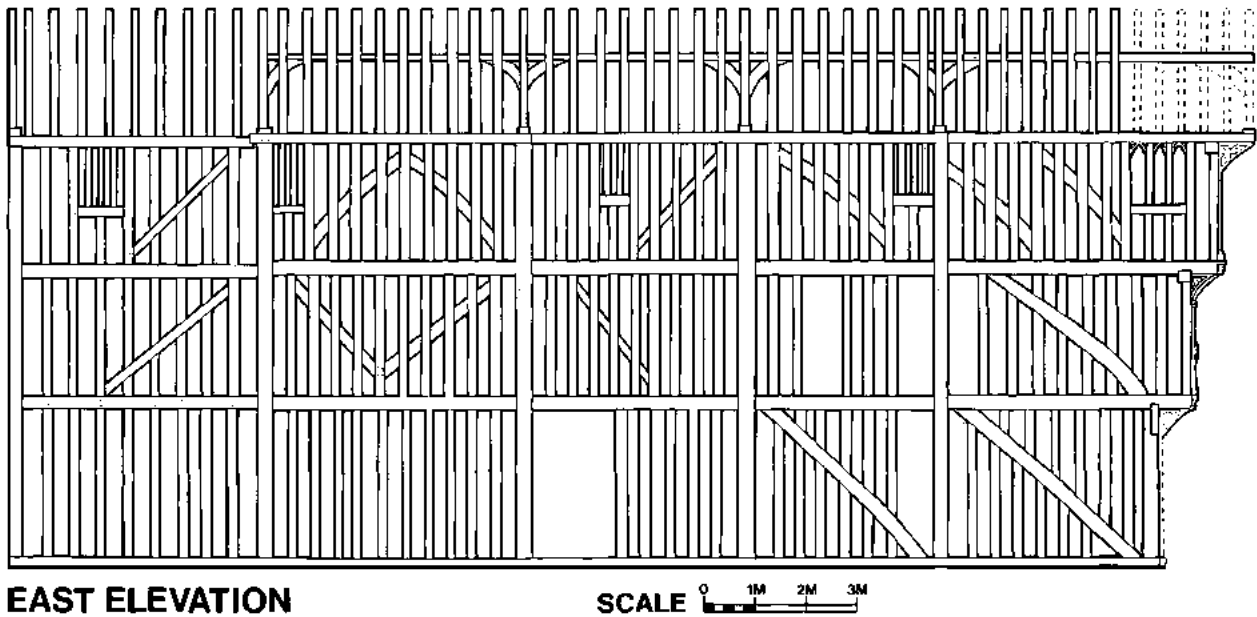


Fig. 10 The Red Lion, Colchester. East elevation of the timber frame.

later, the 'gallery' was rebuilt as three useable rooms and the stack was also rebuilt to fit. We will now examine the frontage range to the High Street, which again lends itself to separate consideration.

The frontage range

This consists of three jettied storeys and is four bays wide, probably with gables over the outer two (Fig. 2, Rooms 16-24; Fig. 12). These bays are labelled A-D in Figure 2. Bays C and D are the widest and of equal width, with Bay B (the carriage arch), the narrowest. Bays A, C and D are similar in appearance and in the accommodation they provided, and so are considered together.

Each consisted of a cellar and three superimposed storeys, with the oriel-bayed first floor as the most important. The ground-floor elevations were divided into three parts, and this sub-division was continued into the secondary structural members of the upper floors (Bay A is slightly varied).

In the case of Bays C and D, the sub-division of the ground floor consisted of a wide central opening with narrow, door-like openings either side. In the narrower Bay A, the ground-floor elevation was of three equal subdivisions and this pattern was repeated on the 2nd floor. In all cases, the posts that provided this sub-division have unfortunately been removed, leaving only their mortices in the heavily moulded inner bressummer above. Bay D is the least altered at this level, and the two major storey posts retained slots for arched door heads in their appropriate flanks. Thus it

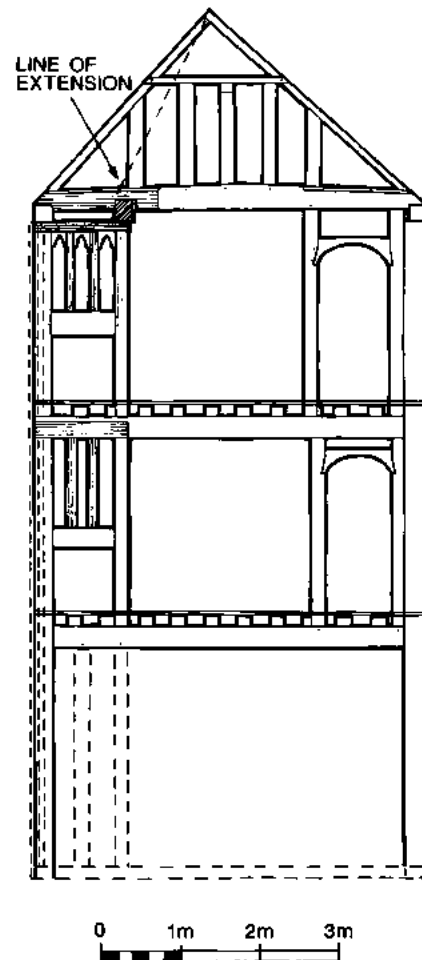


Fig. 11 The Red Lion, Colchester. South elevation of the east wing (without the extension).

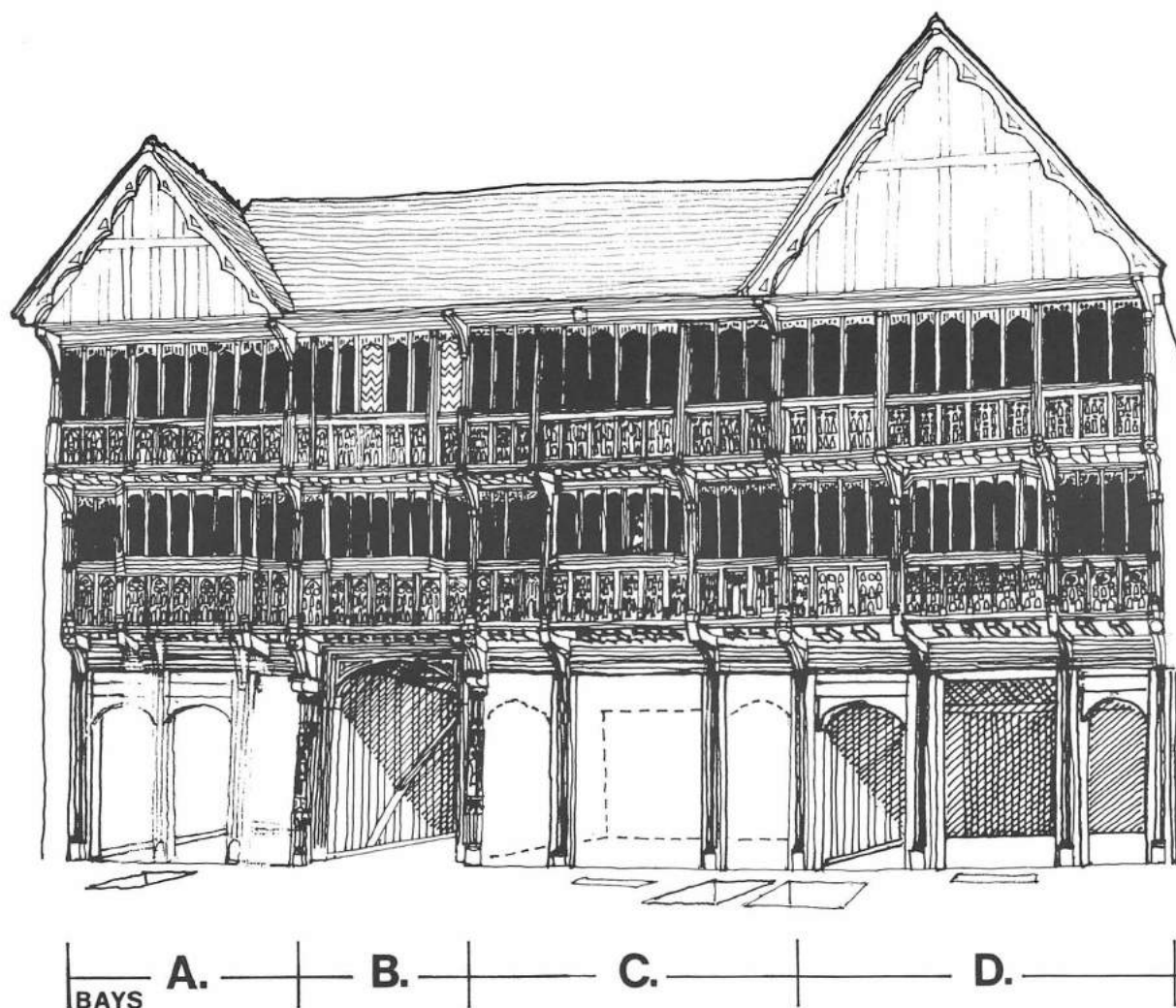


Fig. 12 The Red Lion, Colchester. Reconstruction of street frontage elevation.

can be deduced that the narrow openings in each case took the form of doors, but the wider central opening is more of a problem. Careful examination of the soffit of the inner bressumer showed no evidence for any form of infill. However, a small rebate on the innermost edge ran the full width of the bay, suggestive of a fixing for shutters. It is therefore contended that the most likely function for the wide central openings is as some form of shop window.

The external steps which gave entry to the cellars were, in each case, located in front of one of the narrow 'door' openings. The 'windows' in the cellar walls below are situated below the wide central opening, except in Bay A where there was no room for such a window. Thus a sensible reconstruction can be attempted, which portrays a functional connection between the cellar and ground floor (or that part of it served by the cellar-related door). In each case, the other side door clearly gave access to a narrow stair and by other stairs to all three floors. Therefore it can

be seen that Bays A, C and D were each conceived as relatively independent units, with individual accesses and no direct, horizontal connections between each other. It seems probable, although there is a complete lack of supporting evidence, that each of these ground-floor rooms were partitioned into more than one area. Some form of screening between the 'shop unit' and the staircase, would seem to have been desirable but may have been so flimsy as to have left no trace. There are, however, other aspects of the design of this frontage range that throw doubts on this concept of a 'commercial' ground floor. First, all three storeys have richly moulded timbers, similar in all respects to the rest of the complex. In addition, each separate bay had its own rear-wall chimney stack (see below) with fireplaces to all the ground-floor rooms. The idea of a shop unit with a fireplace and a moulded ceiling seems somewhat unlikely!

In each case, the first-floor chamber (Rooms 17, 25, 20 and 23) had a central front oriel and continuous

unglazed fenestration either side.

The 'windows' here and on the second floor were provided with storey-height shutters, some of which survived into this century. Each first-floor chamber had its own fireplace opening into the rear wall stack, but the openings (together with most of the stack) have since been removed. The second-floor chambers were basically similar, but without the central oriel and with a crown-post roof in place of a ceiling. It is now impossible to determine whether the second-floor rooms were provided with fireplaces.

It would appear that Bay C was, from the beginning, intended as a completely independent unit without any undercover connections to any other part of the complex.

In contrast (discussion below), the rooms on the first and second floors of Bays A and D had doors in their rear walls, providing access to rooms beyond. Whether similar doors existed on the ground floor cannot unfortunately now be determined. The second-floor rooms of Bays A and D had three-light windows in their external flanks above the roofs of adjoining buildings (Figs 4 and 10). The three rooms that constitute Bay A are slightly deeper than their equivalent in the other bays. This would seem to have been an accidental effect resulting from the constructional 'second thoughts'.

Rear chimney stacks

The rear wall of each bay was so constructed as to provide a wide gap in the studwork to accommodate a stack. At first sight, it appeared that the original stack had survived to the rear of Bay C. Further examination provoked considerable doubts and Listed Building consent was eventually granted for its demolition, subject to a careful recording. More extensive examination during the process of removal failed to clarify the position and the evidence remained ambiguous. Quite unexpectedly, one first-floor flank of an apparently contemporary brick stack was found to survive, behind Bay D (Fig. 13). This was divided into a pair of flues and the rearmost, serving the ground floor, was heavily sooted. Its rear wall was clearly not bonded in, and may represent a later alteration. Beneath this, works to the footings revealed its original base, together with a small fragment of a stone hearth slab (Fig. 13). Curiously, a small fragment of a similar slab was later discovered behind the rear wall of Bay A. This seems to have survived, despite the removal of the stack, and was concealed beneath a later staircase. Why it was thought necessary to rebuild or remove all these stacks remains open to question. One minor point that may well throw light on the sequence of construction seems worthy of mention. The provision of a stack to the rear of Bay D was probably not part of the 'original'

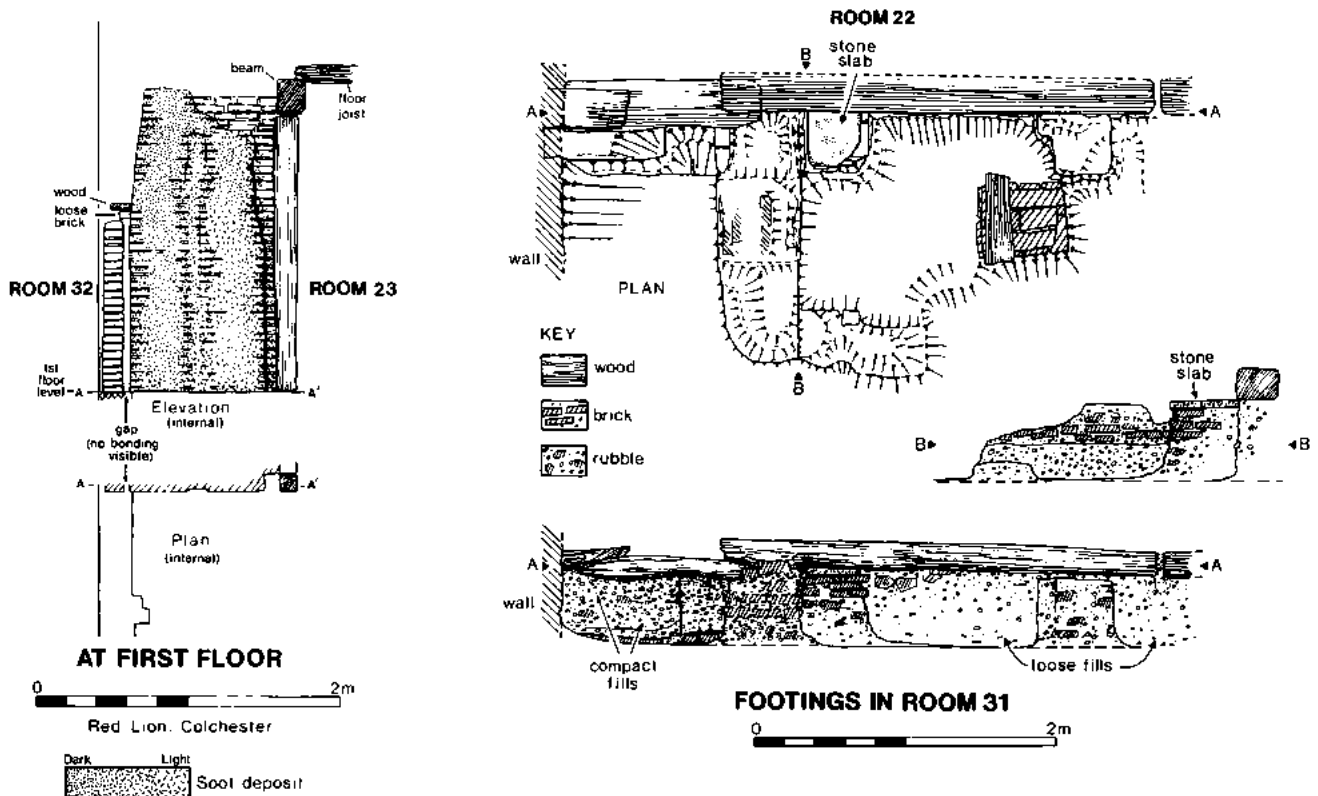


Fig. 13 The Red Lion, Colchester. Remnants of the stack to the rear of Bay D.

intentions. The collar purlin of the crown-post roof (over Room 33) had clearly been truncated to allow for its insertion as part of the sequence (described previously) as a 'second thought'.

Construction details of the front range

In general, this is typical local work, with jowl-less posts and 'Colchester' style bracing (tension bracing pegged to studs rather than principal structural posts). The floor joists, as elsewhere, have central tenons and soffit shoulders, and the scarf joints are edge-halved and bridled. The one unusual and remarkable feature is the presence of heavy wall braces in the flanks of each bay. These are the full width of each wall and have the wall studs tenoned and pegged into their upper and lower faces. The detailed design at eaves level over Bays B and C remains unclear as a result of later changes.

The frontage block, Bay B

The ground floor of this narrow bay forms the carriage-entrance and probably functioned as a wide cross-passage. The entrance-door framing is a portal-like structure with a contemporary four-centred arched head. The carved spandrels depict St George (on the left) and the dragon (on the right), together with stylised foliage. The elaborate carved figurines, to the left and right of the doorway, probably date from a restoration of the 1890s, but may conceivably reflect surviving fragments. Jamb figures of this type are a common feature of high-quality buildings of c.1500, for example, Mummers either side of large doors at Paycockes House, Coggeshall.

The first-floor chamber is two bays in depth (Room 25) and may well have functioned as a kind of gallery. The front to the High Street contained a band of windows and a central oriel as on Bays A, C and D. Access was via the first-floor 'hall' to the south.

The second-floor room (Room 27) had a continuous band of frontage windows and is generally similar to those on either side. However it had no staircase and no fireplace and access was gained from the room to the rear (26). This is the only room where the crown-post roof can still be viewed, the later, inserted ceiling having been removed.

Rooms to the rear of Bay A (28, 29, 30)

This superimposed group of three rooms formed part of the original east wing and communicates, on each level, with the rooms of Bay A. (The evidence for or against a communicating door on the ground floor has unfortunately been destroyed.) Each room incorporates a substantial window on its western flank (Fig. 14), all of which were later obscured by the 'gallery' block (25, 26). On the ground and first floors, these had moulded mullions and arched lights as elsewhere on the complex. That to the second floor has only diamond mullions, but the smaller window in the

east wall was of the elaborate kind. The floors of this bay are without mouldings, indicative of a secondary function.

High Street facade

The High Street facade is richly decorated, with all the members elaborately moulded, and forms the visual climax of the entire complex (Fig. 12). The ornamental vocabulary is typical of the late fifteenth or early sixteenth centuries and of the Suffolk/Essex border country, with its contemporary clothier wealth. Such details as the undercut cusping of the top of the capitals can be seen in profusion in Lavenham and Sudbury, and as far south as Bocking. Despite a later covering in plaster, individual members survived complete, enabling a convincing and complete reconstruction (Fig. 12). The grotesque carved heads are particularly effective, like timber equivalents of the stone church gargoyles (Fig. 15).

The traceried panels which constitute such an attractive feature of the first and second floors are worthy of special attention (Fig. 15). The upper band are all identical, but they differ noticeably on the first floor. It seems probable that the original intention was to use a separate design in each bay. The surviving examples suggest this approach, but if so, a minority are out of place. Either the carpenter interpreted this loosely, or some of the panels have been subsequently moved. Tracery panels are relatively rare and are an obvious prestige feature and could be a late survivor of the plank-boarded facades of the late thirteenth century (Tiptofts Manor, Wimbish, Essex). Comparable examples have been noted in Sudbury (with plain panels at 'Priors Gate', Friars Street), Bury St Edmunds and Stratford St Mary. During the pre-war restoration, three painted shutters were discovered *in situ*. These with their painted chevron patterning were all located on the second floor of Bay C. Conceivably, they still exist, hidden behind the plaster and await another restoration.

It seems possible that each bay of the frontage had painted shutters of a different pattern, emphasising each individual unit. However, it is also conceivable that the tracery panels beneath the windows of Bays B and D could have been the same (assuming some have been moved), thus emphasising that these two bays were part of the same unit, linked by their rear doors to the accommodation behind.

The 'Gallery' block

This three-storey structure, which incorporates part of the "cross-passage", acts as a link between the first-floor hall and the frontage block (Fig. 2, Rooms 25 and 26; Fig. 15). It is jettied at each level over the light well and has its own crown-post roof. The upper two floors each have a central oriel with traceried panels beneath the cill, similar to those on the frontage.

On the ground floor (part of the cross-passage), the western elevation has a pair of flush windows with

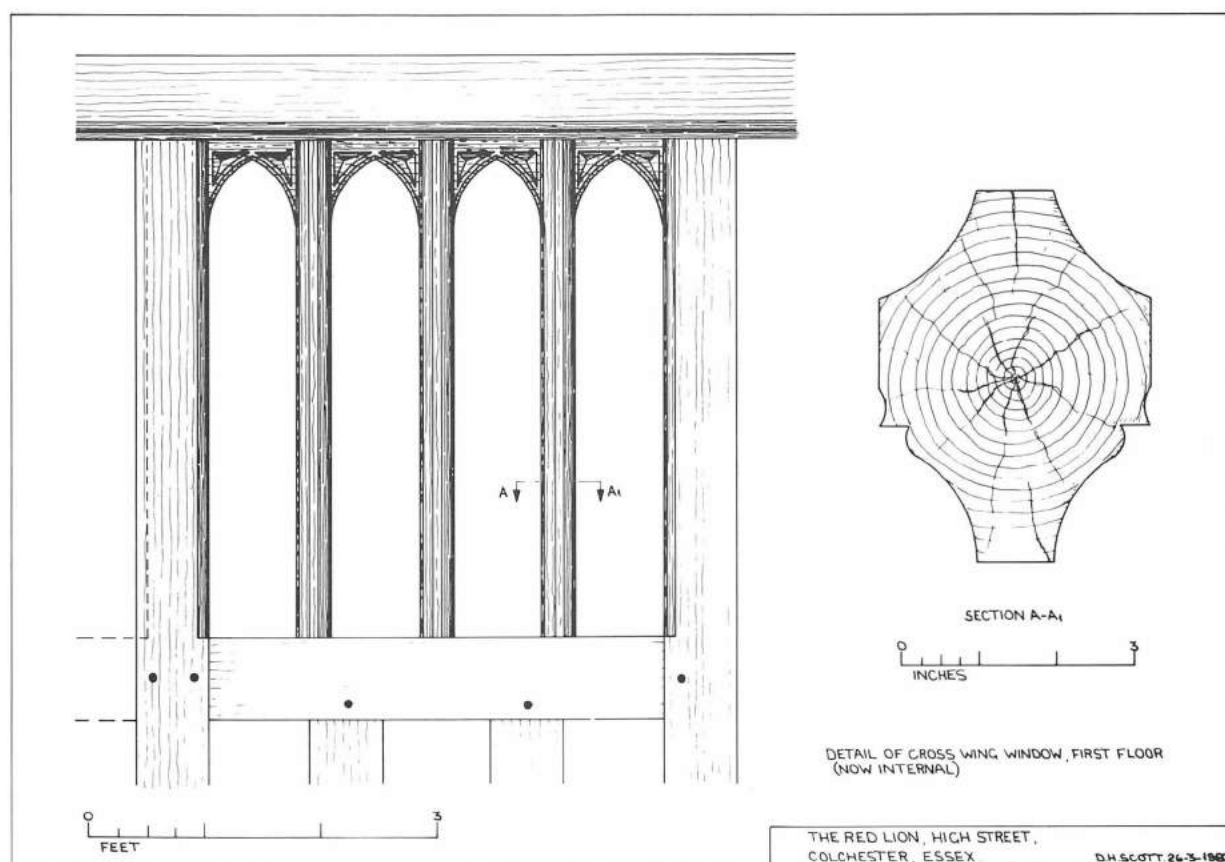


Fig. 14 The Red Lion, Colchester. Detail of cross-wing window (now internal), first floor.

moulded mullions and arched lights.

Access to the gallery (25) was via a door from the first-floor hall (3), thus linking it in with this important element of the complex. Access to the second-floor chamber (26) is more problematic and still awaits proof. There is evidence for a staircase against the south wall of Room 25. It is tempting to consider this as an original feature but it has the character of a hasty improvisation. If original, it probably functioned via the narrow hall door, which seems to have the attributes for this particular function. Clearly, at a later date this staircase was enclosed in a light partition which partially blocked the main hall door (there is evidence for the partition, consisting of a series of small mortices, penetrating the original floorboards and the top surface of the joists). An alternative means of access for Room 26 could have been via a door into Room 30. A poorly constructed arch-headed doorway certainly exists, inserted into the intervening window. However, this is more likely to be a secondary feature, probably of the later 16th century.

The west wing (Rooms 31, 32 and 33)

This three-storied structure is like a mirrored version of the 'gallery' wing (Fig. 17). Its jettied floors overhang the west side of the internal light-well and it links

the hall to the frontage block. Each room has a central oriel and traceried panels peeping between the light-well stacks. Room 32 has connecting doors to the first-floor hall (4) and the frontage block (23) and the ceiling joists are without mouldings. A staircase between 31 and 32 seems poorly constructed and is probably secondary. Room 33 on the second floor connects with the frontage (24) and has an asymmetrical crown-post roof. An additional window on the west elevation matches that to Room 30. On inspection, it was found that part of the west wall, where it overlaps the hall, was infilled with brick. This may have constituted a fire precaution bearing in mind the adjoining stack.

Cellars under frontage complex (Rooms 34-38)

This series of cellars are clearly medieval in character and seem to be accurately related to the timber structure above. Although their walling is visible, it is generally obscured by thick layers of whitewash and consequently the construction is difficult to determine. In all cases there is a substantial amount of brick, but areas of stone rubble and broken tile can be detected. Cellar 38 was completely lined in brick and the dividing wall between 36 and 37 seems to lack other materials. A notable feature near the base of this wall is alternating courses of yellow and red brick.

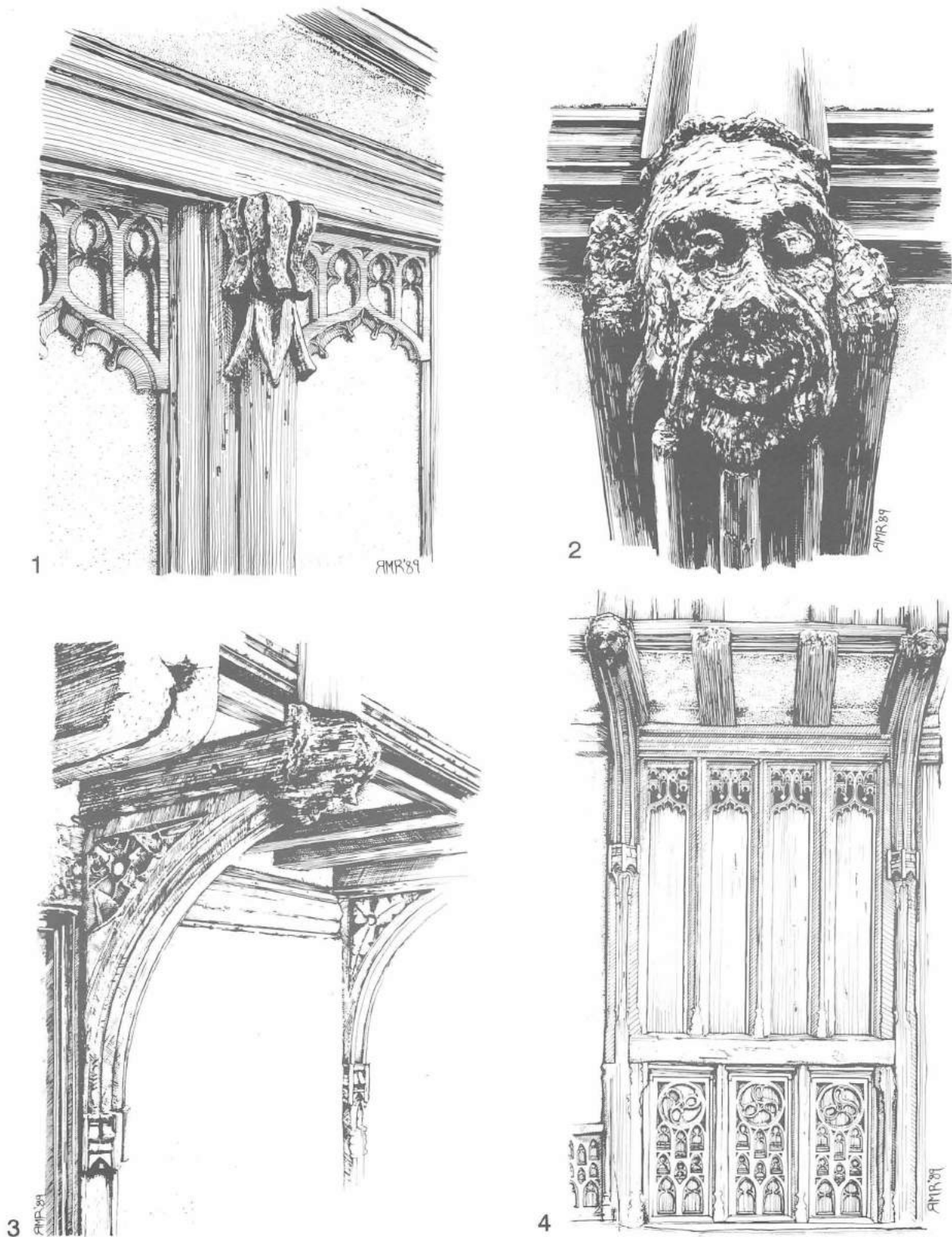


Fig. 15 The Red Lion, Colchester. Details of High Street elevation:
 1. Second floor, attached shaft and window tracery
 2. Grotesque head, end of bridging joist
 3. First-floor jetty detail with carved blocked spandrels
 4. One bay of first-floor elevation with blind tracery panels.

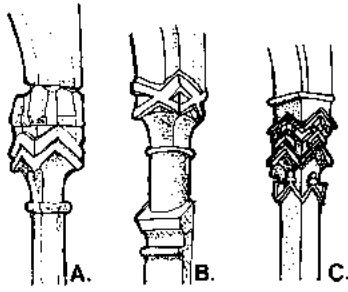


Fig. 16 Examples of 'chevron capitals':
A. The Butts, Nayland, Suffolk
B. Lavenham Guildhall, Suffolk
C. Paycockes House, Coggeshall, Essex
(compare with Fig. 8).

The doors and 'window' openings (Rooms 34, 36, 37 and 38) all have jambs of worked limestone, the doors having splayed external jambs.

Cellar 34 This is the largest single area in this group, and was entered from the frontage. Cellar 34 was without a 'window' but has two low arch-headed recesses in its east wall, above a bench like-base. The walling of the southern half has been substantially repaired and the west wall is noticeably irregular in alignment. A pair of steep but unconvincing looking brick arches leads to cellar 35.

Cellar 35 This space now contains two segmental brick barrel vaults, running parallel with the frontage. The impression was gained, however, that these, probably early 19th-century works, had been inserted within an earlier cellar. More investigation would need to be carried out to establish this with certainty.

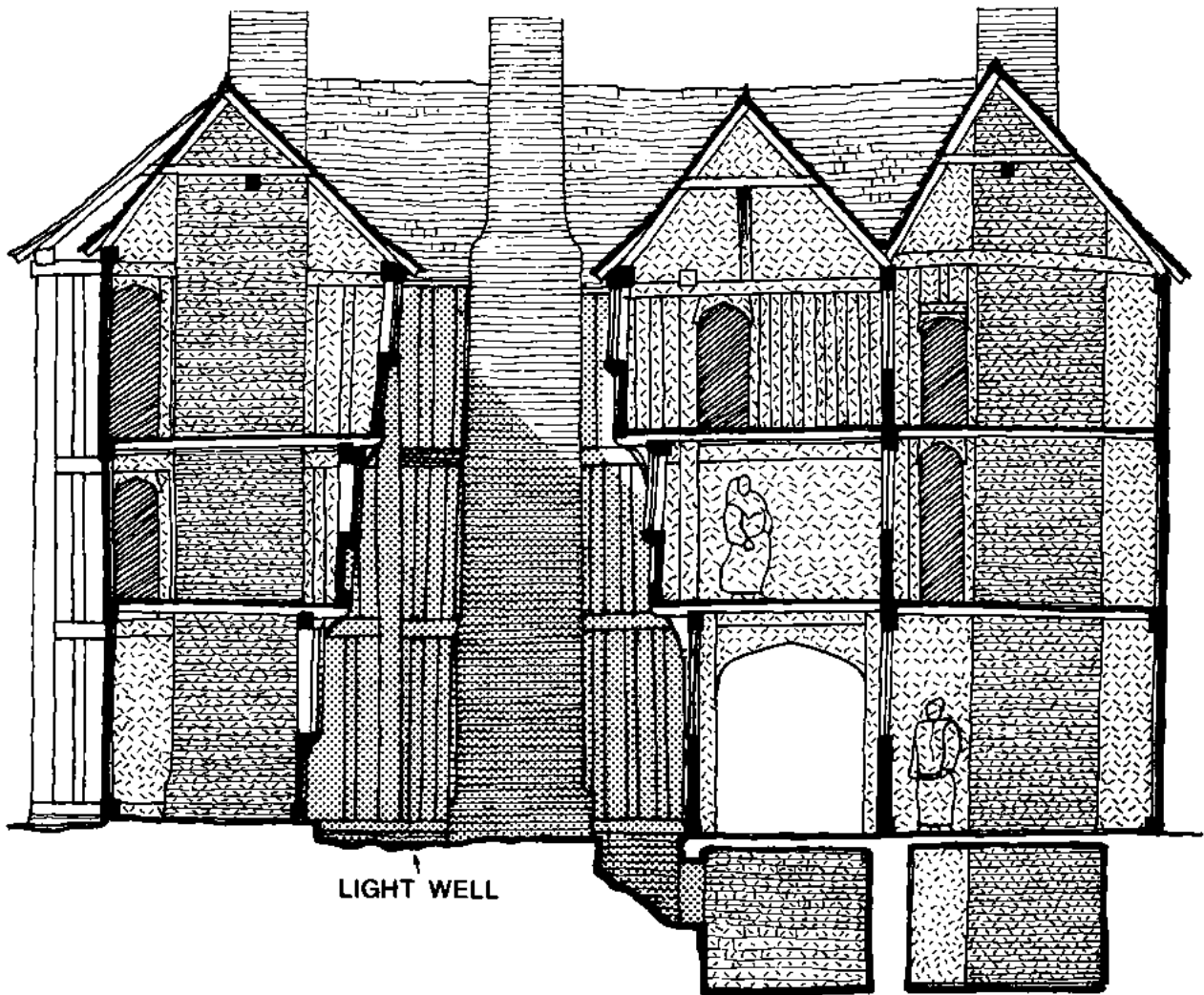


Fig. 17 The Red Lion, Colchester. Section through the centre of the building from west (left) to east (right). Refer to Fig. 3 for position of this section.

Cellars 36/37 These are similar in size and detail and fit neatly under Bays C and D above. The separating wall now has a door and is conceivably later than the bounding wall. A central stone pilaster on the eastern face of 36 once carried a timber spine beam.

Cellar 38 This was only rediscovered during the recent renovation works and again had been modified, to carry a segmented brick barrel vault. The door and 'window' openings proved to be well preserved and were disposed towards the central light well.

It is suggested that the cellars are substantially contemporary, with the frontage range, but may well incorporate some earlier work.

Buildings to the south of the 'Southern Hall'

During the recent renovation, fragments of a further structure were revealed (Rooms 39, 40; Fig. 4). This had two storeys and was of at least two bays and was open-framed towards the "Southern Hall". The carpentry is akin to that of the frontage complex and it was probably a part of this development. However, its utilitarian nature is clearly manifest and it probably served some ancillary function. A simply treated entrance door was easily detected, and part of a window could be deduced on the back.

Remains of 'Gallery'

Two reused posts on the first floor of the "Southern Hall" provide evidence for another former building. Obviously, they are two halves of an inner jetty bressumer and are identical in detail to similar features elsewhere in the complex. The elevation consisted of a row of moulded mullioned windows with mortices for stud tenons at each end. On the top are shallow indentations for former jettied floor joists with the 'standard' spacing. The structure was of two or more storeys and about 14'0" wide, but it is now impossible to determine where it stood.

The Howard connection

Various authors have suggested a connection with the immensely wealthy and influential Howard family. (R.C.H.M.E. iii).

The documentary evidence, such as it is, gives credence to this view and the building itself contains further pointers. The most fundamental factor emerging from the written matter is the name of the building itself. As early as 1515, the building (or part of the complex) was described as "Le Whyght Lyon", the commonplace badge of the Howards. It seems probable that the lion changed colour in the reign of James I.

The spandrel carving of the entrance-passage arch also seems extremely relevant. This depicts a somewhat emaciated St George about to fight a very Gothic

dragon, an apparently curious choice. However, George and the Dragon are important symbols of the Order of the Garter and their prominence here must be significant. The various members of the Howard Family, Sir John (1443-85; Duke of Norfolk from 1483), Thomas, Earl of Surrey (1443-1524; Duke of Norfolk 1514-1524), and Thomas, Earl of Surrey (1473-1554), the Third Duke of Norfolk, were all members of the Order of the Garter, an extremely select body.

Bearing in mind the documentary material, it is Thomas, the 2nd Duke of Norfolk, who is the crucial figure, and he was a Companion of the Order between 1483-1485 and from 1489 to his death. (He was attainted following the Battle of Bosworth.)

The quality and complexity of the decorative carving has already been noted and this probably contains a further clue. The wall-shaft capitals in the upper hall (front range; 'X' on Fig. 2, first-floor plan) are of a particularly unusual design (Fig. 8). The use of two bands of chevron-like cresting is the feature of note and this can also be seen on the front. This device seems to derive from the conventional Gothic tabernacle, as a series of 'gables' linked and compressed. Various stages in this transformation can be detected in the church furnishings of the area. Other noteworthy examples are :-

- (1) 'The Butts', Church Lane, Nayland, Suffolk (Fig. 16A)

The timber-framed part of this house consists of a jettied cross wing opposite the flank of the parish church of St James. Shafted corner posts mount capitals virtually identical to the Red Lion examples. The spandrels of one jetty bracket contains a blank raised shield intended to be painted. Close examination of the building revealed poor quality framing indicative of a late date. It seems likely that the corner post and jetty assembly are second hand, and a likely source is near to hand. The mansion of the Howards, Tendring Hall, once lay some 2½-3 miles to the north-east and was, apparently, rebuilt on numerous occasions. It seems probable that 'The Butts' incorporates fragments of the Howard mansion, which contained work by the Red Lion carpenters.

It is likely that the Howard family employed the same carpenter for both its major local buildings.

- (2) Lavenham Guild Hall, Suffolk.

Here only one of the numerous external capitals takes this unusual form (Fig. 16B).

- (3) Paycockes House, Coggeshall (1514)

The capitals on the exterior of the building are all 20th-century replacements, but are of a markedly similar form. It would seem unlikely that they are the invention of the restorer and were probably copied from a surviving fragment (Fig. 16C).

(4) Parclose of chapel. Thomas Spryng, Parish Church of Ss. Peter and Paul, Lavenham, Suffolk
Here the motif appears around the base of the finials as an extremely exaggerated variant (after 1523).

The documentary evidence

The Red Lion was a complex of considerable importance and one of the most substantial secular properties in Colchester. It thus seems surprising that very little documentary evidence has survived (or has been recognised) to throw more light on its construction and purpose. Useful information has been found in the Hundred Court Rolls as transcribed by Benham (E.R.O.). Unfortunately there are no transcriptions for the late 15th century, or opening decade of the 16th, as the Court Rolls are apparently missing.

1515. British Library
Comptus of John Cokkeshall, rent collector (of Duke of Norfolk) in Colchester.

Arrears £9.17s.5d.¹

Farm of lands and tennements £8 from farm of an inn then called le New Inn with the sign of the lion, which used to be let for £6 a year and from the farm of a tennement which used to render 23s.4d. a year and of the farm of another tennement annexed to said inn, which used to render 26s.2d. and now they are let together to the computant by indenture for 5 years for £8 a year.

Rents paid.

To the bailiffs at the moot hall 16d.

To the same bailiffs for a post in the street these to support the sign of the lion 1d.

After the account.

Wm. Wode farmer of a tennement on south? side now called le New Inn paid 30s. of his arrears.

The Duke of Norfolk in question recipient of these rents was the second Duke, who had regained his title the preceding year.

*Deed enrolled at a Hundred Court, 29 January, 1515*²

This property transaction involved the hostelry called 'le Crown' and a capital messuage called 'le Hell'.

The Crown is described as situate and lying in the market place, between the hostelry known as 'le Bell', on the east side of the hostelry called 'le New Inne', otherwise known as 'le Whyght Lyon' on the west side, one end abutting on 'le Fische markett' there, on the north and the other end on the lane called Culverlane.

The tenement called 'le Hell' abutted, on the north side of Culver Lane and the other end northwards on the Land of Thomas Clare, and eastwards on the tenement of Thomas Cristemass and the remainder on the tenement of Joan Ynkley, and westwards on the garden of the Lord of Surrey, belonging to the hostelry of the sign of 'Albi Leonis' called 'le Whyght Lyon'.

*Deed enrolled at the Hundred Court, 1 May 1554*²

This again, is concerned with 'le Crown' and 'le Hell' and although the names of the parties have changed, the sites are described in identical terms. Clearly, le Whyght Lion is in business as an Inn and the former Earl of Surrey (correctly described as The Duke of Norfolk) still enjoys his garden.

*Survey of the Estate of Thomas (4th) Duke of Norfolk 1554*³

'County Essex: The Inne called the Lyon in Colchester near the Shoppeshalles and pastures thereunto belonging are holden in free burgage and be worth by yere over and above all £10.'

*Will Enrolled at the Hundred Court 1573*²

This Will involved a capital messuage called 'le Lyon' in Colchester and of two shops, all and singular solars, cellars, houses, barns and buildings adjoining and belonging to the same; also of two pieces of vacant land lying before the gate (*ante postam*) of the said messuage formerly called 'le Stalles' and a small croft of land on the south side (the garden?).

The next part of this Will seem somewhat ambiguous but it appears that the clerk was supplying some useful background information:-

'Thomas Late Duke of Norfolk, as more fully appears, by indenture in triplicate dated October 1st 1557 made between the said Late Duke (died 1554), Henry Earl of Arundel (died 1557) and Thomas, Bishop of Ely, (Thomas Thirlby 1554-1559) of the first part and the aforesead Robert Lambert of the second part'

The property in question, which presumably included the Red Lion, is summarised as 3 messuages, three gardens and 30 acres of land with appurtenances in Colchester. This indenture was taken before the Court of Philip and Mary, at Westminster on June 5th 1558.

Other references are as follows:-

George Gray purchased the Red Lion Hotel in 1722. He sold the hotel in 1741, but retained the 'garden ground' in Lion Walk (Fig. 1). In 1763 his executor sold this land to the trustees of the Congregational Church (Sier 1948).

A Roman tessellated pavement was found on the south side of the Red Lion, when part of it was converted into an iron-warehouse. A great quantity of the pieces were preserved and set in an arbour in one of the gardens belonging to that Inn (Morant 1763).

Conclusions

When examining ancient buildings, there are three important questions that demand answers: who built it, when was it built and for what purpose?

Who built it?

From the evidence previously cited, it seems virtually certain that the Red Lion complex was built by one of the important members of the Howard family. The secondary nature of the documentary material leaves room for minor doubts and it is possible that only part of the site is being identified. The apparent involvement of other parties, the Bishop of Ely and the Earl of Arundel, may be misleading, as they may not have been involved with this particular property. The Earl of Arundel was a relative-by-marriage and all three were leading Catholics, who were disposing of properties during the reign of a Catholic monarch (Mary I). Perhaps this is significant, but if so, its particular relevance is not yet apparent. The question of which member of the family was responsible for the construction is similarly fraught with difficulties.

It is known that, following the Battle of Bosworth, Thomas, 2nd Duke of Norfolk, found refuge in Colchester. It seems conceivable that after he regained some of his properties (1509), he built himself a house in the town and perhaps it may be this that partially survives in the form of the 'Southern Hall'.

Obviously the age of the buildings should provide the strongest clue and this leads on to the second question:-

When was it built?

The various structures in the Red Lion complex can be compared with other important timber-framed buildings in the locality. As has already been noted, the buildings are clearly the product of the local Essex/Suffolk style that was generated by the wealth of the wool industry. The use of 'Colchester braces' (wall bracing terminating at studs rather than at principal posts or beams) and jowless posts are features of Colchester and its immediate environs, and points to an indigenous carpenter.

Knowledge of other buildings would suggest a possible date range from 1480 to 1550 to encompass all the features so far described. The crown-post roof is still prevalent in this period but is heading into final decline.

The thin collar purlin braces of the Southern Hall roof are typical of this phase and the frontage block braces are not much more substantial. The floor-joist joints, with their central tenons and soffit shoulders, are a quality feature of this period. It is suggested that one would expect to find floor joists with 'diminished haunches' in any quality building post-dating 1530. Conversely, the use of full-width braces with discontinuous studs seem unlikely before 1550. In fact, this kind of bracing is extremely rare before 1600, and may be a one-off solution to a major structural challenge. Bridled scarf joints are again ubiquitous before 1550 and thus are of no assistance in establishing a precise date.

Taking all factors into account, the author would

prefer a date c.1520 for all of the components of the frontage complex. However, there seems to be conflict with the documentary evidence which suggests an operational 'Inn' by 1515. This leads naturally to the question of use and to the possibilities of more than one function.

Purpose of buildings

Without the benefit of any contemporary description, the intended use can only be gauged from the physical evidence that survives. Clearly, we are dealing with buildings of a markedly 'domestic' character with a hint of 'commercial' on the ground-floor frontage. In pondering this question, the particular nature of each room is important, as is its apparent status as exemplified by its decoration. Of crucial significance are the communication links which bind together spaces of associated function. It seems reasonable to suggest that certain arrangements of rooms form relatively self-contained residential 'units' on the following pattern (Fig. 2).

Unit 1 (Rooms 5-15 and 38)

This 'unit' consists of the ground-floor hall, entrance passage, cellar under the passage and south-east 'Lodging'. The light-well yard is also related.

Unit 2 (Rooms 3 and 4, 23-27, 32 and 33)

Consists of the first-floor hall, the first and second floors of frontage Bays B and D, and part of the west wing.

*Unit 3 (Rooms 20 and 21)**Unit 4 (Rooms 17 and 18, 29 and 30)*

The upper floors of frontage Bay A.

The so-called shops, with their associated cellars, can either be considered as separate units, or apportioned to the 'residential' units above.

The opening in the floor between the two halls (Rooms 4 and 5) introduces a complication, if this was indeed a connecting staircase. In effect, this would imply a joint use of units 1 and 2, so forming one extensive habitation.

Some additional support for this interpretation can be found at Giffords Hall, Wickhambrook, Suffolk (Fig. 18). The original core of this delightful moated dwelling displays remarkable similarities with many aspects of the Red Lion. In particular, it is a compact block, with two superimposed 'halls', the uppermost of which has an elaborate, framed 'ceiling'. Other points in common are: (1) massive storey posts, (2) identical floor joints, (3) similar mouldings in the ground-floor 'hall', (4) the design of the garderobe door, and (5) 'Colchester bracing' is present in a partition and produces a striking similarity of effect.

We are firmly of the opinion that the resemblance

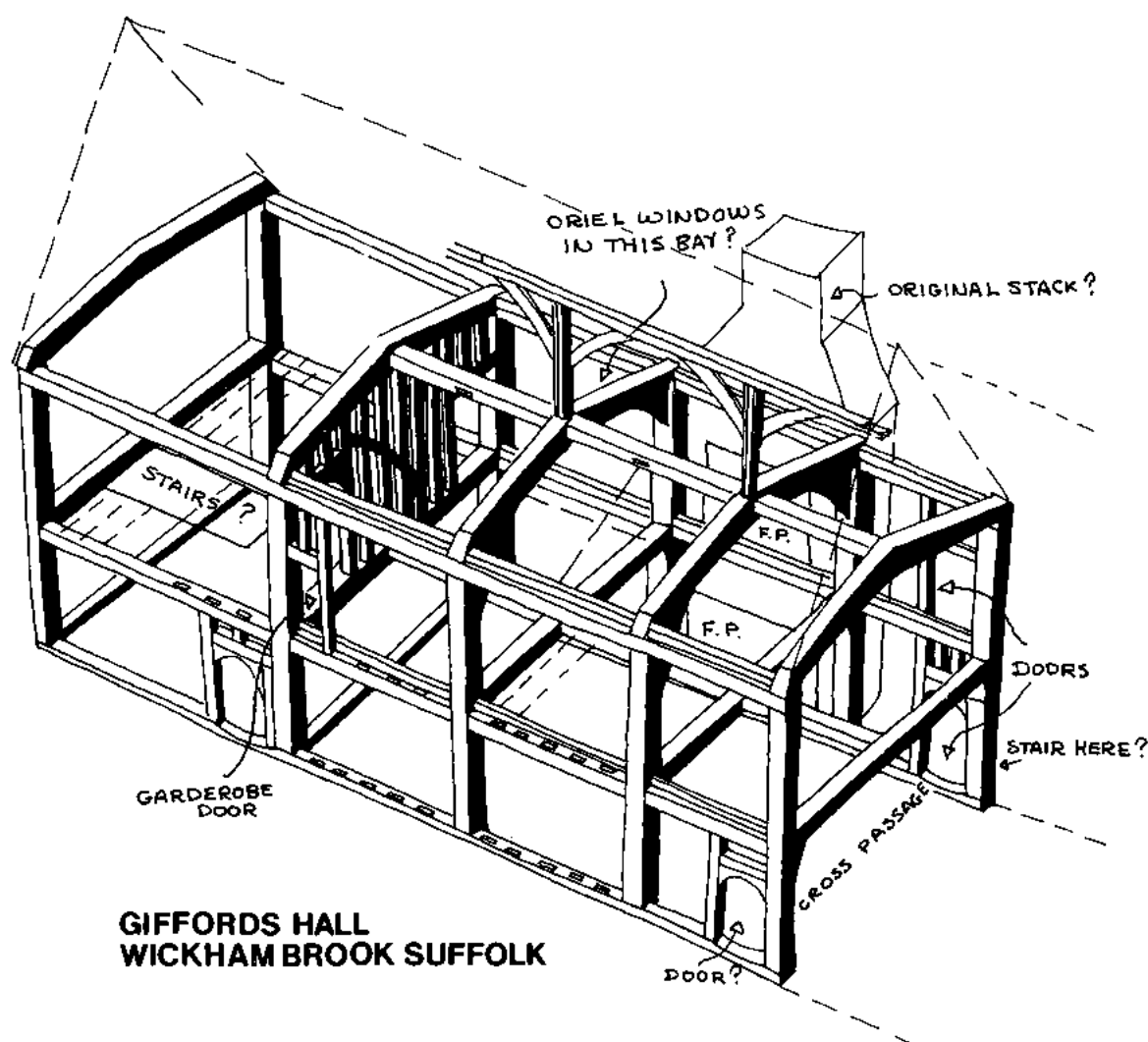


Fig. 18 Reconstruction of the 16th-century Giffords Hall, Wickhambrook, Suffolk.

cannot be coincidental and that the same carpenter was responsible for both buildings. Giffords Hall is clearly a single, rather grand, dwelling in an isolated, rural location where two 'halls' would seem to be unnecessary. This thesis would thus suggest that in both cases the 'upper hall' should be called a 'great chamber' and was functionally distinct from the hall proper below. Such great chambers are a common occurrence in the so-called 'long-wall jetty' houses of the period and an essential component of the contemporary noble mansion.

The possibility of doors in the rear walls of the shops (Bays A and D) would link these with the accommodation to the rear.

The "southern hall" is also clearly domestic, but it enjoys an ambiguous relationship with the rest of the complex. With no clear links to the frontage group, it was evidently associated with earlier, long destroyed structures and is of different date.

In considering an incomplete series of structures, of unknown provenance, we can only think in terms of degrees of probability. It seems that we know very little about the major urban structures of the late medieval era, despite a reasonable level of survival. However, a sensible line of approach seems to be to measure the Red Lion against a series of possibilities:-

Thesis One; the single dwelling

The uniformity of build and quality of execution could point to the single town-house of a noble lord. The accommodation could thus be interpreted as two principal suites with ancillary 'lodgings' in the frontage range.

It can be argued that the particular plan arrangement would have been well suited to this use, and that a series of separate accesses might well have had its advantages. However, it seems unlikely that such a dwelling would have been converted to an inn so soon

after its initial construction (at least by 1515 citing the documentary evidence). The lack of a firm construction date is again an imponderable.

Thesis Two; the speculative complex

The idea that the Red Lion complex was a speculative urban development by the Howard family has its attractions. It is clear that in the Middle Ages, great families, religious institutions and other bodies, were frequently involved in such enterprises. Again, the plan arrangement could have involved a series of 'dwellings' of varied size, with two or three shops on the frontage. Examples of such schemes still exist and their pertinent points can be compared. As a general rule they tend to display 'showy' decorative exteriors, but are plain and utilitarian inside. With the Red Lion, the high quality of the interior finishes and of the overall carpentry would seem to demolish this thesis.

Thesis Three; the Inn

The suggestion that the Red Lion was built as an Inn has obvious merits, bearing in mind the documentary information and the building's later history. The late W.A. Pantin, probably the greatest authority on medieval urban plan forms, examined and described a number of ancient Inns. In an article about the 'Golden Cross' in Oxford (Pantin 1955), similarities with a conventional house plan are noted and this point has been elaborated by others (Wood 1965).

However, other early inns are dissimilar in form, particularly in the means of access. The White Hart at Brentwood, in Essex, remains a long, two-storey range of chambers with a continuous first-floor gallery. This Inn predates the Red Lion by at least a century and capitalises on an advanced circulation technique of probable monastic origin. The advantages of the gallery system are such that one would have expected them to have been utilised in all purpose-built Inns. The complexities of circulation in the Red Lion seem to indicate a different use.

A possible solution

Bearing in mind the previous arguments, the following possibilities come to mind. The 'southern hall' is, in itself, too isolated to provide any real idea of its use. Either it could be the surviving remnant of a mansion, or part of an Inn called the White Lion. In the author's opinion, the frontage complex has an ambiguous character that appears to defy all usual labels. A convenient explanation would combine the strong points of each thesis into a 'multi-functional' explanation. The Red Lion would thus start life as a town house of the

Howard family somewhere around the year 1500. From the beginning, lodgings were provided for retainers or associates with commercial activity on the ground floor. At the same time the buildings may have functioned as a kind of Inn with strangers welcomed when the noble owners were elsewhere. Perhaps with the passage of time the 'town house' element became less important and the Inn function completely took over. Only further research and investigation of other comparable buildings will confirm or deny these tentative conclusions.

Acknowledgements

I am especially grateful to the joint owners, Restoration Inns Ltd and Cordwell Properties Ltd, for allowing me to examine the building and for making a donation towards the costs of recording the chimney stacks. Special thanks are due to Dunthorne Parker, Architects and Designers; the main contractors, H. Firmin and Sons Ltd, to Messrs Sinclair Johnston, the site Engineers and to Ms Helen Axworthy, the job architect. I would like to thank my fellow enthusiast, Mr Richard Shackle, for his assistance and for the use of his measured drawings on which Figures 4 and 1D are based. Members of the Carrick Club visited the building and I am indebted to them for their advice and comment. Thanks are also due to the late Mr Douglas Scott, for permission to reproduce his excellent drawings (Figs 8 and 13) and to Mr Paul Gilman of the Archaeological Section, County Planning Department, for his work in recording the stacks (Fig. 13). Mr Roger Massey-Ryan produced the fine drawings of carved work (Fig. 15).

I would also like to offer my warm thanks to the staff of the Victoria County History and to Mrs Sarah Rodgers, Assistant Librarian to Arundel Castle Trustees Ltd, for their help with the documentary evidence.

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Footnotes

1. British Library (pers. comm. J. Cooper, *VCH Essex*).
2. Partial transcription of Colchester Borough Court Rolls, N.E. Essex Branch.
3. Arundel Castle Library Mss. MD490.

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Postscript

Evidence provided by The Priory, Little Horkeley, suggests that the rebates in the tie beams (see main text, p.145) were to house a vertical cladding of boards over the studwork, forming the line of a flue. This suggests that the hole in the floor between rooms 4 and 5 was for a timber stack.

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A lodging range at Newland Hall, Roxwell, Essex

by John Walker

In the 16th century a high quality timber-framed lodging range was added to Newland Hall, Roxwell, a moated and rural timber-framed medieval manor house four miles north west of Chelmsford, Essex (NGR TL 636 098) (Figs 1 and 2). This 3-bay range was built between the back of the north service crosswing of the medieval house and another building, possibly a kitchen now gone, 37ft (11m) to the east. On the ground floor it had a passage running along the whole of the south side facing the medieval hall with two separate rooms of unequal size off the passage. Both may have been heated by fireplaces in the north wall. On the first floor there were three rooms. The two eastern bays contained two rooms which formed a single apartment, the largest of which was probably heated. Entry was into the heated room from a short passage on the north side of the west bay against the medieval crosswing. This bay also contained a third small unheated room entered from the passage. This passage, which was entered from the crosswing, originally had two garderobes off its external north wall (Figs 2 and 6). The range is likely to be early 16th century as it has a late crown-post roof similar to that in the medieval crosswing, close studding, original brick nogging infill between the studs in the south and possibly the north walls — 8 different patterns can be seen — and display tension bracing on the north wall.

The lodging range may be an early example of superior private accommodation for the occupier and his family. While its design is similar to a medieval galleried inn, it is unlikely to be an inn as it is a remote rural building not close to a road or other houses. The manor was relatively small and unlikely to have required accommodation of this standard for servants, though it is difficult to identify any owner or owners who might have needed to build such accommodation.

Ownership

The manor was listed in the Domesday Book and according to Morant (1768, 74) was held by the de Newland family from at least 1210 to 1449. William de la Newland who died in 1274, held by two knight's fees of the King 458 acres of arable, 49 of meadow and pasture and 10s rent of assise. He sold all of this except the capital messuage before his death in 1274. In 1349 it was held by Margaret Newland and her son Henry by one knight's fee. The manor was then probably around half its size in the mid-13th century.

After Henry's death in 1381, his wife Agnes held

one-third of the manor until she died in 1432, with the other two-thirds held first by her son Richard, then on his death in 1406 by his son John. John gained possession of the whole manor in 1432 and following his death in 1448 it passed in 1449 to two of his daughters, Mauger Taverner and Elen Tironill. From 1449 Mauger's son, William Taverner, held part of the manor and then all from 1453.

At some stage it was acquired by the Berdfield family who also held manors in the parish of Margaretting, Essex. Following the death of John Berdfield in 1514, Newland and the Manor of Cold-hall in Margaretting parish passed to two of his father's sisters, Margaret Gedge and Thomasinas Daniell. The two sisters had previously purchased the Manor of Margaretting in 1512. Cold-hall had been sold to Edward Clovile by 1516 (Morant 1768, 54) and the Manor of Margaretting appears to have been sold to the Priory of St Laurence at Blackmore, Essex, as they held it in 1525. At Newland the Gedge family probably acquired the whole manor in 1519 and despite transfers recorded in 1540, the family retained it, the manor being held by James Gedge when he died in 1555. He held it by half a knight's fee and it was therefore probably a quarter of its size in the mid-13th century. The manor then passes to his three daughters, the oldest of whom was 14, and in due course was held by Edward Elliot who married one of the younger daughters. It passed in 1595 on his death to their son, Thomas.

Medieval manor house

The manor house is situated in open countryside, ½ mile from any other houses, stands within the remnant of a moat and is set a ¼ mile back from the Chelmsford-Leaden Roding road (Fig. 1). The building was not examined in detail as very little is visible.

It was an 'L' or 'U' shaped timber-framed house, consisting of a two-bay open hall facing to the west with a two storey service crosswing at the north end and a parlour bay or crosswing to the south¹. The latter has been pulled down but a cellar survives under the grass where it stood. The parlour was entered from the hall through a segmental doorhead which still survives at the south-east end of the hall. This doorhead provides the main evidence for the orientation of the hall. A door in this position if at the low end of the hall would be for stairs and be square headed with the door opening out into the hall. For this reason it is

A LODGING RANGE AT NEWLAND HALL

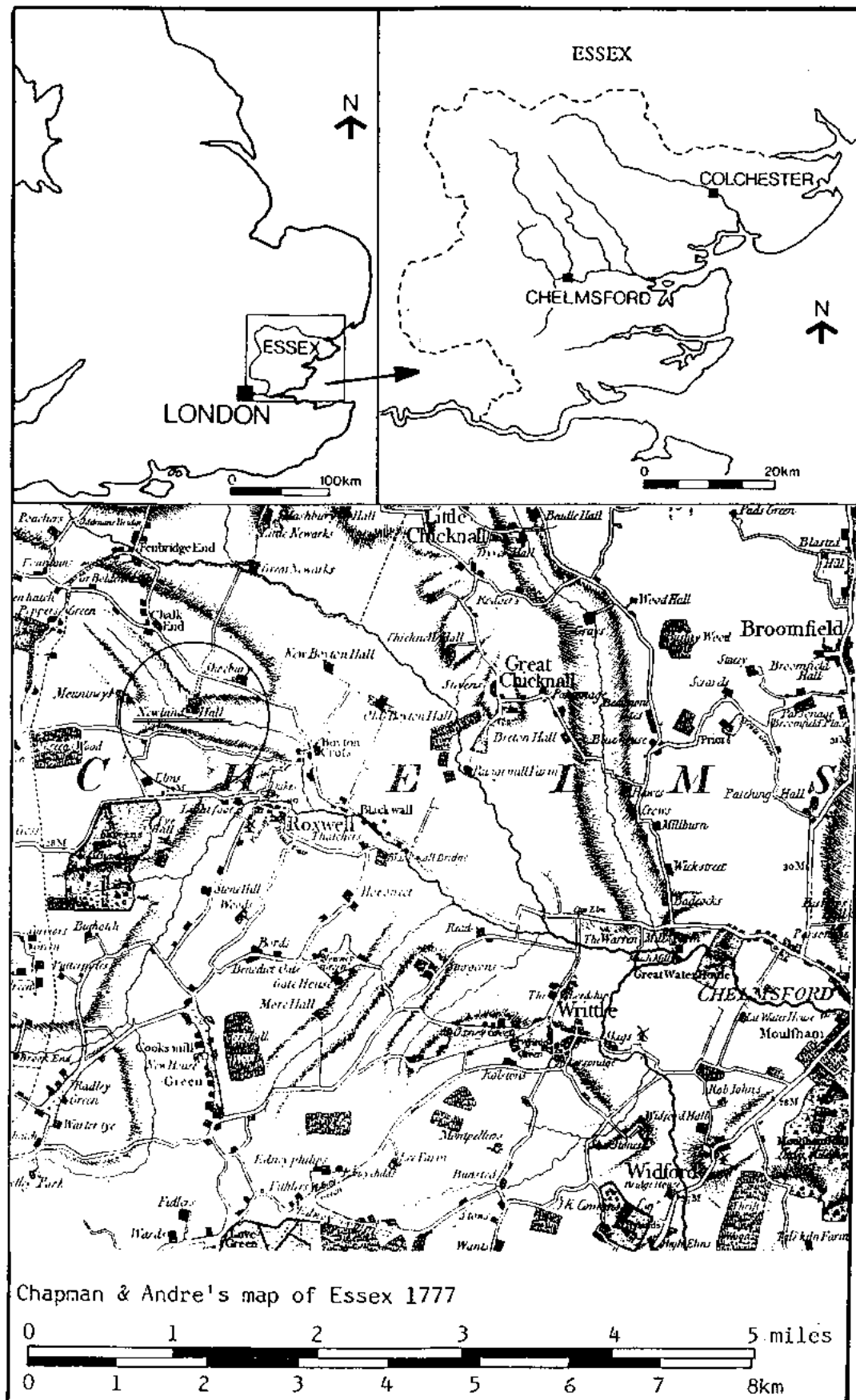


Fig. 1 Location of Newland Hall, Roxwell, Essex.

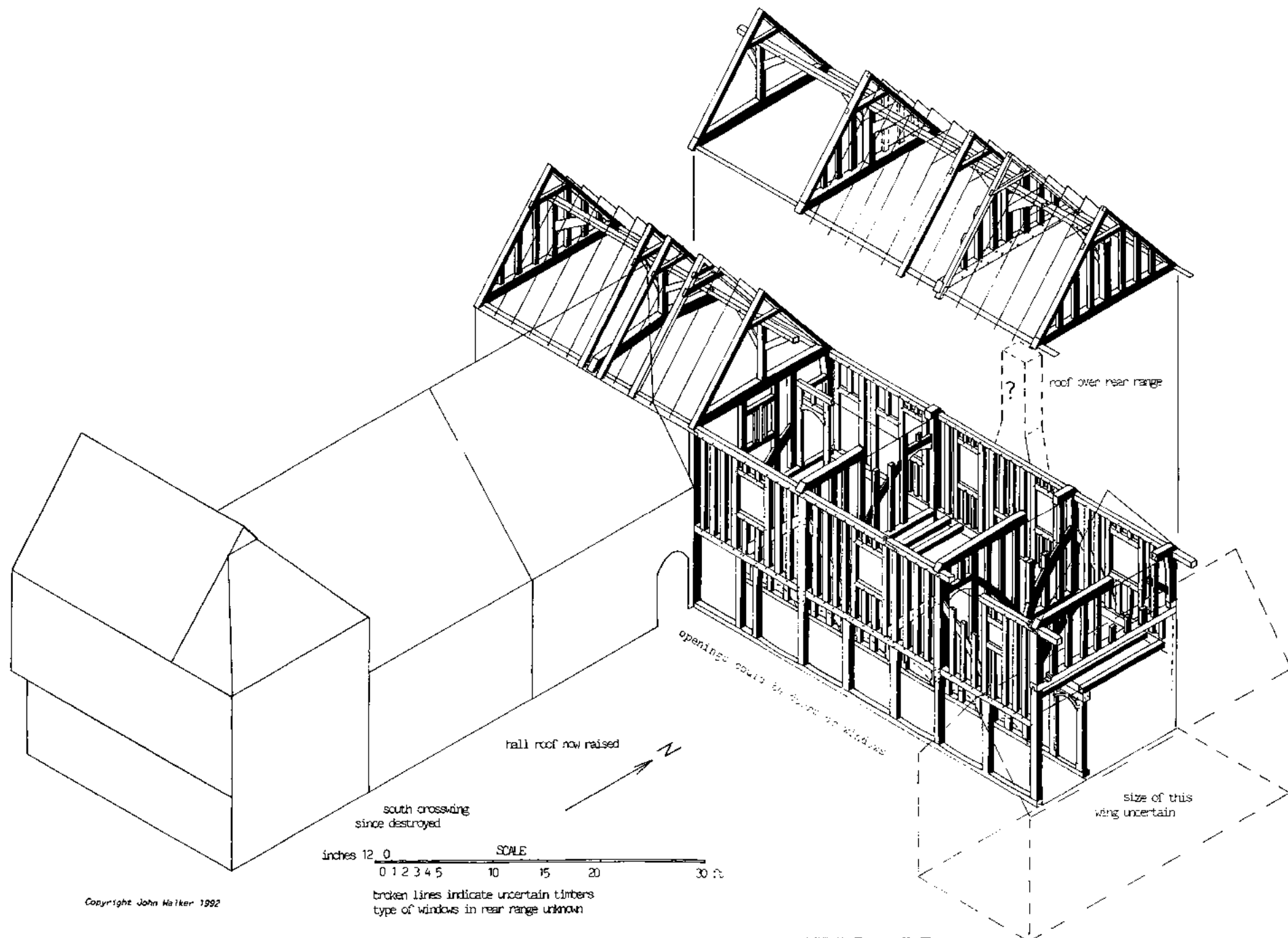


Fig. 2 Isometric reconstruction of the Lodging Range of Newland Hall, Roxwell, Essex.

suggested that it provided the entrance to the high end parlour.

The hall was about 21½ft wide, possibly over 35ft long (6.6x11m) and has been heightened by standing an additional timber-frame on top of the medieval wall-plates. A floor was inserted at tie-beam level. The central tie-beam is visible but may not be original as it is not cambered. It has ogee chamfers with folded leaf decoration carved along its soffit as do the bridging joists tenoned into the sides of the tie to support the inserted floor, though to a slightly different pattern.

The north crosswing was jettied to the west — now underbuilt — 23½ft long including the jetty and 15ft wide (7.2x4.6m). It consists of two bays with a cambered central tie-beam and has a plain crown-post roof with thin braces to only the collar purlin. Its roof was hipped at the rear east end — this was removed when the lodging range was added. The wing and most of the hall have now been encased in brick and a large chimney stack added on the north.

Rear lodging range²

This three bay two storey timber-framed range was built on the eastern rear end of the service crosswing, filling the 37 ft (11½m) gap between the wing and another building to the east. Of this latter building all that survives is part of a wall plate in the east wall of the range (Figs 2 and 10, section A'A). The range is the same width as the crosswing and is clearly a later addition as it required the removal of the hipped end of the crosswing roof as well as blocking a diamond mullioned window in the east wall of the crosswing.

The plan (Fig. 3) is most interesting. On the ground floor it provides two rooms, with a 4¾ ft (1.45m) wide passage running along the south side facing towards the hall. The rooms are 8ft wide (2.7m) and that nearest the crosswing is just over 20ft long (6.1m) and the other about 16ft (4.9m). Both were entered from the passage through segmental moulded doorways at the south-east end of each room (Fig. 4) and both may have had a corner fireplace. Any windows for these rooms would have been in the north wall which has been rebuilt in brick on the ground floor.

The exterior south wall of the passage consisted of 7 openings; the end two were wider and may have been doorways with the other 5 possibly windows (Figs 2 and 5). These middle 5 each had a framed head — the rebate for which is visible in the soffit of the middle rail — but whether this was for an opening rather than a window is not clear. It was not ascertained if the end openings also had framed heads. The width of the openings starting from the medieval crosswing were about 4¾ ft (1.4m), then a length of wall just under 2ft (0.6m), a 4½+ft (1.37m) opening, 3 openings of 4¼ft (1.3m) in the middle bay, followed in the third bay by another opening — size unknown — and space

for a wide opening of up to 5ft (1.5m). The east gable has been rebuilt in brick on the ground floor so it is not known if there was a doorway at the end of the passage into the east building. The principal posts were also moulded on the inside in the passage (Fig. 5).

On the first floor much of the timber framing survives, and is divided into three rooms corresponding to the three bays (Figs 3, 4, 6 and 7). The west bay against the crosswing had a passage on its north side entered from a doorway cut into the back of the crosswing. The rest of the bay formed a small room 11ft square (3.35m) entered from the passage through a doorway which still survives. The two east rooms formed a single apartment, 14¼ft wide (4.3m), entered from the passage with the first room probably heated, 14½ft long, and that to the east unheated, 10ft (4.4 and 3m).

In the north wall of the passage were two first floor doorways, now opening out into mid-air (Figs 3 and 6), with a window alongside to the east which lit the passage. These doors were probably for two garderobes, though there are no mortices visible on the exterior of the north wall for these. They are too narrow for first floor external entrances reached via an external stairs as both doorways were only 2ft 3in (0.7m) wide, compared with 2ft 6in (0.8m) for the doorways to the two ground floor rooms and for the two in the first floor apartment. They are however the same width as the doorway to the 11ft square room. These two doors were square headed whereas the other five doorways had moulded heads.

The west room of the apartment (the middle bay) was probably heated by a chimney on the north wall between the two windows (Fig. 6). A chimney in this position could have also provided fireplaces for both ground floor rooms as the chimney's eastern edge on the first floor would have been in line with the partition between the two rooms. No direct evidence of this chimney is now visible as the wall between the two first floor windows has been rebuilt in modern brick. However this is the only room with two windows in one wall; all the others have a single central window in the north and/or south wall (Fig. 2). A large single central window would have been sufficient as in the east bay unless there was something preventing a central window, such as a chimney³. This chimney may well have been timber-framed and removed when the present brick chimney was inserted in the middle bay, cutting through the collar purlin.

In general the first floor rooms were fairly well endowed with windows (Fig. 2). It is not known what type of mullions were used nor how they were shuttered. However it is likely they contained glass as most of the windows were fairly large, and the main room was heated. In the west room of the apartment the two windows in the north wall were just over 2ft wide by 3ft 8in deep (0.6x1.1m), and a central one in the south wall nearly 3ft by 3ft 8in deep (0.9x1.1m). The east

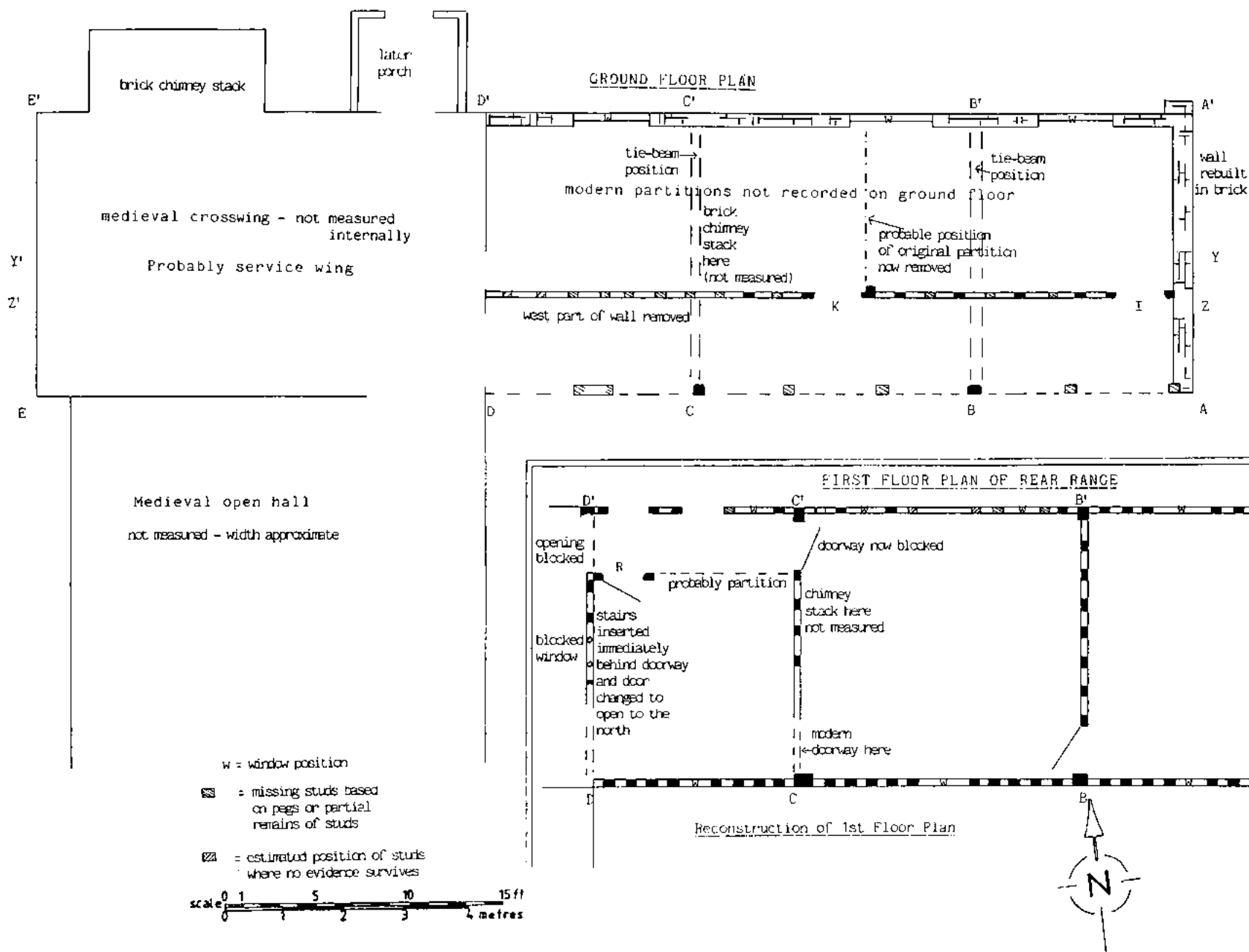


Fig. 3 Plan of Newland Hall, Roxwell, Essex.

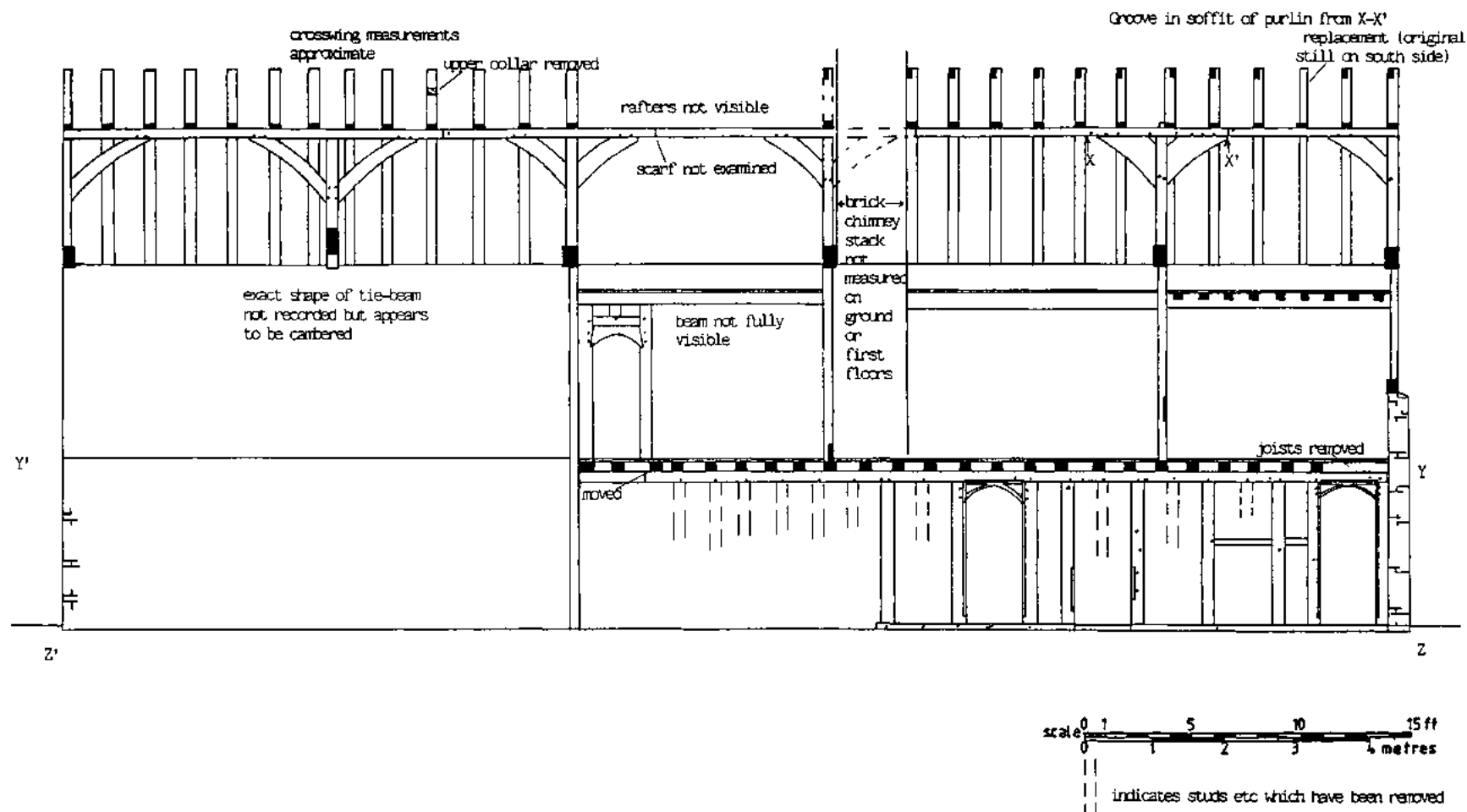
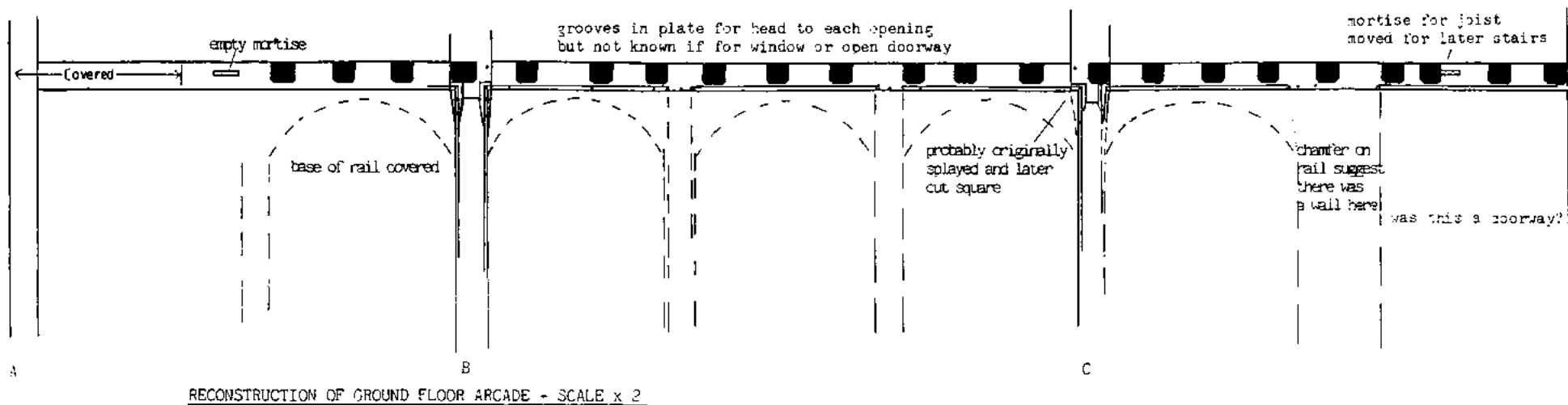


Fig. 4 Section through north crosswing and Lodging Range of Newland Hall, Roxwell.



scale 0 1 5 10 15 ft
0 1 2 3 4 metres

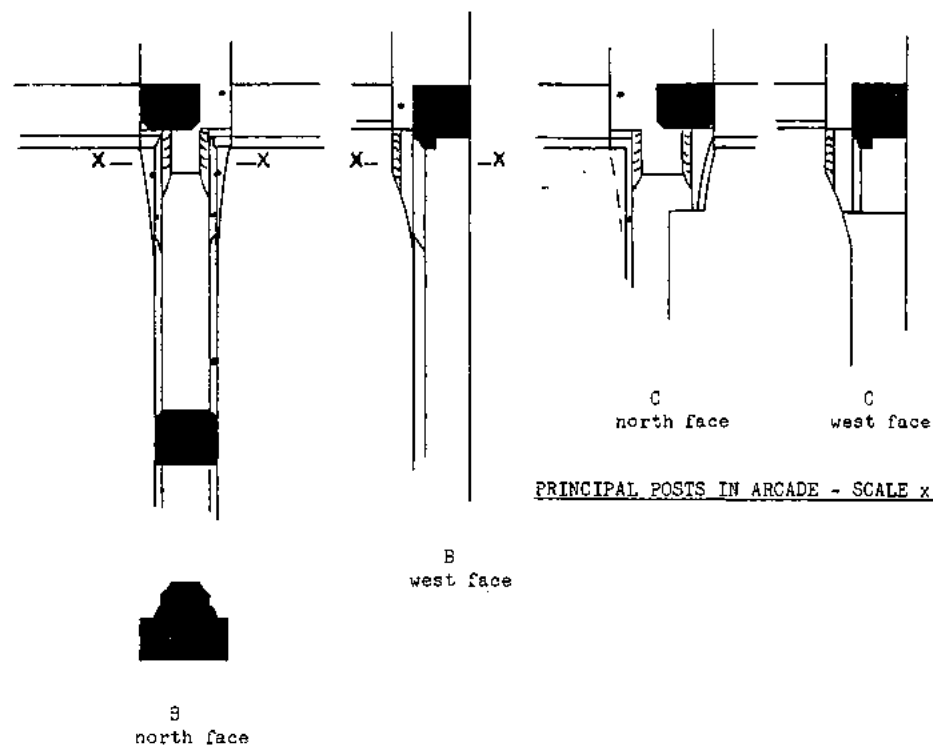


Fig 5 Other details of ground-floor arcade in the Lodging Range of Newland Hall, Roxwell.

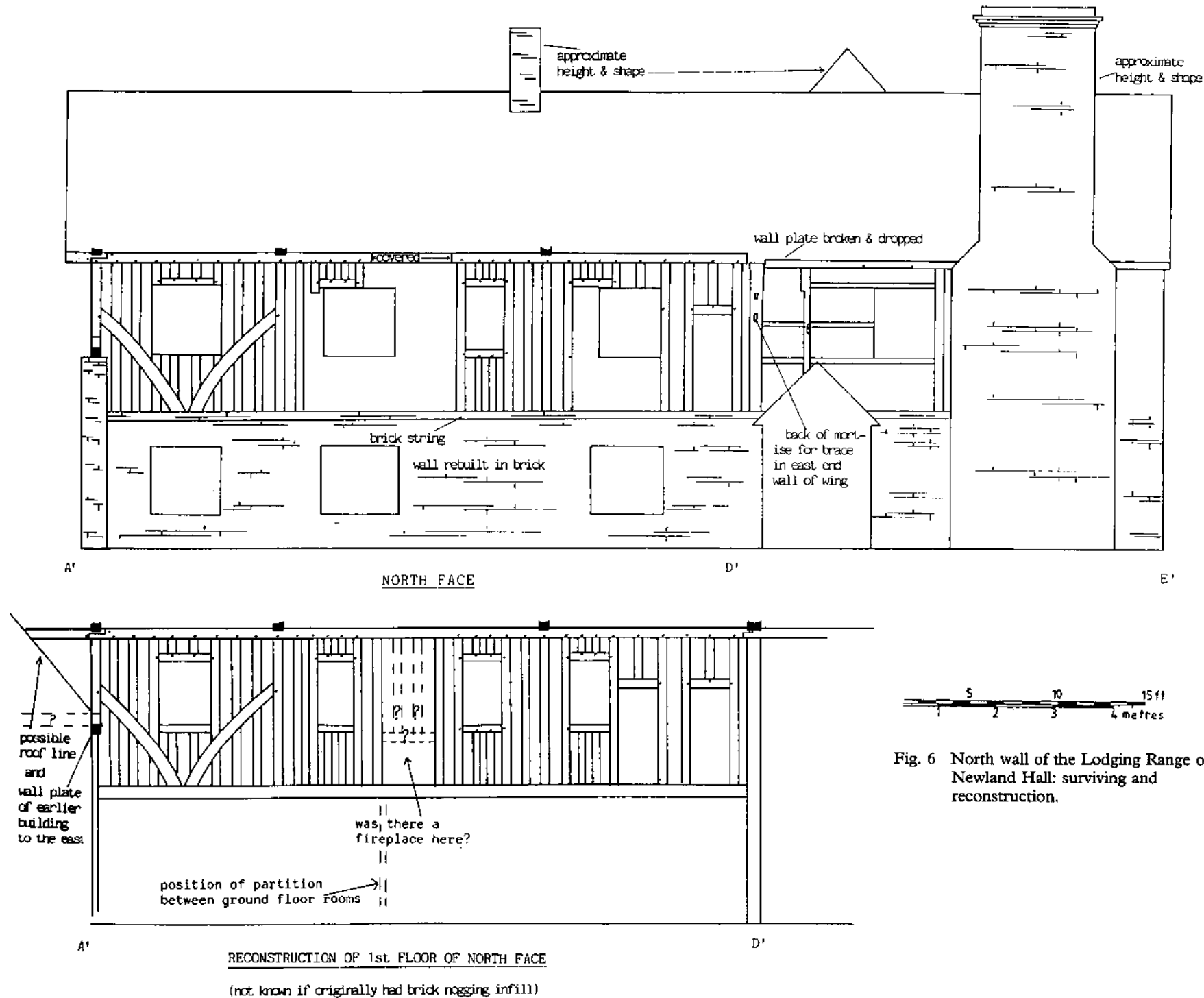


Fig. 6 North wall of the Lodging Range of Newland Hall: surviving and reconstruction.

room, which may well have been the unheated bedroom, had both the largest window in the range, just over 3ft by 3ft 8in deep (0.9x1.1m) in the north wall, and the smallest, 1ft 9in by 2ft deep (0.5x0.6m) in the south wall. The small west room had a single window in the south wall, the same size as those in the north wall of the middle bay, as was the window in the north wall lighting the passage.

The first floor rooms were very tall, 8½ft (2.9m) to the soffit of the wall plates and were originally open to the roof. Those on the ground floor were about a foot lower (0.3m).

The range now has an inserted attic floor supported on wall clamps just over 6in (15cm) below the wall plates. It is clearly a later insertion as some studs in the bay partitions have been removed above the tie-beams to give access between the bays. A solid tread stair has also been inserted (perhaps from elsewhere in the house?) immediately behind the doorway to the 11ft square room in the west bay, and this door rehung to open outwards into what was the passage (Fig. 10, section DD'). Previously it had opened into the room. The doorway may of course also be an insertion having been moved from elsewhere in the medieval house, but if so it is difficult to make any sensible interpretation of the first floor. The doorway has the same double-ogee edge-moulding and doorhead with sunken triangle spandrel mouldings as on the two doorways off the ground floor passage. Also the stiles continue above the head-rail as on the other two first floor doorways, both

of which survive in part, suggesting it was always a first floor doorway. The stiles on the ground floor are tenoned into the head rail (Figs 4 and 8).

Timber framing

The ground floor has been largely rebuilt but the upper floor is close-studded with 6-7in (17cm) wide studs at around 1ft 2in centres (0.36m) (Figs 6 and 7). On the north front the east bay has a pair of tension braces halved across the exterior of the studs. There is no other bracing in the north wall. The south wall has two sets of tension braces, one either side of the principal posts at each end of the middle bay. These, unlike those in the north wall, are halved across the inside of the studs and are not visible externally. The principal posts are 10in deep (25cm) and on the north wall are the same width as the common studs, making it difficult to see the bay structure, but on the south wall they are wider than the studs, over 9in (25cm).

The north internal wall of the ground floor passage has 7in (0.2m) studs at around 1ft 7in centres (0.5m) (Fig. 4).

Jowled posts are used for the east end wall for the framing built on top of the wall plate of the east building. In the other two partitions the principal posts are not jowled but are 10in deep (25cm) allowing them to be tenoned into both the tie-beam and wall plate as with a jowled post (Fig. 10). Edge-halved and bridled scarf joints are used in the wall plates.

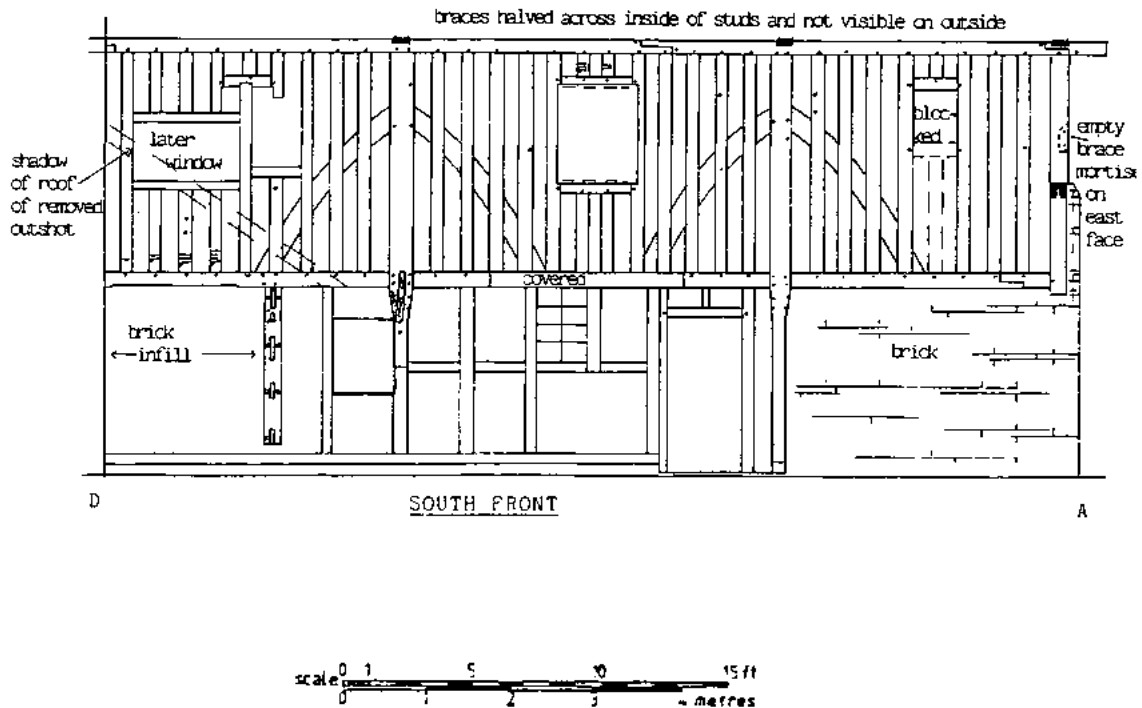


Fig. 7 South wall of the Lodging Range of Newland Hall, Roxwell.

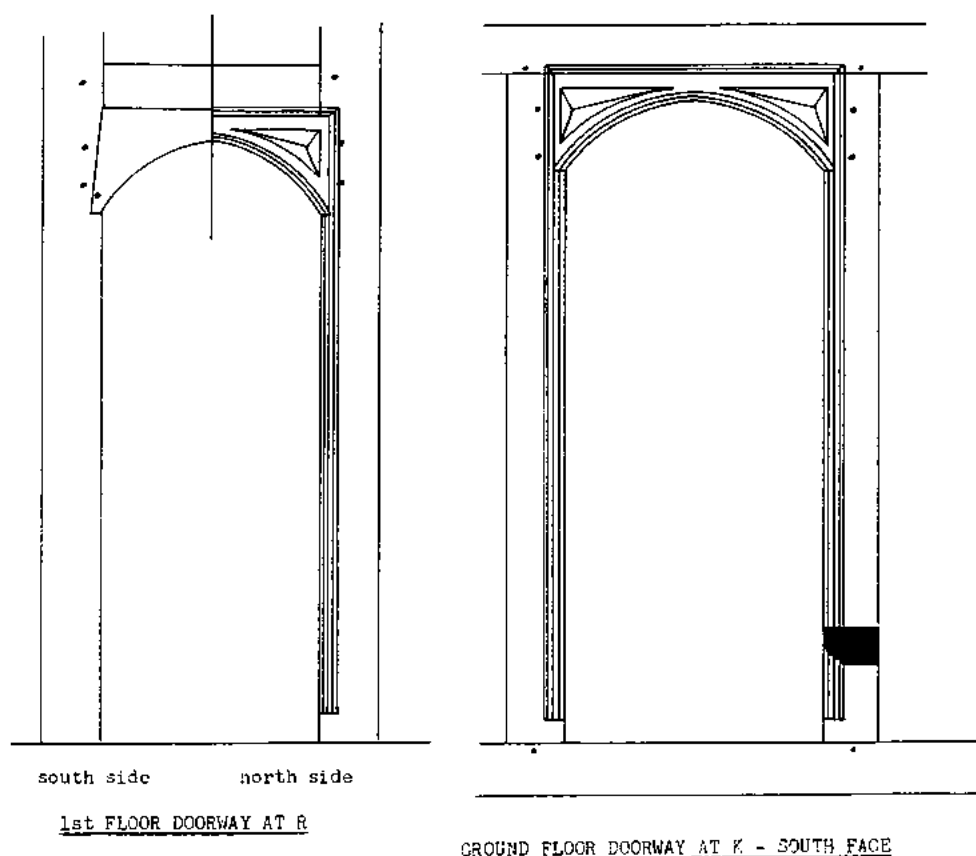


Fig. 8 Doorways in the Lodging Range of Newland Hall, Roxwell.

Roof

The range has a crown-post roof very similar to that in the medieval crosswing with two thin braces on each post, around 2in wide (5cm), rising just to the collar purlin. One interesting feature is that although the rafters sit on the tie-beam in the partition between the middle and west bays, in the other partition to the east they do not. Instead the rafters abut the tie-beam on its east side (Fig. 4). The studs in the partition are tenoned into the tie-beam and those tenoned to the top are fixed to the west side of the rafters and collar and are double infilled. On its east face the studs are flush with the edge of the tie-beam and the wattle and daub infill is finished flush with face of the studs. However on the west side another set of laths were nailed horizontally across the studs between the crown-post and the rafters. The crown-post is deeper than the studs and has two rows of 'v' grooves for the two sets of laths. Thus the studs would have been revealed on the east side in the unheated bedroom, the room with the best window in the apartment, but plastered over on the other side in the room with the fireplace. Also the crown-post is different in this partition (Fig. 4). First the braces are much deeper, around 1½ft deep (0.5m) against less than a foot (0.3m) elsewhere and the

groove into which they are tenoned in the purlin runs continuously from the eastern edge of the east brace to 6in (15cm) beyond the west end of the west brace. Infill pieces have been pegged in to the groove to cover the gaps. The groove is clean-cut showing it to be an original feature.

Brick nogging

Early brick nogging infill survives in both the south and north walls at first floor level. Some of this in at least the south wall may be original. "Tudor" type soft bricks were used, slightly smaller than the standard type as is usual in early brick nogging. In the few places in the south wall where it was possible to examine the sides of the studs they appeared to have a very shallow groove to take the bricks. Though roughly cut as if a later insertion, the soffit of the wall plate where visible has no groove for wattle and daub infill as used in the partitions within the building. The north wall also has brick infill but much of this is later.

The south wall has six different decorative patterns of brick nogging and another two different patterns appear in the north wall (Fig. 9). Using the terminology developed by McCann (1987, 125-127), there are

a Reconstruction of south face of Lodging Range showing brick nogging infill surviving today

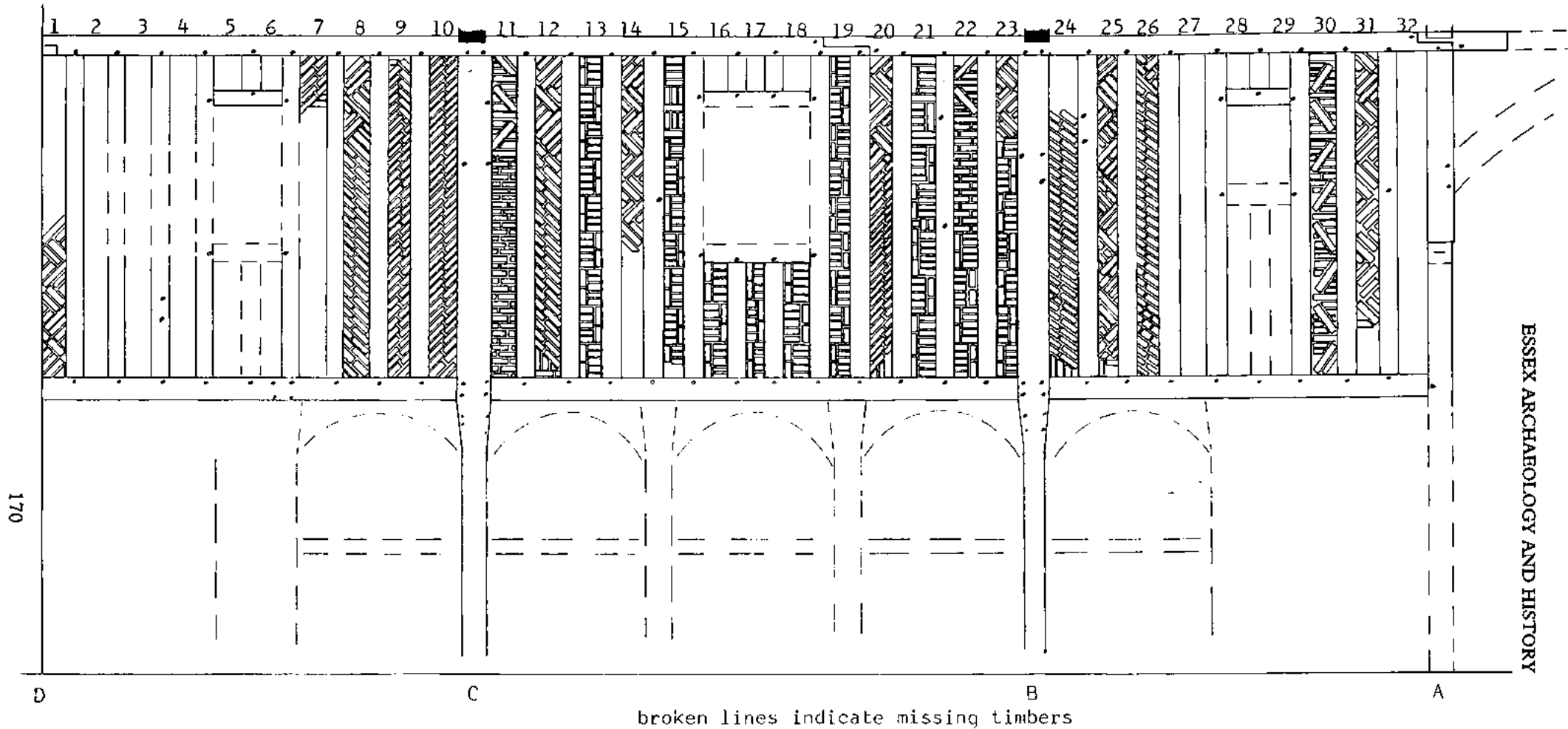


Fig. 9 Brick nogging patterns in the Lodging Range of Newland Hall, Roxwell (not to scale)

Brick Nogging Patterns

South wall

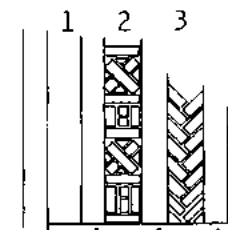
- Reversed block — panels 13, 15-19, 21
- Part reversed blocks/opposed triangles — panel 23
- Part reversed blocks/horizontals with obliques*/plain — panel 22
- Simple oblique — panels 10, 24, 26 and surviving part of 7
- Part simple oblique/upright chevrons — panel 9
- Part simple obliques/opposed triangles — panels 8, 12, 20
- Opposed triangles — panels 1, 25
- Horizontals with obliques — panel 30
- Part horizontals with obliques/plain — panel 11
- Lateral chevrons — panels 14, 31

North wall

- Crosses with stacked blocks* — panel 2
- Inverted chevrons — panel 3

* these are additional patterns to those listed by John McCann

b Other examples in North Wall



23 panels in the south wall and 12 in the north wall consisting of:

North wall	South wall	
1	7	with reversed blocks
	1	part reversed blocks, part opposed triangles
	1	part reversed blocks, part horizontals with obliques*, part plain
	4	with simple oblique
	1	part simple oblique, part upright chevron
	3	part simple oblique, part opposed triangles
8	2	with opposed triangles
1	1	with horizontals with obliques
	1	with part horizontals with obliques, part plain
	2	with lateral chevrons
1		with crosses with stacked blocks*
1		with inverted chevrons

*these are additional patterns to those listed in McCann (1987)

Except for some of the reversed blocks and the plain nogging, most of the panels in the south wall are probably original, though most have been rebuilt at the very top and bottom.

The north wall was not examined to see if the nogging was original. In this wall, panels of brick nogging survive in the east bay (in the two panels to the east and the 2nd to 5th to the west of the window) and in the middle bay by the west window (below the window and in the 3 panels to the west).

East building

The east end of the lodging range is built on the wall plate of an earlier and lower building to the east (Fig. 10, section A'A). This is all that survives from that building. The wall plate has two dovetail seatings visible, of which the one about a foot from the south corner has peg-holes under it for a post. All the wall below the plate has been rebuilt in brick. The wall plates of the lodging range also extend 1½ft (0.45m) east beyond the end of the building as if originally continuing to the roof of this earlier building. Stenning (1991, 181) found sooting on the end wall and suggested this earlier building was an external kitchen.

Date

The lodging range is late 15th or early to mid-16th century. So far the earliest dated use of brick nogging is 1465 in Hertford Castle (McCann 1987, 108), but most early surviving examples are dated to the 16th century. The timber framing has close studding, which is in use from 15th to early 17th century; there is in the north wall still some use of tension braces halved across the exterior of the studs, and while such external display bracing continues well into the 16th century it starts to be replaced from the late 15th century with braces halved across the inside of the studs as in the south wall; it has a crown-post roof, jowled posts and the edge-halved and bridled scarf joint, all of which are little used after 1550-1600.

The medieval hall is clearly earlier than the lodging range but not by much if the ogee and folded leaf carving on the hall tie-beam is original. These would suggest a late 15th or early 16th century date.

Discussion

While it is difficult to relate the proposed dates to the ownership changes, they suggest the medieval hall house was built either by William Taverner who acquired the whole of the manor in 1453, or by the Berdfield family who acquired it sometime between then and 1514. The lodging range could have been built by either of these or the Gedge family who held it from 1519 to 1555 or even possibly by Edward Elliot who married one of the Gedge daughters probably in the 1560s.

But what is the purpose of the lodging range? Is it an inn or a lodging range for visitors or servants, or is it an example of superior family accommodation? As this is a rural property not close to a road, it is unlikely to be an inn. It seems a little grand for servants and Newland appears to be a relatively small manor to require lodgings of this quality for servants. By 1349 the Manor was held of one knight's fee, and by 1565 it was held by ½ a knight's fee. However the Berdfields held three manors and if the John Berdfield who died early in 1514 had made this his main residence, then he might have needed to enlarge the house for his servants.

Perhaps the more likely hypothesis is that the range was built just to give more privacy to the family of John Berdfield, or one of his descendants. In plan it is similar to an inn, but if this was an attempt to obtain more privacy than we think today was usual in medieval and 16th-century houses, then the most likely role model was the medieval galleried inn. A number of other examples have been found of an additional 16th-century wing or long range added to an earlier house, presumably to give greater privacy and more comfortable living. Some were heated as at Hull Mill House, Great Maplestead, Essex where the wing was almost a complete two storey small house of two equal bays

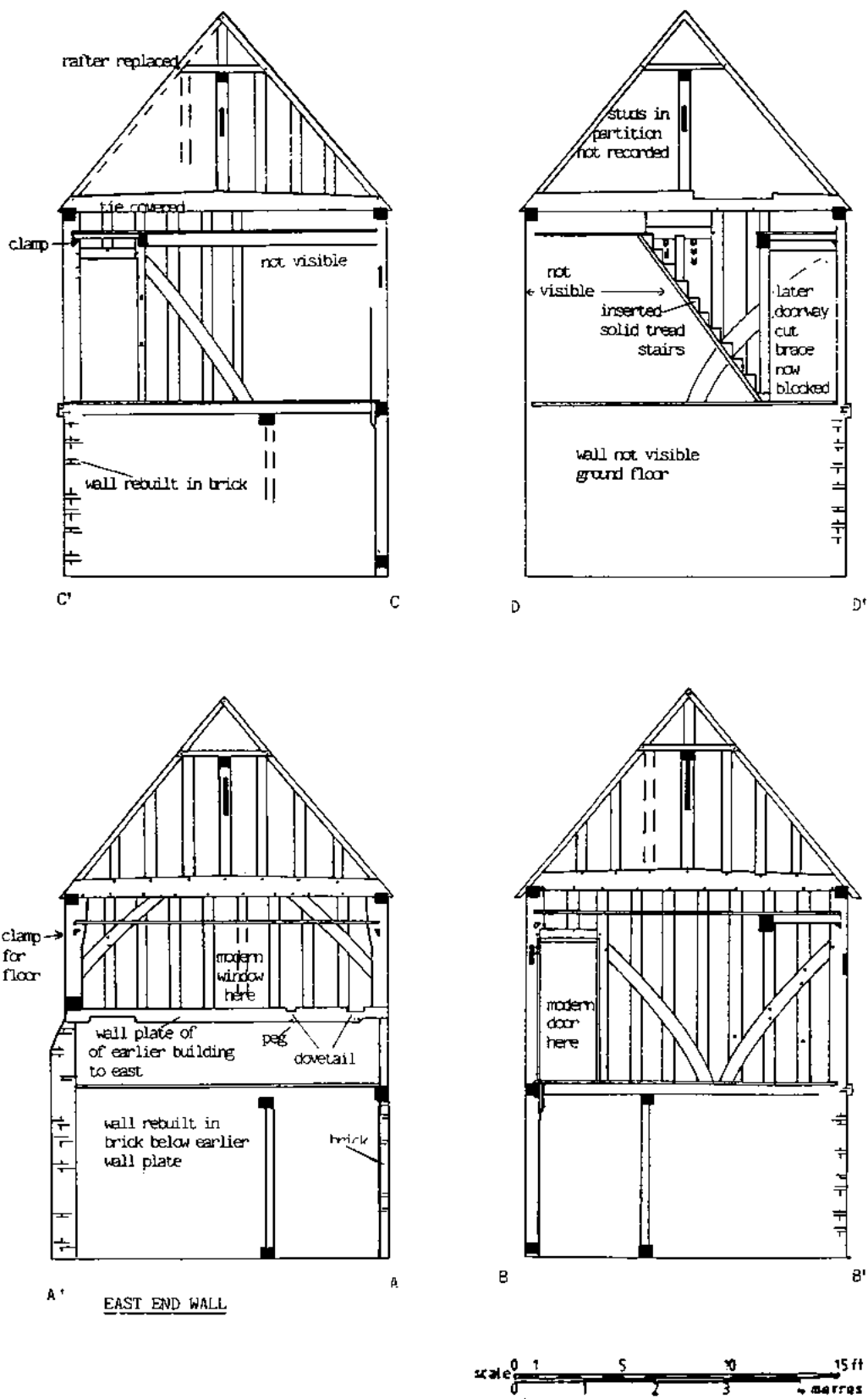


Fig. 10 Sections through the Lodging Range, Newland Hall, Roxwell.

with a chimney stack between them, and well endowed with windows. Others may have been unheated such as at Bushes, Magdalen Laver, Essex which has a large apparently unheated long-jettied wing, of similar date to the Newland's range, built as an addition to an earlier medieval manor hall house.

Acknowledgements

I would like to thank all those involved in measuring the building and the discussions on site. Thanks also to Gary Bugden, Anne Padfield and Dave Stenning for commenting helpfully on earlier drafts. However at the end of the day the interpretation offered and the mistakes and omissions are my own.

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Notes

- 1 The "standard" medieval hall house had a hall which was open to the roof heated by an open hearth near its centre. The external entrance was at one end of the hall, called the low end, and at the other end, called the high end, there was usually in Essex hall houses a bench fixed to the wall for the head of the household and his family. Beyond this was often a single room, called the parlour and often containing a bed, with a first-floor chamber above. Beyond the low end were usually two rooms, called the buttery and pantry, for the storage of food. Above these service rooms was often a first-floor chamber.
- 2 The building was recorded in 1991 by six members of the Essex Architectural Research Society — Gary Bugden, Sue Church, John McCann, Anne Padfield, Kath Pollard and John Walker.
- 3 I am grateful to Dave Stenning for pointing this out.

Silas Taylor of Harwich (1624-78): Naval Affairs, Espionage, and Local History

by W.R. Powell

On 4 December 1665 Captain Silas Taylor, newly-appointed storekeeper for Harwich dockyard, called on Samuel Pepys of the Navy Office, who gave him 'assistance in his dispatch by lending him money'.¹ According to Pepys, Taylor had been recommended by Lord Brouncker,² one of the Navy Commissioners. Taylor's friend Anthony Wood says that he obtained the Harwich post 'by the endeavour of Sir Paul Neile and others'.³ Pepys himself may have had a hand in it, for he and Taylor were old friends.⁴ Taylor had previously been, for a short time, an Army storekeeper, but it was probably his reputation for culture and learning that had brought him to the notice of Brouncker, Neile, and Pepys, all of whom belonged to the newly-formed Royal Society.⁵ For a man of his interests, a move to Harwich was far from ideal, but at that juncture he was probably glad enough to have secured a salaried appointment, after some difficult years.

Early Life: the Civil War and Commonwealth

Silas Taylor (alias Domville) was born in Shropshire on 16 July 1624. Educated at Westminster and Shrewsbury schools, he entered New Hall, Oxford in 1641, but, under pressure from his father, left without graduating to fight for Parliament in the Civil War.⁶ Sylvanus Taylor, his father, held high office under Cromwell in Herefordshire and later at Westminster.⁷ Silas became a captain under Colonel (later Major-General Sir) Edward Massey, who in 1642-6 helped to defeat the Royalists in the west.⁸ After the war Sylvanus Taylor procured Silas's appointment as a sequestrator of Royalists' estates in Herefordshire, and settled on him an estate of confiscated Church lands which he had bought there, including half the bishop's palace in Hereford.

Taylor's work as sequestrator had begun by 1647.⁹ Wood says that he acted 'so civilly and obligingly that he was beloved of all the king's party.' Official records tend to confirm this. In 1653 a fellow sequestrator, Ben Mason, charged him with protecting delinquents (Royalists) and Papists, and meeting them in taverns 'late at night with music'; joining the Levellers, and uttering treason against Parliament. Taylor accused Mason of fraud and other offences. Both men were suspended from office, but were acquitted and reinstated.¹⁰

In March 1654 Silas Taylor became the sole sub-commissioner for sequestrations in Herefordshire, and Ben Mason was dismissed.¹¹ Two months later some of the previous charges against Taylor were revived, and he was also accused of scoffing at the word of God, jeering at honest ministers, breaking the Sabbath, issuing a pamphlet, and defaming persons of quality and godliness.¹² Details of the pamphlet are not stated. Wood says that Taylor published several anonymous pamphlets before the Restoration, but 'would never after own them'. In June 1654 Taylor was further charged with favouring a particular recusant.¹³ He survived these attacks, and was still serving in Herefordshire in 1657.¹⁴ In 1659 he commanded a troop of horse in the Westminster militia during Sir George Booth's rebellion, probably under his father, who was then colonel of a Westminster militia regiment.¹⁵

Silas Taylor's leisure in the 1650s was devoted to music and antiquities. Several of his exercises were played in the Oxford University music school, and in 1655 he published a book of compositions.¹⁶ It was probably at the same period that he attended the musical evenings in Oxford where he met Anthony Wood.¹⁷ Meanwhile he was, says Wood, ransacking Hereford cathedral library 'of... the best of the manuscripts therein, and did also garble the manuscripts in the library of the church at Worcester...' Having gathered much material on the history of Herefordshire, he considered publishing it in *Britannia*, then being planned by John Ogilby, but withdrew on realising that Ogilby expected him to submit a brief epitome, which would be rewritten and published under Ogilby's name.¹⁸

The Restoration

At the Restoration, when the bishops recovered their estates, Silas Taylor 'lost all, and was in manner ruined. Soon after, by the favour of certain persons whom he had before obliged, he became commissary of the ammunition and warlike provision at Dunkirk.' His principal patron at that time was Sir Edward Harley of Brampton Bryan in Herefordshire.¹⁹ Like Taylor, Harley had attended Shrewsbury School and had served in Colonel Massey's regiment during the war. He had become a general and a Member of Parliament for Herefordshire, but had fallen out with

Cromwell, and at the Restoration was appointed governor of Dunkirk, the Flemish port recently captured from Spain. Taylor went with him, but this new employment was short-lived, for in 1662 Dunkirk was sold to France.²⁰ Whether Harley befriended Taylor after 1662 is not known. At some time he acquired most of Taylor's Herefordshire antiquarian papers, which eventually became part of the British Library's Harleian collection.²¹

Back in England, Taylor cultivated court musicians like Matthew Locke and Christopher Gibbons,²² as well as Pepys and the Royal Society circle. Pepys occasionally met Taylor in London between 1664 and 1668, admired him as a musician and scholar, but thought him conceited.²³ In 1668 Pepys attended a performance, in Whitehall Palace, of an anthem composed by Taylor: 'a dull, old-fashioned thing of six and seven parts that nobody could understand; and the Duke of York, when he came out, told me that he was a better store-keeper than anthem-maker, and that was bad enough.'²⁴ In 1669 Taylor asked Pepys to read a play which he had written, and which he hoped would be performed on the London stage. Pepys promised to do so, but without enthusiasm.²⁵

Meanwhile, in 1663, Taylor had published *The History of Gavelkind*, to which he appended an edition of the 'Brevis Relatio de Origine Willelmi', a chronicle of William the Conqueror.²⁶ The main work is an elaborate critique of William Somner's recent *Treatise of Gavelkind*.²⁷ In dedicating it to Sir Edward Harley, Taylor says:

The first essay at it was made in Scotland, being immediately before my going thither by some friends earnestly thereunto solicited, and unwillingly engaged; where I found but small leisure from my employments, to accomplish their desires; yet did credit, that your affectionate engagements of me afterwards in Dunkirk, whilst you were Governour there, would have afforded some few hours to have rendered this piece into a better shape and form, but it is not unknown to you how... my expectations were there also frustrated; in so much that these undigested observations are but those I could...by small parcels catch from my several engagements.

In his preface to *The History of Gavelkind* Taylor says that some of the ideas in the book had been inspired by 'that excellent person Dr T.B., afforded freely to me, then residing at Hereford, by his epistolical correspondences.' In the text of the book (p. 3) he further mentions 'my most worthy friend Dr T.B. of Q.C., Oxon.'. This was Dr Thomas Barlow, provost of Queen's College and librarian of the Bodleian. Taylor also thanks Barlow for allowing him to print the 'Brevis Relatio', from a Bodleian manuscript.²⁸ There is no proof that Barlow's patronage went further than this. But it may be worth noting that three Queen's men, well known to Barlow, were among Taylor's superiors during his naval service: Sir Joseph Williamson and Henry Coventry, both Secretaries of State, and Sir William Coventry, who

was a commissioner of the Navy and secretary to the Lord Admiral, the Duke of York.²⁹

Harwich (1665-7): the Second Dutch War

Harwich had become a naval station during the Interregnum.³⁰ In 1653, during the First Dutch War, the Navy Commissioners had bought for £300 a 1000-year lease of two houses there, with wharfs and quays,³¹ and by 1655 had opened a depot. In 1657 the Navy leased more land from the borough corporation, and established a dockyard. That was closed in 1662, but in 1664, with another Dutch war imminent, it was re-opened. In 1665 the storekeeper of the yard, John Browne, was dismissed for embezzlement, and Silas Taylor was sent to replace him.³²

This posting to a remote place by the North Sea, though an improvement in Taylor's fortunes, cannot have been attractive in itself. The Second Dutch War, involving much naval action close by, had been in progress for over a year. The little town was crowded with soldiers and sailors, as well as 300 dockyard workers,³³ and in October 1666 Plague broke out.³⁴ In June an eagerly-awaited cargo had been lost.

There is a report [wrote Taylor] of a small Dunkirk sloop having stolen on the coasts a Harwich sloop laden with women; the loss will be great, as good women are much wanted in the town.³⁵

There was constant fear of an attack on Harwich. That never came, but in July 1667 the Dutch mounted an amphibious raid on Landguard fort, on the Suffolk bank of the harbour.³⁶ By 22 August, however, their fleet was heading home, and the war was over.

Between 1665 and 1667 the port was commanded by a commissioner, Captain John Taylor. Next in seniority were Silas Taylor and the shipwright, Anthony Deane, who seem to have been equal in rank.³⁷ Deane had the higher salary;³⁸ but during those years Silas acted as deputy commissioner.³⁹ In spite of his seniority Silas was often in financial difficulties. His annual salary of £100 — unaltered throughout his service at Harwich⁴⁰ — was generous by contemporary standards,⁴¹ but it was often in arrears,⁴² and he was always liable to be called on to advance money for government purposes.⁴³

Silas Taylor served as an intelligence officer as well as a storekeeper, reporting not only to the Navy Board, but also, and much more frequently, to Sir Joseph Williamson, private secretary to Lord Arlington, Secretary of State (1662-74) and later himself Secretary of State (1674-8). Williamson was particularly concerned with foreign affairs, and he was also involved in news reporting as editor of the *London Gazette*.⁴⁴ Like Taylor he had attended Westminster School and had antiquarian interests; and he belonged to the same circle as Pepys, Brouncker, and Neile. Taylor's letters to Williamson, while businesslike and deferential, were friendly in tone; and he kept Williamson supplied with

Colchester oysters.⁴⁵ About 1,000 of Taylor's letters to him (1665-78) are preserved among the State Papers. They chronicle the weather, shipping movements, and important visitors, and furnish intelligence from warships, from the captains and passengers on the packet-boats plying between Harwich and the Dutch ports of Brielle and Helvoetsluis, and from correspondents abroad.

Taylor also acted as a prize agent,⁴⁶ dealing with captured enemy vessels. This often exacerbated his financial difficulties. In 1667 he said that during 1666 and 1667 he had disposed of 30 prizes, but that he had not received a salary or adequate allowances.⁴⁷ He later complained that he was £150 out of pocket 'in the prize office'.⁴⁸

In 1667 Silas Taylor's experience of military engineering was put to use, first in producing a set of coastal maps covering the area from the Nore to Yarmouth,⁴⁹ and then in constructing fortifications at Harwich.⁵⁰ He had a ringside view of the attack on Landguard. After the attack the Duke of York visited the town, and, reported Taylor, 'confirmed all that the writer had done to secure the harbour and the town.' He added that he was laughed at then and is despised now, because modesty prevents him putting himself forward.⁵¹

Silas Taylor's claim to modesty may have amused his superiors, whose files contained ample evidence that he was pushful and officious. Soon after his arrival at Harwich he had joined with Anthony Deane in criticising the Commissioner, but had later fallen out with Deane. Both Deane and Silas Taylor were reprimanded by Pepys for their conduct,⁵² but they remained on bad terms.⁵³ Late in 1666, when Pepys and two associates had leased one of the King's ships for temporary use as a privateer, Deane informed Pepys that Silas was asking awkward questions about the arrangement. Pepys, in a judiciously worded reply, explained that he had proper contracts for the use of the ship, and he asked Deane to let him know confidentially of anything else that Silas said on the subject, in case he had 'a sinister design of laying up something wherewith to charge us'.⁵⁴

John Taylor, the Harwich Commissioner, was an experienced officer who had served at Chatham under the Commonwealth, but had been dismissed at the Restoration.⁵⁵ On one occasion Silas accused him of obstruction and of concealing information from him out of envy.⁵⁶ There were two or three later disputes between them.⁵⁷ One dispute caused the Navy Board to consider disciplining Silas, but eventually the Commissioner wrote that he was now behaving satisfactorily, 'if it will continue'.⁵⁸

Harwich: between the Wars (1667-72)

After the Second Dutch War the Navy suspended shipbuilding at Harwich, sent Deane to Portsmouth, and removed the Commissioner, leaving Silas Taylor

in sole charge.⁵⁹ The chronology of these events is uncertain. There is a gap in the series of Silas's letters from Harwich between 22 March and 30 September 1668 inclusive, and two or three times during that period he is known to have been in London. The first occasion was on 5 April, when Pepys noted that Taylor had called at his home,

where much talk, and most of it against Captain Deane, whom I do believe to be a high, proud fellow; but he is an active man, and able in his way, and so I love him. He gone, I to my music again.⁶⁰

Pepys met him again in London on 3 August, when Taylor was in a tavern with Christopher Gibbons.⁶¹ Taylor was probably in London also on 29 June, when his anthem was performed at Whitehall.⁶²

By 1 October 1668 Taylor was back at Harwich, preparing for a visit by the King, with the Duke of York and other grandees.⁶³ They arrived on the 3rd, viewed the town and dockyard, and then went to the house occupied by Taylor, later known as the King's House. The King asked to whom the house belonged.

I said it was His Majesty's... he asked what the house cost; I told him £300,⁶⁴ also how big it was, and upon being told it had four rooms a floor, he replied it was a cheap pennyworth, and upon the Duke entering the parlour, the King said 'Brother this is my house, and it is a pretty one'.

The King spent that night on his yacht in the harbour, while the Duke of Monmouth slept at the King's House. Next day the King inspected the fortifications before taking wine at 'his house, as he called it five or six times this morning'. After church the party dined at the King's House; Charles II and the Duke of York in the great parlour, the Dukes of Monmouth and Buckingham⁶⁵ in Monmouth's lodging chamber, and the other nobles in the little parlour.

The King's House stood on the quay, between King's Head Street (formerly High Street or East Street) and Church Street (formerly Middle Street).⁶⁶ In 1670 it was listed as 'Silas Taylor in the King's storehouse', with ten hearths.⁶⁷ One night in 1673 one of the chimney stacks was blown down through the roof into the garret next to Taylor's bedroom.⁶⁸ He commented: '... considering the time some of these stacks were built, said to be beyond the memory of any man... we must expect the same fate of two stacks more, one of them specially, which has long been supported with a brick buttress.' A photograph taken c.1850, shortly before the house was demolished, shows the main, two-storey front, with attic windows above set in three steep gables: there were ten chimney pots (indicating ten hearths, as in 1670) in three stacks.⁶⁹ The house was then derelict, but it would once have been a fine building, not unlike Castle House at Chipping Ongar.⁷⁰ All the evidence suggests that the King's House dated from the later 16th century.⁷¹

It was probably during the royal visit of October 1668 that Taylor showed Charles II his most precious possession: a charter of the Saxon king Edgar to

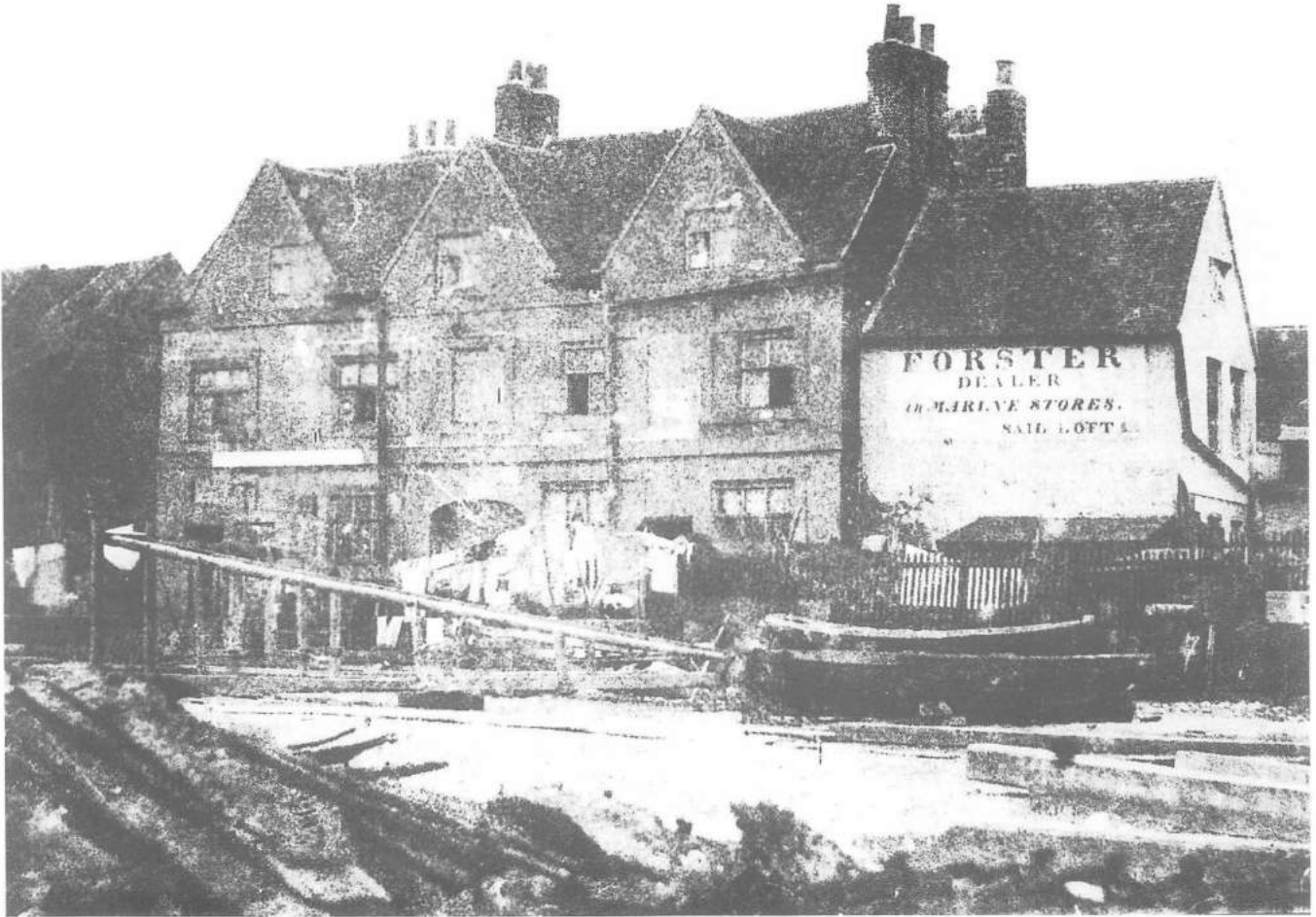


Plate I The King's House, Harwich. Photograph c. 1851 by Wiggins of Ipswich. Reproduced by courtesy of Mr L.T. Weaver.

Worcester Cathedral. He had filched this from the cathedral during the Commonwealth. In 1672 Taylor told Williamson that the King, when at Harwich, had seen the charter, and had ordered its preservation.⁷² He added that he intended to present it to the King, but hesitated to do so until he saw 'an employment settled' in recompense. He invited Williamson to view the charter at Notts the bookbinders in Old Pall Mall. Lord Ashley had said that its value was 'equivalent to one of the Crown jewels.' Since Taylor boasted about the charter to his friends it is likely that the King was well aware of its provenance.⁷³ Whether Taylor succeeded in his brazen attempt to sell it to Charles II is not known. According to Anthony Wood, Taylor 'offered it to the King for £120, but His Majesty would not give so much'.⁷⁴ Aubrey says that after Taylor's death:

I acquainted the Secretary of Estate... and... he told me that it did of right belong to Worcester church. I told one of their prebends, and they cared not for such things. I believe it haz wrapt herrings by this time.

It has been suggested, however, that Taylor's charter, which was probably a 12th-century copy of the original

grant of A.D. 964, still survives in the British Library.⁷⁵ Anthony Wood, who also mentions the charter, says nothing about its being offered to the King; but he states that Taylor had also got hold of 'a quarto MS of great antiquity which treated of the philosopher's stone in hieroglyphics, with some few Latin words underneath... [and]... it was presented to the view of King Charles II, who offered £100 for it, but was refused by the owner.'

Silas Taylor occupied the King's House at least until 1677.⁷⁶ Little is known of his domestic circumstances or his family during his years at Harwich. No references to his father have been found after 1659. Silas's younger brother Sylvanus ('Sill') is occasionally mentioned.⁷⁷ He had attended Wadham College, Oxford, and became a fellow of All Souls.⁷⁸ Silas's son was in 1672 assisting him as a clerk at Harwich. Silas said that he had 'brought him up an excellent Latinist'.⁷⁹ He had hoped that the lad, then about eighteen, would be put on the Navy payroll, but that did not happen. A few months later Silas's wife was also disappointed, when a ½ cwt of quinces which Silas had ordered for her were seized from the Harwich packet by a privateer.⁸⁰

Between 1667 and 1672 Silas Taylor continued to gather intelligence. In November 1669 he sent Williamson a report from 'a gentleman in Holland' on the political, naval and economic affairs of that country.⁸¹ In October 1671 there arrived from Holland 'Sir William Penn's eldest son, the great opinionist: he went presently and associated himself with the Quakers.'⁸² Sir William, a Navy Commissioner, was one of Taylor's superiors. 'The great opinionist' was the founder of Pennsylvania. Three years earlier Taylor had been equally dismissive in describing other dissenting travellers. They were followers of the Baptist zealot Thomas Tillam, who were emigrating to Germany, where the Elector of Brandenburg had offered them asylum. According to Taylor, Tillam preached 'circumcision, the Seventh-Day Sabbath, Jewish rites, community of goods (and they say of wives), but as many concubines as they please. Among those departing to join the communion of saints is a very handsome maid, and some say it is a pity she should go.'⁸³

Silas Taylor's principal associates at Harwich after 1668 were Sir Charles Lyttleton, governor of Landguard fort (1670-80), and Captain Thomas Langley, master of the packet-boats. Lyttleton had fought with the Royalists at the siege of Colchester, and later joined Sir George Booth's rebellion, which, as mentioned above, Silas Taylor had helped to suppress. Now he was a colonel in the Lord Admiral's regiment (the Royal Marines), and, from 1671, a freeman of Harwich.⁸⁴ He had connexions at Court, and was a close friend of Lord Brouncker. He and Taylor usually got on well.⁸⁵ Langley was a Harwich man who served several times as mayor.⁸⁶ In May 1670 he wrote to Pepys:⁸⁷

Captain Taylor deridingly told me... that he had received a letter from the Navy Office stating that I had got myself a place [as]... his assistant. I know nothing of it, nevertheless, if I can be thought worthy to serve you... I shall do so.

Whatever this means, it is known that Langley and Taylor worked closely together. Taylor valued Langley's advice on naval matters,⁸⁸ and their friendship survived occasional disagreements.⁸⁹

Harwich: the Third Dutch War (1672-4)

By January 1672 England, now allied with France, was preparing for another war with Holland. Silas Taylor heard that two new warships were to be built at Harwich, and asked to be appointed commissioner for the port.⁹⁰ But no such appointment was made, and he was left to shoulder the work without the rank, salary, or supporting staff. During the Third Dutch War he was, he said,

solely concerned in this port not only in... affairs of the Navy, but also by the Office of Ordnance, the Agency of Prizes... the charge of [press-ganged] seamen... sent by the neighbouring counties to [the]... Navy, and several other trusts and concerns, and by a commission dated 14 May 1672... received command to form a company... for the security of this town and port.⁹¹

The 'affairs of the Navy' included, besides repairs, fitting-out three new warships, and mustering supply-ships. Of the 'other trusts and concerns' the most important was intelligence. All these duties are illuminated by Taylor's dispatches, which from 1672 are continuous except for the period May 1673 to June 1674, during which relatively few have been preserved, perhaps because Williamson was then abroad.

The Third Dutch War was a miserable time for Silas Taylor. Even allowing for his querulous disposition, there is no doubt that he was labouring under great difficulties.⁹² In May 1672, while the battle of Southwold Bay was raging close by, he had 'no workmen, no stores, and no money'.⁹³ A few days later, when struggling with repairs, he 'had neither deals, nor pitch, nor tar'.⁹⁴ In the same week, after some seamen had been put ashore at Harwich, he gave them money from his own pocket, 'or else they might have lain in the streets all night'.⁹⁵ In July, when suddenly ordered to muster supply-ships, he protested to Lord Brouncker at this additional burden, and again urged that his son should be employed to help him.⁹⁶ This outburst may have caused the Navy to doubt Taylor's competence, for he hastened to reassure them.⁹⁷ 'I never thought the task of mustering the vessels here so great as to be unwilling to do it. In my letters to Lord Brouncker I asked to be given authority but also instructions.' Later he described his difficulties in obtaining information from evasive or obstructive shipmasters.⁹⁸ He was constantly complaining about arrears of pay,⁹⁹ and when asked for emergency aid in loading a naval tender, he was alleged to have declared 'that he would not trust nor disburse for His Majesty's use to the value of 1/4d of pins'.¹⁰⁰

Silas Taylor's press-gang work had been in progress for some time by May 1672, when he stated that he was the agent for pressed men from the counties of Huntingdon, Cambridge, the Isle of Ely and Suffolk, and had already received the quota of 217 from the first three.¹⁰¹ In the same month he went aboard 'a vessel of pressed men... to cull out those fit for service, and so out of 180 we chose 100'.¹⁰² Eight months later he was 'still without 1/4d for this agency'.¹⁰³ The 'Agency of Prizes' was a revival of Taylor's appointment during the previous war. At first he had difficulty in vindicating his claim to it against Sir Charles Lyttleton,¹⁰⁴ and after a year's work he had still received no payment.¹⁰⁵ The Harwich defence company which he was commissioned to form in 1672 was limited to men from the shipyard. There were then only ten or eleven workers there, but he immediately pressed for authority to recruit from the town also, and asked for 100 firelocks to be sent from the Tower of London.¹⁰⁶

Some of Taylor's difficulties stemmed from having to serve two masters, the Navy Board and the

Secretary of State. He commented on this sourly in a letter to the Board.¹⁰⁷

Lord Arlington, believing I have little to do about my place here under you, has furnished me with several employments regarding packet-boats &c., and you, because I have so little to do as a storekeeper, have added all other places belonging to His Majesty's yards to it. Yet were I capacitated and encouraged I would make the best shift I could.

Taylor had more to worry about than overwork and lack of support. Harwich, a garrison town in wartime, was a dangerous place for an officer who often had to confront ill-paid fighting men and itinerant workers. Years earlier Anthony Deane had thought it necessary when going about the town to take an escort of fifteen men with cudgels, and to carry a case of pistols.¹⁰⁸ In June 1672 Taylor told Williamson that there had been a plot 'even against my own life'. He implied that his enemies were soldiers of a company stationed in the town as part of the Landguard garrison.¹⁰⁹ Two months later men of the same company were fighting with sailors of ships in the port. When the Navy Office asked Taylor to report on the affair he replied bitterly that it was unsafe for him to interfere:¹¹⁰

I have escaped but little myself, being threatened 'after the new fashion' to have the sun shine through my body, and waylaid both night and day in my passage betwixt the King's Yard and the King's House to be caned. If in this place (where no authority is, but only complaints and informations) such things trouble you, it was needless for you at that distance to take cognizance of them.

In June 1673 Taylor lost his temper with the Navy Office. They were constantly sending ships for refitting, but he had neither stores nor money; he was owed almost £150 in salary arrears back to 1665, and could not get credit, even for his own family.¹¹¹ He concluded: 'If nothing I have written will gain your belief, I beg you appoint one of yourselves to do the business here of Commissioner, while I shall willingly go through that of a storekeeper. You have long experience of my willingness, and now I beg you will not impose impossibilities upon me.' This letter was endorsed by the Office: 'Storekeeper unmannerly retorting on the Board for their desiring him to lay out a little money for the fitting of small vessels.'¹¹²

Silas Taylor's secret intelligence work seems to have been formalized in 1672. He told the Navy Board in 1673 that 'the engagement I am under, as distinct from my employment in the navy, is that of intelligence, at present singly in myself, as jointly last year it was with Sir C. Lyttleton.'¹¹³ In analyzing this intelligence work, it must be emphasised that the English and Dutch packet-boats continued to ply between Harwich and Holland even in wartime,¹¹⁴ subject to occasional government restrictions,¹¹⁵ and to raids by the privateers (also called capers or picaroons), that infested the coasts. This traffic was, of course, useful to both belligerents. For Taylor it provided opportunities for counter-intelligence. In May 1672 he described how he had obstructed and teased 'a fop of a spy' who was sending back

information.¹¹⁶ In July he reported that a Dutch packet-master was spreading 'brags and lies' about his country's military operations against France. The previous master had been 'very communicative and no observer', but the new man was 'a cunning observer and a collector too.'¹¹⁷ In September Taylor was suspicious of two Dutch naval officers who had recently arrived with their ship under a flag of truce, after bringing over an envoy for talks in London.¹¹⁸ They had walked up to the Harwich Beacon, and:

By their fawning demeanour and their flattering enquiries... may have some thoughts against this town for sake of the ship now building. Our works are down, and not a gun mounted, and only one foot company of 60, the townsmen not armed, and no succours within a day's march... an easy landing not far from the town, and if our fleet or the greater part of them were laid up, thus open lies this place.

The Navy Board sent this letter to the Privy Council for the King's personal attention.¹¹⁹

Silas Taylor also looked out for seditious literature coming from Holland. In March 1673 he discovered two or three books in Latin, recently written by a Leyden student.¹²⁰ These, he said, were 'upse Dutch', that is, praising the writer's countrymen and vilifying others, for example, by claiming that the circulation of the blood had been discovered not by William Harvey but by someone else sixty or seventy years earlier. 'I read enough,' said Taylor drily, 'and let them have it again.' Later that month he examined some Dutch pamphlets, but they were all single copies, and not the 'dozens, scores, or hundreds' that he had been told to look out for.¹²¹

Taylor's routine intelligence gathering is well illustrated in his dispatches during May 1672, a month when he wrote no fewer than 27 times to Williamson and 14 times to the Navy Office.¹²² On 3 May the Harwich packet had recorded the position and condition of the Dutch fleet. On the 9th similar information had been received from 'our discoverer', the spy-ship based at Harwich.¹²³ On the 15th Taylor described visual observations from Harwich's Beacon Hill. On the 16th he reported that three Dutch ships were anchored near Walton-on-the-Naze, that the Dutch had landed a few men in that area, and that some local people 'had sent away up into the country all their goods of value, their wives &c.' On 28 to 30 May he reported on the battle of Southwold Bay and its aftermath.

As before, Taylor was recording the movements of important visitors. A Dutch envoy departed in September, and one from Brandenburg in December.¹²⁴ An envoy said to be postmaster-general of Russia arrived at Harwich in February 1673, and spent several days there, impressing Taylor by his strict abstinence during Lent: 'All yesterday till evening he had but one pint of canary... [and] last night but a pickled herring.'¹²⁵

Besides such routine intelligence, Taylor was organizing a network of spies in Holland. At midnight

on 6/7 March 1672 he received orders to go immediately to Holland for the purpose.¹²⁶ He regretted that he had not been given 'a pretence of business' to cover his activities, and asked that Captain Langley, who knew Holland and spoke Dutch well, should be sent out to help him. Taylor himself spoke no Dutch; he was taking an interpreter, but, as he later discovered,¹²⁷ the man 'was none of the readiest' with the language. By 9 March Taylor was at Brielle, where he penned a long letter to Lord Arlington. On 22 March he reported back at Harwich.¹²⁸ He had visited Flushing, Schouwen, and Middleburg, and claimed to have talked with government officials of every rank, as well as 'the meanest persons'. He declared that there was popular support for the war, while the Dutch fleet was well prepared, being able to attract English, Scottish, and Irish recruits with high wages. His attempts to obtain precise information were unsuccessful. When he tried to pump one naval officer, 'the cunning whelp, even in eating and drinking, when we began to enter into particulars, would not answer anything to satisfaction... two or three served us so.'

Captain Langley had arrived in Holland on 13 March, and returned on the 23rd. On the 28th he sent in a long report, more informative than those of Silas Taylor. He had even entered a Dutch naval base. His slight delay in reporting had displeased Williamson, to whom, also on the 28th, Taylor wrote apologising for it, and complaining that Langley, instead of joining him in Holland as an assistant, had considered that beneath him, and had gone independently.¹²⁹

If Silas Taylor's report on his Dutch mission gives the impression that he was out of his depth as a spy in the field, it impressed his superiors, who immediately laid it before the Privy Council, the King being present.¹³⁰ His expenses on the mission, including 'treats and expenses upon strangers', and the interpreter's wages, amounted to £35 or more, 'besides what may be thought fit to allow me for my pains'.¹³¹ Over a year later he had not been fully reimbursed.¹³²

Taylor seems to have recruited three spies: Henry Dale at Brielle, 'Mr Chip' and Samuel Tucker at Rotterdam. Dale, who used the alias Anthony Degrave,¹³³ had met Taylor when serving as a customs officer at Dunkirk.¹³⁴ Now, said Taylor, 'he keeps lodgings... and [waits]... on the guests to the packet-boats, pretending servility to them, but passes with all letters through their guards, and delivers them on board himself privately to the masters...'.¹³⁵ Dale (sometimes referred to discreetly as 'my friend at the Brill'), acted as postman for the network, and in that way all or most of Taylor's intelligence from Holland reached him by letter, on the packet-boat from Brielle.¹³⁶ Although Dale was a regular correspondent,¹³⁷ his security was sometimes poor.¹³⁸ By January 1673 he had come under suspicion at Brielle,¹³⁹ and he returned to England in March.¹⁴⁰

The Rotterdam agents, Chip and and Tucker, were mutual friends.¹⁴¹ On 12 May 1672 Chip was ordered back to England, but he had returned to Holland by the 27th. When he demanded more money, Taylor instructed Dale to tell Chip what was expected of him, or to return home.¹⁴² No more seems to have been heard from Chip, though he was still drawing money from Taylor's account at Rotterdam late in July.¹⁴³ When Taylor heard that a price had been put on Chip's head at Rotterdam, he commented drily that the man had done the Dutch little disservice.¹⁴⁴ Samuel Tucker is mentioned for the first time on 12 May 1672. His letters were still arriving up to 17 June, but by the 25th the Dutch had become suspicious of him, 'finding several of their transactions in our *Gazette*', a breach of security which caused Taylor to protest to Williamson, who as editor of the *London Gazette* was ultimately responsible for the lapse.

Taylor received occasional intelligence from other persons on the continent. Letters from Sir Antonio Pereira were passed on by Dale and Tucker in May 1672.¹⁴⁵ It is not clear if Pereira was identical with 'Antoine', a Dutch agent associated with Dale.¹⁴⁶ In the following year Taylor was in touch with Colonel Maurice Schwartzburg, a German from the Palatinate and a friend of Prince Rupert. The colonel was thought to have information concerning an associate of the regicide Edmund Ludlow.¹⁴⁷ An agent whom Captain Langley had hoped to plant in Amsterdam proved useless. 'Having made the experiment at Rotterdam [he] would not go farther, because he had such a repulse there'.¹⁴⁸ Another man, called William Carre, wrote from Rotterdam offering weekly newsletters,¹⁴⁹ and claiming personal acquaintance with the Pensionary Fagel and Admiral de Ruyter. It later appeared that Carre was also known to Henry Dale as Major Clarke.¹⁵⁰ There is no evidence that Taylor took up his offer.

Last years at Harwich (1674-8)

After the Third Dutch War Taylor's work again declined. The Navy had already begun to run down Harwich station, and the last of the new warships was completed in 1675.¹⁵¹ Early in 1677, however, shipbuilding was resumed, and a new shipwright, Israel Betts, was appointed.¹⁵² Taylor promptly renewed his application for the post of local commissioner. Besides serving at Harwich for nearly twelve years, he was now a capital burgess, one of the town's governing body,¹⁵³ so that, as he pointed out, he had 'experience... both of people and place'.¹⁵⁴ But his application was again unsuccessful, and in July he was suddenly ordered to vacate the King's House in favour of the shipwright. He protested, but half-heartedly.¹⁵⁵ In the following year he asked to be considered for a post elsewhere, naming as referees

the Duke of Albemarle, Lord Brouncker, and Sir Charles Lyttleton.¹⁵⁶ He went on: 'I believe I may... be an eyesore where I am to some of the Navy Commissioners, for I have lately received some hard measure even to render my employment as uneasy as may be.'

A couple of weeks earlier Williamson had sent Taylor an assurance of 'well wishes and memory'.¹⁵⁷ Coming from a hard taskmaster this encouragement this was most welcome, but Williamson was a busy official far away, and Taylor sometimes felt himself neglected.¹⁵⁸ Perhaps also, Williamson, who was primarily an administrator, had less political influence than Taylor thought.

Taylor's prize and impressment agencies, and his local defence commission, had lapsed with the end of the war, but in December 1674 he had taken on the new duty of keeping registers of packet-boat movements and of British soldiers and seamen returning as deserters from foreign service.¹⁵⁹ Many of the deserters were destitute, and the government paid their passage home. Taylor kept up the registers until about March 1678.¹⁶⁰

Routine intelligence continued. A Swedish plenipotentiary leaves Harwich for Nijmegen.¹⁶¹ A packet-boat brings two British colonels and 'a good honest philosopher whom some... call Count or Baron Helmont'.¹⁶² Henry Thynne departs on a mission to Holland.¹⁶³ A royal yacht brings Sir Anthony Deane and Sir Richard Haddock, Navy Commissioners;¹⁶⁴ Deane, Taylor's old rival, has by now far outstripped him.

Every couple of days Taylor reported shipping movements, or their absence, even when there was no other news. These regular bulletins, while useful in themselves, also enabled Williamson to check the efficiency of the Harwich-London postal service.¹⁶⁵ They contain some matters of particular interest. Soldiers on two of the royal yachts mutinied when ordered to France.¹⁶⁶ A Jewish jewel-merchant was abducted from a packet-boat by a Dutch picaroon.¹⁶⁷ An English ship trading with Sweden had been held to ransom by an Ostend privateer, one of a number owned by 'a brewer there, whom they call Cromwell, and he calls them his fleet'.¹⁶⁸

As before, there is evidence of Taylor's counter-intelligence. In January 1677 Williamson ordered him to look out for and arrest 'Fawcett, a tall young man... somewhat cavalier-like in his looks and behaviour', who was expected to arrive from Brill with 'letters and papers of dangerous consequence'.¹⁶⁹ Later Taylor himself reported on a stranger from London who 'surveyed the town round, both works and wharves, and... was seen in the building-yard viewing the two new ships on the stocks'.¹⁷⁰ But the man later acted so ostentatiously, riding through the town 'with a pipe and tobacco in his mouth', that he seemed unlikely to be a spy.

At this period Taylor was no longer receiving regular letters from spies abroad, though he occasionally heard from Ambrose Hutchinson of Rotterdam, who claimed to be working for Williamson,¹⁷¹ and from 'my friend at the Brill', presumably Dale, whom he named in May 1676 as released from prison.¹⁷² But he was still getting much foreign news via the packet-boats, and some of this sheds light on the speed and accuracy of his information.

No intelligence officer can always be right. In June 1666 Taylor's first report on the Four Days naval battle proved over-optimistic.¹⁷³ His news (27 March 1675) that there had been an attempt to poison William of Orange seems also to have been false, but three days later Taylor noted correctly that the Prince had smallpox.¹⁷⁴ The death of Marshal Turenne on 27 July 1675, on campaign in north Germany, was noted by Taylor on 3 August. When Admiral de Ruyter died on 29 April 1676, after a battle in the Mediterranean, the news reached Harwich on 27 May. Taylor's reports on the siege of Maastricht in 1676 seem to have been generally accurate, including the news that William of Orange had been wounded in the arm.¹⁷⁵ Less illuminating was the information (6 September 1677) brought by a packet-boat master, that 'the Prince of Orange was marched to a town, of which he had forgot the name'; though even that may have fitted into Williamson's intelligence jigsaw. Taylor was sometimes sceptical of his own information. When another packet-boat master reported an engagement between Sir John Narbrough and 'the admiral of the Algerines', he commented (27 November 1677) 'I very much doubt this story, and wonder it should get into Holland before it reached England'. It should, however, be added that Narbrough was indeed harrying the Algerian corsairs at the time.¹⁷⁶

With its crowded streets and shifting population Harwich was not a healthy place in the later 17th century.¹⁷⁷ In June 1678 Silas Taylor wrote apologetically to Williamson asking permission to take a day off each week to refresh himself in the country air.¹⁷⁸ In September he went down with fever.¹⁷⁹ Though very weak, he continued scribbling dispatches until 31 October, but he died on 4 November.¹⁸⁰ On 12 November his friend Thomas Langley wrote to Williamson: 'I was in expectation of a line in my favour to my succeeding Captain Taylor as storekeeper here, but I fear you have forgotten your humble servant'. Williamson was, indeed, preoccupied with other matters, for this was the winter of the 'Popish Plot'. On 18 November he was thrown into the Tower for supporting the Duke of York, and though soon released, had to retire as Secretary of State.

Silas Taylor's 'Description of Harwich'

Silas Taylor was buried in the chancel of Harwich church, without a monument. He left behind an unpublished 'Description of Harwich and all its Appurtenances and Antiquities', upon which he had

been working for some years.¹⁸¹ He died heavily in debt, and all his goods and manuscripts were seized by his creditors.¹⁸² Before his death, however, copies had been made of the main items in his notes for the 'Description', and in 1680 the mayor, John Browne, entered them in a book which is still preserved in the borough archives.¹⁸³

The original manuscript of the 'Description' was used in the following years by three topographical compilers: Edmund Gibson, in his new edition of Camden's *Britannia* (1695), Richard Newcourt, in *Repertorium Ecclesiasticum Parochiale Londinense* (volume II, 1710), and Thomas Cox, in *Magna Britannia* (1720-31).¹⁸⁴ Meanwhile the 'Description' had been lent to Samuel Dale (1659?-1739), the Braintree apothecary, naturalist, and antiquarian, who copied it, added much new material, and in 1730 published it under his own and Taylor's names, as *The History and Antiquities of Harwich and Dovercourt*. Notable as the earliest history of an Essex parish, the book contains much of value on topography, industries, maritime history, local government, and public services, as well as the manor and churches. It is hoped to publish a fuller appraisal of the History, including Dale's contributions to it, in a future volume of this journal.

Summary

Silas Taylor's career displays dramatic contrasts. The fortunes of war brought him power and wealth, then dashed him down, but old friends and old enemies came to his aid. Having fought in Cromwell's army, he served in Charles II's navy. He composed an anthem for the royal chapel at Whitehall, and planned the fortifications of Harwich. He stole cathedral archives and tried to sell them to the king, yet played the good Samaritan to destitute seamen. In London he conversed with cultured friends like Pepys; as a wartime spy he hobnobbed with strangers in Dutch

lodging-houses. Born and bred in Shropshire, he became a Burgess of Harwich, and wrote the history of the town.

These contrasts reflect Taylor's versatility, as well as the fluidity of that age of revolution. If the Civil War had not broken out he would probably have remained at Oxford, and might well have become an academic like his brother. The war made him a soldier and an estate manager. That phase of his life, in Herefordshire, might repay further study. The fact that he moved immediately from the service of the Commonwealth to that of Charles II is unremarkable, but the details of the transition are worth noting. His tact in the invidious task of sequestrator, and his intellectual gifts, were the keys to his survival at the Restoration. The record of Taylor's years at Harwich, fully documented in his own dispatches, sheds light on the history of the town, on the English Navy during the Dutch wars, and on the central government during the reign of Charles II, including the secret service. Not least, it emphasises the role in government of Sir Joseph Williamson, whom Taylor served so faithfully.

Silas Taylor appears in his letters as articulate, intelligent, hard-working, and inclined to go by the book; ambitious, touchy, and insecure. His less attractive qualities were, no doubt, stimulated by the pressures of his later life, and if he had a memorial it could fittingly bear the assessment made by Pepys in reporting Taylor's appointment to Harwich in 1665: 'An understanding and very sober, plain man, and active'.¹⁸⁵

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Notes

- 1 *Diary of Samuel Pepys*, ed. R. Latham and W. Matthews, vi. 318.
- 2 *Further Correspondence of Samuel Pepys*, ed. J.R. Tanner, 85; to Sir William Coventry, secretary to the Lord Admiral, 7 Dec. 1665. For Viscount Brouncker see *Complete Peerage*, ii. 345.
- 3 A. Wood, *Athenae Oxonienses*, ed. P. Bliss, iii (1817), p. 1175.
- 4 *Diary of Samuel Pepys*, v. 174-5, 238; vi. 80-1.
- 5 Brouncker was the first president of the Royal Society: M. Purver, *The Royal Society, Concept and Creation* (1967), index and plates f.p. 79 and 143. Neile was a member of the Society's committee: Purver, *op.cit.* index; R. Latham, *The Shorter Pepys* (1986), 172, 469, 703. Pepys became a member of the Society in 1665: *op.cit.* 469. Other fellows of the Society who knew

Taylor were Lord Ashley, later Earl of Shaftesbury (*Cal. S.P. Dom.* 1671-2, 116), and Sir Joseph Williamson (see below).

- 6 The following account of Taylor's early life is based, unless otherwise stated, on A. Wood, *Athenae Oxonienses*, ed. P. Bliss, iii., p. 1175-8. See also *D.N.B.* Domville, alias Taylor. Taylor, who was usually called Captain Taylor, hardly ever used the alias Domville.

7 A. Wood, *op.cit.* p. 1175; *Cal. S.P. Dom.* 1651, 267; *ibid.* 1657-8, 186; 1658-9, 106, 382; 1659-60, 60, 64; Davies and Keelar, *Bibliog. Eng. Hist. 1603-1714*, no. 1927.

8 For Massey see *D.N.B.* He later went over to the King.

9 *Cal. Cree. for Compounding*, 1643-60, p. 1712, cf. 2068.

10 *Ibid.* 637, 640-1, 643-9, 653, 655, 657, 659, 661.

- 11 Ibid. 672, 678.
- 12 Ibid. 682, 684.
- 13 Ibid. 3028.
- 14 *Cal. S.P. Dom.* 1657-8, 186.
- 15 Ibid. 1659-60, 60, 64.
- 16 *Court Ayres or Pavins, Corants, and Sarabands*. (1655). Published by John Playford sr., for whom see *D.N.B.*
- 17 A. Wood, *Athenae Oxonienses*, ed. P. Bliss, i (1813), pp. xxxiv-xxxv.
- 18 *D.N.B.* Domville, alias Taylor, quoting B.L. Egerton MS, f. 2231, f. 259. For Ogilby see *D.N.B.* His *Britannia* was published in 1675.
- 19 *D.N.B.* Harley, Sir E. (1624-1700): father of the statesman Robert Harley, first Earl of Oxford.
- 20 In 1667 Taylor was asked for an account of the stores at Dunkirk at the time of its delivery to the French; *Cal. S.P. Dom.* 1667-8, 12.
- 21 For these papers see Janet Cooper, 'Herefordshire', in *English County Histories: a Guide* (1994). Dr Cooper kindly let me read her account before publication.
- 22 For Locke and Gibbons see *D.N.B.* For Taylor's friendship with Gibbons see *Diary of S. Pepys*, ix. 271 (3 Aug. 1668).
- 23 As on 16 Apr. 1665, when Taylor spent an evening with him: *Diary*, vi. 80-1.
- 24 Ibid. ix. 251.
- 25 Ibid. 546.
- 26 Graves, *Bibliog. Eng. Hist. to 1485*, nos. 2644, 2801. *The History of Gavelkind* was reprinted in facsimile in 1970 by Sherwin & Freutel, Los Angeles.
- 27 For Somner see *D.N.B.* His *Treatise of Gavelkind* (1660) went into a second edition (1726) and was used by Maitland in *Hist. Eng. Law* (1895), ii. 272.
- 28 The 'Brevis Relatio' is now Bodleian MS Lib. E Museo 93, f. 8v: see C.W. Hollister, 'Greater Domesday Tenants in Chief', in *Domesday Studies*, ed. J.C. Holt (1986), 221. For Barlow see *D.N.B.*
- 29 *D.N.B.* Barlow, T.; Coventry, H.; Coventry, Sir W.; Williamson, Sir J. Williamson and Henry Coventry used their influence to promote Barlow to the bishopric of Lincoln.
- 30 For Harwich at this period see: M. Oppenheim in *V.C.H. Essex*, ii. 284f. and 306-7; L. Weaver, *The Harwich Story*, 47f.; E.R.O., T/Z 38/69, D.S. Lowen, 'Sir Anthony Deane, Naval Architect' (unpubl. thesis).
- 31 E.R.O., D/DA T150.
- 32 Unless otherwise stated, the following account of Silas Taylor's service is based on his letters in the *Calendar of State Papers Domestic*, cited in the text by date only, and in footnotes as *CSPD*, followed by date. Where a reference by date is inappropriate, the *Calendar* is cited as *Cal. S.P. Dom.*, with page number.
- 33 *CSPD* 30 July, 11 Sept. 1666.
- 34 Ibid. 16, 20, 27 Oct. 1666.
- 35 Ibid. 21 June 1666.
- 36 F. Hussey, *The Suffolk Invasion; V.C.H. Suffolk*, ii. 233.
- 37 S. Taylor and S. Dale, *History and Antiquities of Harwich* (1730), 238; *Further Correspondence of S. Pepys*, 1662-79, ed. J.R. Tanner, 123-4. John Taylor was not related to Silas Taylor.
- 38 For Deane see: E.R.O. T/Z 38/69, D.S. Lowen, 'Sir Anthony Deane, Naval Architect, 1638-1721'. (Unpubl. thesis, 1968.) Deane's salary was £130 5s.: *ibid.* 17.
- 39 *CSPD* 26 May 1666; 19 July 1677.
- 40 Ibid. 9 Feb. 1678.
- 41 In 1650 only three out of thirty beneficed clergy in Tendring hundred had an income of £100 or more: *Ecc. Hist. Essex*, 314-17. The Vicar of Dovercourt, whose parish included Harwich, had only £10.
- 42 *CSPD* 25 July 1672, 2 June 1673.
- 43 Ibid. 29 May 1672. Pay arrears were then only too common in the Navy. In 1667 the officers and men of two frigates complained that 52 months' pay was due to them, and that their families were starving: *Eng. Hist. Docs. 1660-1714*, 831; *Cal. S.P. Dom.* 1667-8, intro. p. xiiif.
- 44 For Williamson (1633-1701) see *D.N.B.*
- 45 *CSPD* 1, 8 Oct., 5 Dec. 1672.
- 46 For early references to the work see: *CSPD* 15 Nov. 1666; 5 Feb., 4 June 1667.
- 47 *Cal. S.P. Dom.* 1667, 544 [2 October].
- 48 *CSPD* 14 Jan. 1668.
- 49 Ibid. 11 Apr., 11, 14, 16, 23 May 1667.
- 50 Ibid. 15 June 1667.
- 51 Ibid. 2-5 July 1667.
- 52 *Further Correspondence of S. Pepys*, 1662-79, 122-4: Pepys to Deane, 8 March 1666; Pepys to Silas Taylor, 13 March 1666.
- 53 *CSPD* 19, 22 June, 1, 20 Aug. 1667; E.R.O. T/Z 38/69, D.S. Lowen, 'Sir Anthony Deane', 36-9.
- 54 *Shorthand Letters of Samuel Pepys*, ed. E. Chappell, 85.
- 55 *V.C.H. Essex*, ii. 287.
- 56 *CSPD* 14 May 1667.
- 57 Ibid. 20 Aug., 10, 17 Sept. 1667, 28 Jan. 1678.
- 58 Ibid. 17 Sept. 1667.
- 59 *V.C.H. Essex*, ii. 290; S. Taylor and S. Dale, *Hist. Harwich*, 238; *Cal. S.P. Dom.* 1668-9, 152.
- 60 *Diary of S. Pepys*, ix. 151-2.
- 61 Ibid. ix. 271.
- 62 Ibid. ix. 251. See above, p. 175.
- 63 For the royal visit see *Cal. S.P. Dom.* 1668-9, 2, 4, 9, 10.
- 64 Cf. the £330 paid by the Navy for the Harwich properties in 1653: see above, p. 175.
- 65 Buckingham was then one of the ministers of State forming the 'Cabal'.
- 66 S. Taylor and S. Dale, *Hist. Harwich*, 61; Morant, *Essex*, i. 499; W.H. Lindsey, *Season at Harwich* (1851), 150; L. Weaver, *Harwich Story*, 49.
- 67 E.R.O., Q/RTh 5, m. 29 (Hearth Tax Return).
- 68 *CSPD* 18 Feb. 1673.
- 69 See Plate 1.
- 70 Cf. *V.C.H. Essex*, iv. 162 and plate f.p. 157.
- 71 In 1662 it was stated that the house had been built by Thomas King, who in that year leased it from the Navy (*V.C.H. Essex*, ii. 287). King had had a previous lease of this and other property from 1650 to 1653 (E.R.O., D/DA T150). He may have remodelled the house, but Silas Taylor's remarks on the age of the chimneys suggest that the house was at least 80 years old in 1673.
- 72 *CSPD* 1, 3, 22 Feb. 1672.
- 73 For the charter see: *Diary of S. Pepys*, vi. 81; A. Wood, *Athenae Oxon.* iii, p. 176.
- 74 *Diary of S. Pepys*, vi. 81 and note.
- 75 Ibid. This copy is Harl. 7513. There are many other copies of the charter: P.H. Sawyer, *Anglo-Saxon Charters*, 237.
- 76 *CSPD* 7 July 1677.
- 77 Ibid. 21, 26 June, 2 Aug. 1666; A. Wood, *Athenae Oxon.* iii, p. 1178; *Cal. S.P. Dom.* 1661-2, 342.
- 78 A. Wood, *Athenae Oxon.* i (1813), p. xxxv.
- 79 *CSPD* 20 Apr. 1672.
- 80 Ibid. 10 Oct. 1672.
- 81 Ibid. 23 Nov. 1669.
- 82 Ibid. 26 Oct. 1671.
- 83 Ibid. 5, 14, 17, 19, 21 Mar. 1668. For Tillam see: *D.N.B.*, s.v. Hickinggill, Edmund; *Essex Review*, lviii (1947), 17; T.W. Davids, *Evangelical Nonconformity in Essex*, 374. Taylor refers to 'the Duke of Brandenburg': this was Frederick William, 'the Great Elector', who encouraged the immigration of foreign Protestants. See: Chambers, *Biog. Dict.*; D. Ogg, *Europe in the 17th century* (1967 edn.), 443.
- 84 *D.N.B.*; *Complete Baronetage*, i. 117; J.H. Leslie, *Hist. Landguard Fort* (1898), 98-9; Taylor and Dale, *Hist. Harwich*, 232 [page no. misprinted as 224].
- 85 For a mild complaint by S.T. against Lyttleton: *CSPD* 7 May 1672.

- 86 Harwich Borough Muniments, 100/4, Index to Records, 1600-1820.
- 87 CSPD 6 May 1670.
- 88 Ibid. 11, 13 June 1672.
- 89 For disagreements see: Ibid. 28, 30 Mar. 1672; 11, 21 Jan. 1673.
- 90 Ibid. 13 Jan. 1672.
- 91 Taylor and Dale, *Hist. Harwich*, 238.
- 92 Cf. Sir H. Richmond, *Statesmen and Sea Power* (1946), 53-4.
- 93 CSPD 28 May 1672.
- 94 Ibid. 6 June 1672.
- 95 Ibid. 8 June 1672.
- 96 Ibid. 15 July 1672.
- 97 Ibid. 19 July 1672.
- 98 Ibid. 25 Sept. 1672.
- 99 Ibid. 30 May, 25 July, 3 Oct. 1672.
- 100 *Cal. S.P. Dom.* 1672, 682 [probably June].
- 101 CSPD 18 May 1672, cf. 17 Feb., 20 Apr. 1672.
- 102 Ibid. 23 May 1672.
- 103 Ibid. 26 Feb. 1673.
- 104 Ibid. 7 May 1672; but cf. 12 Dec. 1672.
- 105 Ibid. 26 Feb. 1673.
- 106 Ibid. 15, 16, 24 May 1672.
- 107 Ibid. 10 Apr. 1673.
- 108 E.R.O., T/Z 38/69, D.S. Lowen, 'Sir Anthony Deane', 39, quoting *Cal. S.P.Dom.* 1664-5, 16 Feb., 21 Mar. 1665.
- 109 CSPD 8, 11 June 1672.
- 110 Ibid. 17 Aug. 1672.
- 111 Ibid. 2 June 1673.
- 112 *V.C.H. Essex*, ii. 292: Oppenheim gives a fuller version of the endorsement than does the calendar.
- 113 CSPD 29 Apr. 1673.
- 114 Ibid. 6 Apr., 13 May, 12 June 1672.
- 115 E.g. Ibid. 10 Aug. 1672.
- 116 Ibid. 6 May 1672.
- 117 Ibid. 27 July 1672.
- 118 Ibid. 11, 16 Sept. 1672.
- 119 Ibid. 19 Sept. 1672.
- 120 Ibid. 6 Mar. 1673.
- 121 Ibid. 18 Mar. 1673.
- 122 *Cal. S.P. Dom.* 1671-2, 440f.; 1672, 8f.
- 123 Cf. CSPD 7 and 8 May 1672. For later references to this spy-ship see 11, 15, 23 May 1672.
- 124 CSPD 24 Sept., 5 Dec. 1672.
- 125 Ibid. 26, 27 Feb., 1, 4 Mar. 1673.
- 126 Ibid. 7 Mar. 1672.
- 127 Ibid. 28 Mar. 1672.
- 128 *Cal. S.P. Dom.* 1671-2, 224, 229, 245, 602.
- 129 CSPD 28, 30 Mar. 1672.
- 130 *Cal. S.P. Dom.* 1671-2, 609.
- 131 CSPD 28 Mar. 1672.
- 132 Ibid. 3 May 1673.
- 133 Ibid. 11 June 1672.
- 134 Ibid. 23 Jan. 1673.
- 135 Ibid. 4 May 1672.
- 136 Ibid. 12 May, 5 Aug. 1672.
- 137 Ibid. 21 Nov. 1672.
- 138 Ibid. 21 Jan. 1673.
- 139 Ibid. 14 Jan. 1673.
- 140 Ibid. 22, 23 Mar. 1673.
- 141 Ibid. 3 June 1672. Chip's forename is not mentioned. The surname occasionally occurs today, but judging from telephone directories it is rare.
- 142 Ibid. 3, 6 June 1672.
- 143 Ibid. 11, 12, 17 June, 24 July 1672.
- 144 Ibid. 25 July 1672.
- 145 Ibid. 4, 12 May 1672.
- 146 Ibid. 23 Jan. 1673.
- 147 Ibid. 6 Feb. 1673.
- 148 Ibid. 19 Nov. 1672.
- 149 Ibid. 28 Nov. 1672.
- 150 Ibid. 29, 30 Nov. 1672.
- 151 *V.C.H. Essex*, ii. 307.
- 152 Ibid. 292.
- 153 Harwich Borough Muniments, 100/4, Index to Records, 1600-1820. Silas Taylor was elected burgess 21 Dec. 1672, and capital burgess 26 Dec. 1673.
- 154 CSPD 21 June 1677.
- 155 Ibid. 7 July 1677.
- 156 Ibid. 9 Feb. 1678.
- 157 Ibid. 24 Jan. 1678. The words are Taylor's; but this is not the only kind message he received from Williamson.
- 158 Ibid. 20 July 1675, cf. 12 Sept. 1675: S.T. to Robert Yard, Williamson's clerk.
- 159 Ibid. 18 Feb. 1675, cf. 12 Sept. 1676.
- 160 Ibid. 2 Mar. 1678.
- 161 Ibid. 13 June 1676.
- 162 Ibid. 21 Sept. 1676.
- 163 Ibid. 25, 27 Dec. 1677.
- 164 Ibid. 22 Sept. 1677.
- 165 See Williamson's stern letter to Taylor, *ibid.* 8 Mar. 1678, and Taylor's reply, 12 Mar.
- 166 CSPD 24, 25 Dec. 1674.
- 167 Ibid. 14 Jan. 1675.
- 168 Ibid. 12 Feb. 1678.
- 169 Ibid. 13 Jan. 1677.
- 170 Ibid. 26 Feb. 1678.
- 171 Ibid. 9, 28 Feb., 6 Mar. 1675.
- 172 Ibid. 11 Apr., 16 Sept. 1676, cf. 27 May 1676.
- 173 *D.N.B.* Domville, Silas, quoting B.L. Add. MS 32094, f. 135. But there had been an earlier report, not by Taylor, to the same effect: *Shorter Pepys*, 626-7.
- 174 Cf. *D.N.B.* William III.
- 175 CSPD 22, 25 July, 5, 8, 24, 29 Aug. 1676.
- 176 *D.N.B.* Narbrough, Sir J. His flagship, Harwich, had been launched at Harwich in 1674: *V.C.H. Essex*, ii. 291, 301.
- 177 As pointed out by Major Bourne in 1653: *V.C.H. Essex*, ii. 285. In 1673 Taylor was for a fortnight afflicted with 'illness in my head and lameness in my limbs which many here are suffering from': CSPD 1, 4 Mar. 1673.
- 178 CSPD 13 June 1678.
- 179 Ibid. 19, 24 Sept. 1678.
- 180 A. Wood, *Athenae Oxon.* iii (1817), p. 1177.
- 181 Ibid. p. 1175.
- 182 Ibid. p. 1177.
- 183 Harwich Borough Muniments, 100/1. Was this John Browne, naval storekeeper, whose dismissal in 1665 brought Silas Taylor to Harwich?
- 184 S. Taylor and S. Dale, *Hist. Harwich*, p. v.
- 185 *Further Correspondence of S. Pepys*, 85.

Gosfield Hall: a country estate and its owners, 1715-1825

by J.V. Beckett

Such have been the vagaries of the English land market in the past that while some estates and their associated houses have been held more or less intact over many generations, others have passed too and fro on the swings of good (or bad) fortune, marriage, and inheritance. Gosfield Hall, near Halstead, is one such house and estate. Built originally by Sir John Wentworth between 1545 and 1560 — the west front still survives — the house was considerably extended in the eighteenth century, and has passed through many hands until today it is owned by the Country Houses Association. The surrounding estate once extended to nearly 3000 acres. Perhaps because Gosfield Hall is somewhat amorphous architecturally, and lacks strong affinity with a particular family — except perhaps for its briefly notorious period as a home for the exiled Louis XVIII of France between 1807 and 1809 — it lacks something of the romance of a Chatsworth or a Hatfield House. Yet its history is no less significant within the context of English landed estates, and in this article we look at how it progressed from being a much-loved house in the eighteenth century, to a neglected,

dilapidated, and empty mansion in the early nineteenth century. The swings and fortunes of inheritance frequently carried estates into the hands of families whose major interests lay far away, and that was to be the fate of Gosfield after 1788. Its sale in 1825 ensured a future for a house that was at that time under threat of demolition.¹

The original Tudor house at Gosfield remained largely intact until the early eighteenth century. John Millington began altering the house by building out the Tudor walls, but with his death in 1715 the house and land was sold to John Knight (c.1686-1733), a City of London financier. Knight's father had been a director of the Bank of England (1694-7) and he himself had served with the Royal Africa Company and in the Leeward Islands (1718-22). His financial interests in the latter were considerable.² Like many a successful City merchant, Knight transferred part of his fortune into land not far from London: Daniel Defoe wrote in the 1720s of successful businessmen who had purchased property in Essex and Surrey to achieve the social status of possession without moving too far from



Plate I The Elizabethan west front of Gosfield Hall, from a picture in the possession of Sir Francis Boileau.

the centre of their business interests.³ In 1715 Knight acquired Gosfield, which became his family seat. His landed concerns were consolidated when in 1727 he bought estates in Cornwall for £3,060, which included a political interest in one of the two Parliamentary seats for the nomination borough of St Mawes.⁴ Knight did not sit for St Mawes, although he did represent another Cornish borough, St Germans (1710-22), and Sudbury (1722-33).

In 1724 Knight married as his second wife Anne Craggs, widow of John Newsham of Chadshunt in Warwickshire, and brother of James Craggs, secretary of state 1718-21. Together, Knight and his new wife began to alter Gosfield, extending the north front to make the whole house larger. Their only child, a son, died in June 1727, and at his death in 1733 Knight left his fortune, including the landed property, to his widow. Anne Knight was an active landlady, and she continued the rebuilding programme.⁵ However, in 1736 she married Robert Nugent (1702-88). In deference to the fortune he inherited through her, Nugent took her maiden name of Craggs in addition to his own. It was a small price to pay: Sir Thomas Robinson, writing at the time of the wedding, commented that 'Mr Nugent, who has lately married the widow Knight who gave him £50,000 on the day of marriage, the same sum to her son, and says she still has £100,000 more in her power'. The son was James, the child of her first marriage to John Newsham, and the gift was probably little short of a bribe since he was believed to have made a determined effort to prevent the alliance.⁶ Even if the figures were exaggerated, they reflected contemporary opinion about the match. Some even speculated that the alliance had turned Nugent into a millionaire.⁷

Anne Knight's marriage to Robert Nugent was a source of considerable contemporary comment and amusement. Nugent hailed from an old Irish Catholic gentry family with estates at Carlanstan in county Westmeath worth perhaps £1500 annually in the 1730s.⁸ The head of the family was Colonel Michael Nugent, who died in 1738. Robert was his son and heir. Educated in Dublin, he reputedly fled to London in 1730 to avoid having to marry his cousin, who was then pregnant with a son he was never to acknowledge. In London he became tutor to the family of the Earl of Fingall, and in July 1730 he married Lady Emilia Plunkett, second daughter of the late fourth earl. Just over a year after the marriage she died in childbirth, leaving Nugent a widower with a baby son, Edmund.⁹ For the next six years Nugent remained a widower,¹⁰ until in March 1737 he married Anne Knight.

This was Anne Knight's third marriage, and at fifty she was no spring chicken. Contemporary descriptions made great play of her size and appearance. Horace Walpole, never one to miss an opportunity of commenting on his contemporaries, coined the verb to 'Nugentize' to describe instances of plump widows

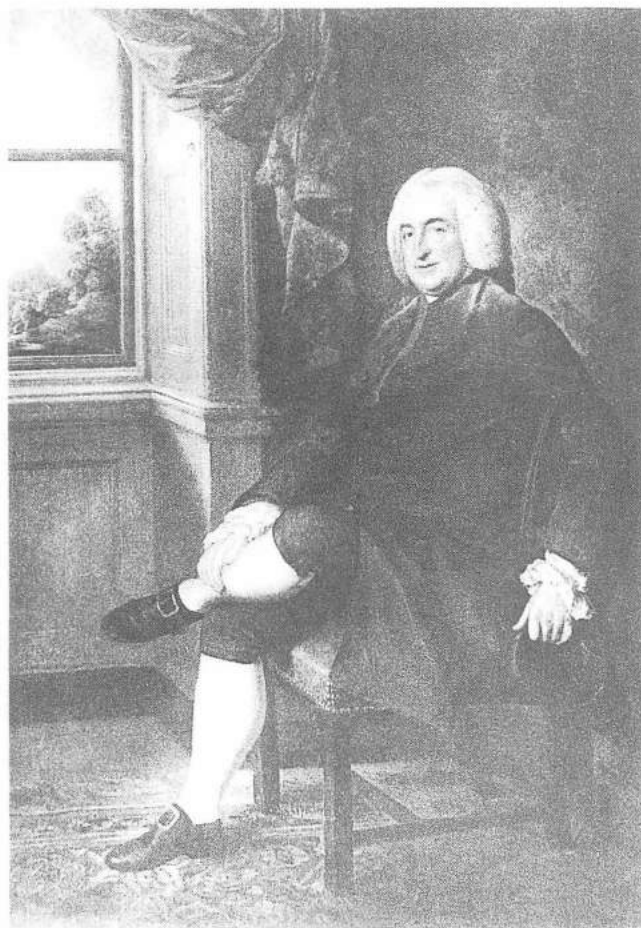


Plate II Robert, Earl Nugent, from a painting by Gainsborough.

marrying men of fortune.¹¹ Nugent was habitually unfaithful to her.¹² Walpole told Horace Mann in 1742:

There is much talk of a pocket book said to be found among old Lady Mountjoy's papers — in one leaf, 'Tuesday, Mr Nugent came; had twenty guineas. Wednesday, ditto, ten guineas. Friday in Lent, fooled away two hours; gave him a lottery ticket.' Do but think of having got fifty thousand pounds by marrying an old she-goat and yet be jobbing for little drippings of ten and twenty guineas!¹³

Writing in 1750 Walpole commented: 'You have heard I suppose that Nugent must answer a little more seriously for my Lady Lymington's child. Why, she was ugly, as Mrs Nugent, had had more children, and was not young.'¹⁴

Nugent, by any standards, treated his wife in what can only be described as a cavalier manner. Not prepared to accept the life of an Irish gentleman — he let the ancestral home at Carlanstown to James Nugent on a 31-year lease after his father died in 1738¹⁵ — he was anxious to enjoy the status due to an English gentleman, and Anne Knight provided the means, at whatever price in terms of her person, and even if the marriage had meant converting from Catholicism to



Plate III Mrs Knight, second wife of Lord Nugent, from an engraving after a painting by Sir G. Kneller.

Protestantism on the way. As one contemporary commented, Nugent was 'a jovial and voluptuous Irishman, who left Popery for the Protestant religion, money, and widows'.¹⁶ Once ensconced at Gosfield he proceeded to play the role he coveted, using his wife's money to improve the house and gardens: he told Sanderson Miller in 1748 that Gosfield 'is greatly altered, the lawns are greater, the water is greater, the plantations are much greater and the house indoors is hardly to be known again'.¹⁷ Horace Walpole, writing of Gosfield when visiting the house a few weeks after this letter, commented that it was 'extremely in fashion'. Yet Nugent's work on the south side of the house, including the library, did not please Walpole. The modernization had been done 'in patches and in the bad taste that came between the charming venerable Gothic and pure architecture'. He admired the furniture but was disappointed to find 'no tolerable pictures'.¹⁸

Nugent had also been at work in the grounds, extending the landscaping in the fashion of the mid-eighteenth century. Walpole was impressed: 'the park is to be 1600 acres... the lake, which is very beautiful is of seventy acres, directly in line with the house, at the bottom of a fine lawn'.¹⁹ Sadly the 'fine lawn' is today a corn field, but the lake remains as a memorial of Nugent's work.

Gosfield was now a house suitable for a landed gentleman of Nugent's pretension. It was here that he entertained his political friends and allies as his own Parliamentary career blossomed. He was returned for St Mawes, the seat purchased by John Knight, at the 1741 general election, and he remained an MP for forty-three years. He sat for St Mawes until 1754, when he relinquished the seat to his stepson James Newsham — to whom he had by now been reconciled — and moved to a Bristol seat. Newsham took little interest in politics, and gave up St Mawes at the 1761 general election in favour of Edmund Nugent, the son of Robert Nugent's first marriage. Robert Nugent sat for Bristol for twenty years, before returning to the St Mawes seat in 1774 (after the death of Edmund), where he remained until he retired from the Commons in 1784. Although Nugent never held high office, he was a lord of the Treasury 1754-9, a vice-treasurer for Ireland 1759-65 and 1768-82, and President of the Board of Trade 1766-8.²⁰

Nugent owed much of his political success to his relationship with the Grenville family, whose chief seat was at Stowe in Buckinghamshire. His links with the Grenvilles commenced in the 1740s through his politics and his wife's influence.²¹ He developed a close friendship with Richard Grenville, Earl Temple, head of the family, and his brother George Grenville. One story, possibly apocryphal, was that in 1750 Temple 'laid a wager with Mr Nugent that he could spit in Lord Hervey's hat, and he would take no notice of it. Accordingly he did so but was mightily mistaken for Lord Hervey sent him a challenge the next morning, which Lord [Temple] thought proper to refuse'.²² According to Horace Walpole, Temple 'took the fatal hat and wiped it, and made a thousand foolish apologies, and wanted to pass it for a joke'.²³ The incident did not sour relations. In 1754 Nugent wrote from Gosfield to Sanderson Miller, then at the Grenville's chief seat of Stowe, adding a 'P.S. to Lord Temple — I love you, damn me if I do not, and I hate myself for not having been able to tell you so at Stowe. If you would be greatly avenged, come over here and bring [William] Pitt with you'.²⁴

Nugent's position at the Treasury in the 1750s owed much to his links with the Grenvilles, and it was George Grenville, prime minister 1763-5, who approved the appointment of Edmund Nugent (on his father's recommendation) as Governor of St Mawes Castle in 1764.²⁵ When George Grenville was removed from office in 1765, Nugent wrote to him 'I am stepping into my chaise to return to Gosfield where I think you owe me a visit as we are now both independent men, and I would have the proud earl, your brother, know that my mutton is as good as his'.²⁶ In 1773 Horace Walpole told Lord Nuneham that 'neither Lord nor Lady Temple are well, and yet they are both gone to Lord Clare's in Essex for a week'.²⁷ It was a relationship soon to have even more momentous consequences.

Anne Knight, the source of Nugent's rising prospects, died in November 1756. This time Nugent did not long remain a widower, marrying as his third wife Elizabeth, the widow of Augustus, fourth Earl of Berkeley, and the eldest daughter of Henry Drax of Ellerton Abbey in Yorkshire. Elizabeth, who had been widowed in 1755, was living on a jointure from her late husband's estate of £800 annually.²⁸ Although initially happy — a daughter, Mary Elizabeth, was born to the couple in 1759 — the marriage soon turned sour. By 1761 Elizabeth Nugent had had more than enough. As she told Temple:

I ask nothing of him [Nugent] but to be restored to a situation from which I wish to God I never had been taken. I flatter myself your Lordship will, out of regard for me and my family, see deeds of separation effectually executed that I may have a chance of being once again restored to some degree of tranquillity and the sooner the better.²⁹

By November 1761 she was even more vehement. She was, she argued, £1,500 out of pocket as a result of her marriage, and anxious to protect her financial interests: 'I shall not relinquish any part of the jointure I may expect from Mr Nugent as I have sacrificed my health to him.... I so unfortunately did the honour to make choice of [Nugent] as a second husband.'³⁰

The couple were by this time living apart, and Elizabeth Nugent's annoyance was common knowledge. She had offered an amicable settlement to Nugent, who was refusing to give his consent. As a result, she was considering going to live with him again after her confinement, 'and he may then get rid of me as he can'.³¹ For his part, Nugent was anxious to protect jewels and other valuables he had given to his wife so that they could be 'secured to our daughter when she shall be of an age to have use for them'.³² When, in December 1761, Elizabeth Nugent was safely delivered of a daughter, it was reported that 'Mr Nugent disowns Lady Berkeley's child and wanted to send it to the Foundling Hospital, and insisted that she should relinquish the jointure he settled upon her. This she refused and he is taking measures for a divorce'.³³ A deed of separation was signed on 5 February 1762.³⁴ Some years later (in 1778) Lady Berkeley told Horace Walpole that she wished Nugent would agree to see her second daughter who, according to Walpole 'Lord Nugent called chance, and we call Lady Louisa', because 'from her likeness to him he would be convinced at least she thought of him at the time'.³⁵

Despite his matrimonial troubles, Nugent continued to enjoy favour in the highest political circles. The Prince of Wales, with whom he became friendly from his early days as an MP, died in 1751, reputedly in debt to Nugent. No cash was forthcoming, but after the accession of the Prince's son as George III in 1760, honours were bestowed. In 1766 Nugent was created Viscount Clare and Baron Nugent within the Irish peerage, and in 1776 he was promoted to Earl Nugent, also in the Irish peerage.³⁶

Until the 1760s Nugent's link with the Grenvilles was that of political and personal friendship, but the situation changed when his son Edmund died in April 1771. Edmund had been a soldier, and had risen to the rank of Lieutenant-Colonel in the first regiment of Foot Guards. He 'married' Elizabeth Vernon in 1755, but after he died in 1771 a flaw was found in the marriage and the couple's two sons Charles Edmund and George were declared illegitimate.³⁷ As a result, Mary Elizabeth, Nugent's eldest daughter by his third wife, became his sole heir. She was only twelve, but she immediately became a considerable marital catch. Although Nugent's friend Earl Temple was discreet, he was more than happy when his nephew and heir, George Grenville junior,³⁸ became engaged to her in 1774. They were married in April 1775 when she reached the age of sixteen.³⁹

Mary Nugent was a considerable heiress. One commentator put her fortune at £14,000 a year in land, and £200,000 in personalty.⁴⁰ This was an exaggeration, but the alliance was certainly a windfall for the Grenvilles. Nugent proposed to settle his estates on the couple at the time of their marriage, reserving to himself the right to charge the estate with sums not exceeding £10,000, and permitting the possible sale of the Essex



Plate IV Mary, Lady Buckingham, eldest daughter of Lord Nugent.

estate if the opportunity arose of buying more conveniently elsewhere. The Essex and Cornish properties inherited through his second wife, and his family estates in Ireland, were settled by separate deeds executed on 15 April 1775, although in the event it was decided that apart from the Cornish estate the rest of the property should revert to his son-in-law only after his own death. Such was the complexity of the arrangements that the lawyers fees came to nearly £500.⁴¹

Nugent died in 1788, by which time his son-in-law, exploiting the his Irish links, was undertaking a second period as Lord Lieutenant of Ireland. George Grenville, or, as he now was Marquess of Buckingham, was aware that his father-in-law had not been over-cautious: 'he leaves me all arrears on his Essex and Irish estates'. After a few days of assessment, he concluded 'I think Lord Nugent's estates here [Ireland] are probably underlet; but I probably shall inherit about £6000 per annum in total, subject to Mrs Nugent's annuity of £500, and to £20,000 to be raised upon it'.⁴² Further investigation revealed a less optimistic picture: 'the Irish estates turn out worse than I imagine; they will not remit £4000: and Gosfield is not worth more than £1500 subject to £20,000 and to about £700 annuities'.⁴³ Nugent, having agreed to leave his family estates to the English husband of his daughter, clearly felt obliged to do something in his will for his Irish relations, as well as his illegitimate grandsons, both of whom received £500 annuities.⁴⁴

On what grounds did Buckingham make his assessment of the Gosfield estate? In the 1760s about 1500 of the 2700 or so acres which constituted the Gosfield estate was let to tenants, yielding about £850 gross. The rental rose to more than £920 in 1775, when a farm previously in hand was let. The rest was held as park land. Until Nugent's death the leased land remained at about 1700 acres, and it was bringing in about £1000 a year before tax. However, Gosfield Hall was Nugent's country seat. For the Marquess of Buckingham it would be no more than an occasional retreat, and it was his intention to let all the available land to tenants. As a result, the leased acreage rose to more than 2000 acres in 1790 and to 2255 in 1792, at which time the rental stood at £1546, much as Buckingham had predicted.⁴⁵

With Nugent's death Gosfield Hall was silent. Buckingham and his wife were occasional visitors during the early years of their marriage — Gosfield was after all her family home — and were still paying occasional visits in the early years of the nineteenth century. According to the agricultural writer Arthur Young, the couple were responsible for the introduction of straw-plaiting into the locality:

To make the first miserable-coarse bungled hats was a great effort; and, as nobody would wear them, Lady Buckingham decorated one with ribbon and wore it in sight of the whole village. The marquess went to church in another and laid it during the service in full sight of the congregation.⁴⁶

However, it was because the house was so little used that Buckingham was able to offer it to Louis XVIII, when the exiled French king came to England in 1807. Buckingham visited his royal guests occasionally, and kept in touch by letter. He also entertained them at Stowe. When by 1809 Louis's entourage had reached 130-140, Gosfield was no longer large enough, and it was Buckingham who arranged for the party to move to Hartwell House, near Aylesbury.⁴⁷ At Gosfield the dust covers returned.

Gosfield Hall was empty partly because of the plans being laid by the Marquess and Marchioness of Buckingham. The idea was that it should become the home of their youngest child, George, born in Ireland at the end of 1788. With Robert Nugent's death in 1788 the Barony of Nugent of Carlanstown and the Viscountcy of Clare became extinct. As part of the family plan, Buckingham petitioned George III for an Irish peerage to be conferred on his wife. As a result, on 26 December 1800 she was created Baroness Nugent of Carlanstown, county Westmeath, with a special remainder written into the grant to her son George.⁴⁸ George, even in 1800, was still a young man with no need for a country house — he matriculated at Brasenose College on 25 April 1804. But the intention was that he should be the next Lord Nugent to live at Gosfield.

In the meantime, the Gosfield estate was administered as part of the Grenville family properties. In 1804 approximately 2130 acres at Gosfield were let to tenants. There were fourteen substantial farms let for £1,680, of which seven exceeded 50 acres. The estate also included three shops, a toft and 34 cottages, and the annual rent was £1715. The early years of the nineteenth century saw rents rising everywhere, in line with the inflation which accompanied the Napoleonic wars. Gosfield was no exception. The rent increased to £2033 by 1806, and to £2133 in 1808, although in 1809 it fell back to £1870 as the result of a substantial reduction in the rent of Liston Hall Farm. It was £2292 in 1810, £2366 in 1815, £2357 in 1816-17, and £2245 in 1817-18.⁴⁹

The Marchioness of Buckingham died in 1812, at which time George succeeded her as second Baron Nugent in the Irish peerage. He was as yet unmarried, and had spent some years in the army, and travelling abroad.⁵⁰ He still had little need of a house of his own, but the offer of Gosfield remained; indeed, the Marquess of Buckingham in his will, drafted only shortly before he died in 1813, specifically noted that Gosfield should go to George, who was to pay an appropriate rent to his elder brother at Stowe.⁵¹ Herein lay the problem. Buckingham had intended George to have Gosfield Hall, presumably with the 55 acres regarded as part of the house property, but not the land, which was to remain part of the Grenville estate. The 'rent' had, therefore, to be in the form of an adjustment of the £1500 annuity payable to George Nugent

out of the family estates. Exactly what happened in 1813 we do not know, but presumably the rent demanded was more than George Nugent was prepared to pay. What is not in doubt is that no agreement was forthcoming, and Nugent never occupied Gosfield. When he married Anne Lucy Poulett in September 1813 they went to live in Aylesbury.⁵²

Nugent's decision not to live at Gosfield left the Grenvilles with a house now entirely superfluous to their needs. They already owned Stowe and Wotton in Buckinghamshire, and through marriage the new head of the family, Nugent's brother the Duke of Buckingham, had acquired Avington in Hampshire and Minchenden in Middlesex. As a result, Gosfield Hall was let to Colonel Thomas Astle, who is commemorated by a plaque in St Catherine's Church. But by 1818 Buckingham, already running into serious financial troubles, was considering selling the house and estate. Astle was informed that Buckingham was looking 'to make such arrangements of his estate at Gosfield as will be most beneficial', and that he was 'desirous of avoiding all unnecessary expenditure at Gosfield'.⁵³ The estate was resurveyed and rents raised as leases fell in. It was £4004 in 1818 and £4544 in 1820. Net receipts in 1820-1 were £4738, but 20 per cent allowances had to be made in the difficult economic conditions of 1821 and 1822, and net receipts were only £1855 in 1823-4. They rose to £2705 in 1824-5.⁵⁴

Thomas Astle died in 1820, and Buckingham became seriously interested in disposing of Gosfield. He had the estate valued, which suggested it would raise £182,321 including the timber.⁵⁵ He then placed the matter in the hands of the London auctioneer, Henry Phillips. From Phillips the advice was that 'being in Essex', Gosfield would raise a greater sum if divided into lots, and auctioned. Buckingham had no desire to advertise the estate, which he was anxious to sell as a single unit.⁵⁶ Phillips was soon receiving offers for Gosfield, including one from the City banking family of Barings, but none of his clients was prepared to match Buckingham's valuation.⁵⁷ Meantime Gosfield remained untenanted and, from late 1821, largely empty. The latter change was the direct result of a fire in 1820 which gutted the Grenville's second house in Buckinghamshire, Wotton.

Almost immediately Wotton was rebuilt to plans drawn up by Sir John Soane, but rather than refurnish it from new, Buckingham suggested to his son the Marquess of Chandos, by now the tenant of Wotton, that he should raid Gosfield. The idea appealed to Chandos, who told his wife, 'there are many things at Gosfield which will do famously for Wotton, and save me purchasing which of course is no small advantage'. He travelled to Essex on a nostalgic visit reinvoking childhood memories, although he cannot have been more than five when he last went to Gosfield: 'after nineteen years of absence I have visited this old and curious place'. What he claimed to remember as a

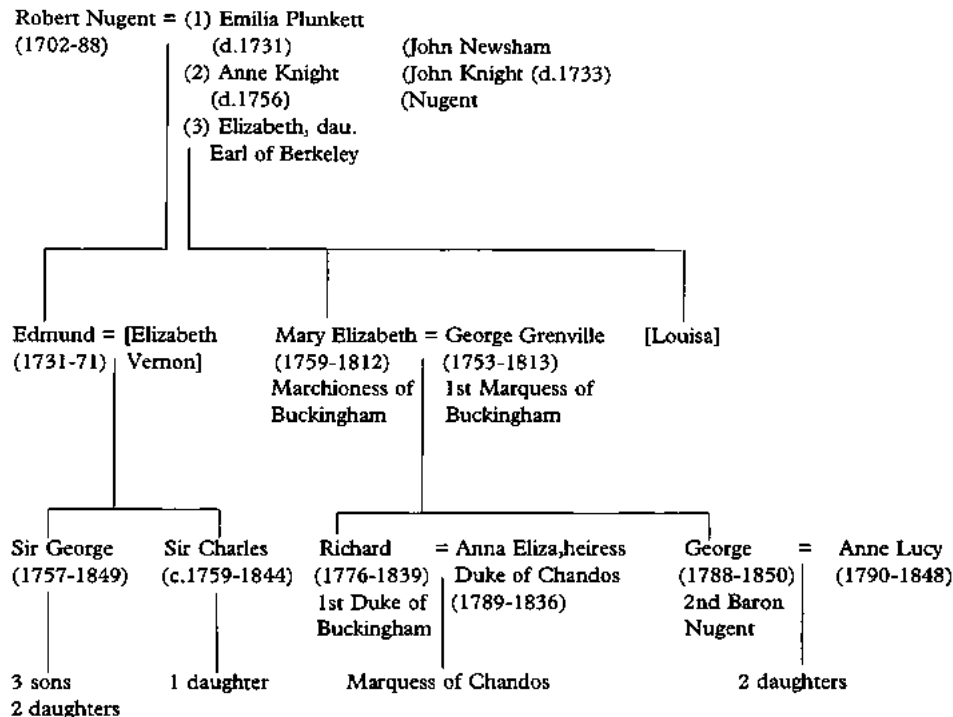
lively place now had 'a certain deserted magnificence and dreariness in the rooms'. He could find little affection for the 'so long deserted' house, which had fallen into 'great neglect'. He earmarked about 200 items to go to Wotton.⁵⁸

The problem of selling Gosfield remained, but in the spring of 1822 Phillips received a serious offer of £135,000 from Edward Barnard.⁵⁹ Buckingham refused the offer, and with Phillips reporting further interest in Gosfield, Barnard dropped out. None of these enquiries led to offers,⁶⁰ and Buckingham began to despair. He started seriously to consider whether Chandos had been right when, after returning from his visit to Gosfield in 1821, he had recommended demolishing the house.⁶¹ Buckingham confided in his diary on 11 January 1823 that he was ready 'to make arrangements to pull it down, as the letting it stand in a dilapidated state will hurt the sale [of the property]'. On 1 February the plan had changed somewhat: 'If I don't sell Gosfield I pull down all but the west front, leaving old gallery, kitchen wing, farm house. Steward's wing to be fitted up for me.'⁶² Buckingham cheered up a little when 'Mr Nanbury's friend' was thought to be ready to offer 150,000 guineas. Again this came to nothing, as did further enquiries in 1824,⁶³ but finally in 1825 the Gosfield Hall estate was sold to Edward George Barnard — who had been interested since 1822 — for 150,000 guineas.⁶⁴

What happened at Gosfield must have been repeated in many other instances across the country as a result of the vagaries of the marriage and inheritance markets; indeed, its fate might easily have been similar to that of Eastbury in Dorset, which Earl Temple inherited in the 1760s and demolished in the late 1770s when he could not find either a purchaser or a suitable tenant. In the eighteenth century Gosfield Hall was the pride and joy of its owners, and both house and gardens benefited from the outlay of a City fortune. Robert Nugent wine and dined his political friends, together with a stream of visitors who were expected to admire (or, in Horace Walpole's case, find fault) with his work. Nugent had become Anglicized, but his family roots remained Irish, and with his death the estates had to pass to his nearest legitimate heir, a daughter who carried them into the family of her husband. Despite careful planning designed to ensure a future tenant for Gosfield, who would even carry the appropriate title of Nugent, following the deaths of the principal players the scheme collapsed. By 1820 Gosfield had become an embarrassment to its owner, unwanted, unused, and — with no investment — falling down. Fortunately, rather than pull it down, the Duke of Buckingham preferred to dispose of Gosfield by sale, and when it finally passed to a new owner in 1825 it was successfully reprieved.

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THE NUGENT-BUCKINGHAM FAMILY CONNECTION



N.B. This does not pretend to be a complete pedigree of either family. It is designed to show the chief players in this particular drama.

References

1. The majority of research for this paper was undertaken at the Huntington Library, San Marino, California. I should like to thank the Huntington, and the British Academy, for the financial help which made the research possible. Essex Record Office has no deeds relating to Gosfield Hall, but a volume of bills rendered to Robert and Anne Nugent, 1740-1746, includes expenses for building work: E.R.O., D/DU 502/2.
2. Many of Knight's papers are preserved in H[untington] L[ibrary], STN West Indies. His first wife was Elizabeth Slaughter of Cheyne Court, Herefordshire.
3. D. Defoe, *A Tour Through the Whole Island of Great Britain* (Harmondsworth, 1971 edn.), pp. 57, 167-8, 177.
4. HL STN Accounts, box 2, papers relating to Cornish purchase.
5. HL STN Accounts, box 3, 'Estimates and agreements for the Building at Gosfield, January 1736.' The works approved by Mrs Knight on this occasion included a new kitchen and adjoining office, new stairs, a bottlehouse, and the family pew in St Catherine's Church at Gosfield built in memory of her late husband (at a cost of £123). By one account, having erected the monument she ordered it to be enclosed after she married Nugent: H[istorical] M[anuscripts] C[ommission], *Portland MSS*, VI, p. 70.
6. HMC, *Carlisle MSS* (1897), p. 183; HMC *Denbigh MSS* V (1911), p. 216.
7. *Dictionary of National Biography*, XIV (1894-5), pp. 714-16.
8. Claud Nugent, *The Memoir of Robert, Earl Nugent with Letters, Poems and Appendices* (1898), pp. 1-6, 10. The Nugents of Westmeath's papers are now part of the Stowe Collection at the Huntington Library, while those of other branches of the family are in the Irish National Archives in Dublin.
9. Nugent, *Memoir*, pp. 7-8; HL STN Accounts, box 5, 'An Account of the Masses said for Lady Emilia Nugent'.
10. Nugent, *Memoir*, pp. 8-9 claims that according to a family tradition Nugent, at the entreaty of his dying wife, returned to Ireland to offer his hand to his cousin Clare Nugent, only to be rejected.
11. *The Yale Edition of Horace Walpole's Correspondence*, ed. W.S. Lewis (1941ff), vol. 18, p. 481.
12. *Horace Walpole's Correspondence*, vol. 9, p. 63.
13. *Ibid.* vol. 17, p. 271.
14. *Ibid.* vol. 9, p. 104.

15. HL STN Inventories, 'Schedule of deeds and papers belonging to Robert Craggs Nugent, first Earl Nugent'.
16. *Complete Peerage*, IX (1936), p. 794n.
17. *An Eighteenth-Century Correspondence*, ed. L. Dickens and M. Stanton (New York, 1910), p. 193.
18. *Horace Walpole's Correspondence*, vol. 9, pp. 63-4.
19. *Ibid.*
20. Nugent's political career is documented in the relevant volumes of the History of Parliament: R. Sedgwick, ed., *The House of Commons*, 1715-54 (London, 1970), II, pp.302-3; L. Namier and J. Brooke, eds., *The House of Commons 1754-90* (London, 1964), III, pp. 218-22. Edmund Nugent sat for Liskeard 1754-9, and St Mawes 1761-70. Like his father, he had a somewhat wayward reputation with women: Namier and Brooke, III, p. 218.
21. HL STN Correspondence, Duchess of Richmond to Anne Nugent, 25 September 1746, stating her intention to travel to Gosfield after calling on Mrs Grenville in Buckinghamshire.
22. HL STB Correspondence, box 28/33.
23. *Horace Walpole's Correspondence*, vol. 20, p. 123.
24. *Eighteenth-Century Correspondence*, p. 238. Pitt was a cousin, and brother-in-law, of Grenville.
25. British Library, Additional MSS 57,813, f.42; *The Grenville Papers*, ed. W.J. Smith (London, 4 volumes, 1852-3), II, pp. 452-4.
26. British Library, Additional MSS 57,813, f.50.
27. *Horace Walpole's Correspondence*, vol. 35, p. 467. Clare was the title Nugent held 1766-76.
28. The usual date given for the marriage is 2 January 1757, only 6 weeks after Nugent's second wife died: *Complete Peerage*, IX, p. 793; Nugent, *Memoir*. In fact the post-nuptial settlement of the marriage states clearly that the wedding was on 2 June 1757: Buckinghamshire Record Office, D/104/58. Temple was a trustee of this settlement.
29. HL STN Correspondence, Elizabeth Nugent to Earl Temple. The letter is undated but must have been written in 1761.
30. *Ibid.*, 8 November 1761.
31. *Ibid.*
32. HL STN Correspondence, Nugent to the 5th Earl of Berkeley, 6 September 1761.
33. HMC *Various Collections*, VIII (1913), p. 1179.
34. Buckinghamshire Record Office, D/104/59. Temple was a signatory to the agreement.
35. *Horace Walpole's Correspondence*, vol. 24, p. 102.
36. *Complete Peerage*, IX, p. 793n.
37. The elder of the two sons was George, from 1806 Sir George Nugent, Baronet (1757-1849). He followed his father into the army, and was aide-de-camp to the Marquess of Buckingham as Lord Lieutenant of Ireland in 1787. He rose to the rank of Field-Marshal in 1846. He sat in Parliament on the Grenville interest for Buckingham 1790-1802, 1818-32, and Aylesbury 1806-12. Charles, later Sir Charles Nugent (c.1759-1844) pursued a successful naval career, becoming Admiral of the Fleet in 1833. He was MP for Buckingham 1784-90: Nugent, *Memoir*, pp. 271-315; *Dictionary of National Biography*, XIV, pp.701, 705-6; Namier and Brooke, *House of Commons*, III, p.218; R.G. Thorne, *The House of Commons, 1790-1820* (London, 5 vols., 1986), IV, pp. 679-80.
38. Son of George Grenville the prime minister, who died in 1770.
39. West Kent Archives Office, U1590 S2/C1, George Grenville to Henry Grenville, 16 December 1774.
40. *Dictionary of National Biography* xiv (1894-5), pp 714-6.
41. Northamptonshire Record Office, Temple (Stowe) Collection, box 12, papers relating to the marriage settlement between George Grenville and Mary Nugent; HL STG Personal, box 10/6.
42. HMC *Fortescue MSS*, I (1892), p. 358. The Mrs Nugent referred to here was Robert Nugent's sister Margaret. His powers of raising money on the estate had been agreed at the time of his daughter's marriage to George Grenville.
43. HMC *Fortescue*, I, p. 360.
44. Greater London Record Office, ST/50/19, attested copy of Lord Nugent's will, dated 4 February 1788. The grandsons' finances resulting from this bequest were still being handled by the Grenvilles (via an account in the name of the Duke of Buckingham), in 1845. The account was held at Drummonds Bank (now part of the Royal Bank of Scotland).
45. HL ST 444; STG Manorial, box 47/1, survey of the Gosfield estate, 1793.
46. Victoria County History, *Essex*, II (1907), p. 375. The distinction in this passage between the village (the Marchioness) and the church (the Marquess) probably arose because the Marchioness converted to Roman Catholicism in 1772, and would not have attended the Anglican church.
47. HMC *Fortescue*, IX (1915), p. 147; HL STG Correspondence, box 46/22; British Library, Additional MSS, 37,310, f. 27. Evidence of the French 'occupation' can still be seen in the house today.
48. HMC *Fortescue* VI (1908), p. 273; *Complete Peerage*, IX, p.795.
49. HL STG Stowe Rentals, 1775-1810; STG Manorial, box 39/21.
50. HMC *Fortescue*, X (1927), pp. 59, 76.
51. Public Record Office, PROB 11/1542 f.117; HMC *Fortescue* X, p. 380.
52. She died in 1848, and he in 1850. Their two daughters predeceased the parents, and the title died out with his death: *Complete Peerage*, IX, 795-6. Nugent, like his brother, the first Duke of Buckingham, ran into numerous financial difficulties, from which he had occasionally to be bailed out: HL STG Correspondence, box 74/49.
53. HL STG Correspondence, box 337/1.
54. HL STG Manorial, box 47/5, 9.
55. HL STG Manorial, box 47/18; Oxfordshire Record Office, SC 108.
56. HL STG Correspondence, box 323, Henry Phillips to Henry Crawford, 29 July, 16 August, 23 September, 5 October 1820.
57. *Ibid.*, 1, 23 November 1820, 25 June 1821, 30 November 1821.
58. HL STG Correspondence, box 52/3, letters of the Marquess of Chandos to his wife, 7, 13 October 1821. Other items went to Stowe at about the same time. A depiction of the Battle of Bosworth Field, now above the door of the Gothic Library at Stowe, was at Gosfield in 1748 when Horace Walpole wrote: '... what charmed me more than all I had seen, is the library chimney, which has existed from the foundation of the house; over it, is an alto-relievo in wood, far from being ill done, of the Battle of Bosworth Field.' *Horace Walpole's Correspondence*, vol. 9, p. 63.
59. HL STG Correspondence, box 323, Phillips to Crawford, 9 March 1822.
60. HL STG Correspondence, box 369/16.
61. HL STG Correspondence, box 52/3, Chandos to his wife, 13 October 1821.
62. HL ST 95.
63. *Ibid.*, entry of 11 January 1823; STG Correspondence, box 373/12.
64. HL STG Correspondence, boxes 373/12, 473/24. No sale deed has survived among the Stowe papers, but this is the price on a draft conveyance dated 29 September 1824 among the papers in Stowe Land Papers box 31.

All four illustrations are taken from *Memoir of Robert, Earl Nugent*, by Claud Nugent, published in 1898.

A Napoleonic coastal gun battery; excavations at Bathside Bay, Harwich 1990-91

by Steve Godbold

This paper describes the excavations of a brick-built Napoleonic gun battery at the Essex seaport of Harwich. Erected in 1810-11 at Bathside Bay on the west side of the town, it was armed with three 24-pounder cannon mounted on traversing platforms and sited to cover the town anchorage. It was manned only between 1811 and 1817, after which the guns were removed. Although it remained a military possession until the 1870s, it was not rearmed, and the remains of the battery's original gun emplacements, uncovered during the excavations, revealed surviving evidence of the technology used to service guns of coastal artillery of this period.

Introduction

The construction by Essex County Council Highways Department of the new Dovercourt by-pass afforded an opportunity for the council's Archaeology Section to investigate the site of the battery (NGR: TM 2587 3244) over two seasons in 1990-91. The location (Fig. 1) was occupied by a row of Victorian cottages which were demolished to make way for the new road, the planned course of which ran across the north-west side of the former battery site in Stour Road (Fig. 2). No trace of the structure survived above ground but its location was known from 19th-century maps and Board of Ordnance correspondence, and one of the cottages was known as 'Battery Cottage.' Indeed the back garden walls of these properties still retained in part, the original semi-circular plan of the battery's rampart walls.

Background to the Harwich defences

Harwich stands on a sandy peninsula which extends in a northerly direction into the estuary of the rivers Stour and Orwell (Figs 1 and 3). To the east this stretch of water is protected by a long spur of land known as Landguard Point which sweeps southward from the Suffolk shore. The haven thus enclosed is considered the safest natural harbour between the Thames and the Humber (Trollope 1983, 5). The security of its anchorage was appreciated by the Earls of Norfolk who founded the town in the 13th century (Weaver 1975, 7). Trade with continental Europe rapidly brought prosperity and as the town and harbour grew in importance so its strategic position was recognised and it became a base for ships engaged in the continental

wars of the succeeding centuries (Weaver 1975, 8-9). A shipbuilding industry prospered and in the 1650s a Naval dockyard was opened. As the town grew in size so it became the focus for attacks by European enemies and in response to raids by the French in the 14th century the town was enclosed by defensive works and a small castle was erected at its north-east corner (Weaver 1975, 9). In 1539 the town received its first cannon, sent to arm two earthwork batteries erected by the townspeople, and a few years later these were supplemented by three blockhouses (Kent 1988, 73-74). In c.1545 the defences of the harbour were strengthened by the erection of two blockhouses on the east side of the haven at Landguard Point (Trollope 1983, 10). The defences of the town were improved in 1553 and 1558 by strengthening the medieval walls and the construction of a bulwark at the south-east corner. These improvements probably included a ravelin built flanking the west side of the town gate to the south.

In 1588 the threat of Spanish invasion brought a fresh round of improvements to the town walls with the addition of a demi-bastion at the south-west angle, further earthworks to the south and the repair of existing defences (Kent 1988, 77). New works were also established on Landguard Point and a total of 46 cannon were mounted to protect both the east and west sides of the haven (Trollope 1983, 5).

The story of the Harwich defences was one of constant renewal during times of war followed by neglect in peacetime, and by 1625 the defences were reported to be in ruins. Attacks on east coast shipping by Dunkirkers (French privateers) early in the 17th century prompted Sir John Coke to write '....I understand all the ordnance is dismounted and the platforms decayed and the forts abandoned, so that a few Dunkirkers may without interruption enter that harbour (Harwich) and burn fifty or sixty sail of Newcastle ships which are laid up, and then landing a few men, may burn that rich town...' (VCH, II, 280).

Following the renewal of the war with Spain in 1624, existing fortifications were re-armed and an additional earthwork, the Half Moon battery, was erected at the north-east corner of the town which could cross its fire with a new fort built on Landguard Point in 1626-28 (Trollope 1983, 5 and 10-11).

During the second Dutch war which began in 1665, the harbour defences underwent major

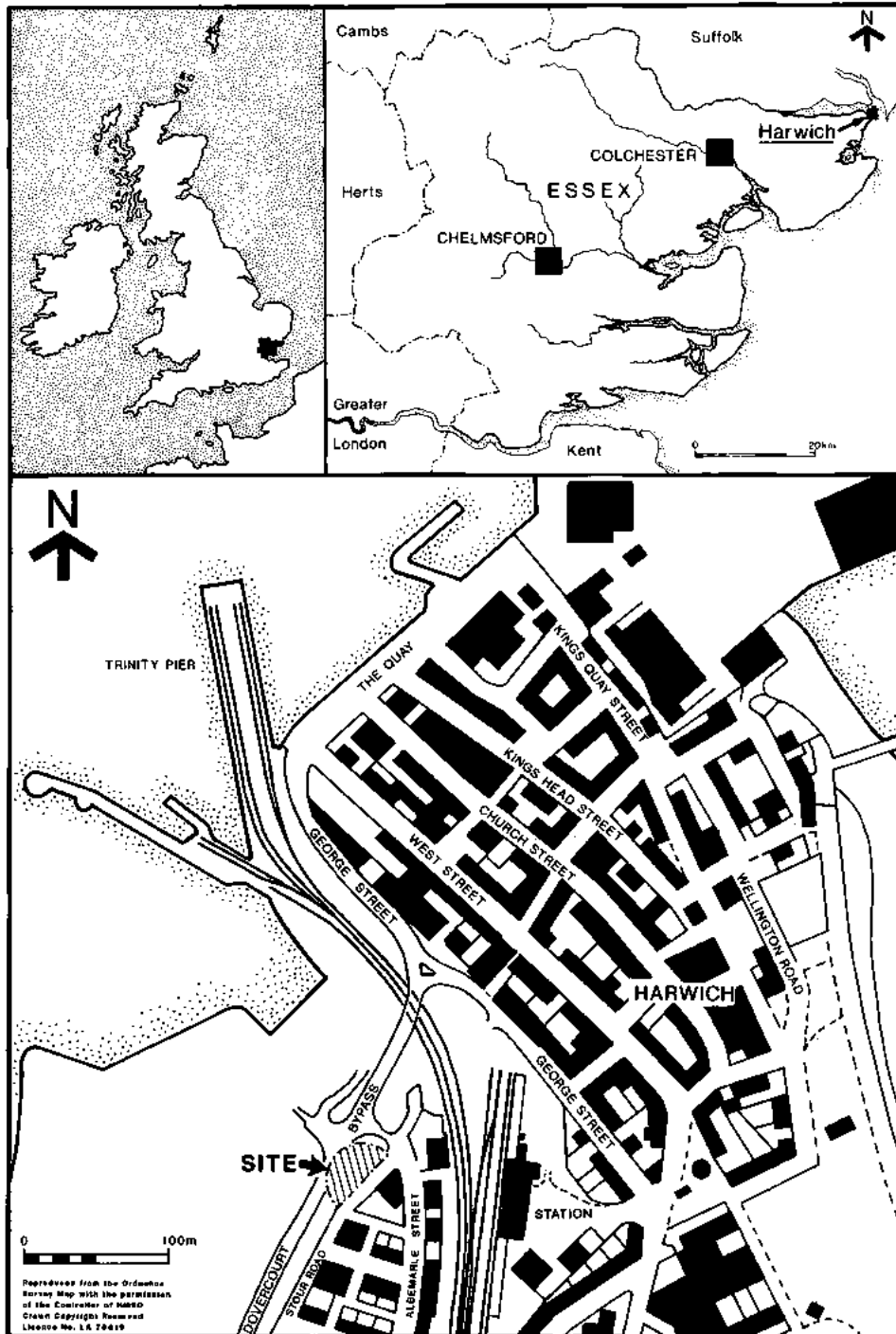


Fig. 1 Location map of site.

improvements, and in 1667 the town was enclosed by a completely new *enceinte* and Landguard Fort was partly rebuilt, both to designs by Sir Bernard de Gomme (Trollope 1983, 8 and 11). No sooner were they completed than the new works at Landguard fort were severely tested when, on 2 July 1667, a major Dutch land and sea assault on the fort was successfully repulsed. From this time on until the beginning of the wars with Revolutionary France, the town's defences were neglected, apart from mooring an old frigate as a

floating battery in the harbour in 1745 (Kent 1988, 80) and placing a small battery of four 9-pounder cannon to the south-east of the town.¹ Throughout this period the protection of the town and its harbour was largely dependent on the fort on Landguard Point, which was rebuilt in 1717 and again in 1745 (Trollope 1983, 8 and 11), and at the outbreak of the Revolutionary wars in 1793 the only defence on the Harwich peninsula was its small battery of four 9-pounder guns (Kent 1988, 80-81).

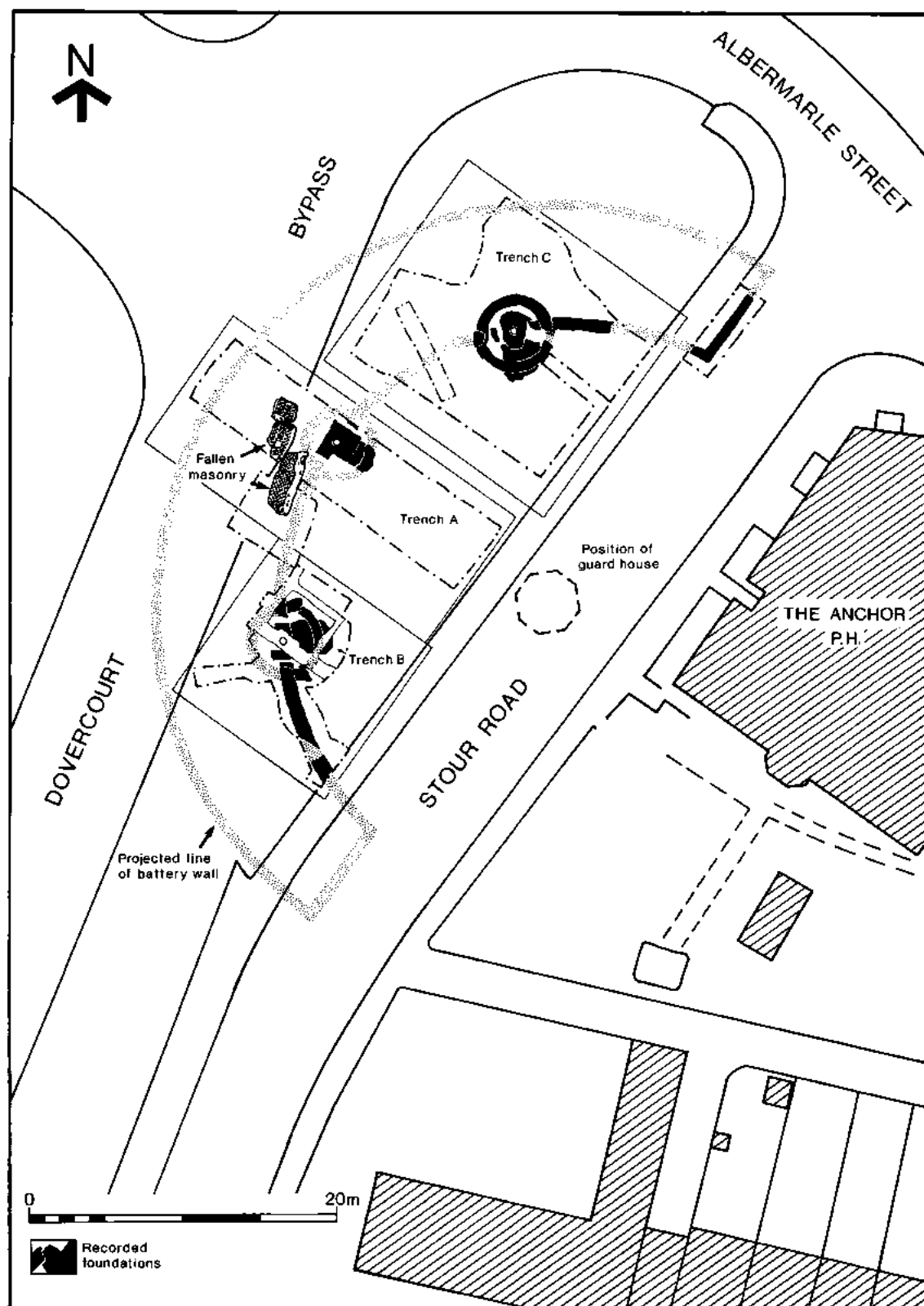


Fig. 2 Location map of trenches, showing recorded battery structures.

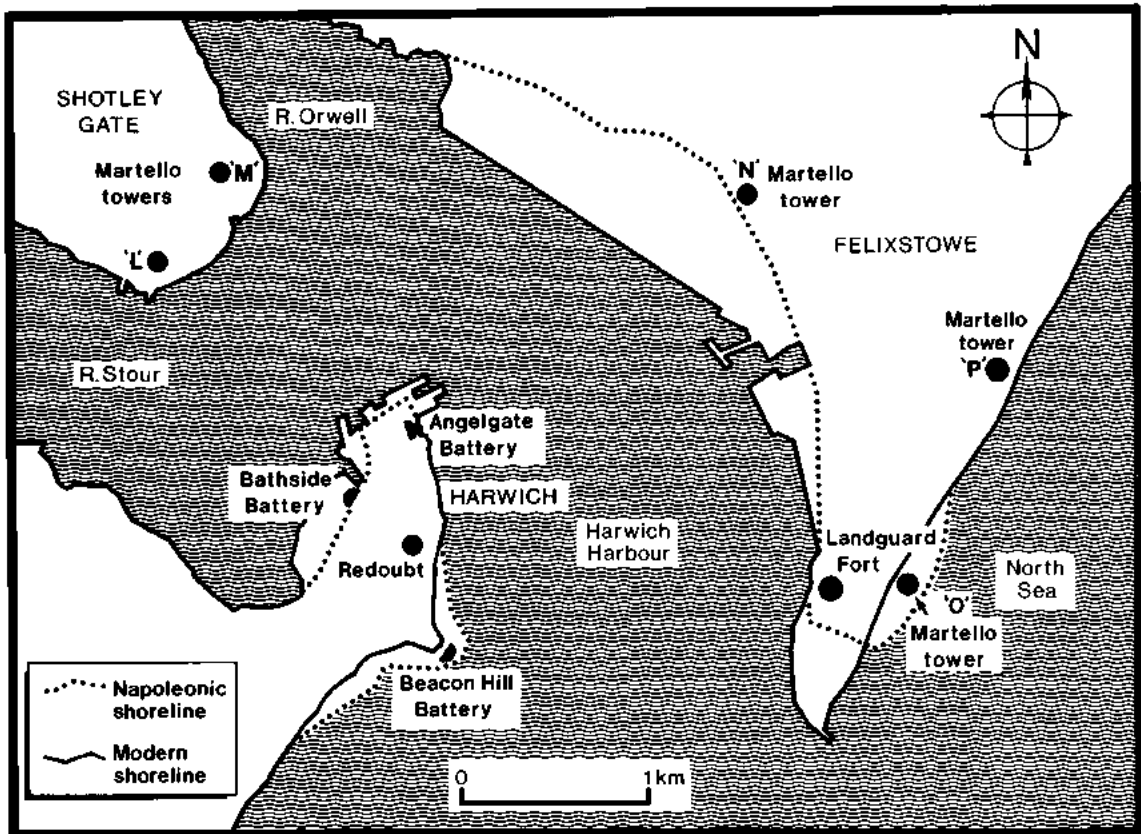


Fig. 3 The Napoleonic defences of Harwich.

History of the Bathside Battery

After the brief lull in hostilities brought about by the Peace of Amiens in 1802, war was renewed with Napoleonic France the following year. The serious threat of invasion, with the Grande Armée massing in French ports, provoked a major reappraisal of Britain's coastal defences. The result was the building of a chain of artillery towers, known as Martellos, around the south and east coasts (Saunders 1989, 141-143). Harwich, with its large safe haven for shipping, was considered especially vulnerable and a whole complex of fortifications was erected to defend both town and harbour between 1806 and 1812 (Figs 3 and 4). In addition to improvements at Landguard Fort, four Martello towers, labelled L, M, N and O, were erected on the Suffolk side of the haven. At Harwich, a large circular redoubt mounting ten 24-pounder cannon, was built on a low hill 250 m south of the town in 1807-10. This fortification could both protect the landward approaches to Harwich and cross its fire with Landguard Fort on the east side of the harbour. The

Redoubt was supported by three new batteries including the one at Bathside Bay. This was built in 1810-11 and armed with three 24-pounder guns. It was placed to command the bay on the western side of the town and the mouth of the River Stour. In 1810 a six-gun battery was built at Angel Gate near the north-east corner of the town overlooking the harbour but was destroyed by a gale days after completion. It was replaced the following year by a battery mounting five 24-pounder cannon (Trollope 1983, 22). The third battery, for five 12-pounders, was built in 1812 on cliffs at Beacon Hill c.550 m south of the Redoubt at the southern end of the peninsula. The Harwich Redoubt still exists as a protected monument. However, the original battery at Angel Gate has disappeared beneath subsequent development and that on Beacon Hill was lost to sea encroachment by 1822 (Trollope 1983, 18).

The battery for four 9-pounder guns erected south of the town in the 18th century may have been replaced at this time with three 24-pounder cannon.

Fig. 4 [opposite] Map of Ordnance lands at Harwich, showing the Redoubt, Bathside battery (centre right), Angel Gate battery (bottom right) and Beacon Hill battery (far left). *Public Record Office WO/78/1270 part 2.*

Panoramic views across the town and harbour, executed with pen and ink c.1812-14, reputedly by an army doctor, show a battery of this type standing at the water's edge immediately south of the low lighthouse. The Redoubt, together with the Bathside, Angel Gate and Beacon Hill batteries are also illustrated in these drawings.²

The first documentary reference to the Harwich batteries occurs in a letter written at Harwich on 21 July 1808 by Capt. George Whitmore, the Royal Engineer officer responsible for the building of the east coast Martello towers, to his superior General R. Morse, Inspector General of Fortifications. The captain explains with the aid of a sketch 'the situation which I have proposed for batteries dependent on the Circular Work (the Redoubt).' He discusses the siting of the Angel Gate battery and, with obvious reference to Bathside, continues 'The second battery is intended to co-operate with the works at Shotley Gate in the defence of the (River) Stour its position as it respects the Tower at N is explained on the plan by a dotted line. Concerning that both these batteries should be sufficiently enclosed to prevent the incursion of cattle, and that a guardhouse should be built at each.'³ On the 21 May 1809 he wrote again, reporting the construction of the Redoubt was nearly finished and requesting permission to complete the 'system of defence for that Station (Harwich)' by 'preparing the immediate construction of the dependent Batteries,' and seeks a decision on the sketch he had submitted the previous year.⁴ Permission was apparently granted as the guns and pivot cannons for all three batteries were ordered from Woolwich Arsenal the following year on 24 January 1810,⁵ and a tender was submitted by James Frost, a contractor of Norwich, on 30 May 1810 for the building of 'two batteries of three guns each at Harwich.'⁶ One of these was almost certainly that at Bathside. The other was probably for the Beacon Hill battery, which although mounting 5 guns, was originally designed for three, as illustrated by a plan sent to General Morse on 17 July 1810.⁷ This tender was accepted on 29 June 1810⁸ and work was evidently soon begun, as a report by Whitmore of 15 July 1810 lists the Harwich batteries among 'the defensive works constructing in the Eastern District.'⁹ The construction of the brick emplacements, walls and guardhouse may have been completed by September 1810. Included among the bills submitted by the aforementioned James Frost on 25 January 1811 to the Board of Ordnance for the quarter ending September 1810, was an item £346 18s. 0d for a three-gun battery at Harwich.¹⁰ However, the mortar of the emplacements would have needed time to set before accepting the weight of the guns, and the battery was probably not armed until early 1811. The Redoubt and all three batteries are shown in place on a map of Crown Properties at Harwich dated 1813 (Fig. 4).¹¹

The Bathside battery was built about 140 m south-

west of the town immediately on the seaward side of a low bank that separated the waters of Bathside Bay from a low-lying area of marshland (Fig. 4). It was constructed on beach sand with the foot of its glacis at the high water mark and was sited to cover the main anchorage and to form a cross fire with Martello towers L and M at Shotley and tower N at Walton,¹² all on the Suffolk side of the anchorage (Fig. 3). However, land reclamation to the north-west now places the site about 140 m inland. According to contemporary maps (Fig. 4)¹³ and a War Office plan of 1866,¹⁴ the battery's rampart walls were semi-circular in plan with a D-shaped bay in front of each gun position. The original height of the walls is unknown, but was probably between 1.4 m and 2 m. At the rear of the battery was a gorge measuring 38 m across, closed by a wooden fence, in the centre of which stood a small hexagonal guardhouse. Sweeping around the ramparts, 5.50 m in front, was another lower wall which linked with further walls extending either side of the gorge to form a revetment for the front and sides of an earth or sand glacis, which sloped from the top of the ramparts to protect them from enemy fire (Fig. 2).

The war with France ended in 1815 and on 29 September 1817, the Board of Ordnance issued instructions that the guns of the towers and batteries in the Eastern District were to be dismounted and placed on skids,¹⁵ a practice adopted when the wooden carriages were taken into store to protect them from the elements in peacetime.

The tithe map of 1843¹⁶ shows the battery and the guardhouse still intact, although the foreshore immediately to the north appears to have been reclaimed from the sea and several buildings stand at the water's edge to the south. By 1852 the condition of the battery appears to have deteriorated and a Royal Engineers' report of 24 March on the Harwich defences states 'Both of the batteries (Bathside and Angel Gate) would require some slight repair previous to their being used in the defence of the harbour.'¹⁷ Apparently some maintenance was carried out as the same officer reported on 7 May 1853 that the curbs and pivots of both batteries were 'In tolerable good order.'¹⁸

However by the 1850s, the site of the battery was coming under pressure from the expansion of the town, growth of the railway network and its value was being questioned by the military. In January 1853 the Board of Ordnance objected to a proposed deviation of the main line from Manningtree to Harwich to be built by the Eastern Counties Railway on the grounds 'it would interfere with the Bathside Battery.'¹⁹ On 30 April 1853, a memorandum on the defences of the haven prepared by Lieut. General J.F. Burgoyne, whilst recommending heavier armament for the Redoubt condemns the position and establishment of both Bathside and Angel Gate as not justifying the cost of maintenance. Burgoyne reported 'They are very low, very confined and so surrounded by buildings of the

town as to be now very inconveniently circumstanced,' and recommended their disposal.²⁰

In 1854 the Harwich Gas and Coke Co., purchased some reclaimed land at Bathside (Weaver 1990, 56-57), and within a few years had erected a gas works there, immediately north of the battery.

Angel Gate battery was re-equipped in 1862-63 and again in 1941 (Trollope 1983, 22) but Bathside, whilst remaining a military property, was never re-armed. By 1867 the fabric of the battery was in a state of disrepair. A War Office map of that year shows the structure to be 'in ruins'²¹ with fallen brickwork at the high water mark, perhaps indicating the walls had suffered from the effects of the tide and weather. In 1873 the United Land Co Ltd., of Chelmsford began the development of a new town immediately to the south and east of the battery site (Weaver 1990, 50). By 1876 a new hotel (the Anchor) had been built on land to the rear of the battery on the east side of Stour Road,²² and in c.1875 a large area of foreshore was enclosed in front of the site.²³ The battery appears to have been sold about this time and a United Land Co. Ltd., map of 1875 shows the site still retaining its semi-circular outline divided into nine property plots.²⁴ In 1884 the row of cottages were built on the site, and 'Battery Cottage,' still bore a datestone of that year.

Excavation

The first season's work began soon after the demolition of the cottages in February 1990. This was restricted to the southern part of the site and included excavation of trenches A and B. The north end was occupied by an access road serving a vehicle storage compound to the west. This area became available in 1991, when trench C was excavated.

Trench A (Fig. 5)

Trench A (5 m by 21 m) was laid out, on the basis of the 19th-century plans, across the centre of the battery site to expose any remains in this area. All excavation was by hand, apart from a small trench immediately to the west of trench A which was excavated by machine.

About 30 cm below the garden soil lay the inverted remains of a large section of curved rampart wall 169, which lay resting face down on a layer of sandy clay sloping seaward (Figs 5 and 6). This feature was 4.30 m long, 0.86-1.00 m wide with a surviving height of about 1.65 m. Lying in front of 169 was a large amount of brick rubble and more sections of broken walling including two substantial pieces 170 and 171, which were also curved but on a smaller arc. These would appear to have been part of an emplacement wall. The brickwork at the north end of 169 bore a tight curve for a return, probably where the wall turned into an emplacement. Context 170 was probably a continuation of this return and both 170 and 171 were noted to have been part of a continuous structure.

Context 170 was about 3.20 m long by 1.45 m in depth and 171 was 1.25 m in length with a depth of about 1.64 m. Running around the inside face of both 170 and 171 were the remains of a ledge and recess in the brickwork (Figs 5 and 6). The ledge was formed by a course of bricks laid to headers which protruded from the face for 10-12 cm. Above this a rough recess 5-10 cm in depth and 10-12 cm in width had been cut in the brickwork. This recess contained considerable traces of mortar. The ledge and recess were peculiar only to the emplacement area and are therefore likely to have some connection with the serving of the gun platform. Alternatively, they may be related to the *banquettes* (infantry firing steps), which are known to have been built behind the battery walls,²⁵ although this was not reflected in the brickwork of 169.

Lying amongst the brick rubble, west of 169, was a damaged piece of rounded stonework 0.40 m long, context 330 (Fig. 5), with traces of mortar still adhering to its underside. This was probably a piece of the 'yorkshire stone capping' for the walls included in the original tender.²⁶

The area at the north-west end of the trench had been extensively disturbed by the sea and storms, and it would seem that contexts 169-171 had probably collapsed due to erosion of the glaciis and undermining of their foundations by these factors. These features had subsequently been buried beneath a thick layer of brown clay, context 105, apparently dumped to the north-west to reclaim land (Fig. 7).

Lying to the north-east of wall sections 170 and 171 were two cuts 185 and 192 (Fig. 7, top), the primary fills of which, 187 and 193, were composed of dense mortar and brick fragments, the likely result of brickwork robbing. The north-west side of 185 cut through two layers of demolition rubbish 129 and 179, which contained fragments of glass, ash and slates. The latest pottery from these layers was of a mid-late 19th-century date and 129 contained a Belgian 2 centime coin dated 1863. They lay across the trench and filled the cavities between the fallen wall contexts 169-171. It would seem that 129 and 179 had been dumped in front of either a fallen piece of emplacement brickwork or an upstanding section of wall, where the glaciis had been washed away down to foundation level, and after sections of the same wall (169-171) had already fallen. These layers had then been cut by the robbing, 185. Context 192 also appeared to have been dug to rob a section of collapsed brickwork. This context cut a layer of dark silty sand, 191, which lay below 179. Context 191 had probably accumulated against the south-east side of this brickwork where it was later cut by the robbing (Fig. 7, top). Cut 192 took place after the dumping of clay 105 which it cut on the north-west side.

Brickwork contexts 169-171 were lying on a very thin patchy layer of sandy clay 239, which only survived beneath the brickwork or immediately

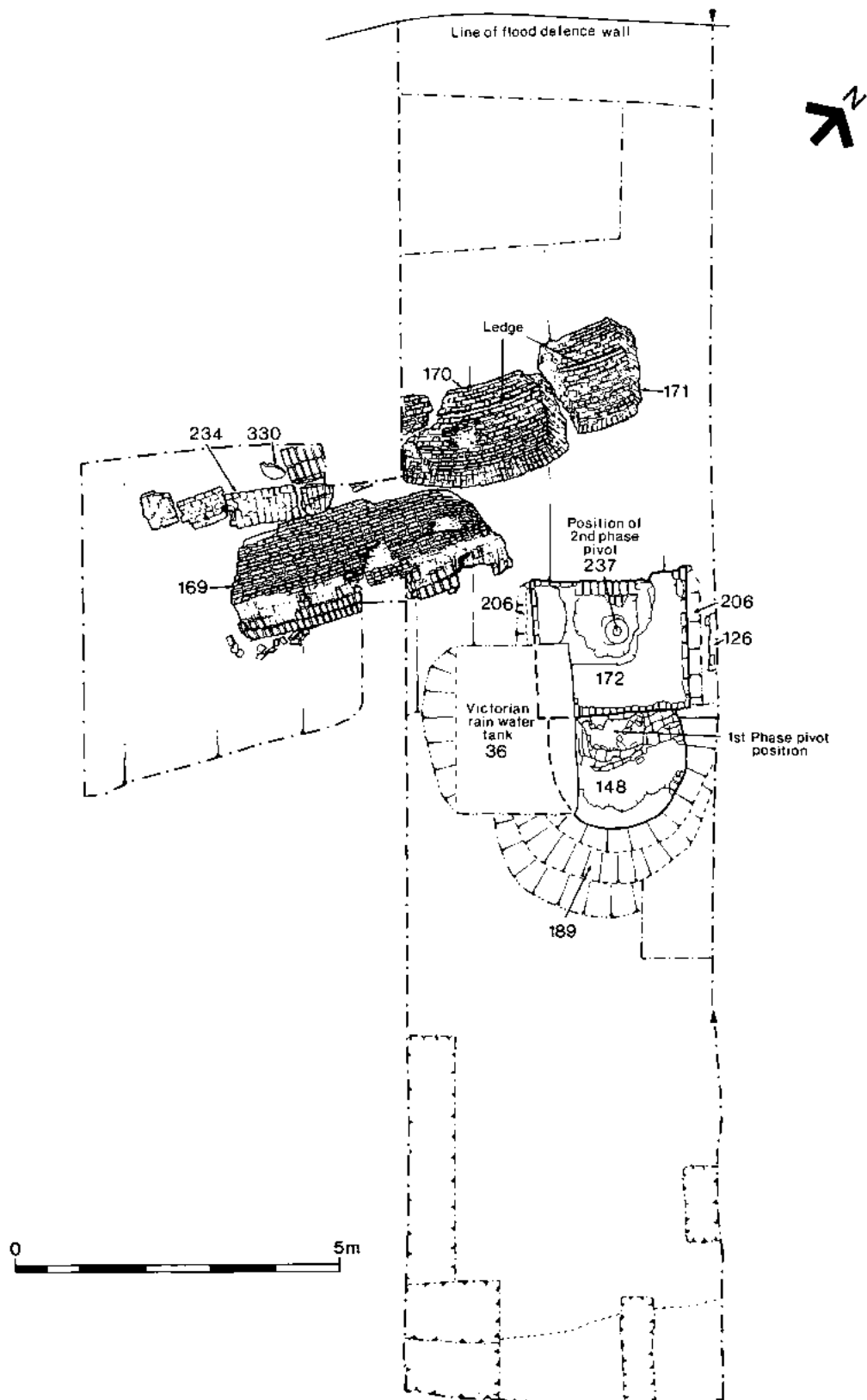


Fig. 5 Plan of trench A.

surrounding it (and hence is not shown on Fig. 5). Two coins, both dated 1833, were recovered from this context, one of which, a Belgian 2 centimes, was found beneath the edge of brickwork context 234 (Fig. 5),

indicating that the walls must have collapsed after this date. Beneath context 239 was a layer of beach sand 196 (Fig. 7), sloping towards the north-west which appeared to have been dumped, probably to reclaim an



Fig. 6 Fallen wall sections in trench A, showing rampart wall 169 in background, and emplacement wall sections 170 and 171 in centre and foreground.

area in front of the sea bank to support the battery walls. Below 196 there was an extremely thin layer, context 259, which contained charcoal and small fragments of hard black desiccated plant material, possibly seaweed. This layer was likely to represent the surface of the upper foreshore before the battery construction.

On the north-east side of the trench the lower courses of a section of rampart wall 126, survived *in situ* protruding slightly from the face of the section (Fig. 7). The original construction cut for this feature 244, also still survived in part on its south-east side.

Immediately alongside wall 126 were found the substantial remains of a gun emplacement 172 (Figs 5, 8 and 9). This was a rectangular brick structure 2.32 m by 2.16 m. The surface had been extensively

robbed probably during the removal of a pivot cannon but still survived eight brick courses in height (0.58 m) within a narrow construction cut 206. The top two courses of brickwork overhung the lower part of the structure on a slightly different alignment as if adjusting a misalignment during construction. Impressed in the surface mortar of 172 was the rust-stained image of the cascabel of a pivot cannon, 237 (Fig. 10).

The rear (south-east) end of 172 had been built partly onto the ruined north-west side of an earlier emplacement, 148 (Figs 5, 8 and 9). This appeared to have been a sub-circular brick structure, although this could not be confirmed as the north-west side, which had been damaged when the pivot cannon was removed, was partly concealed beneath 172; and the

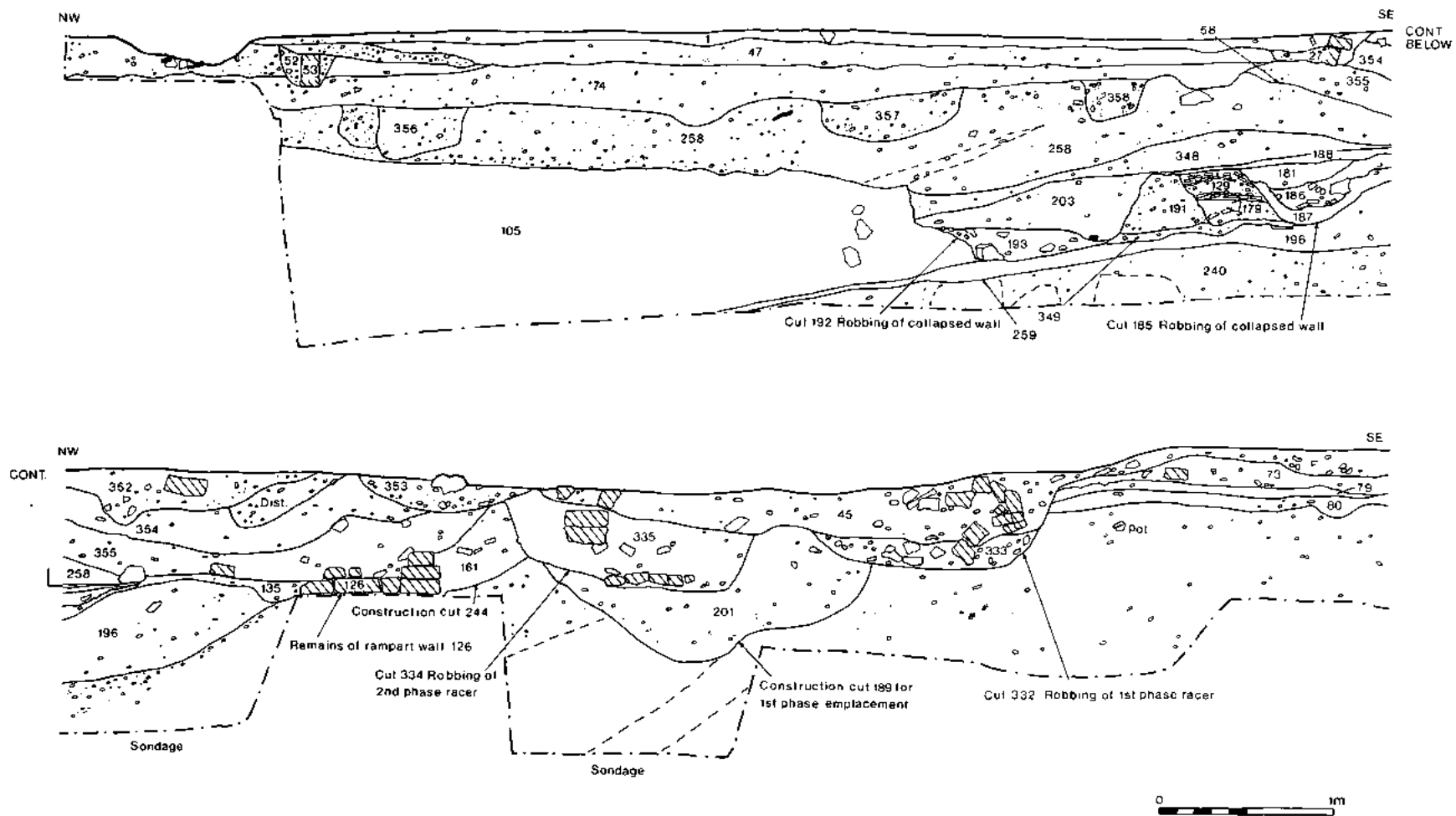


Fig. 7 Section in trench A. See Fig. 5 for location.

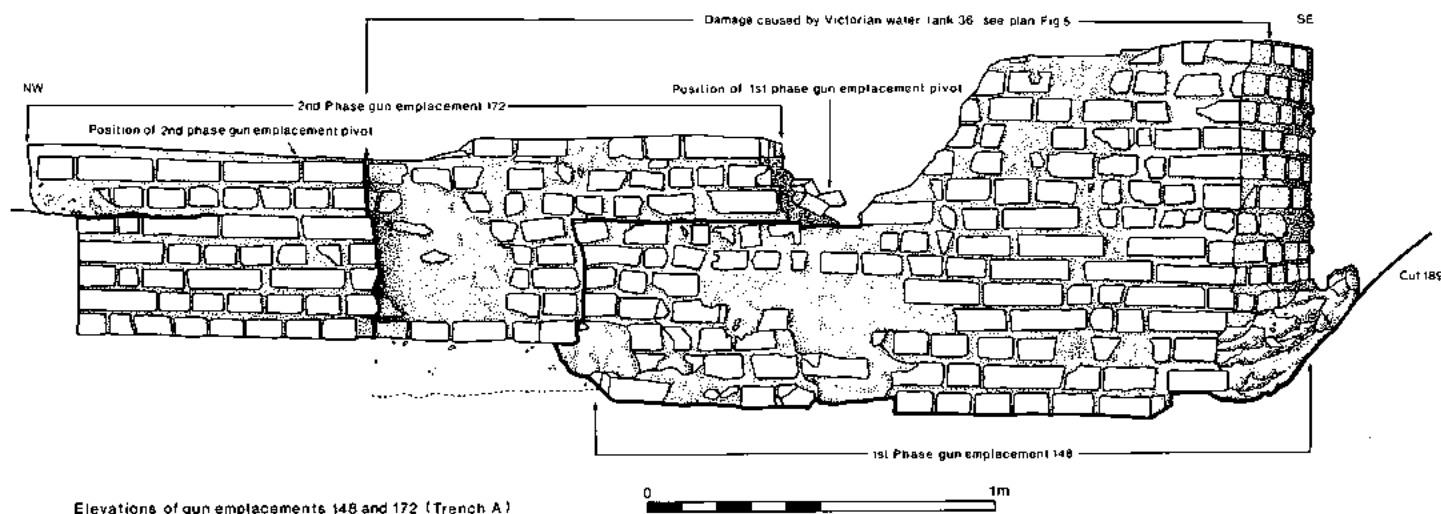


Fig. 8 Elevation of gun emplacements 172 and 148.

south-west sides of both 148 and 172 had been cut by a Victorian brick rainwater storage tank 36 (Fig. 5). Seen in section, 148 was 2.15 m long with a surviving breadth of 1.65 m. Original breadth could be estimated at about 2 m. It stood to 14 brick courses in height (c.1.10 m) but there were signs of robbing of the surface. Its profile was straight sided except for the bottom four courses of brickwork which curved under the structure. This seems to have occurred where the bricks at the base of the structure had been built against the side of the construction cut, 189 (Fig. 8).

It seems that a large cut 206, had been made to rob the pivot from emplacement 148. This cut had been extended to the north-west, cutting a wide gap in the rampart wall. Here it was steep sided through being confined by the wall ends, and a new emplacement 172 was constructed. This gap was then closed by the erection of a semi-circular wall in front of the gun position. This alteration moved the pivot forward about 1.50 m to a point roughly on the centre line of the rampart wall. The pivot of the earlier emplacement 148, occupied a position over 1 m behind the wall.

Napoleonic features above and to the south of 148 had been damaged and largely obscured by the building of the Victorian water tank and by machinery during the demolition of the cottages. However, the truncated remains of two robber trenches 332 and 334 (Fig. 7, lower), both containing mortar fragments and Napoleonic brick, were detected to the north-east of 148. Context 332 extended from the section for about 1.50 m where it had been destroyed by the machine. It seems likely this cut was made to rob the brickwork of a racer associated with emplacement 148.

About 0.60 m to the north-west context 334 ran from the section in a slight arc across the surface of

148 where it had also been destroyed by machine. This appears to have been the robbed course of a racer to suit the pivot position of later emplacement 172, and this was reflected in damage to the surface of 148. The racer position had to be moved further north-west to match the new pivot position.

At the north-west end of trench A, the ground level in front of the battery was raised by the dumping of layers of beach sand 258 and 348. This dumping seems to have occurred while parts of the battery walls were still standing as these layers were cut by a wide robbing cut 58 (Fig. 7), which appears to have robbed brickwork from wall 126.

No trace was found of the guardhouse in trench A, but roadworks in Stour Road during 1991 uncovered two more brickwork features of a Napoleonic character. The first of these was identified as the truncated remains of the northern terminus of the rampart wall, which extended in a south-east direction from the pavement edge for 1.25 m beneath the road (Fig. 2). Butted to the north-east side of this feature were the remains of a revetment wall, which would have supported the side of the glacis, running north-east for 5.20 m. Further to the south-west, similar brickwork was uncovered, roughly in the area where the guardhouse was estimated to lie. This was on the last day of excavation and no detailed investigation could be carried out. However little damage was caused and the remains lie under Stour Road available for future examination.

Trench B (Fig. 11)

Following the excavation of a small sondage by machine to check the line of the battery walls and the removal of a limited amount of demolition rubble, this trench was excavated by hand to investigate the

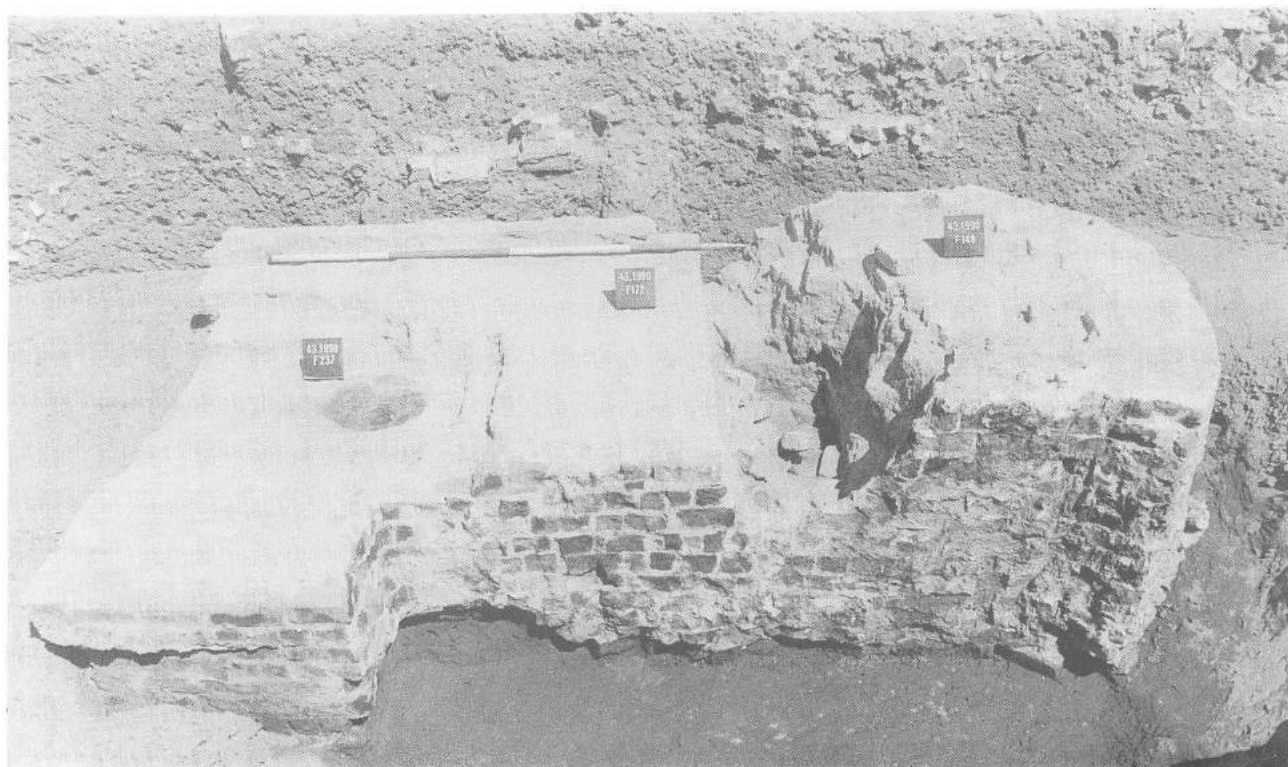


Fig. 9 Gun emplacements 172 and 148 showing damage in 148 caused by removal of 1st-phase pivot (on right), and the cascabel of 2nd-phase pivot 237 (on left). Damage in the foreground was caused by a Victorian storage tank.

southern gun position. The Napoleonic brickwork features had been cut extensively by modern concrete foundations 275.

As in trench A, two phases of gun emplacement construction were exposed, but here the brick racers for the traversing carriage of each platform still

survived in part. Further, an 8 m length of rampart wall 223, still remained standing 0.40 m in height within the construction cut curving from the south side of the gun position towards the rear of Stour Road. On the north side a similar section of wall 225, survived 1.30 m long. It appears that a brick gun emplacement 231, was built just behind the rampart wall. This was a rectangular structure measuring 2.70 m by 2.40 m, with a curving shape at the rear (east side) to allow for the sweep of a racer behind it (Figs 11 and 12). In a segment dug at its east end, 231 was found to be 1.50 m deep with its lower half having a steeply curving profile where the bricks had been built against the side of the construction trench, 168.

The west side of 231 had been extensively damaged by a large cut 321, which had robbed the pivot cannon from the emplacement and created a hole 2.90 m wide in the rampart wall. Wall sections 223 and 225 bore evidence of this damage. A new brick emplacement 323, had then been constructed butted to the west side of 231, effectively moving the pivot position 1.50 m forward to the centre line of the wall from its original position 1.20 m-1.30 m behind the walls (Figs 11 and 12). The pivot of 323 was itself later robbed leaving the image of a cannon cascabel 331 in the surface mortar. Context 323 was 1.50 m long by 2.30 m wide. The brickwork had been considerably robbed and the structure survived only five brick

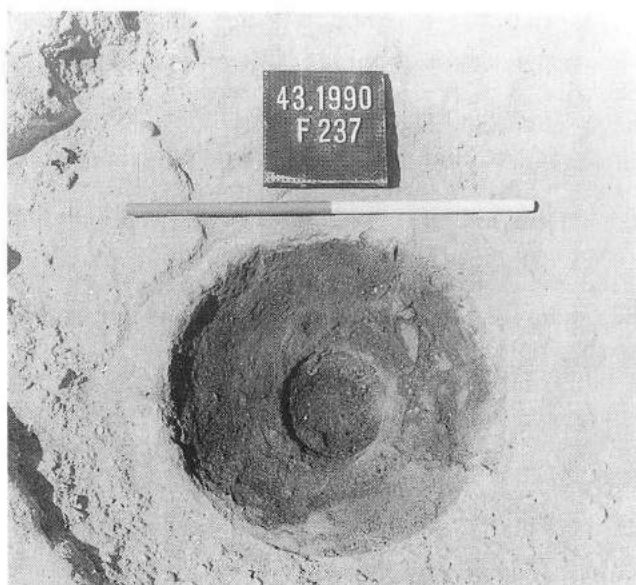


Fig. 10 Image of pivot cannon cascabel in the surface of emplacement 172. Cannon button still *in situ*.

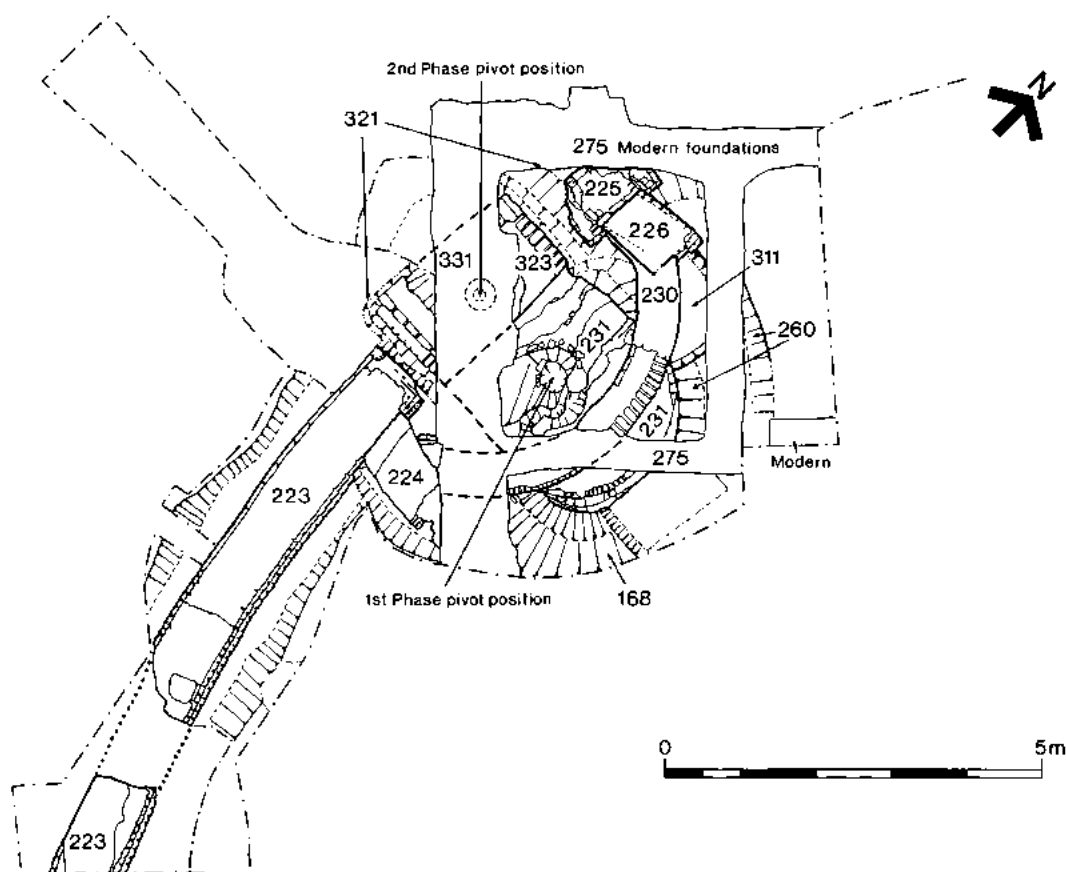


Fig. 11 Plan of trench B.

courses in depth (c.0.40 m). It was not sunk so deep as emplacement 231, its base being some 0.30 m higher, which is directly comparable to the differences in height between the emplacements in trench A (Fig. 8). The racer associated with the earlier gun emplacement had been largely robbed away except for two lengths of slightly curving brickwork 224 and 226, 0.70-0.78 m wide, surviving either side of the gun position. Both were butted to the rear of the rampart wall by having their brickwork stepped onto offsets at the back of the wall. They extended for 1 m eastwards where they had been cut. From this point onwards they were joined by a robber trench, 260, which curved immediately around the east side of gun emplacement 231. Contexts 224 and 226 were then incorporated into a new racer 230 (within construction cut 311), which was built further to the west running over the undamaged east side of 231, to suit the later pivot position of emplacement 323 (Figs 11 and 12).

The remains of a thick layer of hard beige-white mortar, 0.40-0.50 m deep, 0.40-0.80 m wide and 3.0 m long lay against the west side of racer 230. It had been cut on the west when the pivot and brickwork of emplacement 323 had been robbed. This layer may have covered the whole area within the circle defined by the racer 230 and the emplacement wall, to form a

hardstanding around the pivot and to strengthen the inside of the racer.

No remains were found of the emplacement wall associated with this gun position, but a large cut found in a machine-dug trench to the west would seem to have been dug to rob this structure. It appeared the wall here had either fallen or been pulled forward onto the slope in front of the battery. There was no sign of a glacis in this trench, but this had probably been removed by tidal action. A thin intermittent layer of clay lay above the natural beach sand and this may have been laid down to stabilise the sand before the battery construction. Finally, in this trench it was recorded that the pivot of 323 was removed prior to the final destruction of the walls.

Trench C (Fig. 13)

After the removal of the concrete access road by machine, this trench was excavated entirely by hand in 1991 to expose remains of the northern gun position. These included two sections of rampart wall contexts 507 and 650, a racer 505 and, unlike the other trenches, the surviving brickwork of an emplacement wall 506 (Figs 13 and 14).

The area had unfortunately been damaged by a cut for a modern drain pipe, context 503. This context cut



Fig. 12 Southern gun position in trench B, cut by Victorian house foundations. Showing 1st-phase emplacement 231, and 2nd-phase emplacement 323 (with pivot cannon cascabel 331); and 2nd-phase racer 230 joined either end to remains of 1st-phase racer.

the fills of a large oval-shaped feature 604, which lay within the rough circle formed by 505 and 506. In plan, 604 measured 2.80 m by 3.00 m, and on its north side had cut the brickwork on the southern edge of wall 506. Excavation of its fills showed it was steep sided, about 0.95 m deep, and at its base was exposed the damaged surface of a large brick gun emplacement 630 (Figs 13 and 14). In the centre of the emplacement was a hollow 0.40-0.50 m in diameter left by the removal of a pivot cannon. Context 604 had been cut to rob the pivot and brickwork from emplacement 630, and the pottery finds indicated this took place during the latter half of the 19th century. Because of the necessity of preserving the surrounding brick features it was not possible to excavate 630 completely. However its depth and form were investigated on the east side by over-excavating the modern pipe trench 503. This showed 630 to have a steeply-sloping profile where the bricks had been built against the side of the cut. The surviving height of 630 as seen in the pipe trench was about 1 m (with the bottom two or three courses below the water table) although it stood three courses higher at the south end. The bottom of 630 was 1.50-1.60 m below ground level. Its length was about 2.50 m. At its north end, where it was 2.30 m wide, it had been built around the north side of rampart wall 507. At the south end where it was about 1.10 m wide, 630 had

been built partly on the damaged face of an earlier gun emplacement 573 (Figs 13 and 14).

Context 573 was built respecting the original line of the rampart wall. The centre and north side had been wrecked during removal of the pivot cannon and its form was obscured in the centre where the later emplacement, 630, had been built onto it. However, the section in the modern pipe-trench, and a sondage dug at its north-west corner showed that, on its north side, 573 had a shallow concave form only 0.60-0.70 m deep, but the depth of the pivot-robbing cut at over 1.20 m, only about 0.70 m to the south, suggested it was considerably deeper on its south side. Therefore a 2 m segment was excavated at the rear of 573 which showed that on the south side the emplacement was over 1.50 m deep (Figs 15 and 16a). It had a steeply-sloping profile and the lower half of the structure had been built against the side of its construction cut 602. The upper part of 602 was shallow sided and partly concave, probably caused by trampling during the laying of the upper brick courses of the emplacement. It would seem 573 had been built within a wide bowl-shaped cut with a shallower north side to avoid undermining the rampart wall.

Arcing around the south side of emplacement 573 was a wide mortar-filled robber trench, 546. This feature had cut the fills of a construction trench, 566,

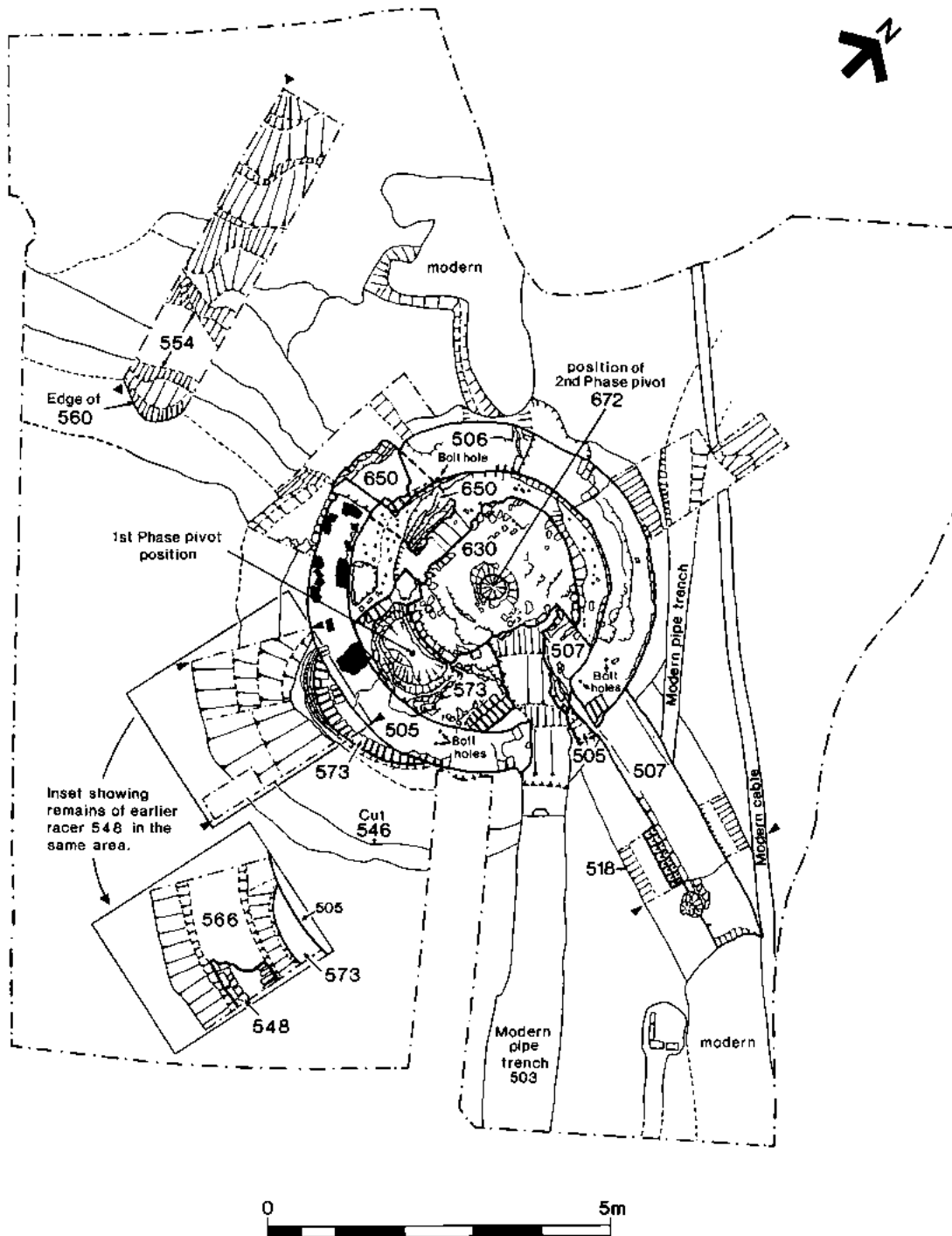


Fig. 13 Plan of trench C.

which followed a similar course. The fills included a robbed section of brickwork 548, 0.68 m wide, which survived in part, three brick courses high and which would appear to have been the remains of the original racer built for the pivot of emplacement 573. Context 566 in turn, had been dug into the backfilling of context 602 after the building of gun emplacement 573 (Figs 13, 16a and 16b).

The racer 505 built to suit the pivot of later emplacement 630 still survived throughout most of its

length. This feature was butted to the offsets of wall sections 507 and 650 and described a half circle to the south of these. It survived up to five brick courses deep within its construction cut 529, but in the centre of its course ran over the undamaged south side of platform 573, where it was two courses deep. The surface of 505 appeared to have been robbed. Near the east end of 505 there were two rust-stained holes each 26 mm in diameter and 34 mm deep (Figs 16a and b). It seems possible that these were made by bolts that held



Fig. 14 Northern gun position, showing rampart wall sections 507 (top left), 650 (bottom right); 1st-phase emplacement 573; 2nd-phase emplacement 630 and racer 505; and emplacement wall 506.

the iron traversing rail in place on the surface of the racer (Fig. 13).

Extending from either side of the position occupied by 630 were two sections of rampart wall 507 and 650. From the east side, 507 curved slightly for 5.50 m towards the south-east at which point it had been robbed away. It survived eight brick courses deep within its construction cut 518, and was 0.74 m wide at ground level but two offsets on the south side increased this to 0.90-0.95 m at the base (Fig. 17a). Context 650 on the west side was a 1.50 m length of similar brick wall. The east end of 650 and the west end of 507 had been wrecked and this damage seems likely to have occurred when emplacement 630 was inserted between them. Prior to this, 507 and 650 would have formed a continuous structure (Figs 13 and 14).

A box section dug to investigate the profile of 573 and 630 showed that the cut for emplacement 573 cut the fills of the construction trench for 650, clearly indicating that the lower courses of the rampart walls were laid out before the emplacement was built.

The emplacement wall 506 had been built enclosing the gap created between 507 and 650. This was semi-circular in plan and described an outside arc around the north side of 630 of over 6 m. It survived twelve brick courses high within the construction cut. At each end it was butted against the north sides of rampart wall sections 507 and 650, except for the top two courses which formed a continuation with the rampart brickwork. The width of the brickwork varied from 0.76 m at the ends to 0.62 m in the centre. A segment excavated on the north side of 506 showed that the lower courses had been built against the side of a steeply-sloping cut and each layer of brickwork had been stepped progressively northward. On the south side of 506, the bricks were fairly flush with no signs of stepping and unlike the north side leaned only slightly northward, indicating that at the base 506 was narrower than at the top. Also on the south side, the brickwork was moderately well dressed suggesting that at the time of construction, the builders had not been confined within a narrow trench on the south side at least. On the inside edge of 506 there were the remains



Fig. 15 South side (rear) of 1st-phase emplacement 573; 2nd-phase racer is seen above. Remains of 1st-phase racer is seen in section (bottom right).

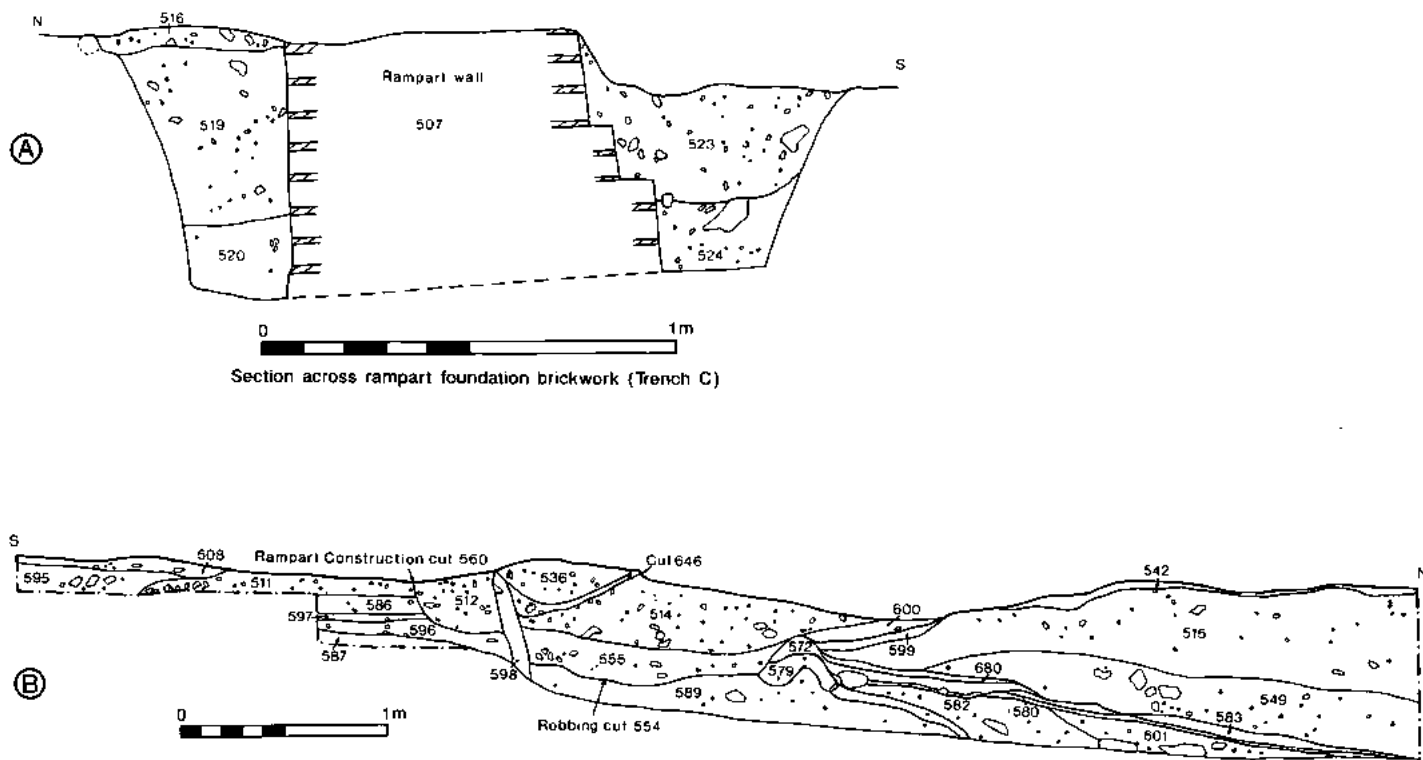
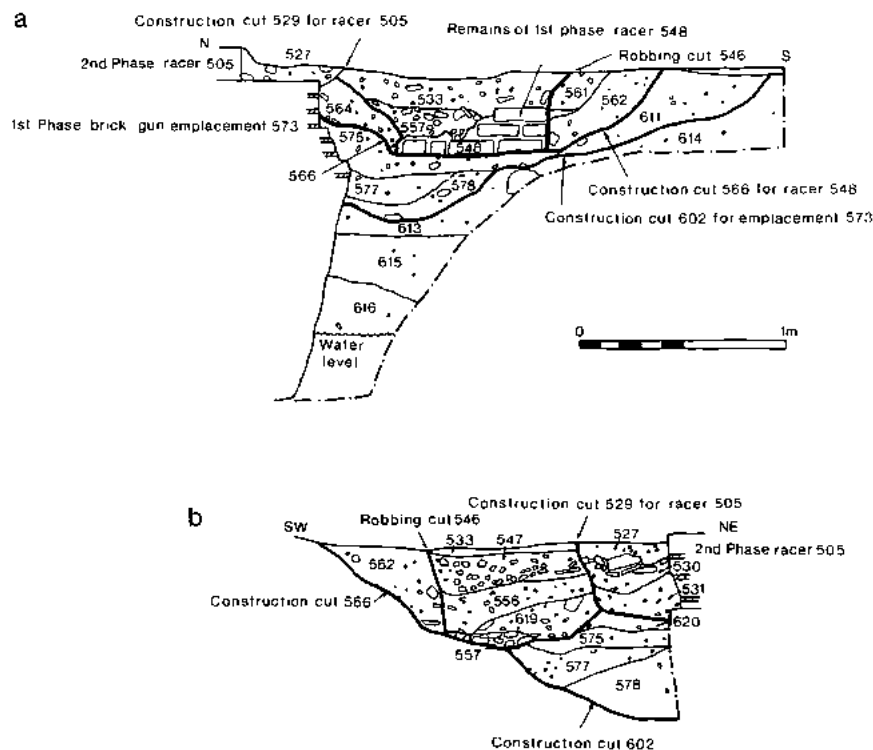
of three possible bolt holes, one at the west end and two at the east end. All were similar to those found on the surface of racer 505 (Fig. 13).

The area immediately to the north of 506 had been disturbed by modern cuts for services 607 and 608. However, the segment dug to investigate 506 was extended for 2.50 m northwards and showed the ground had been levelled by dumping layers of sand onto the natural beach sand which had previously sloped towards the north.

To the west of the gun position, the rampart had been robbed away but its course was clearly marked by a narrow cut 646, curving across the trench to the western baulk. Context 646 was found to be a shallow (0.30 m deep) irregular-sided cut only 0.60–0.70 m wide mostly filled by a compacted brown clay, 536 (Fig. 17b). On the south side it cut the surface of a narrow vertical feature 598, which was possibly a stakehole. Context 536 contained mid-late 19th-century pottery and the only explanation for these features seems to be that cut 646 was made to mark the course of the walls after the battery had been sold and

levelled. Earlier this boundary had been marked by a line of posts or wooden fencing.

Throughout its course, 646 cut the fills of a much larger feature 554 (Fig. 17b). This was a wide flat-bottomed cut over 2 m in breadth and 0.40 m deep and appeared to have been dug to rob away the rampart wall, and the lower fills 555 and 600, were composed mainly of mortar and brick fragments. The cut was very shallow sided to the north and fill 599, lying on this side, appeared to have formed as a result of trampling suggesting the robbing probably took place from this side. The cut had been backfilled with beach sand 514, which contained finds of a late 19th-century date. Context 554 cut through a thick layer of beach sand 515. This layer contained pottery ranging from Roman to late 19th century. The layer below this, context 549, had finds of a mid-late 19th-century date and it would appear that these contexts were beach sand which was brought from nearby and dumped to level the ground before the remains of the battery wall were finally robbed. The southern edge of the original rampart construction trench 560, survived to the south of 554.



Context 549 had been dumped onto a thin layer of mortar fragments 680. This may represent an early phase of robbing or erosion of mortar from the face of the wall after the glacis in front had been eroded away. Beneath 680 was a layer of clay 572, which seems to have been deposited to stabilise the beach sand before the ground level was raised and the glacis built.

Context 572 rested on a thin layer of dark sand containing rare blackened plant fragments and charcoal 580, and a layer of beach sand 583, which may represent the level of the beach before the rampart was built.

Discussion

Although the existence of the Bathside battery was well documented, the survival of such extensive remains revealing two major phases of construction was unexpected.

The excavation demonstrated that the battery was built originally to a simple semi-circular shaped plan with three gun emplacements together with their pivots and racers positioned immediately behind the rampart wall, and that it was designed to use guns mounted on traversing platforms firing *en barbette*. Traversing platforms for coastal artillery were first introduced during the late 18th century and on the east coast they were in use at Landguard Fort in Suffolk by 1809.²⁷ With this system a traditional gun carriage bearing a cannon was mounted on a movable wooden platform which had angled wheels that tracked on a curved stone or iron trackway known as a racer. The platform was traversed above a pivot which was commonly a small cannon set vertically into a solid platform of cement or brick. Platforms could be pivoted at front, centre or rear depending on the arc of fire required.

It was seen from the excavations, especially in trench C that the rampart wall was the first structure to be erected (or at least its brick foundation courses) followed by the emplacements, pivots and finally the racers.

Despite the fact these structures had not long been completed, the wall was breached in three places by having gaps c.3.00 m wide cut through it in front of each gun position. The emplacements and racers were wrecked and the pivots removed. New emplacements were then constructed between the gaps and the pivots and racers repositioned. Finally the gaps were closed by building a small semi-circular wall around the front of each emplacement.

It is difficult, at first, to understand why such costly and drastic alterations were carried out. However, it appears the position of the first phase gun emplacements behind the original semi-circular rampart restricted each gun to an arc of fire of 100 degrees. In theory they could be traversed over a much greater arc than this, but in practice were limited to 50 degrees either way before the cannon muzzles would begin to swing inside the fortification, which would have

endangered neighbouring gun positions and caused blast damage to the walls. By moving the gun positions forward between the walls, and increasing the distance between their pivots and front racers by 0.50 m-0.60 m, the arc of fire of each gun was effectively increased by over 20 degrees, which resulted in all the guns having greater overlapping arcs of fire. These alterations greatly improved the effectiveness of the battery.

Small gun batteries enclosed by a simple semi-circular wall, as built in the first phase at Bathside, were a common form of construction at this time. The urgent need for new coastal fortifications during the Napoleonic wars probably called for the use of established designs, where possible, for reasons of both speed and cost. Initially the Bathside battery was built in accordance with this practice, but sometime near its completion, it was realised either that its arc of fire would not permit it to fulfil its expected role or that modifications would improve its efficiency by increasing the battery's angle of fire overall by some 25 degrees, to about 215 degrees, allowing it both to cover the north side of the harbour by firing over the town, and to sweep the low lying beaches of Bathside Bay to the south-west. Whichever the case, the above reasons were considered enough to justify immediate major alterations to the design.

The early emplacements used a forward pivoted system with a pivot cannon, the centre point of which was 1.20 m-1.30 m behind the wall. From the evidence of the surviving fragments of early racers in trenches B and C, the wheels of the platforms would have tracked about 2.30 m behind the pivot. It remains possible that the platforms also tracked on small circular or semi-circular racers around the pivot but damage to the emplacements would have removed any evidence of this. Forward pivoted systems with and without front racers were both in use at this time.

A new pivoting arrangement was introduced with the new emplacements. Here the platforms used a system with the pivots positioned slightly forward of centre and having racers front and rear, the front racer describing a smaller arc than that at the rear. The distance between the pivot centres and the front racers was increased to about 1.80 m. The rear racers were found surviving in trenches B and C (Figs 11 and 13), and the bolt-hole impressions left in wall 506 indicate an iron racer was mounted in the forward position here curving round the inside edge of this wall. In any case the distance of 1.70 m from the pivot centre to the south side of 506 would have necessitated a racer in the forward position, especially when the gun was in the firing position, otherwise the carriage would have been unstable. The survival of two bolt-hole impressions in the surface of rear racer 505 in trench C indicate that, as with the early system the rear wheels tracked about 2.30 m behind the pivot.

The distance between the front and back wheels of

the later arrangement would have been about 4.10 m whereas in the original construction the distance from the centre of the rear racer to the rear of the rampart was only about 3.50 m. Therefore it seems likely that longer platforms were introduced with the rebuilding.

The evidence for the use of iron tracking rails for the platform wheels of the centre pivoted system has already been mentioned. No evidence was found for their use on the early racers, but the tender submitted by James Frost²⁸ includes for fixing these and their seems little doubt they were installed.

The use of cannons for pivots was proven by the cascabel impressions left in emplacements 172 (Fig. 10) and 323. Their use in the original structure was not so clear but a bowl-shaped impression left in 231 suggests their use here too. It seems very likely they were simply moved from one structure to another. The diameter of the cascabel at 0.40 m indicates that 9-pounder cannons were used as the pivots.

The brickwork on the inside of the surviving sections of wall 169, 170 and 171 had been laid to a fairly well dressed flemish bond (Figs 5 and 6). A study of their profiles revealed they had been built with their upper levels leaning slightly forward. Their outside faces had not been dressed and mortar still adhered to the brickwork where it had issued from between the joints, perhaps indicating that most of the construction had been carried out from the inside. The exterior face of the wall would have been concealed by a glacis.

The evidence from trench A (Fig. 7) indicates that before construction began beach sand may have been dumped in front of the sea bank, presumably to raise the ground level and create enough area on which to build the battery. Layers of clay found lying on the beach sand in front of the walls in trenches B and C (Fig. 17b) suggests some attempt was made to stabilise the slope probably before the construction of the walls and certainly before the building of a glacis.

Evidence of the unstable nature of the sand on which the battery was built was illustrated by the two lengths of wall which survived *in situ* to foundation height, 223 and 507. They were seen to be leaning slightly forward within their construction trenches (Fig. 17a), and both had cracks across their width.

The first-phase emplacements were all built in a similar style. They were all semi-circular at the rear to allow for the arc of the racer behind them and had been sunk 1.50 m into the ground. They had a curving profile at the rear where the lower brick courses had been built against the side of the cut. At the front they curved up to the back of the wall. However, the upper brick course of emplacement 573 overhung those lower down around the pivot, presumably to give more stability to the pivot. The later emplacements were basically rectangular although 630 was shown to be curved at the front to match the emplacement wall. What brickwork survived showed they were a little wider at the upper level than at the base where they

had been built within a steeply curving cut. They had been sunk to a depth about 0.30 m less than the earlier versions.

The surfaces of the brick racers had been robbed, but the tender of James Frost²⁹ quotes for 'circular stone platforms to racers and pivots' indicating that the racers and perhaps the area around the pivots were surfaced with stonework, possibly of the yorkshire type, which was used elsewhere in the battery and is known to have been used at the Angel Gate battery.³⁰ The complete absence of these materials suggests they were relatively expensive and so were probably removed when the battery was sold.

No remains of a glacis were found. However, the surviving brickwork of a revetment wall for a glacis was found under Stour Road, and one is shown on the 19th century maps and the previously mentioned pen and ink drawings by an army doctor.³¹ Taken together, this evidence clearly confirms the existence of a glacis. From the disturbed nature of the area at the north-west end of trench A, it seems certain the glacis, in this area at least, was destroyed by the sea. The pen and ink drawings, although lacking in detail, also appear to show the guns on traversing platforms with the guard-house in the rear.

There was evidence that the area around the pivots had been strengthened with a thick layer of mortar (trench B). There was too much robbing in the other trenches for this to have survived but traces of mortar on the surface of 573 in trench C may be a survival of this.

The evidence of the fallen walls in trench A and the eroded nature of the slope in front of the gun position here, plus the evidence of the 1867 plan³² imply destruction of parts of the battery's fabric by the elements near the end of the 19th century, perhaps by winter storms. This was probably assisted by the unstable nature of the sand on which the battery was built. However the excavation also demonstrated that other parts of the battery (notably the emplacements and pivots) were destroyed by human action. From the evidence in trench B it appears the pivots were removed before the final robbing of the walls.

It seems the final destruction of the battery's remaining brickwork took place after the dumping of the beach sand in front of the walls at the end of the 19th century. This dumping and robbing may have been carried out to salvage bricks and level the area, at least as far as the revetment walls, in order to reclaim as much of the property as possible for development.

The remains uncovered during the excavations were fairly extensive and demonstrated quite well the technology used in a small artillery fortification of this period. Few sites of this type have been investigated and similar batteries of this period have either been destroyed or had their earlier work submerged beneath later technological improvements in gunnery.

With the exception of the collapsed sections of

rampart wall, contexts 169-171, which were destroyed during the construction of the by-pass, most of the remains discovered during the excavation lay just to the east of the new road and were left preserved in situ below the roadside verge. The site of the battery is now marked by new brickwork laid in the verge showing the position of its walls, emplacements and pivots with a plaque erected nearby explaining its history and now forms part of the Harwich Maritime Heritage Trail.

The pottery

by Helen Walker

A quantity of poorly stratified pottery with the extreme date range of late Saxon to 19th/20th century was excavated. Pottery dating from the late 15th century to the occupation of the battery is summarised here with emphasis on the imports.

15th-18th century pottery

A small number of imported sherds were found, belonging to the period late 15th to later 17th century. Of these Raeren and Frechen stoneware from the German Rhineland are the most frequent which is not unexpected, as these are also common finds on inland sites. Forms comprise Raeren stoneware squat globular drinking mugs of the late 15th to mid 16th century and fragments from 17th-century Frechen stoneware bellarmines. Also from northern Europe are several slipwares. At least four sherds are from German Werra slipware dishes of the late 16th to early 17th century. These are distinctive because of their greenish-yellow slip with patches of overpainted green, and use of sgraffito to outline designs. There is a small fragment of loop-handled bowl which resembles Werra ware, but has a collared rim rather than a hammer-headed rim and may be a North Holland slipware product (an industry that also employed overpainted green decoration). Of interest is a very abraded flanged rim that shows traces of yellow and green slip and internal rouletting. It may be Wesser ware, also made in north Germany during the first half of the 17th century and which sometimes shows rouletting which may be a lower Rhineland product dating from the 16th-17th centuries. Imported from north-east France is a single sherd from a type I Martincamp flask dating from 1470-1550.

Although most imports are from northern Europe, a few originate from the south. There is one sherd from a Spanish Olive jar, made in Seville, in southern Spain, and imported from the 16th to the 18th centuries. From Italy are three sherds of North Italian marbled slipware, all with white, brown and green marbled decoration, dating to the first half of the 17th century. Also from northern Italy are two sherds of Montelupo tin-glazed earthenware; one flanged dish rim showing olive and yellow bands with brown painted decoration, and a footed base possibly from the same vessel, showing the remains of yellow, ochre and green decoration. Montelupo was widely traded during the 16th and 17th centuries.

Contemporary English wares include a relatively large amount of 16th-17th century Southern white ware (also known as Surrey-Hampshire border ware) and post-medieval red earthenware (PMRE). Sherds of black glazed PMRE are especially common, along with much smaller amounts of Metropolitan slipware.

About the commonest find belonging to the 17th and 18th century is Westerwald stoneware imported from the German Rhineland. Eighteenth-century types seem to be more common than 17th and comprise; mug fragments with incised chequer and lozenge designs; chamber pots with flanged rims; sherds with AR medallions denoting Queen Anne and GR medallions denoting George 1st, dating from 1702 and 1714 respectively. With the exception of a few sherds of possible Netherlands tin-glazed earthenware and fragments of Chinese porcelain, the remainder of the 17th to 18th-century pottery is English. Nothing unusual was found and the main types are tin-glazed earthenware, brown salt-glazed stoneware and post-medieval red earthenware with smaller amounts of Staffordshire-type slipware and white salt-glazed stoneware.

Pottery dating from the occupation of the battery (1811-1817)

Although the battery is closely datable it does not add to our knowledge of early 19th-century pottery. Pottery present that either pre-dates or is contemporary with the battery consists of English stonewares, English porcelain and several types of fine earthenware that were in production from the mid 18th century onwards, namely Creamware, Jackfield ware, Whieldon ware and Basaltes. Almost definitely contemporary with the battery are sherds of Pearlware, which is similar to Creamware but made whiter by the addition of cobalt to the glaze, and is very common on early 19th-century sites. One example of Pearlware shows horizontal bands of colour known as annular ware which was produced between 1795 and 1815. Sherds that are either contemporary with or post-date the battery include yellow ware, also known as Mocha ware, produced from the end of the 18th to the second half of the 19th century and ironstone which was first produced in 1805. Of interest are several sherds of lustre ware with a transfer printed picture entitled 'Iron Bridge over the River Wear', which was made by Dixon Austin and Co., at Sunderland around 1800-1850. Sunderland lustre ware is a common find on coastal sites as it was sold on the quaysides by the crews of ships carrying sea coals from the north-east, providing the sailors with some additional income.

Discussion

Although the pottery evidence is scanty, it appears to fit in with the evidence from recent excavations at George Street and Church Street, Harwich (Walker 1990, 72-86), where in the post-medieval period trade is with northern Europe and the Mediterranean.

Brick and tile

by P.M. Ryan and S. Godbold

The gun emplacements and the surviving battery walls provided an opportunity to study a quantity of bricks from structures securely dated by documentary evidence. Four types of brick were identified from the excavation (Ryan and Andrews 1993). However, only bricks of the London Stock Type were found in the *in situ* structures.

Excavated brick

Soft Red Type. Usually orange in colour, but overfired examples are often purple; size c.230 x 110 x 65-68 mm; regular in form; sharp arrises; smooth or slightly creased faces, often with horizontal pressure marks; shallow frog c.160 x 60 x 12 mm. This type was the common brick of the area in the nineteenth and first half of the twentieth centuries and are often referred to as 'soft reds' in the building trade.

Suffolk Whites Type. Cream; size c.230 x 110 x 67-70 mm; regular in form; sharp arrises; smooth faces with horizontal pressure marks on one stretcher face; occasional firing cracks; shallow frog c.157 x 56 x 12 mm impressed 'Chilton Suffolk.' Bricks with makers' name in the frogs are in general post c.1870.

London Stock Type. Yellow, salmon pinkish and purple (all these colours may be found in one brick) with occasional black patches of cinder: fabric very vesicular: size 210-230 x 90-105 x 60-70 mm but commonly 215 x 100 x 65 mm (with the exception of context 630. See *Discussion* below); fairly regular; irregular, rounded arrises: faces vary from smooth to very creased with occasional horizontal or almost horizontal pressure marks; smooth bases; firing cracks. This type of brick was made from clay which contained a percentage of chalk or lime, either naturally occurring or as a deliberate addition. Breeze or town refuse is also mixed with the clay. After drying the bricks were burnt in clamps. Bricks of this type can be broadly dated between the end of the 17th century and early 20th century.

Tudors and 17th-century Types. Orange: irregular; rounded irregular arrises; creased faces; pitted base; 16th or 17th century.

Roof tile

The roof tile recovered during the excavation were fragmentary and

largely of pegtiles varying in thickness between 8 mm and 15 mm, but mainly concentrated between 12 mm and 14 mm thickness. No complete tiles were found but several had square or circular pegholes. A number of fragments of pantiles were identified, ranging in thickness from 12 mm to 15 mm. These are unlikely to be earlier than the beginning of the 18th century and could well be much later. In Essex, pantiles are usually found on outbuildings or very low cost cottages. One of the fragments was coated with black glaze on the outer surface. A 19th or 20th-century nibbed ridge tile was also recovered.

Discussion

The date range of the London Stock Type bricks used in the battery structure is consistent with the date of the battery construction of 1810–11. Similar bricks have been observed in the fabric of Tilbury Fort (late 17th century) and the Martello tower at Slaughden in Suffolk (Whitehead 1991, 108) which was built 1808–10.³³

The source of the bricks is open to conjecture. The original tender document for the battery does not help in this respect, although interestingly it does state that the battery brickwork was to be 'executed with Grey Stocks'.³⁴ However about a year later on 3 December 1811³⁵ arrangements were made to land three million bricks on the coast from the sea for twenty further batteries to be built between the River Colne in Essex and Hollesley Bay in Suffolk. It remains possible therefore, that the bricks for the Bathside battery were also imported, and a likely source for this type of brick is the coastal areas of the Thames and Medway estuaries.

The size of the London Stock Type bricks was fairly consistent at c.215 x 100 x 65 mm. However, it was noted that the bricks used in the 2nd phase gun platform in trench C, context 630, were distinctly different from those used in the rest of the battery fabric, being slightly redder and slightly longer at c.230 mm. The bricks here may represent a further batch ordered to make up a shortfall after the battery modifications, perhaps from a different brick maker. Differences of colour, although not of size, were also observed with regard to the revetment wall, context 655, discovered under Stour Road. Externally the bricks used here were consistently more yellow in colour than the bricks used elsewhere. The aforementioned reasons relating to context 630 may also be valid with regard to this context. However unlike the gun emplacement, the revetment wall would have been visible and the difference in colour may be due to a deliberate selection for aesthetic reasons.

Bricks of the Soft Red Type and Suffolk White Type were recovered from contexts post-dating the battery, mainly associated with the construction of the Victorian cottages built on the site in 1884.

Many of the fragments of pegtiles and pantiles along with the Tudor Type fragments were considerably abraded. They were probably amongst rubbish dumped on the beach, before the battery was built, where they had been exposed to the erosive forces of the sea.

Miscellaneous finds

by Hilary Major

The miscellaneous finds from the battery building, occupation and robbing contexts included nothing of a specifically military nature which could be linked to the life of the structure. In particular, the relative lack of iron objects, and the fragmentary nature of those present, points to the thorough robbing out of any useful items.

Some of the contexts were clearly contaminated by later disturbance (e.g. a 20th-century electrical clip from context 35), and there was also a considerable amount of earlier material, particularly clay pipe. This means that some doubt must be cast on the contemporaneity of undatable material with its context.

Copper Alloy Objects (Figs 18 and 19)

In addition to the objects listed below, there were a number of small sheet and strip fragments, two pieces of wire, probable nail fragments and a small knob broken off a larger object.

1. Dressmaker's pin with lentoid head. Context 62.
2. Dressmaker's pin with spherical head. Context 116. A number of dressmaker's pins were found, some with white metal coating surviving. Nine had lentoid heads, three had spherical heads, and there were also four incomplete pins. Lengths were between 24 mm and 34 mm.
3. Thimble; a very small example, presumably for a child. It has two rouletted bands below the pits on the body, a thickened bottom edge and a rather flat top. It is difficult to say whether the bottom edge is solid or turned over, which would indicate whether the thimble was cast or deep drawn (Holmes 1988, 2). Internal diameter 11 mm, height 17 mm. Context 104.
4. Shoe buckle backpiece; double-toothed tongue with a curvilinear frame. A similar backpiece from colonial Williamsburg is post-1760 (Abbitt 1973, 49, no. 6), width 45 mm. Context 196.
5. Small shoe or breeches buckle, gilded. It has moulded decoration, with raised rectangles round the outer edge, and a groove round the inner edge. The cross bar fitting is of a type common throughout the 18th century (Abbitt 1973, 35, type A). Length 33 mm, width 22 mm. Context 201.
6. (Not illustrated) Sew-through button with four holes. The centre has an embossed concentric groove with beading round its edge, and the edge of the button is thickened. Diameter 17 mm. Context 247.
7. (Not illustrated) A slightly domed disc, probably the top of a 19th-century two-piece button such as that illustrated in Biddle and Cook 1990, 576, no. 1726. Diameter 14 mm. Context 83.
8. Socket for a drop handle or bolt. It consists of a separate back plate and top plate, now corroded together, with three fixing holes in the top plate and four in the back plate. A screw is still in place in one hole. Context 129.
9. A small shackle made from bar with circular section with flattened terminals; the cross bar is broken. Length 27 mm, width 16 mm. Context 129.
10. Ring, with three projecting arms, two of which are now broken off. The centre of the ring has a screw thread. Use unknown. Ring diameter 18 mm, arm length 29 mm. Context 129.
11. Cogwheel on shaft with two small lugs at one end. Length 80 mm, diameter of cogwheel 17 mm. Context 179.
12. Jew's harp, tongue missing. This example probably dates from the heyday of the instrument, the late 18th to early 19th century, when it gained brief popularity in the concert hall (Marcuse 1975, 100). A slightly later example was found at Winchester (Lawson 1990). Length 55 mm, width 26 mm. Context 215.
13. Pendant in the shape of a miniature anchor with a bar and suspension loop at the top. Bent. Length 32 mm. Context 128.
14. Embossed plate with a rectangular loop on one side, and a short projection on the other side. The central design shows a fox and grapes. 29 x 35 mm. Context 129.
15. (Not illustrated) Solid cylinder, probably a weight. Weight 0.9 oz. diameter 14 mm, length 19 mm. Context 129.
16. (Not illustrated) Sheet reinforcement band from an object with a rectangular section, 5 x 1.5 mm, length 13 mm. Context 588.
17. Rod with a square section, cut from a sheet. It has a shouldered head with a rectangular perforation. Rod width 1 mm, length 55 mm, perforation 9 x 2 mm. Context 193.

Nails and Washers (Fig. 19B)

Overall, a total of 27 iron objects were definitely or tentatively identified as nails, of which only 7 came from contexts relevant to this report. No attempt was made to classify the iron nails because of the heavy concretion present.

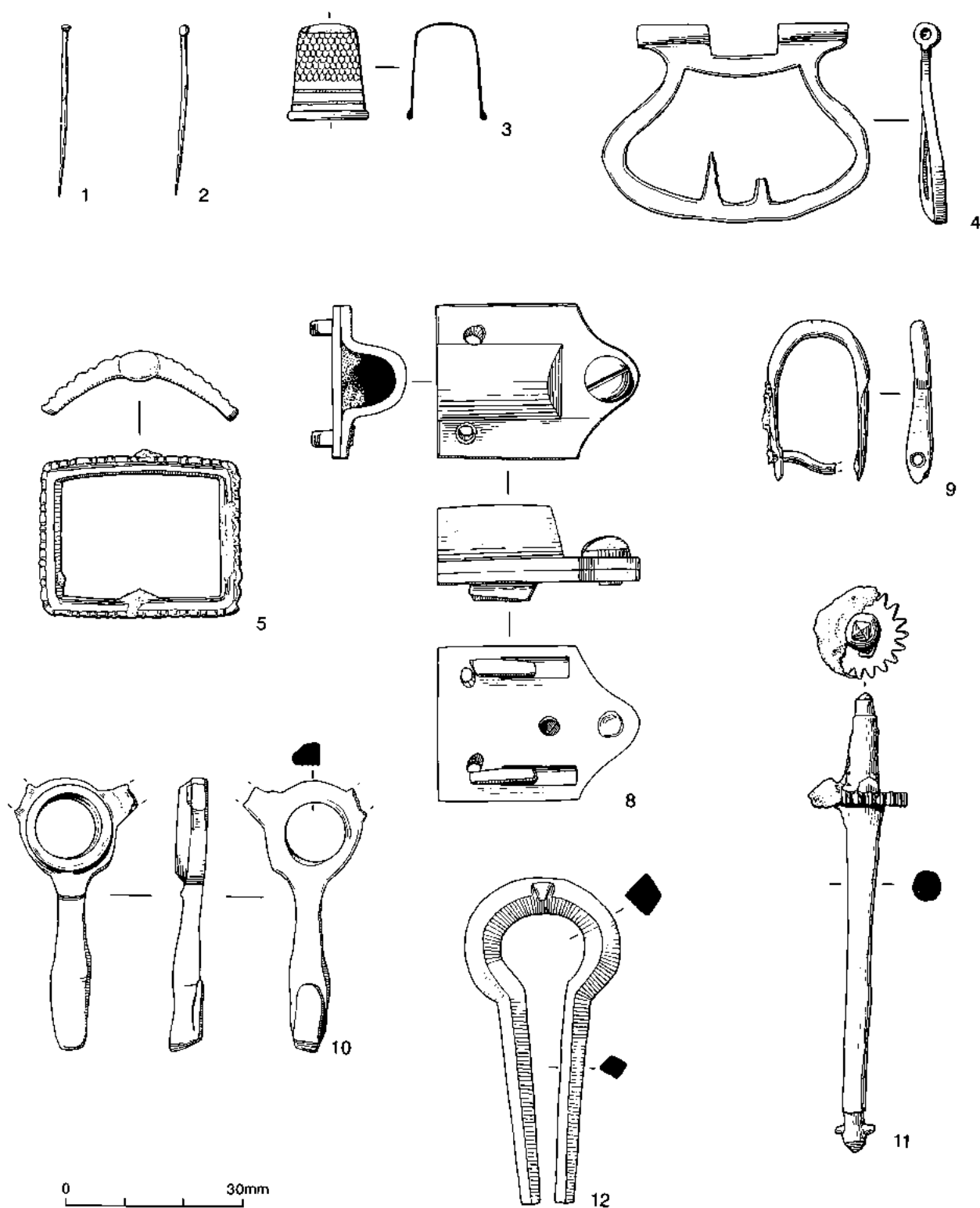


Fig. 18 Copper alloy objects.

Unusually, there were more copper nails than iron nails found. A total of 69 copper alloy nails was found, of which 38 came from contexts directly related to the battery. A number of washers were also found, some still in place on their nails. Three types of washer came from the battery contexts; flat washers, conical washers (Fig. 19,B11), and single example of a rectangular sheet washer.

The following type series was used for the copper alloy nails. The

numbers given for each type refer to the site as a whole, but only the nail types from the published contexts are illustrated.

Type (Fig. 19)

1. Round, flat head, square shaft. 25 examples found, of which 15 were complete. The length range was 19-33 mm, although

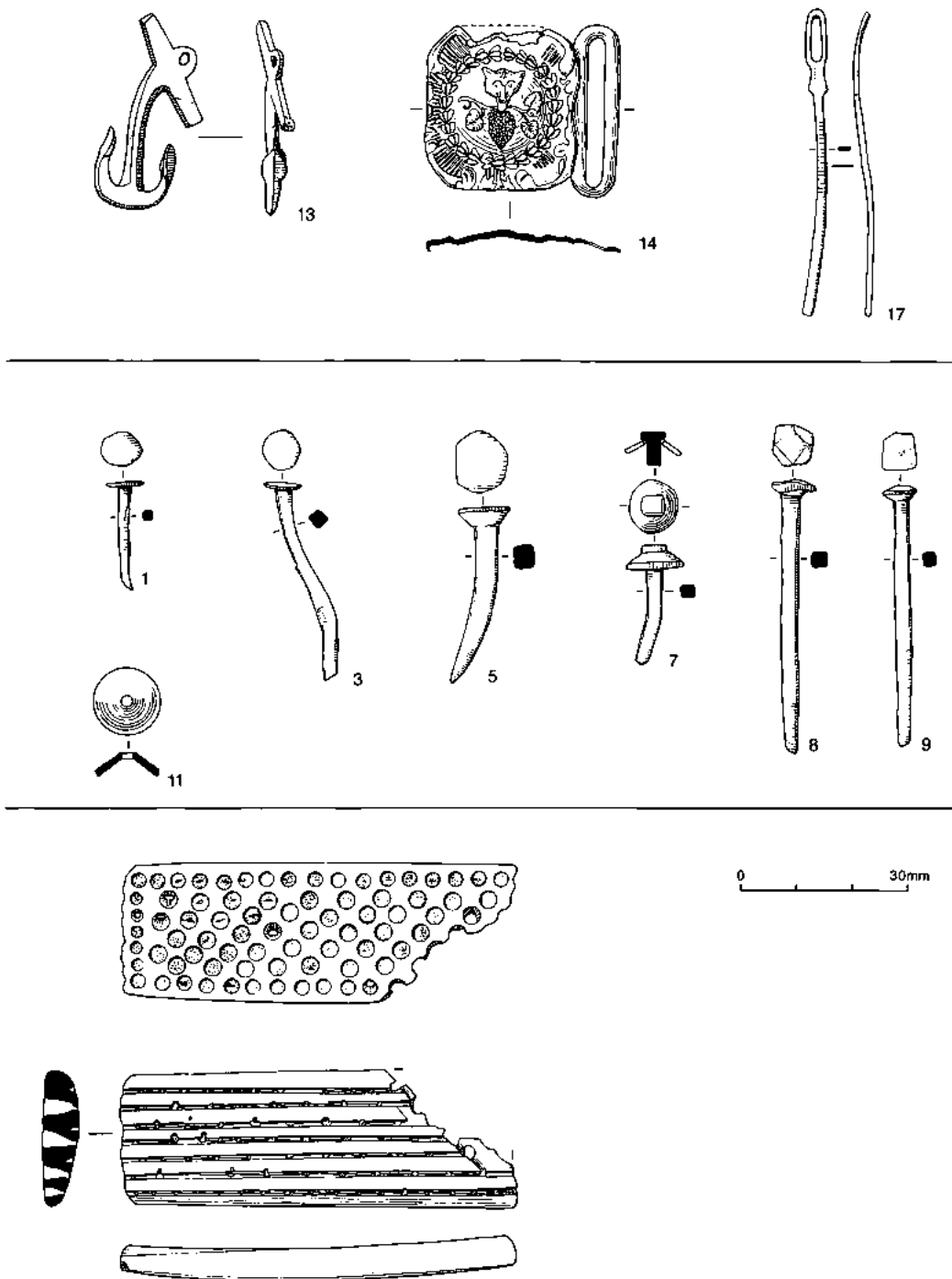


Fig. 19 A. Copper alloy objects.
B. Nails and washers.
C. Bone object.

some of the incomplete examples would have been longer. Illustrated example from context 129.

2. Round, flat head, round shaft. One complete example, length 39 mm, from a late 19th-century context. Not illustrated.

3. Oval, flat head, square shaft. Three incomplete nails. Illustrated example from context 179.

4. Inverted conical head, square shaft. One complete example, length 50 mm, from a recent context. Not illustrated.

5. Inverted conical head, shaft round at the top, becoming square towards the point. Four complete examples. Illustrated nail from context 62.
6. Hollow, mushroom shaped head, square shaft. Not identified at this site.
7. Square head, often rounded at the corners, square shaft. Nine nails, all incomplete. The illustrated example has a conical washer below its head. Context 515.
8. Square head, corners bent down, square shaft. One incomplete example. Illustrated nail from context 545.
9. Low, square, pyramidal head, square shaft. Three examples, two of them complete. Lengths 46-54 mm. The illustrated nail is from context 512.
10. Rectangular head, sometimes rounded at the corners, square shaft. Eighteen examples, sixteen of them complete. Length 12-25 mm. Not illustrated.

Lead (Not illustrated)

Four pieces of lead were found. A lead shot 16 mm in diameter came from context 69. The other pieces were sheet fragments and waste scraps.

Iron (Not illustrated)

Most of the ironwork recovered consisted of scraps of sheet, unidentifiable fragments and nails, obscured by heavy sand concretions. The overall quantity was small. All the identifiable objects appear to be utilitarian, and include fragments of hinges and a double-ended bolt.

1. Probable S-shaped hook. Length 70 mm, width 30 mm. Context 162.
2. Unperforated triangular block of constant thickness. Possibly a weight. Height 85 mm, base 56 mm, 19 mm thick. Context 179.
3. Wire, bent into an arc of a circle, whose diameter would be c.180 mm. Wire diameter 5 mm, length 175 mm. Context 193.

Bone object

1. Brush head fragment from a parallel sided clothes or hair brush, wire-drawn, with fully perforating holes. The bristles were 'sewn' in place by a continuous strand of copper alloy wire, some of which survives, together with traces of the bristles. Surviving length 70 mm, width 25 mm. This type of brush was manufactured throughout the 19th century, although wire-drawing was in decline by the 1880s (Durbin 1984, 25-26). Context 69. (Fig. 19C).

Building materials

Single fragments of slate came from 238, 515, 531, 541, 545, 570, 571 and 588. (These are all robbing contexts apart from 531). Unworked fragments of septaria came from 559, 563 (both fill of wall foundation trench 558) and 570. These may have been utilised as building rubble.

Fragments of fine sandstone building stone came from contexts 69, 83, 86 and 634. The faces bore shallow grooves for keying on the mortar, a patch of which still survived on one fragment. Other types of building stone present were oolitic limestone from context 160, and two different types of coarser sandstone from 200 and 238.

Stone objects (Not illustrated)

1. A toy marble in an unidentified light brown stone. Diameter 14 mm. Context 63.
2. A large flint with a natural hole through it. One edge of the hole may have been deliberately chipped on either side, perhaps to facilitate use as a weight, possibly a net weight. Overall size c.20 x 17 x 9 cm., weight 2850g. Context 104.
3. Slate rod, probably machined. Diameter 5 mm, length 58 mm, weight 4g. Context 135.

Clay pipe

The site as a whole contained pipes ranging in date from the mid 17th century to the late 19th century. Much of the earlier, and some of the later material, was rolled, and was clearly redeposited. Overall, over half the assemblage was 17th or early 18th century, and within the relevant battery contexts only 20% of the datable material was contemporary with the context. The writer considers that it would be more useful to publish the whole group separately, rather than to consider only part of it in detail here.

Known makers whose pipes occur include Edwin and James Goodwin of Ipswich, working in the second half of the 19th century (Oswald 1975, 194) and Stephen Chamberlain of Colchester, died 1808, but his initials may have been carried on in use by his nephew (Crummy 1988, 64). A pipe with a fluted bowl with the initials JJ may have been made by Joseph Jennings of Colchester. Crummy (1988, 66) noted documentary evidence for this pipemaker, but no marked pipes were found in the Colchester excavations.

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Notes

1. Public Record Office (hereafter PRO) SUPP/4-46
2. Original drawings in history files at Colchester Museum. Copies in the Essex Record Office, Chelmsford (hereafter, ERO) T/P 284
3. PRO WO/55/733 21.7.1808.
4. PRO WO/55/734 21.5.1809.
5. PRO SUPP/5-8 24.1.1810.
6. PRO WO/55/734 30.5.1810.
7. PRO WO/55/734 17.7.1810.
8. PRO WO/55/734 29.6.1810.
9. PRO WO/55/734 15.7.1810.
10. PRO WO/47/2477 25.1.1811.
11. PRO WO/78/1270 part 2, 1813.
12. PRO WO/78/733 21.7.1808.
13. PRO as in note 11.
14. PRO WO/78/2781, 1866.
15. PRO WO/44/540 29.9.1817.
16. ERO Harwich Tithe map 1843, D/CT 165B.
17. PRO WO/55/740 24.3.1852.
18. PRO WO/55/740 7.5.1853.
19. PRO WO/55/740 3.1.1853.
20. PRO WO/55/740 30.4.1853.
21. PRO WORK/43/438, 1867.
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26. PRO as in note 6.
27. PRO WO/55/733 15.6.1809.
28. PRO as in note 6.
29. PRO as in note 6.
30. PRO WO/55/734 14.5.1810
31. Colchester Museum and ERO as in note 2.
32. PRO as in note 21.
33. PRO WO/55/734 20.9.1810
34. PRO as in note 6.
35. PRO WO/55/734 3.12.1811

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Tithe commutation maps of Essex

by A. Stuart Mason

Introduction

The Tithe Commutation Act of August 1836 abolished the payment of tithes in kind (the produce of farm land) and substituted a fluctuating money payment, or rent charge, based on a running seven-year average price of wheat, barley and oats. The Act ended a form of payment that for a thousand years had penalised the efficient farmer and retarded agricultural advance. Years of time had been wasted by tithe owners and payers disputing what crops and what land was subject to tithe payment in kind: only the lawyers had flourished.

The Act was passed at a time of deep agricultural depression. The Established Church was alarmed that its clergy could be accused of seizing the crops of impoverished farmers and their destitute labourers. At that time about one quarter of all tithes were payable to lay impropiators, or tithe owners, for the Crown had taken the right of tithing from the monasteries on their dissolution and sold the rights to landowners, Colleges and Charities. These land and tithe owners were equally concerned with any measure that might lessen the outcry about seizure of crops.

The parliamentary Acts of Enclosure in the early 19th century had led to tithe commutation for enclosed parishes, either by allocation of land or by monetary payment. This had proved acceptable and a number of parishes were exempt from the 1836 Commutation Act because of this. In Essex the following parishes were exempt due to enclosure (dates of enclosure given in parentheses):- West Horndon (1776 by private Act), Great and Little Chesterford, Littlebury and Hadstock (all in 1801), Chrishall (1807), Wendens Ambo (1814), Arkesden (1815), and Elmdon and Wendon Lofts (both 1824).¹

The farming community gave a cautious welcome to commutation. Charles Hicks, who farmed in Great Holland, wrote in his diary;² "This Act was markedly in favour of the tithe owner, but generally approved by both parties. It put an end to all those unpleasant party feelings which often prevailed in parishes and frequently led to litigation." The more friendly relations that the Act brought out are evident in the number of voluntary agreements reached between the owners and payers of tithes.

The passage of the Act and the details of its administration are fully described by Kain and Prince in their magisterial book *The Tithe Surveys of England and Wales*³ (1985). Briefly summarised, the responsibility

for commutation was vested in the Tithe Commission, established on the model of the Poor Law Commission set up in 1834. Both commissions had similar requirements for valuation, survey and cartography, and both used the parish as the effective area to be administered.

The Tithe Commission, while ensuring every form of guidance and advice, intentionally relied on voluntary agreement between the tithe owners and payers. Once agreement had been reached and approved by the Commission, the apportionment of the rent charge among the landowners who paid tithes was settled by a valuer. If everyone agreed with the whole process and it had been carried out in due form, then the Commissioners would confirm the completion of commutation. If no voluntary agreement could be reached an Assistant Tithe Commissioner would impose an award with a valuer to make the apportionment. Whether by agreement or award there had to be a written schedule of the lands and their apportionment, together with a suitable map of the lands.

The criteria for making tithe maps were laid down in November 1836 by Lieut. Robert Dawson, seconded to the Commission from the Royal Engineers. He had been working with the Ordnance Survey on large-scale maps of Ireland and saw that tithe maps could quickly provide a large-scale cadastral survey of all England, something that the Ordnance Survey planned to do in the distant future. Therefore he proposed that all tithe maps should be on a scale of three chains to the inch (26.6 inches to a mile) and show the lines of construction. He listed the number of topographical features to be shown and the symbols to be used.

His criteria were accepted by the Tithe Commission and also adopted by the Poor Law Commission. However, the landowners would have none of it. Put to considerable expense for employing agents to act for them and for the valuation, they were loth to pay more for new land survey and maps. Nor did they wish to pay for a national survey which should come out of the Ordnance Survey's budget. The Commission immediately gave in and Dawson's fine scheme was stillborn. The Tithe Act was amended and new instructions for tithe mapping were issued in July 1837.

The Commission divided tithe maps into two classes. Maps sealed as First Class had to be made according to Dawson's original specification and tested for accuracy by the Commission (his symbols did not

have to be used). Second Class maps were those accepted by three-quarters of the landowners and not tested for accuracy. It was for the landowners and their advisers to choose which class of map they wished to accompany the written apportionment. So the valuer was all important for tithe commutation. Valuers, rather than mappers of land, were already promoting their professional expertise in the Land Surveyors Club formed in 1834. The Club informed the Tithe Commission that "persons qualified in the profession for surveying and mapping... are not of sufficient experience to value."⁴

Nevertheless valuers were held responsible for the tithe map. A case in point concerned the parish of Bradwell-juxta-Mare. Robert Baker of Writtle, who usually surveyed and mapped the land he valued, was the appointed valuer. But the landowners had a meeting with Thomas Bygrave, a London surveyor, who had mapped the parish in 1826. He was asked to revise his map, but, uncertain of his status, wrote to the Commission for guidance. The reply was that if the contract with the valuer was limited to valuation only the valuer was still responsible for having the map made.⁵ So Bygrave bowed out and Baker put his name on the tithe map, although it must have been taken from Bygrave's work.

Essex tithe commutation in practice

In Essex, as in other counties, the commutation of tithes was a bonanza for estate agents, valuers, surveyors and lawyers. Both tithe and landowners used them as agents and executives to conduct the tedious business of commutation. The busiest agent, an acknowledged expert on tithing, was C.C. Parker of Woodham Mortimer, son of a Chelmsford attorney and well known in Essex society. In 1838 he attended 87 meetings in 46 parishes on his clients' behalf.⁶ As an interested party he did not value any parish for commutation. The numerous announcements of parish meetings to agree commutation that appeared in the *Chelmsford Chronicle* were usually signed by agents. Advertisements for valuers were very rare, they appear to have been chosen on the recommendation of the agents. Most valuers were estate agents or surveyors. The most prolific valuer who never made a map of Essex land was Robert Franklin of Thaxted. He had specialised in property valuation and was well down the social scale in comparison with Parker. However a number of valuers were gentleman farmers, such as William Dawson of Frating Hall and Samuel Baker of Hawkswell Hall, chosen as worthy and trusted members of the farming community. Whatever his expertise, the valuer was responsible for the land survey and map, whether done by himself or by one of his choice.

The process of commutation was inevitably slow. Coming to a voluntary agreement needed much

diplomacy and paper-work. Agreement in South Hanningfield was reached in May 1837 but not confirmed by the Tithe Commission until December 1844, when the survey, map and apportionment of the parish was then made. However, once agreement had been confirmed, the parish was allowed only six months to produce the map and apportionment. Thus Joseph Coverdale, Lord Petre's agent, wrote to Henry Clayton, surveyor of Ingatestone, in December 1837 about the agreement for commutation in Bulphan: "there are now two months out of the six allowed to survey, map and apportion. Therefore there is no time to be lost in your survey and apportionment."⁷ Clayton was charging 1s. 7d. an acre for his work. However the Commission appears to have taken a lenient view of delays. Thomas Bygrave wrote to C.C. Parker in December 1839 expressing his alarm that the commutation of Bradwell's tithes was delayed some five months after the expiry of the six-month grace.⁸ Commutation was completed without a complaint from the Commission.

Failure to reach agreement and the subsequent imposition of an award meant even longer delays. The tithe map of Leaden Roding was made in 1839 but the award was delayed until 1846. As time passed, the proportion of agreements to awards fell. By 1 July 1840 there had been 230 agreements to 17 awards. Two years later a further 49 agreements and 10 awards had been made. In the subsequent year there were 9 agreements to 10 awards.

The process of commutation is well illustrated by the accounts of the attorney, William Gibson, who acted for all parties in Willingale Doe.⁹ He drew up, in legal form, the agreement reached and sent it to the Commission on 17 March 1837. A month later he was in London trying to convince the surveyor, T.J. Tatham, to value the parish. As Tatham was an assistant tithe commissioner, responsible for most of the awards made in Essex, he refused to do so. With such an obvious conflict of interests it is surprising that that Gibson ever approached Tatham. Undismayed, Gibson had, within ten days, persuaded Edward Corfield of Russell Square to value and map the parish. After much discussion of the sort of map required, Corfield wrote on 12 September to summarise his views: "Before I take any step towards a new admeasurement and map being made... I should like to understand clearly what are the wishes of the landowners on the subject. You are aware that according to the amended Commutation Act owners may adopt such maps as they are already possessed of, if they think it proper to do so, but a map must be produced." Gibson had sent Corfield two relevant maps, one from the rector which was probably the parish map made in 1800 by Jonathan Grist of London, and one from a Mr Bocket which had been made more recently by the Claytons of Ingatestone. Corfield had found discrepancies between these maps when "testing the scale

by which it is laid down (the mode adopted by the Commissioners)." He did not think that the Commissioners would accept a corrected version of the old maps and recommended that, despite the extra expense, a new survey and map be made. Gibson, writing to C.C. Parker who was advising two of the landowners, accepted this argument "for two reasons — because it will then be legal evidence in all cases and because it will probably prevent appeals from any party as to the quantity of his lands upon which the apportionment is made." He was fair enough to point out that the landowners could avoid the extra expense as the amended Act allowed the use "of any map upon any scale which shall be agreed by three-quarters of the landowners." In this case the landowners did agree to a new survey and map which cost them £130-12-5, the apportionment costing £66-10-5. The map was duly sealed as First Class. However few parishes wanted such legal nicety and extra cost, being happy to settle for the clause in the Act that allowed them to adopt any map they chose.

The problems of failing to reach a voluntary agreement were obvious in Sewardstone (part of Waltham Holy Cross), as shown in the account¹⁰ of Mr Jessop, the lawyer instructed by Charles Sotheby, the tithe owner. Jessop spent the first half of 1838 getting together a voluntary agreement. In September of that year he went to see a Mr Skirrow who had the agreement for inspection but "he was from home." Within a week Jessop put in a bill for "drawing a fair copy of the agreement for the second time" as the first copy had "been lost by Mr Skirrow." Negotiations ground on slowly until, in October 1841, one landowner decided that he could not sign the final agreement. The voluntary process was halted, but Jessop was a patient man and let things drift until October 1846 when he had to admit that no agreement could be reached. So he asked the Commission to impose an award. Eventually this was agreed and in May 1847 Jessop engaged Robert Davis, of London, to value for apportionment and Henry Crawter, surveyor from Cheshunt and London, to survey and map the parish. By contrast, the rest of the parish of Waltham Holy Cross came to a voluntary agreement, used the same valuer and surveyor, and completed commutation by December 1843. The choice of surveyor for both parishes was obvious and economic. Henry Crawter had surveyed and mapped both parishes in 1825, and his tithe maps indicated that they were based on this survey.

Commutation in Roydon had its own problems, mainly financial.¹¹ The first meeting to agree voluntary commutation was held at Roydon on 18 August 1838. The notice of this meeting was signed by Mr Spering of Wanstead as agent for Long Wellesley and by William Webb of Chapman and Webb, land surveyors of Arundel Street, London, as agent for Mr Houblon of Hallingbury Place. Houblon and Wellesley were the major landowners in the parish. William Wellesley

Pole, a nephew of the Duke of Wellington, changed his name to Long Wellesley when in 1812 he married Catherine, daughter of Sir James Tylney Long who had inherited the huge estate of his uncle, Lord Tylney of Wanstead House. That Catherine, the richest heiress in the land, had her fortune squandered by her husband is another story.

At the first meeting it was agreed that the parish should be surveyed and mapped and that payment for this should be decided by a vestry meeting. The vicar, John Lane, sensing the power of the landowners, asked C.C. Parker to act as his agent and also involved his solicitors who practised in Hanover Square. There was no initial problem. In a letter of 13 July 1839 Lane told Parker that "the map and survey has now been completed so that you will now have the means of making an offer to the parishioners for a commutation of Vicarial Tithes." The survey and map was made by John Doyley senior, a London land surveyor then coming to the close of a long career: the map was his only venture in tithe cartography. His choice as surveyor was obviously made by Long Wellesley because Doyley had a long association with the Tylney estates. As junior to Daniel Mumford he had surveyed the Felsted estate in the late 18th century and had mapped the Wanstead estate for Catherine Long in the early 19th century.

The Vicar's troubles started after the survey and centred on the calculation of rent charges. He made a series of visits to Chapman and Webb, and also consulted Edward Corfield. All three of these men took an active part in Essex tithe commutation. By July 1841 matters were nearing agreement when one of the valuers engaged, Edmund Goodwin of Harlow, died. The sole valuer of the parish became George Noble of Woodford. Agreement was finally reached in July 1843, but not confirmed by the Commission until December 1844, more than five years after Doyley had made his survey.

The tithe maps

For tithe commutation three copies of each map (and apportionment) had to be made. The first copy was deposited with the Tithe Commission, the second with the Diocesan Registrar and the third with the incumbent of the parish concerned. The Commission's copies, and supporting documents, are now held by the Public Record Office in Kew. Prof. Kain and his colleagues will soon be publishing a complete catalogue, index and analysis of all the Commission's tithe maps and apportionments.¹² This monumental task will provide the definitive work on the subject. An almost complete set of the Diocesan copies of Essex tithe maps and apportionments is held by the Essex Record Office which also has an increasing number of incumbent's copies.¹³

Commutation was based on the parish as a unit

and for Essex a total of 397 maps were made. All of them are plain, spare maps; each parcel of land has a number that refers to the apportionment which list the owner, occupier, acreage and land use of the parcel. Some maps go further, naming inns and farms, saltings and sea walls. Colour is seldom used, although 10 maps distinguish land use and five show ownership by colour. Apart from some pleasing decorative scripts for the title, the maps lack decoration, except for three maps by Alfred Rush which display the title on a drape held by two trees, an exact copy of the title display on Chapman and Andre's 1777 map of Essex. Rush's only contribution to Essex cartography was six tithe maps. He lived with his schoolmaster father Hayward Rush, in Messing, probably a direct descendant of Hayward Rush the schoolmaster and land surveyor of Colchester who died in 1747. In short, tithe maps were suited to bureaucrats, unlike earlier beautifully decorated estate maps made to flatter the landowner. Henry Clayton's plain tithe maps are a far cry from the decorated estate maps of his youth.

It is important to note that, in many instances, the copies held by the Commission and the Diocesan Registrar are not identical. As Prof. Kain has recently pointed out,¹⁴ these differences are not errors in copying but "arise from deliberate decisions on the part of landowners and surveyors...". The date or the map-maker's name may be on one copy but not on the other. Dates on both copies may differ. The Commission's copy of the Roydon tithe map is dated 1839, made by John Doyley Snr., while the Diocesan copy is undated and anonymous. Conversely the Ramsden Crays map is dated 1845 on the Commission's copy but 1839 on the Diocesan copy. The scale used may differ. Taken as a whole, 48% of Essex tithe maps are scaled at 3 chains to an inch and 26% at 6 chains to an inch for the Commission's copies; the comparable figures for the Diocesan copies are 43% and 32%. The Great Bromley map is sealed as First Class, "surveyed by G.R. Jay 1839" for the Commission but for the Diocese is undated, anonymous and scaled at 6 chains to an inch.

Essex landowners were not impressed by the possible advantages of a First Class tithe map, only 8% of maps being sealed, whereas the national average was 20%. However there were marked regional variations; Durham and Northumberland had no First Class maps but 50% of Kent maps were of that class. This is relevant to Essex because Alexander Doull of Chatham, who made many tithe maps in Kent, produced First Class tithe maps for the parishes administered by the Rochford Union. This influenced landowners in several contiguous parishes which had First Class maps made by other surveyors.

The use of old maps

Tithe surveyors would naturally make use of any old maps that were relevant. For 46 parishes the tithe map

indicates its origin from an old map and the maps of a further 28 parishes are almost certainly derived from old maps. It is not certain that other maps were made from completely new surveys, not using old survey data; indeed the amount of genuinely new survey work for tithe commutation was probably very limited.

Virtually contemporary parish maps made for the Guardians of the Poor were also available. Thus the maps made for the Guardians, by James Beadle, of Finchingfield, Great Bardfield, Wickham Bishops and Earls Colne, all made immediately before the 1836 Tithe Act, were adopted as tithe maps. Moreover, when Dawson published his 1836 cartographic proposals they were immediately accepted by the Poor Law Commission. Consequently, in their advertisement¹⁵ for surveyors the Guardians of the Halstead and of the Rochford Union laid down that the maps they required had to conform to the instructions of the Tithe Commission. The Rochford Guardians went further, requiring maps "drawn on good drawing paper mounted on brown holland" that should be approved by the Tithe Commission. Rochford¹⁶ had hit on the brilliant idea of having their own maps immediately suitable for sale to individual parishes who required tithe maps, at nine pence per acre mapped. Thus the Guardians' initial survey costs were neatly offset. Alexander Doull of Chatham surveyed ten parishes for the Guardians and all the maps were bought for tithe use. The parishes of Rochford and Canewdon were first in the buyer's queue, followed by Eastwood, Hadleigh, Hockley, Leigh, Rayleigh, South Shoebury, Great Stambridge and Little Wakering. Nine of the maps were First Class.

Relations between the Guardians of the Poor and landowners wanting tithe maps were not always happy.¹⁷ For the Romford Guardians Frederick Drayson of Faversham, Kent, surveyed and mapped Barking in 1840, the parish being valued by Drayson and William Boards of Edmonton. For commutation of parish tithes the landowners were represented by Edward Sage, solicitor and antiquarian, who engaged Boards as co-valuer with Henry Crawter who was appointed surveyor. In 1842 Sage wrote "Mr Crawter proposed to make a survey taken in 1806 for £75 and a thrifty compensation for the labourer to identify the lands." Crawter was happy just to check the 1806 map by Isaac Johnson of Woodbridge, Suffolk, which had been revised in 1823 by T. Twyford of Romford. However, the landowners preferred to purchase the new survey and map made by Drayson. On their behalf Sage offered the Guardians £75 for it. This, and a subsequent offer of £100, was refused. The Guardians were quite willing to sell the map, but only at a price they thought reasonable. They even requested the Tithe Commissioners to intervene. The Commissioners agreed that a fair price would be £120 and pointed out that they could not compel the landowners to accept the map. By this time Sage and his

clients wanted nothing more to do with the Guardians and instructed Cawter to proceed on the lines he had suggested.

Cawter put his name on the Barking tithe map without reference to Johnson. There can be no doubt that several tithe maps which appear to be of original surveys by the named maker were actually copies of previous parish maps. Poor Johnson, who died in 1835, was also eclipsed in Bulmer. He had mapped that parish in 1806 "by order and at the expense of Charles Greenwood, tithe proprietor",¹⁸ yet the Bulmer tithe map makes no mention of this. He got justice in Gestingthorpe, the tithe map stating that it was copied "from a survey by Isaac Johnson, 1804."

Sometimes the old survey used is specified on the tithe map: the map of Shelley was a "copy of a map executed by J. Barnard, Land Surveyor, 1815." Barnard, of Dunmow, was also known as a valuer of timber and land, having as his assistant Robert Franklin, who became the most prolific valuer for tithe commutation. The Mayland tithe map was "corrected in 1839 from a survey made in 1813", but does not mention that the survey, and map, had been made by T.J. Tatham, who became an assistant tithe commissioner. The Pattiswick map, "copied from an old survey and revised 1842 by J.S. Surridge, Surveyor", was probably based on a parish map made in 1824, when a small portion of the parish was enclosed. The commissioner for the enclosure, Thomas Chapman, of London, noted that "there not being any map or survey of the parish, the parish was surveyed, ad-measured and planned or mapped by Thomas Bygrave of Clements Inn."¹⁹ The Bygrave map had been accepted by the Guardians of the Poor when the parish was valued for them in 1837.

Some surprisingly old maps were adopted as tithe maps. The oldest was for Norton Mandeville, the map being copied from "a map made by T. Skynner in 1740 with alterations and corrections by R. Baker, Writtle in 1847." Skynner's map covered the whole parish and was made "by order of Willm Elderton, Gent." The useful life of a map was so long that it inhibited the demand for new ones on which the livelihood of the land measurer and mapper depended. Other 18th-century maps were also used. The tithe map of Berners Roding was copied by R. Baker from "a map made in 1772 and adopted by the landowners." For Langley the tithe map was copied from the 1783 map made for Christ's Hospital when it sought to end tithe disputes. The South Weald map was a copy of Middleton's 1788 map made for the Towers family. The Widdington map was copied from a plan made in 1795 by Daniel Mumford, "revised and corrected by John King and son, Saffron Walden."

Other tithe maps are less specific in noting their origin. The St. Osyth map was copied "from an original in the possession of Fred. Nassau Esq.": this must be the map of the Nassau estate made by J. Wiggins of

Danbury in 1814 and recent enough to need no revision. The East Mersea tithe map, copied "from old surveys", may have used more recent sources than the map of Copford, copied from "an ancient survey". The Kelvedon Hatch map was "computed from the plans of the landowners", suggesting the use of a bunch of estate maps. The map of Theydon Bois bluntly announced itself as "the map produced by the landowners."

Tithe surveyors made much use of old estate maps, but, in turn, a tithe map could be useful when mapping an estate. The Crawters' 1841 tithe map of North Ockendon must have provided a ready-made base for their 1843 map of Benyon's extensive estate in that parish. Robert Baker's 1841 map of a farm in Writtle states explicitly that it was "copied from the Tithe Commission Survey", which he had made.

The makers of Essex tithe commutation maps

The maps were made by land surveyors, mostly Essex men working in their own locality. In all, 89 surveyors are named on the maps, many of them confined to only one or two maps: 57 valued as many parishes as they mapped but 32 did not value any parish. To complement this, 47 men valued parishes but made no contribution to Essex cartography: again, most of these men valued just one or two parishes or were co-valuers. So, in practice only 47% of Essex parishes were valued and mapped by the same man, although, as the valuer was responsible for the map, it might have been expected that one man would do both jobs as a matter of convenience. The divergence of valuation from estate cartography was, in part, due to surveyors sharing out the work, but mainly due to the rise of land agents and valuers who no longer measured land and made maps.

Up to the last quarter of the 18th century land surveyors looked to estate survey and mapping for their living.²⁰ Many such men in Essex were part-time, being farmers or schoolteachers. By the time of tithe commutation Arthur Barfield of Great Dunmow was the only surviving teacher/surveyor; he made the Barnston tithe map in 1838. The full-time surveyor of the late 18th century had to take up valuation, estate management or property dealing to make a living.

The evolution of a family business is exemplified by Robert Baker of Writtle who valued and mapped some 50 parishes for commutation. His father was a schoolmaster, owning his own school in Terling. He combined his teaching with estate surveying and mapping in the late 18th century. Later he moved to Boreham as a full-time surveyor and was joined in the business by his son Robert, who made his first estate map in 1822 and also took up valuation, and became a farmer and agricultural expert. The 1841 Census gives a clear idea of his business. The Baker family lived at Skiggs, Writtle, and farmed some 200 acres (as shown on the tithe map): Robert is listed as a surveyor, and so

is his son, also Robert, the other son Henry being noted as a farmer. In addition, four young men, all noted as surveyors, lived in the house. It is not surprising that Baker mapped and valued more parishes than anyone else.

The Nockolds of Saffron Walden formed another family business that developed with the times to satisfy the demands of landowners. It was founded in the 1790s by Martin Nockolds, son of the nurseryman at Audley End. He started with estate maps, then surveyed and mapped for several enclosures that were a feature of early 19th-century Essex. His son, another Martin, came into the business, taking over from his father who died in 1840. The young Martin specialised in valuation, especially for commutation, using the Saffron Walden surveyors, John King and son, to make the tithe maps. The Nockolds of Stansted, probably cousins of the older Martin Nockolds, valued and mapped for commutation. The whole connection was shown for the parish of Wimbish (1840) which was valued by Martin Nockolds and mapped by "Messrs King and Nockolds, Saffron Walden and Stansted."

One-man businesses could still survive, notably that of Robert Burton, appraiser and land surveyor of Hatfield Broad Oak who started making estate maps in 1814. He moved to Dunmow in 1838 and his tithe maps of four of the Roding parishes were all sealed as First Class. He valued only two of the parishes he mapped. Of those that valued as many parishes as they mapped two father and son partnerships deserve mention. Joseph and Samuel Surridge, auctioneers and surveyors of Coggeshall, mapped and valued eight parishes: their map of Braintree, revised from Clayton's 1814 survey, was presented as a zincograph made by Shaw and son, the London printers for the Tithe Commission. This is the only Essex tithe map to be made by this technique, as compared with lithography, a technique encouraged by the Tithe Commission as an economic way of making several copies. However the only surveyor/valuer combination who used lithography was Thomas Savill, and his son John, surveyors from Sible Hedingham. Five of their tithe maps were lithographed in London and their Felsted map was 'Surveyed 1837 by Messrs Savill and Son, lithographed by John Saville.'

Just as in the 18th century surveyors from London would map estates near to the Capital and surveyors from Suffolk would map in North Essex, tithe valuation and mapping were done by those on the borders of Essex. Alexander Doull's contributions as a surveyor from Kent were actually for the Guardians of the Poor and reproduced for tithe commutation. The London surveyors all had experience of mapping in Essex prior to commutation. Land and tithe owners obviously felt they could rely on these men. Richard Peyton, who had been with the Ordnance Survey prior to setting up as a surveyor in Lincoln's Inn, wrote a book on tithe commutation and advertised his services in the

Chelmsford Chronicle but only got one commission, the valuation and map of Sutton, near Southend.

The most prolific of the London surveyors in both valuation and mapping of Essex parishes was Henry Cawter of Chancery Lane, originally from Cheshunt. Not surprisingly he often used local farmers as co-valuers and employed Henry Clayton of Ingatestone to survey five parish boundaries for him. Distance from the land mapped was a problem for a London surveyor. Thomas Bygrave of Lincoln's Inn wrote to C.C. Parker to ask that his map of Tillingham be returned by 'French's coach which leaves Maldon at ten in the morning... I will send my servant to meet it at Whitechapel... I should not like to have it knocked about by the porters belonging to the inns... tell the coachman to keep it dry.'²¹ Nevertheless Henry Coates of Portland Place managed to map and value several North Essex parishes, while other London surveyors worked in south Essex.

Valuers who never mapped were matched by surveyors who mapped but did not value. Two Colchester estate agents, John Fenn and William Dawson, relied mainly on the surveys and maps of William Ruffell of Colchester and J.G. Harris of Great Bromley; both men were known for their estate maps and worked together on three of their tithe maps.

There were, however, some surveyors whose only contribution to Essex cartography was tithe commutation maps. The Colchester firm of Gilbert and Tayspill mapped 37 parishes, 17 maps being made in 1838. This extraordinary output suggests that either they were able to put a number of surveying teams in the field or that they relied heavily on old surveys and maps. On a smaller scale was the work of John Hills of Billericay, making nine maps in his area. He used for an inset on his map of Pitsea a copy of the immediate surrounds taken from the one-inch Ordnance Survey map: others, including Baker, made insets copied from the 1777 Essex map of Chapman and André. Hills went into partnership with the Billericay auctioneer, G. Rolph, who valued three of the parishes mapped by Hills. Nothing is known of Alfred Rush of Messing apart from his six elegant tithe maps and his association with Gilbert and Tayspill in mapping Birch.

With so many people involved it is not always easy to understand why a valuer chose his cartographer. For example, in Danbury lived Charles Matson, a farmer who valued for commutation, and Fred. Cattlin a land surveyor who had worked for the Eastern Counties Railway. Matson valued and Cattlin mapped North Fambridge, but for Danbury, Matson was the valuer who employed the London firm of R. and J. Bevan to make the map.

Review

Tithe commutation was the prime occupation for most of Essex's land agents, valuers and land surveyors. In

bringing together men with the complementary skills of land valuation and survey it hastened the formation of the Institute of Chartered Surveyors. The history of the Bakers of Writtle and the Nockolds of Saffron Walden showed how family businesses expanded their field of expertise to cover all that was later required of a chartered surveyor. Yet there were still areas of specialism, as exploited by Gilbert and Tayspill in the market of tithe mapping. It is shown among the applicants to survey, map and value Romford in 1839 for the Guardians of the Poor. Eight men applied to value, survey and map, 13 applicants would only survey and map, while eight offered valuation alone.²²

Mapping for commutation vastly extended the demand of public bodies for maps. The decline of estate mapping in the early 19th century was due to the depression in agriculture after the Napoleonic Wars and the fact that many landowners already had good estate maps. There was a new demand for maps for parish councils and for land enclosure. Surveying for railways became a new occupation. Of the ten surveyors who plotted the course of the Eastern Counties Railway through Essex in 1835, seven made Essex tithe maps.²³ Work for the Guardians of the Poor, both in valuation and mapping, was closely related to the work for tithe commutation.

As so few parishes were exempt from commutation, the tithe maps covered virtually all of Essex on a far larger scale than any previous map of the county. The 1777 county map by Chapman and André still held sway, being at a scale of 2½ inches to the mile, compared with the later 1-inch to the mile surveys of the Ordnance Survey (1804) and the Greenwoods (1824). The tithe maps, necessarily used with the apportionments, provided, and still provide, a mass of information. Their acceptance by the landowners was some guarantee of their accuracy, confirmed in recent times by Cox.²⁴ The maps clearly show field and parish boundaries, the latter sorted out in 15 disputes arbitrated by an assistant tithe commissioner. However the circulation of the maps was confined to the three official receivers. They were not available to the public at large, nor was there a demand for this, judging by the few lithographic copies made.

One immediate use of tithe maps was their copying to make estate maps. This was not a common event but a notable example was the 1840 map of George Nottidge's estate "taken from tithe commutation surveys" by Burrell, architect and surveyor of Bocking. The estate straddled the parishes of Black Notley, Braintree, Bocking and Great Leighs.

Dawson's splendid concept of using tithe maps for a national survey was stillborn and it was some years before the Ordnance Survey, after prolonged arguments over scale and cost, settled on a 25-inch to the mile survey. Essex was surveyed on this scale over the years 1861-74. Once available, all revisions of tithe commutation used these maps; a deserved, if tardy, victory for the far-seeing Dawson.

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Work of the E.C.C. Archaeology Section, 1993

edited by A. Bennett

This annual report enables the Section to publish notes on a number of watching briefs and chance finds made during the year, as well as final reports on a number of smaller excavations. Summaries of larger excavations, evaluations and intensive watching briefs can be found elsewhere in this volume (pp. 239-57).

Reports are arranged in chronological order or, in the case of multi-period sites, under the principal period represented. The Section is grateful to all who have undertaken work on its behalf, especially those providing specialist reports and museums who have allowed finds to be published here. The illustrations are by the following: Nick Nethercote (Figs 1, 2 and 4), Stuart MacNeil (Figs 3 and 6), and Iain Bell (Fig. 5).

Full details of all sites can be found in the County Sites and Monuments Record.

Great Dunmow, Junior School (PRN 13933) Louise Austin

The flaked stone tool (Fig. 1) is a tranche axe/adze made on dark grey flint with pale inclusions. The surface of the flint has a partial light blue/grey patination and small patches of cortex remain on both surfaces. It is 142mm in length, has a maximum width

of 50mm and is 27mm thick. The sides are roughly straight with the width of the tool tapering towards the butt end while the thickness remains fairly constant except where the tool thins to the cutting edge. Tranchet sharpening blows have been removed from both faces of the cutting edge. Slight damage along the edges of the tool may be the result of use wear but is more likely to be the result of post-depositional disturbance and damage, for example plough damage. Tranchet Axe/adze tools are diagnostic of the Mesolithic Period.

This find is of interest as there are very few other Mesolithic finds from Great Dunmow and the surrounding area.

Orsett, Orsett Causewayed Enclosure (PRN 8932-8935)

Steve Wallis

The site was identified from aerial photographs taken in the early 1970s. Trial trenching in 1975 confirmed it to be a Neolithic causewayed enclosure, overlain by Iron Age and Saxon features. It also demonstrated the survival of shallow contemporary features within the enclosure, including at least one structure (Hedges and Buckley 1978). The Orsett site is a Scheduled Ancient Monument (S.A.M. Essex 174), and is one of only two causewayed enclosures identified in Essex, the other being at Springfield Lyons (Buckley, D.G. in Gilman (ed.) 1991, 157 and Fig. 3).

Three flint objects (A-C, Fig. 2) were collected by Randall Bingley in winter 1992/3 from the ploughed surface of the site. They were lent to the E.C.C. Archaeology Section for study. The locations of the three find-spots are shown in relation to the cropmarks on Figure 3. The objects, all of cherty flint, were identified by Robin Holgate: A - Mesolithic tranche axe, probably reused as a core; B - Early Neolithic axe; C - Late Neolithic/Early Bronze Age knife, perhaps also used as a piercer.

All three objects are in good condition, indicating they have only recently been disturbed. Therefore this monument is apparently still being eroded by ploughing.

The importance of the site and vulnerability of the shallow structural evidence within the enclosure were highlighted by the 1975 excavations (Hedges and Buckley, undated 10-11). This evidence of damage is therefore of considerable concern.

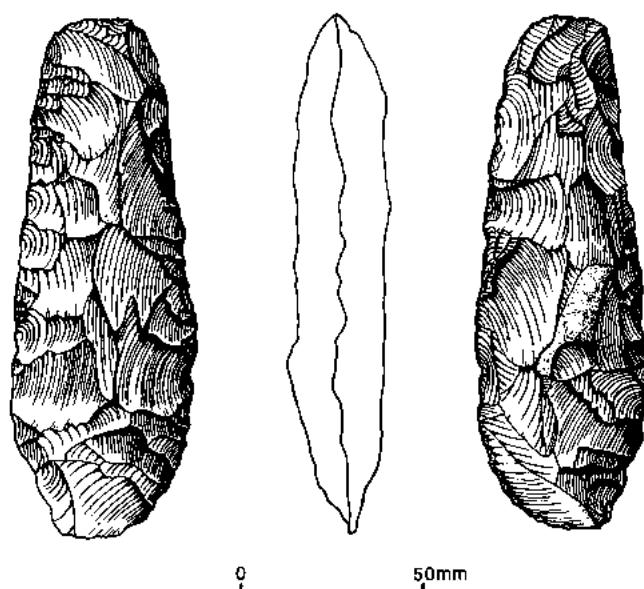


Fig. 1 Mesolithic tranche axe/adze from Great Dunmow.

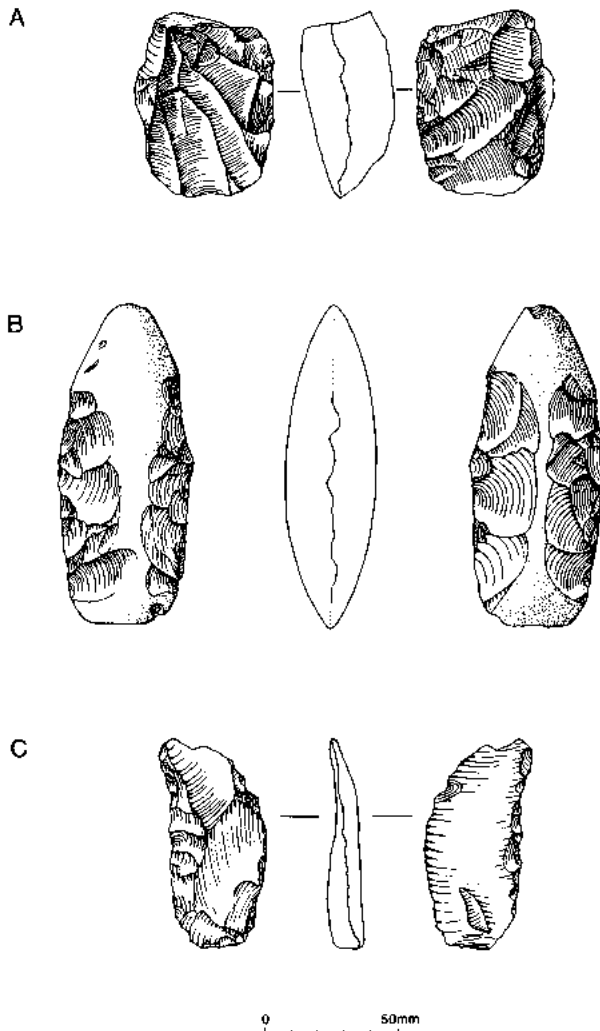


Fig. 2 Finds from Orsett Causewayed Enclosure:
A Mesolithic tranchet axe; B Early Neolithic axe;
C late Neolithic/Early Bronze Age knife.

Maylandsea (PRN 12075-8 and 13622)
Nigel Brown

Material from this area was brought in to the Section for identification. The finds consisted of: 1 small upright rim of a coarse jar, fabric tempered with crushed burnt flint, 'cable' decoration on top of rim. Probably Late Bronze Age c.800 BC; 2 fragments of Late Iron Age or Early Roman pottery. 1st century BC, or 1st century AD; 1 fragment of Roman tile; 1 burnt flint; 2 fragments? Briquetage; 1 large cattle (or possibly horse) bone and some other bone fragments.

The range of material present is essentially similar to earlier finds from the foreshore in this area. The Late Bronze Age rim sherd is of particular interest, as this is the first fragment of prehistoric pottery recovered from the site, although a range of flintwork has previously been recorded.

Finds: in private possession

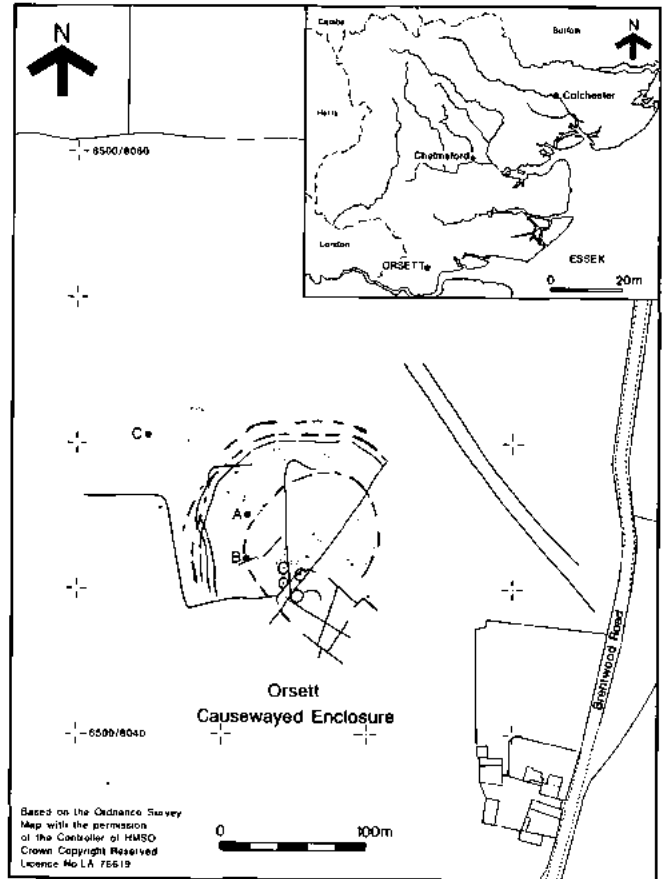


Fig. 3 Plan of Orsett Causewayed Enclosure.

Beaumont cum Moze, Beaumont Hall
(PRN 3077)

Alison Bennett

Field examination prior to a tree planting scheme in an area which had previously produced a few sherds of Roman pottery revealed a scatter of pottery on the soil surface. The pottery consisted of: 3 sherds of prehistoric pottery (identified by Nigel Brown); Roman sandy grey ware, fine grey ware, grog-tempered ware and oxidised wares (identified by Kathy Horsley); a possible 10th- to 13th-century early medieval ware sherd, a 13th- to 14th-century jug rim of sandy orange ware possibly made at Harlow, 16th- to 17th-century German stoneware, 16th- to 19th-century red earthenware, and Victorian earthenware (identified by Helen Walker).

Finds: in private possession

Belchamp St. Paul (PRN 13938-13941)
Colin Wallace

Through the agency of the Haverhill and District Archaeological Group, some 270 sherds of Roman pottery from surface collection in an area somewhat to the north of previously-recorded surface scatters of

Roman pottery (PRN 7045 and 6983: Hull 1963, 47) were kindly lent to the Field Archaeology Group for recording by their finder, Mr Andy Allen.

Where datable, the Roman pottery had a date-range spanning most of the Roman period (first through fourth centuries AD). The fabrics present were: samian; colour-coats consisting of Nene Valley, and other colour-coat; oxidised wares; white/buff wares consisting of Oxfordshire white ware, and Colchester buff ware; grey wares consisting of sandy grey wares, and fine grey wares; other fabrics consisting of storage jar fabrics, late shell-tempered ware, grog-tempered and romanising wares, and ?prehistoric flint-tempered.

Finds: in private possession

Castle Hedingham, near Crouch Green (PRN 6888)

Colin Wallace

Inadvertently missed from the account of finds from this area in 1991 (Bennett (ed.) 1992, 92):

The three-nozzled lamp did not come from the same site as the other Roman finds, but rather from a short distance away to the south-east. Its fabric was sandy and orange (between Munsell 5YR 7/6 and 7/8) with a grey core.

Sturmer (PRN 13934-7)

Colin Wallace

Through the good offices of Mr Brian Charge of the Haverhill and District Archaeological Group, some 420 sherds of Roman pottery from surface collection in three areas were kindly lent to the Field Archaeology Group for recording by their finder, Mr Andy Allen. Their locations lie across the river Stour from the known Roman small-town site of Wixoe, Suffolk (Moore *et al.* 1988, 41).

Where datable, the bulk of the Roman pottery has a Late Roman (third/fourth centuries) date-range. This applies to the material from all locations. The fabrics present were: samian; colour-coats consisting of Nene Valley, ?Colchester colour-coat, and other colour-coat; oxidised wares (inc. possible amphora-fabric); white/buff wares consisting of Oxfordshire white ware, and misc. buff wares; grey wares consisting of sandy grey wares, and fine grey wares; other fabrics consisting of storage jar fabrics, late shell-tempered ware, ?Horningssea grey ware, Black-burnished 1, grog-tempered ware, and ?prehistoric flint-tempered.

Finds: in private possession

Epping, 4 Station Road (PRN 3826)

Louise Austin

A watching brief was carried out on an extension to the rear of the property which lies between High Street

and Hemnall Street in the centre of the planned medieval town. Documentary evidence has shown that a charter was granted to the canons of Waltham Abbey to clear timber for use in the construction of stalls and houses. From the mid 12th century, the canons began clearing Epping Heath thus extending their estate. The town was deliberately planted to capitalise on trade along the Cambridge to London route.

Medieval remains were therefore expected to have been located within the centre of the town and the intention of the watching brief was to identify any medieval surviving remains.

Two foundation trenches had been excavated. The first aligned NE-SW c.2.5m long, c.0.5m wide and c.0.8m deep. Two deposits were visible; a mixed topsoil with frequent fragments of 19th- to 20th-century brick and occasional pottery sherds. Towards the south-west of the trench this upper deposit is c.0.3m below ground level overlying a yellow/grey clay subsoil. In the north-east the depth of disturbance reaches 0.6m below ground level. The second trench was c.0.8m by 0.5m and c.0.7m deep and showed the same deposits.

No archaeological deposits were visible in either trench. Any medieval deposits appear to have been removed by 19th- and 20th-century activity in the immediate area of the site.

High Ongar, Parish Church of St Mary the Virgin (PRN 4279-80)

Louise Austin

The church is believed to have been constructed in the mid-12th century with a rebuild of the chancel in the mid 13th century. A watching brief was undertaken on groundworks to improve drainage away from the church.

A trench was hand-dug against the outside wall of the church c.0.6m wide and 0.5m deep which ran around the entire outer wall except for the south porch. The foundations of the wall of the chancel and the nave were revealed and showed no obvious break or change in foundation construction along the north or south walls. These foundations were constructed of the same materials as the walls: flint rubble, occasional limestone and clunch with an orange sandy mortar. Along the east wall the foundations differ with the wall being slightly offset (c.0.03m to the west) from the foundations. These foundations are also of a flint rubble with occasional limestone and clunch. Part of the west wall of the church has been underpinned with concrete in the more recent past.

A red brick culvert was revealed running along most of the south side of the nave and chancel, the bricks laid side to side and with three square brick-built down pipe connections along its length. A further length of brick-built culvert was revealed along the east side.

A dressed and chamfered block consisting of four pieces of stone was constructed into the foundations of the south side of the church. This block stood c.0.2m proud from the line of the wall, and may represent the base of a medieval tomb which became incorporated into the church during the 13th-century rebuild of the chancel.

A brick and stone vault was revealed on the north side of the church. Three constructions of vaulting were visible, the first two having been demolished but the third construction of brick remaining intact.

In the north-east corner of the trench, lying directly to the north of the east wall, a short length of wall was observed. This was constructed from flint rubble with occasional clunch and some peg tile fragments in its upper course. The wall appears to run north-south and is c.1m wide. Its east side lies c.0.3m further east than the east wall of the church. It appears to have a similar orangey mortar to the church foundations and is likely to date to the late medieval period. Its southern end was cut through at some time, possibly during construction or alteration to the church.

A drainage trench cut from the west end of the church to the southern boundary of the churchyard revealed a possible medieval boundary ditch. This was c.1.5m wide running approximately east-west c.2m to the north of the present southern boundary wall of the churchyard. The ditch fill was dark grey/brown and contained fragments of glazed floor tile, pottery sherds and oyster shell. The line of the ditch probably runs along the southern side of the trees lining the church-yard.

Inside the church, plaster was stripped from the interior of the chancel and nave walls. No change in build between the two was clearly visible, though the character of the masonry of the chancel was different, with more tightly packed, less obviously coursed stones. The removal of an electric heater from the south nave wall revealed a tiny fragment of a 12th-century decorative scheme consisting of thin horizontal and vertical parallel red lines. A photograph in the church records the discovery of more of this decoration in 1966 when the squire's pew was removed.

Ingatstone, Church of St Edmund and St Mary (PRN 5372-5375)

D.D. Andrews

At the beginning of 1993, the plaster on the lower half of the internal face of the north wall of the nave was stripped off because of damp problems and the wall left for several months to dry out.

Externally, the wall is a very good example of late 11th- or 12th-century masonry with large blocks of ironstone conglomerate laid to courses and Roman brick used as packing. It seems of one build. Internally, the picture is much the same, though the blocks seem smaller and the masonry is less well defined, being unweathered. There is a very clear horizontal break in

the masonry at a height of 850-900mm, with a row of blocked putlog holes beneath it. Below this, the mortar is orangey and sandy; above, it is a pale grey brown. Despite this difference, it is probable that this line represents a lift rather than a distinct building phase.

The scar of the former west wall (before the insertion of the tower arch) is visible. The line of this is also apparent as a slight projection at the top of the north wall. It is unusually wide, measuring 1.45m. A comparable scar marking the former junction of nave and chancel ought to be visible but it is not, however, obvious. There is a rougher area of the wall surface about 800mm wide but the pulpit rather obscures this part of the wall. A patch formed in pegtile on the east side of the north door probably marked the position of a stoop.

Waltham Abbey, Countryside Centre (PRN 0069-0070)

Louise Austin and Richard Havis

Waltham Abbey is located on the site of a pre-conquest church which was refounded and rebuilt during the reign of Henry II. The main construction of the medieval monastic site took place in the latter part of the twelfth century. Saxo-Norman occupation within the area of the Abbey precinct has been revealed by excavation and includes settlement evidence dating from the ninth to twelfth century.

A watching brief was undertaken on the foundation trenches dug for the construction of an extension to the south-east corner of the Countryside Centre (also known as Abbey Farm).

The extension is located within the Scheduled Ancient Monument of Waltham Abbey, in an area known to have been within the precinct of the Abbey. The foundations were designed to cause minimum disturbance to any archaeological deposits which survive within the area of the extension. Six trenches c.0.8m square were excavated by hand. At the time of recording five of these had been excavated to a depth of c.1.5m below ground level onto a light orange/brown, clay natural, while the sixth had been dug to a depth of c.2.9m below ground level onto coarse gravel.

The stratigraphy in five of the six trenches was very similar, the lower part of which comprised thick bands of silt and loam (contexts 5-7, 10-11). The lower of these bands appeared to be the result of natural deposition processes, while the upper was more mixed and contained intermixed gravel and occasional tile fragments and oyster shells. Above these was a thinner layer of compact gravel, which appeared in all of the excavated trenches, and may have been a gravelled surface relating to the Farmhouse. Above the gravel layer was an upper mixed loam with overlying topsoil.

The only datable material (11th- to 13th-century pottery) recovered from the site came from the most north-eastern trench (trench 5) which was unfortunately too unsafe to accurately record. The excavator

of the trench recovered sherds of pottery and some fragmentary pieces of animal bone from between c.1.5m and c.2.5m below the ground surface. It is likely that this trench cut through a large medieval pit which had been cut through the natural clay into gravel. This has then been infilled possibly with cess and household waste.

The pottery was identified by Helen Walker and consisted of: 1 sherd of a Roman Storage Jar; 1 sherd of handmade, sand-tempered fabric with traces of red slip under a pitted plain lead glaze, possibly a tripod pitcher, fabric not unlike that found at Stansted (Fabric 13gl.), of 12th-early 13th century; 1 sherd of everted cooking pot rim, sand-with-superficial-shell tempering (Fabric 12C), of 12th-early 13th century; 1 sherd shell tempered ware (Fabric 12A) of 11th-early 13th century; 2 shoulder sherds of storage jar or large cooking pot, horizontal thumbled, applied strip, grey fabric with coarse white sand tempering, could be Heddingham Coarse Ware (Fabric 20D), probably not Thetford Ware, of 12th-13th century.

Bardfield Saling, Church of St Peter and

St Paul (PRN 1209-1211)

D.D. Andrews

Observations after partial removal of the panelling against the north wall of nave for electrical works revealed that the bottom of the easternmost window aperture had been blocked. Originally it came down lower and formed a seat or sedile like the easternmost window in the south aisle. The infill consisted of mortared brick, possibly dating from c.1700 and unlikely to be later than c.1750, which had been plastered over. A hole made in the initial blocking was filled with loose rubble dated by the presence of a fragment of 18th/19th century brick. This later fill included several partially slipped medieval floor tiles of the same type extensively used in the church (Drury 1976), a fragmentary floor tile with crude slip decoration, a piece of window mullion in oolitic limestone, and several fragments of replacement mullions made up of plastered pegtile. The raised window cill was originally flat, but was later altered so that it sloped downwards. A series of vertical holes was found drilled in the medieval stone cill, but no traces of any fixing were visible. There were also a number of graffiti on the stonework of the window embrasure. They included an inscription probably of 17th-century date, and what is probably some sort of game.

The presence of the window seat implies the existence of an altar at the north-east end of the nave.

Blown plaster was removed from the east end of the north wall to check for the presence of a piscina, but nothing was found. Similarly, the removal of plaster east of the pulpit failed to reveal evidence for a door to stairs for the rood.

The sleeper walls supporting the wooden platform under the 17th-century pulpit were made of bricks similar in date to those of the window blocking. The void under the platform contained layers including, at a level 9 inches below the existing suspended floor, a lime mortar bedding which bore impressions that seemed to match the medieval floor tiles. It seems reasonable to conclude that this bedding is that of the medieval floor, and that the floor tiles themselves were removed from this part of the nave before the sleeper walls were constructed. Under this bedding was gravel which could be natural or a preparation for the medieval floor.

Fragments of three similar medieval heraldic tiles were found in the blocking of the base of the window. From them a reconstruction has been made of the design (Fig. 4). The tiles are rather large being 155mm square by 30mm thick. The fabric is a dark somewhat orangey red, reduced in section, with a distinctive laminated fracture with tabular voids, suggesting that the clay had not been very well prepared by the maker. The slipped areas are recessed, indicating that they had probably been made by the stamp-on-slip method. The coat of arms comprises two chevrons within a border engrailed for Tyrell.

Chigwell, Epping Forest Country Club (PRN 13942)

Louise Austin

Inspection of machine dug foundation trenches c.1.5m deep and c.0.6m wide showed them to be partially shored and wet with standing water in the base of the trenches.

The top soil contained ash, brick and tile fragments c.0.3m deep and most likely relates to construction/demolition of a building on the site demolished prior to present development. The sub-soil was orange clay (London Clay).

A linear feature, possibly a boundary ditch, running south-west to north-east, c.20m in length, was noticed in 4 of the foundation trenches. In the north-east the profile measured c.2.5m wide and c.1.3m deep while in the south-west it was 1.5m wide and c.0.7m deep. Access into the trench was not possible so features were not investigated further. No datable material was recovered although red brick and tile fragments were visible. No separate fills were distinguishable within each section although the nature of the cut and the colour of the fill did vary. At the north-east end the fill appeared dark grey/brown while in the south-west it was mid brown.

A pit or ditch was visible in the northern section of the longest north-east to south-west trench containing 19th-/20th-century pot sherds. This may represent a post-medieval rubbish pit.

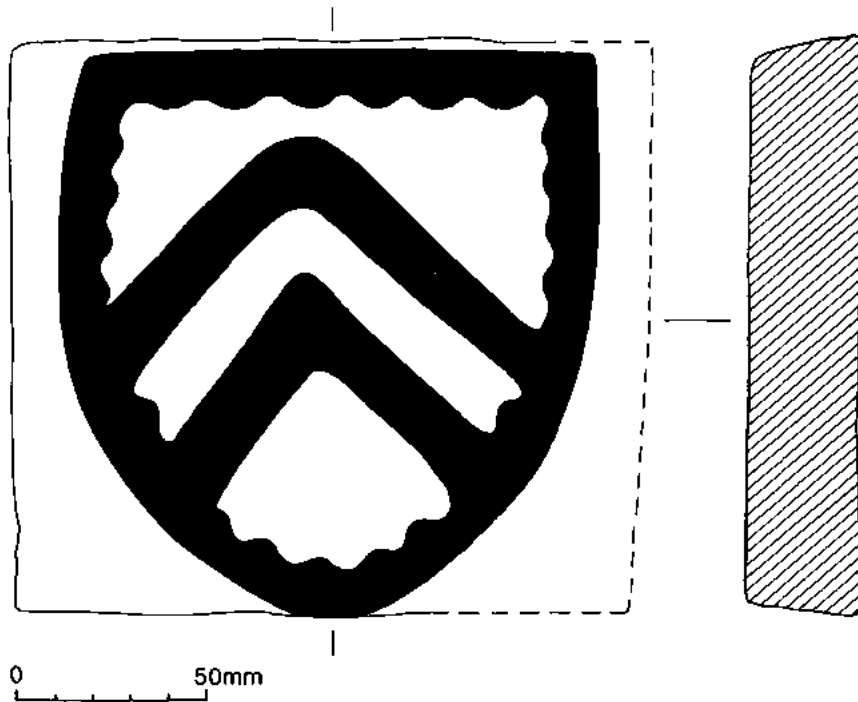


Fig. 4 Medieval floor tile from Bardfield Saling church.

Great Chesterford, The Old Bakery, Carmen Street (PRN 13944)

Richard Havis

A watching brief was undertaken on the construction of an extension to the rear of the above address. The construction technique consisted of a series of foundation trenches approximately 1.2m deep excavated by machine. The watching brief had been placed on the development as it lay within the Roman town and medieval village of Great Chesterford. Careful examination of the construction trenches revealed a single post-medieval feature. The remainder of the construction trenches were cut into orange/brown sandy natural.

Horndon on the Hill, Mayfield Cottage, High Road (PRN 13943)

Louise Austin

A watching brief was undertaken on the foundation trenches of an extension at the east end of Mayfield Cottage which lies on the east side of the High Road. The trenches were 2m deep and 0.7m wide. The cottage dates to the late 19th century although it is believed to be on the site of an earlier building. The majority of the groundworks revealed an orange clay subsoil with overlying make-up to a depth of c.0.6m.

In the north-east corner of trenches a feature was visible where the trench had cut through it. This comprised a large pit-like cut which contained three fills. The visible part measured 1.7m north-south and

0.8m east-west. The lowest fill was a mucky dark grey silty clay fill which continued below the base of the trench. Within this were occasional large pieces of peg tile, pottery sherds, butchered bone of sheep and cattle as well as fragments of mortar and pebbles. The middle fill was a grey clay with numerous large peg-tile and wood fragments, including pieces of timber which appeared to be part of a revetting or lining. The upper fill included redeposited natural clay with a very few inclusions.

The pottery from the lower fill included: one sherd of a Metropolitan slipware dish rim of the early 17th-18th century; three sherds from a black glazed chamber pot with a horizontal flanged rim of the 18th century; and four body sherds of miscellaneous post-medieval red earthenware. These suggest a possible date of deposit in the first half of the 18th century.

Kirby-le-Soken, Norton's Farm Barn (PRN 3251)

Steve Wallis

A watching brief was carried out on a barn conversion and construction work of a new stable block because of a report from 1930 that Roman tile had been used in the construction of one of the buildings on site.

When the site was visited the stable block foundations had been excavated and filled with concrete. A number of red bricks were seen in the spoil from this work, and also scattered on other parts of the site.

According to the developer, these had once been used in an earlier repair of the other buildings on the site. Three of these that looked most likely to be Roman were collected.

The three bricks were shown to H. Major for identification. She immediately identified one as post-medieval, and one as medieval or post-medieval. However, the third was initially considered as probably Roman. Only detailed inspection of the fabric and surface showed this brick was also probably post-medieval.

In view of the above, I believe that the 1930 report of Roman tile should be considered with caution — perhaps the post-medieval bricks were wrongly identified.

Saffron Walden, Myddleton House (PRN 13945)

Richard Havis

A watching brief was undertaken on the construction of a single house to the rear of Myddleton House, Myddleton Place, within the medieval town area.

The foundation trenches were machine excavated down to a depth which cut the natural sub-soil. All trenches for the buildings were examined with only a single feature being visible. The top-soil was approximately 0.25m in depth. A single pit was visible containing a dark grey fill with occasional fragments of post-medieval pottery.

Saffron Walden, 53 High Street (PRN 13946) Richard Havis

A detailed watching brief was carried out on the construction of three houses and associated garages by Wood Hall Estates.

The site had been levelled and a large part of the site had previously been levelled to construct a tennis court. The top-soil on the Abbey Road frontage was some 0.20m in depth, whilst at the rear of the property a stratigraphical sequence 1.25m in depth was visible. This depth of material is partially due to the dumping of material from the construction of the tennis court, but there is also a natural slope. The development area had been cleared of all material down to a level sub-soil.

The main area of archaeological interest was at the eastern end to the rear of the development area. A section had been cut by the developers through all of the deposits, so as to level the area. A stratified sequence, 1.25m in depth, was visible. Several layers of post-medieval deposits were visible overlying the remains of a mortared foundation. The foundation contained very loose lime mortar with a mixture of flint and brick. This foundation ran at an angle, approximately north west from the section. This clearly represents the base to a wall, although what it relates to is unknown.

During the machine excavation of the house foundations in the south-eastern corner of the development a single pit was located. This pit contained a dark fill which produced no finds. No other features were visible in the area.

This development was situated within the medieval town area. One wall and a separate foundation were visible in a vertical section, seen after the development area had been levelled. Both the wall and the foundation contained seventeenth-century bricks. No evidence of medieval occupation was found.

Wormingford, St Andrew's Church (PRN 9216-9218)

Steve Wallis

The site was visited following a report from the vicar that human bone had been found during re-flooring work in the north aisle. The work had an archaeological watching brief condition.

The floor that was being removed from the north aisle was made of frogged brick, and was said to have been laid earlier this century. Similar bricks had been added to the lower inner face of the aisle wall.

The human bones had been collected by the builders. They consisted of a damaged skull, long bones, ribs and pieces of pelvis. No vertebrae or small bones were present. The place where they had been recovered was indicated by the builders. It was adjacent to the north wall of the aisle, 3.5m west of the north-east corner. Trowelling of this area revealed a further long bone, also a broken flint blade and an iron nail. The soil was a dark grey brown sandy silt with small angular flints. In view of the apparent absence of smaller bones and the heavy disturbance caused by the earlier re-flooring, I consider the bones probably belonged to a burial disturbed during the re-flooring, and then dumped to one side.

Removal of the frogged brick floor was to continue that day, so a second visit was made in the late afternoon. Further bones had been found by the builders, scattered through the soil beneath the floor. They had again been kept, and included a jawbone and several vertebrae. Again, I believe these belong to burials within the church that had already been disturbed by the earlier re-flooring. The bones were left for re-burial.

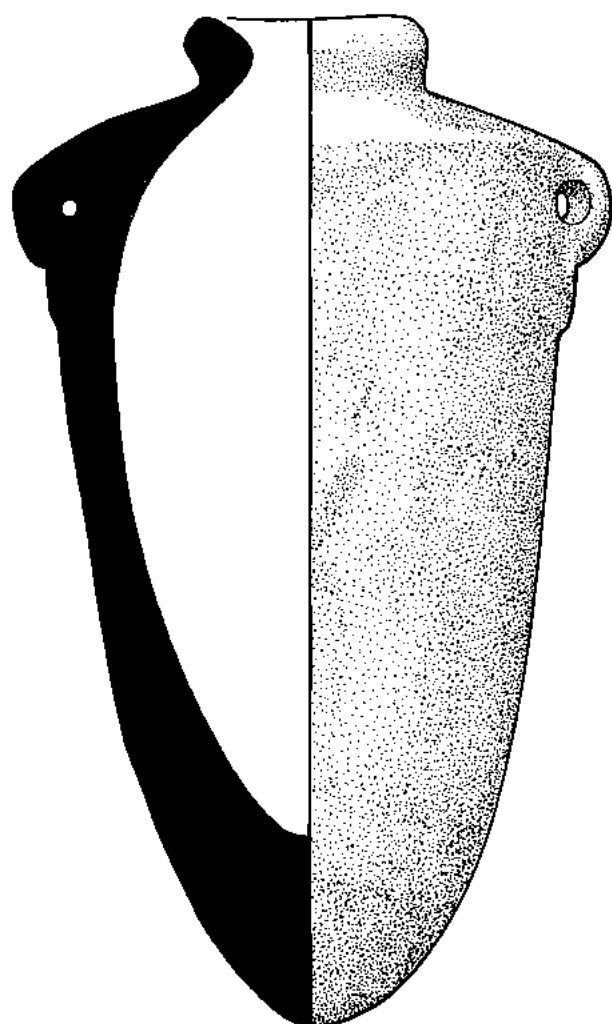
Langford (PRN 8935) Steve Wallis

A stone vessel (Fig. 5) was lent to the E.C.C. Archaeology Section by Mrs. Pipe of Langford. It was found in a sandpit at Langford 20 to 30 years ago by Mrs Pipe's sister, who is now Mrs Jill Gothard. The vessel is 158mm high.

An expert in the Egyptian Section of the British Museum gave an opinion, without wishing to be formally quoted. My notes on this are as follows:-

The vessel is made of calcite, but not the type used in Ancient Egypt. Its form is similar to Egyptian storage vessels of c. 3000BC, but these were *much* larger. Also, the storage vessels have a gradually curving shoulder, not sharp like the Langford vessel. The Langford vessel's neck also does not match those of the Egyptian vessels, though the upper part of the neck appears to have been broken off.

The expert agreed the vessel was probably made for the tourist market, though it is not machine-made like many of the most recent examples. However, copies of Egyptian artefacts have been made for the past 100 years. If he had to give a date, he considered the range 1890 to 1930 most likely.



0 50mm

Fig. 5 Stone vessel from Langford.

Aerial Survey 1993

Steve Wallis

Intertidal zone

The 1993 programme aimed to build on the results of the 1992 aerial survey of the intertidal zone (Wallis 1993). This had shown that timber structures were most likely to survive in and around the Blackwater estuary, where less disturbance by dredging and other activity had occurred than in other parts of the Essex coast.

Early morning flights on March 10th and 11th took advantage of some of the lowest tides of the century to search for new sites and to photograph others that had been reported by local residents. New sites were a fish-trap complex off Pewet Island, near Bradwell Waterside (PRN 9972), a double line of posts off Colne Point (PRN 9975), and several lines of posts off Mersea Island (PRN 9970). Reported sites that were photographed from the air for the first time were the fish-trap complex on the Nass (PRN 9974), and a single fish-trap off West Mersea (PRN 9973).

Following his participation in the March 10th flight, Mr. Kevin Bruce made a ground visit to the Pewet Island complex the next day. He took a large number of record photographs (e.g. Plate I). This complex was only partly exposed despite the very low tide, and at other times has remained entirely covered, making these photographs particularly useful.

Cropmark Reconnaissance

Four flights were made over north-west and north-east Essex from late June to mid-July. Relatively wet weather in comparison with most recent years meant cropmarks were less distinct. However, twenty-four new cropmark sites were found, together with new features of several others. This was partly because flight routes targeted areas where geological conditions were favourable to cropmark formation, but where few cropmarks had been recorded. For instance, three sites were found in map square TM22SW (west of Walton-on-the-Naze), where previously the Essex Sites and Monuments Record had no recorded cropmark sites.

Plate II shows one of the new sites — cropmarks including an interrupted ring ditch near Boxted (PRN 8927).

Two other flights, one in April to monitor the ripening rape, the other in August to look for soilmarks following ploughing, had few results.

National Mapping Project 1993

Caroline Ingle and David Strachan

Work is currently in progress on an Essex Mapping Project as part of the Royal Commission on the Historical Monuments of England's National Mapping Programme (NMP). This long term project has an essentially simple aim, to map all archaeological



Plate I Part of the Pewet Island fish trap complex. Bradwell power station at right. (Photo. K. Bruce.)

features visible on aerial photographs in the form of cropmarks, earthworks, soilmarks and stoneworks, including features from the earliest prehistoric to the 1945, including industrial and military remains. A considerable proportion of archaeological sites in the county have been newly discovered by aerial photography, a high proportion of these visible as cropmark sites. Other features recognised during the course of the project will be either mapped and/or recorded for the Sites and Monuments Record (SMR) as appropriate, including timber structures similar to those recorded in the Blackwater Estuary during recent aerial survey (Wallis 1993) and wrecks. Extant roofed buildings of archaeological interest do not fall within the remit of the mapping project but will be noted for addition to the SMR. The NMP projects carried out by the RCHME in other parts of the country have recognised a significant number of previously unrecorded sites and it is anticipated that this will also be the case for Essex.

The first stage of the project was an assessment of the photographic resources (both oblique and vertical) for the county which would need to be consulted for

the mapping. These included photographs taken as part of the Archaeology Section's own programme of aerial survey, those in the National Library of Air Photographs (RCHME), the Cambridge University Collection of Air Photographs, and collections of a number of local fliers. Many of the oblique photographs will have been taken for recording archaeological features, but many of the verticals were taken for other purposes, *e.g.* by commercial companies, and will include many taken by the RAF during and shortly after World War II.

An assessment of the main sources of photography produced a total in excess of 140,000 although it is not proposed to examine all of the vertical photographs. It is anticipated that the RAF photographs from the 1940s and early 1950s will be particularly valuable for recording sites that have been destroyed by subsequent development.

The transcription and recording methods used will be those developed by the RCHME for the National Mapping Programme. The two main components of the record are a graphical record, comprising a film overlay at a scale of 1:10,000 and a computerised



Plate II Cropmarks near Boxted. (Photo. P. Rogers.)

database, MORPH, developed for the programme by the RCHME. Features will be plotted to a level of accuracy of 5-15m, using a standard set of conventions established by the RCHME for the National Mapping Programme. The majority of the plotting will be carried out using manual techniques although computer rectification may be used to establish accurate plots of the main features for more complex sites with additional detail added manually. For the purposes of the mapping the county has been divided into 5 broad landscape zones which have been further subdivided to give 20 mapping blocks, each containing between 8 and 11 1:10,000 quarter sheets. The new plots will replace and update the existing SMR cropmark plot which is at a scale of 1:10,560.

On completion of transcription of each sheet the mapped features are then entered onto the MORPH database, which records primarily a range of locational and morphological information about individual mapped features. The information will enable comparison and classification of sites and features according to "*empirically observed physical and spatial attributes*", i.e. their form, size, and geographical setting,

rather than a subjective interpretation of their function (Edis *et al.* 1989). The database allows for a possible date and interpretation to be given but with an estimate of the validity of this interpretation, high in the case of sites with supplementary information from excavation or survey, lower if features are known from cropmarks only. Records can be revised and updated as more information is acquired from further aerial reconnaissance, field or documentary investigation.

The first mapping block comprising 8 sheets in the central part of the county around Chelmsford have been completed and work is progressing on the next block to the north. 114 new sites have been added to the SMR as a result and 1694 records entered onto the MORPH database. A single site on the SMR (*e.g.* a barrow cemetery) will equate to several records in MORPH where individual component features (such as each barrow in the example of a cemetery) are entered and described separately.

A significant number of the new sites are of ring ditches, many thought to be ploughed-out barrows. These include one example near Great Leighs, most of which is visible in an arable field as a cropmark but



Fig. 6 A - A possible windmill site at Terling; B - A ring ditch and other features at Springfield; C - Cropmark complex at Langford.

which also survives in part as an earthwork in the adjacent field boundary. Field investigation showed that within the hedged boundary the arc of the ditch has been incorporated into the field ditch, although no surface finds were recovered from the area of the feature to indicate any date. A significant number of the cropmarks being newly recorded for the SMR are former field boundaries which are depicted on the Ordnance Survey 1st Edition sheets of the late 19th century but which in many cases have been removed since the Second World War. These include stretches which formed part of parish boundaries and which may therefore represent part of the field patterns established by or during the medieval period. Other presumed field boundaries have a different alignment and probably belong to earlier periods of settlement.

Chelmsford: A number of military sites and features dating to the Second World War have been recorded around Chelmsford. Analysis of the RAF photographs taken between 1945 and the early 1960s show these features and, for most sites, their gradual disappearance from the landscape. These include several stretches of the anti-tank ditch (PRN 8893) dug around the east side of Chelmsford and a number of anti-aircraft batteries built as part of the GHQ line which ran through central Essex. The history of construction, and subsequent history of Boreham airfield (PRN 8943) can be seen from these photographs, including the reappearance of cropmarks of underlying archaeological features when the areas between the runways were returned to agricultural use after the war.

Springfield: (PRN 8897): A ring ditch, c. 15m in diameter possibly the remains of a round barrow, pits and linear features including part of a rectilinear enclosure. Although not previously recorded the site appears on both RAF photographs from 1949 (Fig. 6B).

Little Baddow: (PRN 8895) A ring ditch, c. 10m in diameter, set concentrically within an incomplete circular enclosure (approximately 15m in diameter) in

the valley of the River Chelmer. There are a number of poorly defined internal features. Its function is unclear although the internal complete ring ditch is comparable with others in the county interpreted as the remains of bronze age round barrows.

Terling: (PRN 8968) A large circular enclosure, c. 28 m in diameter, with a wide ditch up to c. 7m across. It was originally thought that this might be a prehistoric hengi-form monument, given its similarity to that at Lawford and other undated cropmark sites at, e.g. Boxted, Fobbing and Great Bentley (Priddy and Buckley 1987; 50-53). Although the form of the cropmark is also comparable to the ditch around windmill mounds, no windmill is recorded in this location on either the early Ordnance Survey sheets or the Chapman and Andre map of 1777. However, Farries (1981) notes the name "Wind Mill Field" and refers to an estate sale of February 1698, which records "one watermill and one windmill both lately new built or repaired". This circular cropmark, the northern part of which is masked by geomorphology, therefore most likely represents the surviving remains of this windmill for which there is no post-1700 cartographic record (Fig. 6A).

For other sites, the project is adding new detail to known sites, in some cases allowing reinterpretation of these. One example is a cropmark complex at Langford, near Maldon (PRN 7872), which includes a square double ditched feature believed to be a Romano-Celtic temple. The rectilinear cropmarks to the east were described on the SMR as an extensive farmstead site, rectilinear field system with small regular enclosures and paddocks. Analysis of recent photographs from NLAP has shown the full extent of a pit (post-hole) defined enclosure and revealed another, smaller pit defined rectangular structure (Fig. 6C). It is now suggested that the site is a Roman villa estate as it is similar to the Roman villa and settlement complex at Cromwell, Notts (Whimster 1989, 78-9).

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Archaeology in Essex, 1993

edited by P.J. Gilman

This annual report, prepared at the request of the Advisory Committee for Archaeology in Essex, comprises summaries of archaeological fieldwork carried out during the year. The longevity of many projects often results in a lengthy post-excavation and publication process. The publication of these summaries therefore provides a useful guide to current archaeological research, and the opportunity to take an overview of significant advances. This year 57 projects were reported to the County Archaeological Section (Fig. 1).

Sites are listed by category of work and alphabetically by parish; the directors of excavations, organisations involved and information regarding the location of finds and places of final report are listed, where known. Projects continuing from previous years are indicated by reference to previous summaries in the relevant 'Excavations in Essex 19 '.

Contributors are once more warmly thanked for providing information. The illustrations are by: Roger Massey-Ryan (Fig. 1), M. Atkinson (Fig. 2), Nick Nethercoat (Fig. 3), and R.C.H.M.E. (Fig. 4.)

The original reports have been added to the County Sites and Monuments Record held by the Archaeology Section at the Essex County Council, Planning Department, County Hall, Chelmsford CM1 1LF. For details of sites in the London Boroughs, contact the Passmore Edwards Museum, 31 Stock Street, Plaistow, Stratford, London E13 0BX.

Progress in Essex Archaeology 1993

Introduction

The number of summaries (57) is rather less than the previous year (68), doubtless a reflection of the continued economic recession. Nevertheless, there continues to be a high level of threat to the archaeology of the county, especially as a result of road schemes, such as the M11 (16), and large residential developments as at Heybridge (31). These summaries in particular highlight the multi-disciplinary approach which is now regularly employed in the evaluation and investigation of such large-scale projects. Continuing the trend from previous years, there has been a steady increase in the number of projects which have been subject to competitive tendering, although almost all tenders were awarded to established local units.

1993 saw a reduction in the number of evaluations vis-a-vis excavations, probably as a result of evaluations carried out in 1992 leading to rescue excavation in 1993. Nevertheless, many evaluations are still being

carried out and there is a growing need for an examination of the results of these exercises and the effectiveness of the various techniques which are being employed. The article in this volume on fieldwalking carried out in Essex is therefore a welcome step in this direction.

As with previous years there are relatively few summaries of projects by amateur organisations. As opportunities for excavation become more limited, there is little sign as yet that such organisations are exploring alternative types of fieldwork, such as fieldwalking.

Prehistoric

One of the most notable discoveries during 1993 was that of the stratified Palaeolithic finds and deposits at Purfleet (18), which are to be preserved through the planning process. Interesting Palaeolithic finds were also recovered from Bures Hamlet (45).

Apart from a few Neolithic features at Heybridge (14), prehistoric discoveries mainly concern the Bronze and Iron Ages, notably at Upminster (43) and Springfield (39). The latter is particularly useful, providing further evidence of the importance of the Chelmer valley in the Late Bronze Age. Iron Age settlements were investigated at Great Dunmow (30), Little Waltham (15) and Wendens Ambo (16). The excavation of the red hill at Canvey Island (23) may add to knowledge of this still relatively ill-understood class of monument.

Roman

The most important development for Roman studies in the county is undoubtedly the commencement of the very large investigation of the Roman 'small town' at Heybridge (31). This promises to lead to significant advances in our knowledge of the layout and function of such sites, as well as allowing the examination of change and continuity in both the preceding and succeeding periods. It is also interesting that other proposed developments have allowed the investigation of other sites in the Heybridge area (13, 14). Rural sites were also well to the fore, with interesting results from Boreham (6, 22), and further definition of the villa at Wendens Ambo (16).

Saxon

As usual, there are very few summaries for sites of this period, but they include the evaluation of the important Late Saxon cemetery at Wicken Bonhunt (16), as well as Early Saxon settlement evidence from Heybridge (31).

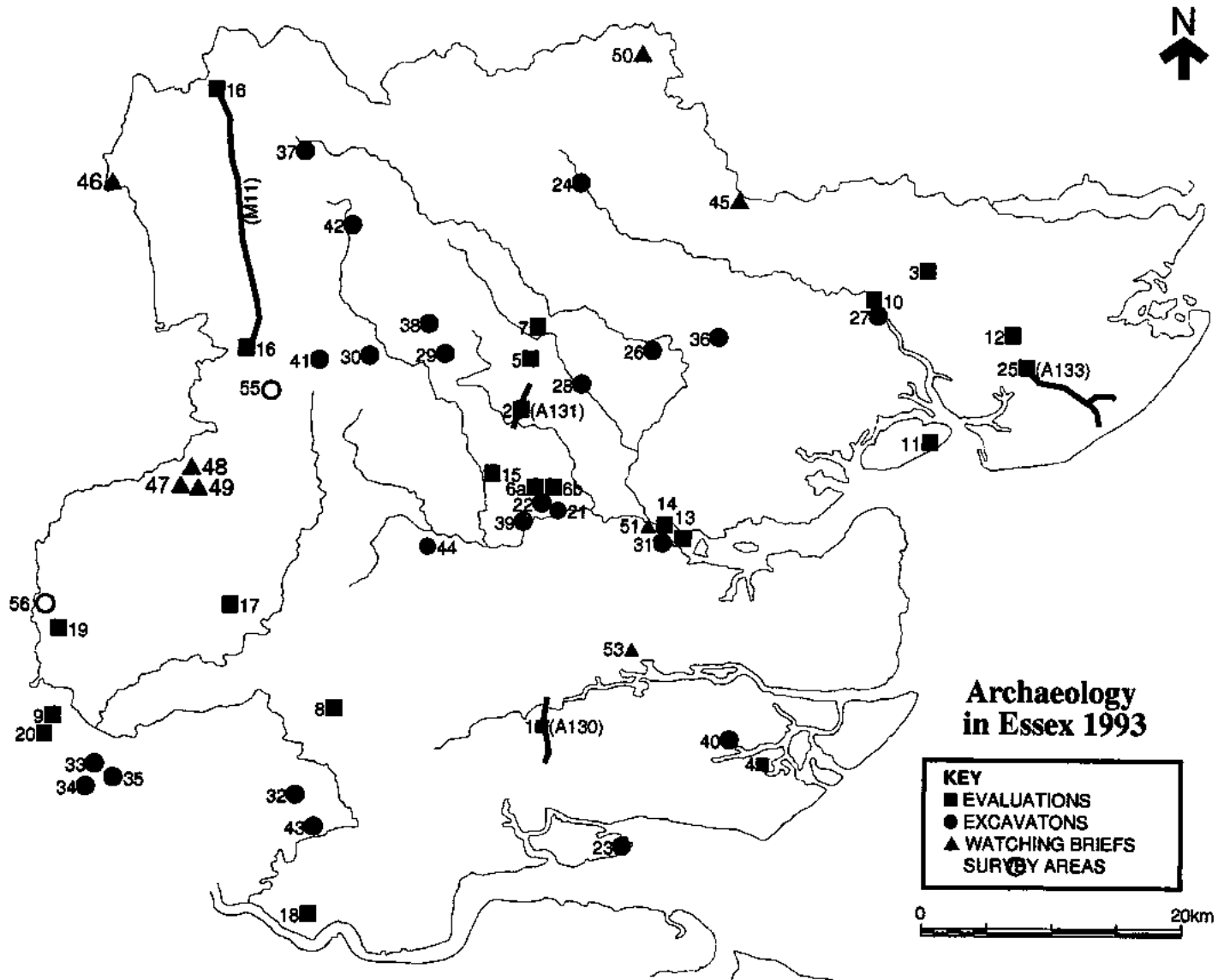


Fig. 1 Locations of archaeological projects in Essex 1993.

Medieval

For the medieval period, most of the activity concerned rural settlement with the investigation of a relatively low status site at Felsted (29) and the rare opportunity to excavate a large area of a moated site at Gutteridge Hall, Weeley in advance of a new by-pass (25). Interesting results were also provided by work at Boreham (21), Springfield (39) and Leyton (33). Although there was relatively little work on churches and religious houses, interesting evidence was obtained from small-scale projects at Stebbing (38) and Waltham Holy Cross (19). Little work was carried out in the county's medieval towns, the exceptions being Colchester (10) and Maldon (51).

Post-medieval

The new R.C.H.M.E. office at Cambridge is a very useful addition to the region and has already carried out an interesting project in Essex, the survey of the rabbit warren and other earthworks at Hatfield Broad Oak (55). The survey of the Royal Ordnance site at Waltham Holy Cross (56) is one of the most exciting projects ever carried out on the county's post-medieval industrial archaeology. This has provided a rare glimpse into the processes and remains associated with the manufacture of gunpowder and other explosives. A new development in the archaeology of the more recent past is represented by the pilot surveys of World War II defences (57). These have proved very valuable

by revealing how many sites survive and how many have already been lost since 1945. It is to be hoped that funds will be found to ensure that this work will continue.

Evaluations

1. A130 By-pass, Stage II

J. Ecclestone, E.C.C.

Fieldwalking of part of the proposed route of stage II of this by-pass, from Rettendon to Benfleet, located three probable sites: two prehistoric sites, at TQ 773 901 and TQ 772 938 respectively, and a Saxon site at TQ 774 904. A concentration of burnt flint was found at TQ 775 907.

Previous Summaries: Gilman (ed.) 1992, 100.

Finds: E.C.C.; to go to S.M.

2. A131 Great Leighs By-pass

J. Ecclestone, E.C.C.

Archaeological assessment of this proposed new road included the examination of aerial photographs, and mapping of cropmarks. At the southern end of the by-pass, a large concentration of cropmarks included field systems, possible stock enclosures and the line of a Roman road. A second major group was identified to the south of the Essex showground, probably representing an enclosed settlement, tentatively dated to the Iron Age or Roman period. Subsequent field walking was only able to survey 9 of the 27 ha affected by the proposed route. One prehistoric site was identified on the line of the Roman Chelmsford-Braintree road within the concentration of cropmarks at the southern end of the new road. Further work is anticipated.

Finds: E.C.C.; to go to Ch.E.M.

3. Ardleigh, Martell's Hall (TM 056 288)

H. Brooks, H.B.A.S.

An evaluation trench was excavated in advance of the construction of a new garage on the north side of Martell's Hall, Ardleigh. Ardleigh is rich in cropmarks, although the hall itself is some 200 m away from the nearest identified cropmark site, east of Slough Lane. Natural subsoil was encountered at 0.5 m below site ground level. All the overlying deposits showed signs of recent disturbance. With the exception of two Romano-British greyware sherds, all finds were post-medieval in date.

Finds: H.B.A.S.; to go to C.M.

4. Barling Magna, Barling Marsh (TQ 935 901)

A.J. Wade, E.C.C.

Fieldwalking in advance of mineral extraction identified two areas of interest, one by artefact scatter (burnt flint) and another by observation of a localised change of colour in the field surface. These were confirmed by

trenching, and a further area of archaeological activity was defined. All three locations appear to be prehistoric in date, including a previously unknown Late Iron Age/Romano-British Red Hill with associated structural features, an area of activity consisting of ditches and other features, and an area of burnt material in a shallow depression. Further work is anticipated.

Finds: E.C.C.; to go to S.M.

5. Black Notley, Great Notley Garden Village (TL 740 210)

H. Brooks, H.B.A.S.

The second season of fieldwalking in advance of major (186 ha) residential and business development concentrated on the central and northern parts of the area around Panners Farm and Cuckoo Wood, and up to the southern edge of the new Braintree By-pass (A120). Only two potential archaeological sites were identified — both above-average concentrations of burnt flint, presumably prehistoric. A 40 x 30 m area was cleared over one concentration (TL 7319 2070). However, despite loose finds of struck flints, burnt flints and a single flint-gritted prehistoric sherd, no subsoil features were encountered other than two land drains. The second area, at TL 7358 2102, has yet to be tested.

Previous summaries: Gilman (ed.) 1993, 197.

Finds: H.B.A.S., then Bt.M.

Final report: Essex Archaeol. Hist.

6. Boreham, Boreham Airfield

(TL 7458 1114(a) and TL 7480 1225(b))

M. Germany, E.C.C.

Fieldwalking in advance of mineral extraction covered two areas: Area A, 2.16 ha of arable land centred around TL 7458 1114 and Area B, 5.04 ha around TL 7485 1238, to the immediate north of the Ford Motor Sport Complex.

The survey located a small, but dense concentration of Roman pottery around TL 7485 1238, just 600 m to the north-west of the recently excavated Roman farmstead at Great Holts Farm (see 22 below). This concentration and the field which contains it was to be trial-trenched in January 1994.

Previous Summaries: Gilman (ed.) 1992, 151-2.

Finds: E.C.C.; to go to Ch.E.M.

7. Braintree, St. Michael's Road, Coronation Avenue (TL 7555 2285)

M. Medlycott, E.C.C.

Nine trenches, each approximately 10 x 2 m, were excavated prior to the building of a community hall and sheltered accommodation. Despite the proximity of the evaluation trenches to the centre of Roman Braintree and to the medieval church of St. Michael, the excavated evidence from the site was overwhelmingly post-medieval in date. The earliest occupation of

the site appears to have been in the late 17th-early 18th centuries. Post-medieval features included pits, post-holes, gullies and ditches. Some residual Late Iron Age/Early Roman material was found. A few residual medieval sherds were also recovered.

Finds: Bt. M.

8. Brentwood, White Hart Inn (TQ 5934 9377)
N.J. Lavender, E.C.C.

Three test pits were excavated in the Inn courtyard, each 1.2 m square. The southern end of the site was very heavily disturbed by pipe trenches. In the centre of the yard a number of layers of gravelly clay were observed, all associated with post-medieval tile. At the northern end these layers overlay a possible feature filled with waterlogged black silty clay. No dimensions for this feature were recorded, since it was larger than the test-pit and deeper than the legal safety limit of 1.2 m. The only find from this context was a sherd of 13th-century pottery.

Finds: E.C.C.; to go to Ch.E.M.

9. Chingford, Chingford Hospital
(TQ 3845 9315)
P. Moore, P.E.M.

Excavations revealed evidence of Late Saxon activity, and particularly medieval occupation and arable farming, dating 1150-1400 AD, in the north-east of the site, followed by a period of abandonment or pastoral activity. Arable agriculture was resumed in the 18th century but was again superseded by pastoral farming in the 19th century which lasted until the construction of the present hospital in the early 20th century.

Finds: P.E.M.

10. Colchester, Eastern Approaches Road
(TM 0133 2469-TM 0191 2469)
C. Crossan, C.A.T.

At 79 Hythe Hill (TM 0133 2469), one of a series of trial trenches along the proposed route for Colchester's Eastern Approaches Road revealed well preserved remains of medieval and later street frontage activity including a pit containing 12th/13th pottery, substantial medieval dumped deposits, a late or post-medieval septaria frontage wall, clay floor and hearth. Further excavation is envisaged since it is likely that at least one complete medieval plot will be affected by the road-works.

Finds: C.A.T.; to go to C.M.

11. East Mersea, Fen Farm (TM 057 145)
K. Reidy, E.C.C.

A fieldwalking survey was carried out in advance of a tree planting scheme which covered a cropmark complex consisting of ring-ditches and linear features. The fieldwalking produced a concentration of prehistoric

material a few metres to the west of the linear cropmarks, including a thumbmark scraper, typical of the Late Neolithic/Early Bronze Age and a sherd of prehistoric pottery.

Finds: E.C.C.; to go to C.M.

12. Frating, Colchester Road (TM 102 237)
A. Barber, Cw.A.T.

Nine trenches were excavated to examine a cropmark complex on the gravel subsoil of the Tendring plateau. The complex appeared to include rectilinear enclosures and ditched trackways. On examination, some cropmarks could be related to post-medieval field boundaries, while others proved not to have an archaeological origin at all. With the possible exception of one ditch, which contained no finds, no features earlier than the post-medieval period were found.

Finds: Cw.A.T.; to go to C.M.

13. Heybridge, Holloway Road (TL 8515 0825)
J. Timby and A. Barber, Cw.A.T.

Three trenches were excavated on a site within the conjectured limits of the Roman 'small town'. The evaluation revealed post-holes and ditches containing a small quantity of Late Iron Age pottery. These features were sealed by a deposit of gravel containing a fragment of Roman tile. A subsequent watching brief during development recorded Roman pits, post-holes and ditches on a variety of alignments.

Finds: Cw.A.T.; to go to C.M.

14. Heybridge, land adjoining Langford Road
(TL 847 805)
K. Reidy, E.C.C.

Evaluation comprised eleven trial trenches sampling about 3% of an area of approximately 1.17 ha in a field adjoining Langford Road. Archaeological features were revealed dating to the prehistoric, Romano-British and medieval periods. In general, these features fell into three areas: medieval features in the north; prehistoric and Roman features in the centre and primarily Roman features at the southern end of the field. Part of a possible Middle Iron Age structure was located. Neolithic pits were also found, one of which contained a leaf-shaped arrowhead.

Finds: C.M.

15. Little Waltham, Little Waltham Hall
(TL 712 126)
A.J. Wade, E.C.C.

Trial trenching of the proposed site of a detached house immediately to the west of Little Waltham Hall revealed a sequence of Middle to Late Iron Age ditches, a medieval ditch and post-medieval features.

Finds: Ch.E.M.

16. M11, Birchanger to Great Chesterford,
proposed widening scheme
(TL 5150 2150-TL 5015 4230)

M. Atkinson, E.C.C.

As part of an environmental impact study being undertaken by W.S. Atkins-East Anglia, on behalf of the DoT's Motorway Widening Unit, Essex County Council Field Archaeology Group was commissioned to undertake an assessment of the land-take of the proposed scheme to widen the M11 motorway. The assessment covered 14 miles (23 km) of the motorway between Junction 8 (TL 5150 2150) at Bishops Stortford and Junction 9 (TL 5015 4230) near Great Chesterford. The Assessment consisted of a 'desk top' study, followed by a fieldwalking evaluation. Five known ESMR sites were trial-trenched, and two major ESMR sites (Wicken Bonhunt and Wendens Ambo) were evaluated by geophysical survey and subsequent trial trenching.

Desk-top study

The Desk-top study produced a large amount of documentary and cartographic data, but most of this related to more recent historical periods, rather than earlier ones. Therefore, it was difficult to reach conclusions as to the location, nature and extent of early (i.e. pre-medieval) settlement. As the documentary sources begin with a few pre-Domesday wills and the Domesday Book itself (AD 1086), the understanding of the prehistoric, Roman and majority of the Anglo-Saxon periods is reliant upon archaeological rather than historical sources.

Fieldwalking

A fieldwalking survey was undertaken of the Assessment Area, c. 60 ha, of which an estimated 61% was walked, the rest being inaccessible due to the presence of crop, pasture or woodland. Significant densities of both worked and burnt flint, occasionally accompanied by sherds of pottery, indicated the presence of previously unknown prehistoric sites to the east of Birchanger (TL 518 227) and east of Parsonage Farm (TL 521 235). Two further probable sites were located near Durrell's Wood (TL 530 249) and south of Alsa Wood (TL 527 262). Four other minor findspots of burnt and worked flint were found at the following locations: TL 512 208, TL 528 274, TL 529 286 and TL 503 407. Though not discounted as sites, these were less obvious, smaller concentrations which, when considered in the light of additional information gained from the Essex Sites and Monuments Record (ESMR), may well be further evidence of prehistoric activity. The fieldwalking also confirmed the presence of prehistoric features on known sites at Wendens Ambo (TL 507 361) and east of Howe Wood (TL 508 377).

A substantial amount of Roman pottery and

building material was collected from the known villa complex at Wendens Ambo (TL 507 361) (Hodder 1982). The fieldwalking showed that this site extends over 100 m north to south alongside the motorway and that some kind of peripheral activity extends for up to 500 m either side of the villa complex itself.

No significant concentrations of medieval or post-medieval material were identified within the survey area.

Trial trenching of known sites

A total of five known sites were identified from the Stage I desk top study as being worthy of assessment. The trial trenching of the available sites produced archaeological features on all apart from one.

Howes Wood, near Littlebury, (TL 502 396) revealed remains of Middle Iron Age occupation, though it was not possible to determine the extent of the site nor to give wider interpretation to the individual features. Significant amounts of pottery were collected from pits and ditches. No further features or artefacts associated with a Late Bronze Age hoard (ESMR PRN 279), found during the original motorway construction, were located by the trial trenching.

Though the trenching to the north of Royston Road at Wendens Ambo (TL 507 365) did not find any remains of Little Wendens deserted medieval village, thought possibly to occupy the area, significant remains of another Middle Iron Age settlement were uncovered. As with Howes Wood, the limited size and number of trenches do not allow any meaningful interpretation, nor the determination of the extent of the site. These features may be associated with a complex of cropmark features, c. 150 m to the west, including a D-shaped enclosure and a number of linear features (ESMR PRN 361). A further trench (TL 507 368) was excavated relatively close to the D-shaped enclosure cropmark, but no features were found within it.

Trenching to the north of Wicken Road and of the Wicken Bonhunt Saxon settlement (TL 510 336) revealed severe disturbance. This had apparently removed any archaeological deposits present, though part of a small Roman ditch survived in the northernmost trench.

Trenches at Bedwell Common (TL 530 282), near Henham were located alongside previous archaeological work which had revealed remains of a Roman rural settlement. Only one of the four trenches contained Roman features, two ditches and a very large feature, interpreted as lying on the periphery of the settlement.

Wendens Ambo Roman villa complex (Fig. 2)

Previous archaeological investigations on the site had located the villa itself (V.C.H. 3 1963, 199) and, below the present motorway, an Iron Age settlement overlain by a sequence of Roman buildings and ditch systems spanning the 1st century BC to 4th century AD (Hodder 1982).

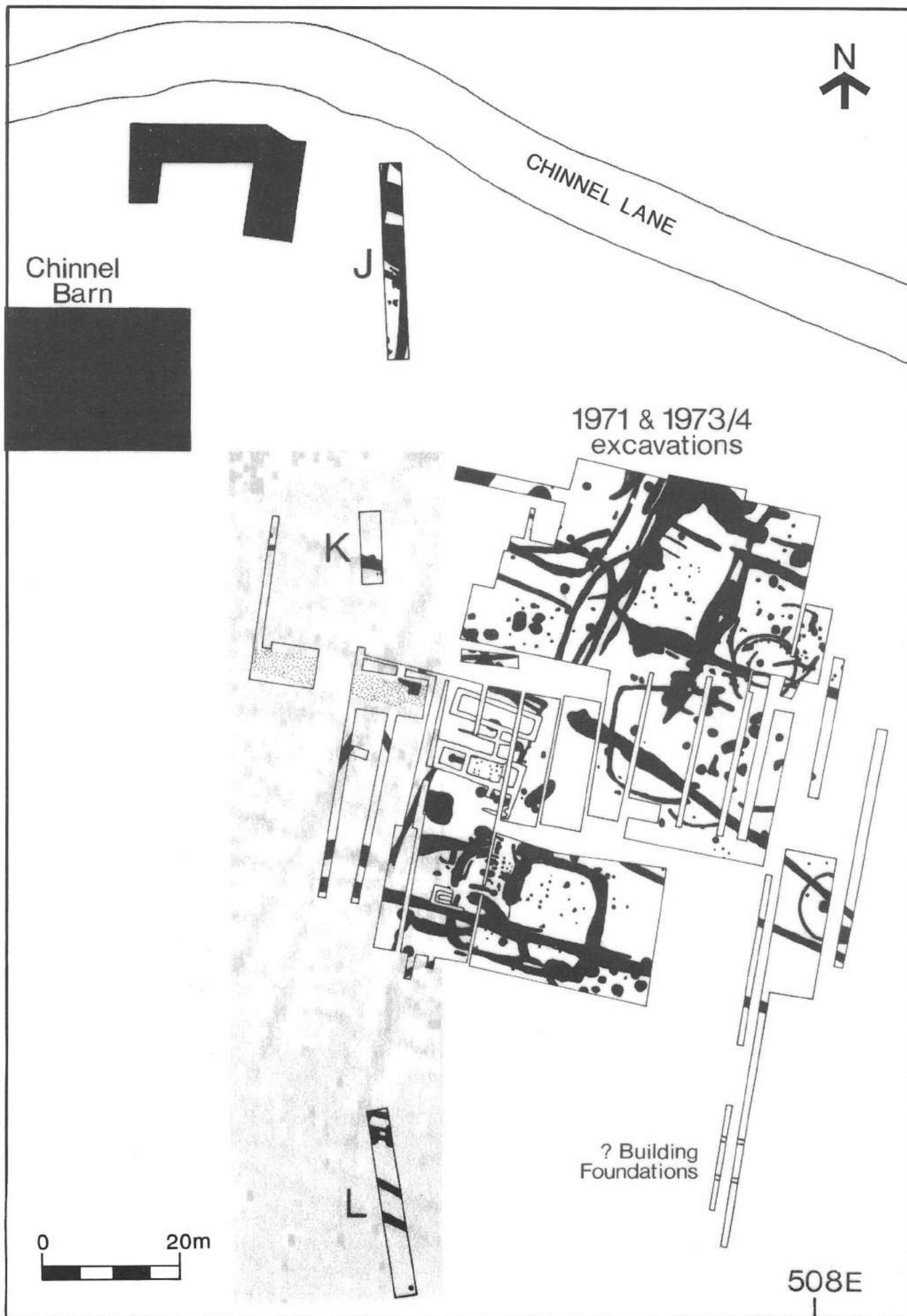


Fig. 2 M11. Magnetometer survey and excavated areas at Wendens Ambo.

A geophysical survey produced evidence of relatively strong magnetic anomalies within the area of ploughed arable land to the south of Chinnel Barn. The resulting magnetometer plot clearly defined a whole series of linear features, together with less distinct indications of post-holes and pits. These features extended c. 120 m south of the barn, up the valley slope. A double-ditch system seemed to mark the perimeter of this activity with only a few small features beyond.

The trial trenches excavated within this field confirmed that these features existed below the plough soil and were of Iron Age and Roman date. They also established that, toward the bottom of the valley slope, substantial deposits of hill wash material had covered archaeological features, preserving Roman cultivation soils from plough disturbance.

Further trial trenching in pasture to the north of Chinnel Barn revealed a number of similarly orientated ditch sequences dated to the Roman period which were found to overlie ditches and pits of Iron Age date. Two additional trenches, excavated further to the north, established that the northern perimeter of both the Iron Age and Roman settlements is 85 m from Chinnel Barn and that archaeological deposits extend for c. 220 m north-south.

Wicken Bonhunt Saxon settlement

Previous archaeological work had established the presence of an important and extensive settlement, spanning the Middle and Late Saxon and early medieval periods, c. 100-250 m west of the motorway (Wade 1980). Part of a dense cemetery of similar date had also been excavated around the adjacent St Helen's Chapel.

The geophysical survey indicated archaeological deposits north of the Bonhunt Water, where the magnetometer survey produced a plot showing massive archaeological disturbance, in which no individual features could be identified, consistent with the presence of a dense cemetery.

Trenching confirmed the presence of a large cemetery across the northern half of the land-take area within site 31. A total of 51 inhumations were identified within a 10 x 3m trench, a sample of which was fully excavated. The ordering of the east-west orientated burials into rows could be clearly discerned. None contained grave goods, indicating Christian rites. This made dating difficult, but the cemetery predated a ditch dated to the 12th century. Further trenching established that this cemetery extended approximately 70 m north-south. Ditches and pits, containing Middle Saxon pottery were found further to the south, toward the Bonhunt Water.

Finds: E.C.C.; to go to S.W.M.

17. North Weald Bassett/Stanford Rivers, Ongar Radio Site (TL 500 030)

I.M. Greig, S.E.A.S.

This is a further report to the previously published initial summary of evaluation in advance of proposed development at Ongar Park. Because of the extensive area evaluated, national grid references are given for each feature. Documentary research, landscape survey, trial trenching and fieldwalking were employed.

Two concentrations of fire-cracked flint suggest prehistoric sites around TL 5131 050 and TL 5142 0490. Scatters of similar material around Ongar Park Hall (TL 5142 0388 and TL 5100 0426) suggest sites in the vicinity, but not their precise location. Struck flint was rare.

The projected line of the Roman road from Chigwell to Dunmow crosses the site. Possible eroded agger was noted on this line at TL 5145 0437. Trenching across the line revealed a gravel spread, possibly the remains of road metalling, at TL 5170 0470, and traces of patchy gravel at TL 5102 0379, suggesting that this line is probably correct.

Ongar Great Park may be the deer enclosure referred to in the will of Thurstan between 1043 and 1045. The field names — Great and Little Plasto (TL 5050 0380 and TL 5030 0380) probably derive from Old English meaning "sport place". It has been suggested that this could indicate an amphitheatre-like structure. There is no visible structural evidence, but it could be argued that the land forms a natural amphitheatre.

The early medieval park became the manor of Ongar Park, its boundary preserved in modern field boundaries. No physical boundary features likely to be of medieval origin survive in the area studied. A sparse scatter of medieval pottery, virtually all datable to AD 1200-1500, probably reflects manuring as the park was subsequently taken into cultivation. Two fairly well-defined concentrations around TL 5112 0500 and TL 5136 0502 may represent sites of this period, but the low sherd numbers suggest they could merely represent manuring of small fields reclaimed by assarting at this time. Similar material adjacent to Ongar Park Hall probably reflects manuring from an earlier settlement on the same site.

There was a scatter of post-medieval (mostly later than AD1650) and modern pottery over much of the area, probably reflecting manuring. The distribution may reflect a former pattern of smaller fields. A concentration of pottery and building material around TL 5114 0470 is in the position of a large building (Cold Harbour), shown on maps of 1881 and demolished within living memory. Similar material around Ongar Park Hall probably derives from the adjacent buildings. The Essex Redoubt, a Victorian fortification at TL 5050 0400, is a Scheduled Ancient Monument. Various structures survive from the use of the area as Ongar Radio Station.

Various undatable earthwork features were probably modern agricultural or industrial. A small circular mound, with a double depression in the centre (TL 5070 0406), is of unknown function.

Finds: E.F.D.M.

Previous Summaries: Gilman (ed.) 1993, 200.

18. Purfleet, Stonehouse Lane (TQ 570 585)

P.T. Allen, E.C.C.

Evaluation in advance of a proposed warehouse development revealed a well preserved Pleistocene/Palaeolithic sequence in the north-west of the site, adjacent to a sequence previously recorded by Palmer (1975). This represents an old channel of the Thames, cut through Chalk bedrock and infilled with deposits of the Corbets Tey formation, dated to c. 300,000 b.p. (Oxygen Isotope Dating Stage 9; Bridgland 1994). Human activity of the Palaeolithic is represented by Acheulian flint artefacts recovered from the upper channel deposits, while the lower channel deposits were rich in mammal and fish species indicating an interglacial (warm period).

Palaeolithic deposits did not survive over the main site area due to periglacial action and the upper geological strata consisted of mixed sands and Coombe deposits. Trial trenching to locate surface archaeology produced entirely negative results.

Finds: T.M

19. Waltham Holy Cross, Abbey Gardens House (TL 3814 0067)

P.J. Huggins, W.A.H.S.

A staggered trench was dug east-west across the garden as part of the field evaluation for a new Parish Centre. The width of the cellarer's range of the Augustinian Abbey of c. 1200 was established as 8.84 m internally. Cellar floor levels were between 0.74 and 0.91 m below that in the cloister walk and church. Evidence of one springer indicates the presence of a line of central pillars to the stone-vaulted cellar. To the south of the cellarium, a cross wall defines the existence of a parlour where the cloister and the outside world met; this contained a base probably for a spiral staircase. A post-medieval brick and stone-lined sump was found, filled with moulded abbey stone; it is interpreted as a soaking pit to help remove mortar before the stone was burnt in a nearby lime kiln.

A significant find, well out of context, was an Anglo-Saxon fastener of Salin style II of the 7th century. It has been argued (c.f. *London Archaeologist*, Spring 1994) that this piece, with a fish and eagle of St. John, may be as early as the bishopric of Mellitus (604-616 AD).

Previous Summaries: Gilman (ed.) 1993, 201.

Finds: W.A.H.S.

20. Walthamstow, Salisbury Hall Playing Field (TQ 372 914)

P. Moore, P.E.M.

Trial trenches were excavated in advance of construction of a food store. Prior to the medieval period the only evidence of earlier activity was one sherd of Pre-historic pottery. The presence of a medieval ridge and furrow watermeadow system, post-medieval ditches, gullies and a large number of sub-surface drainage systems indicated the importance and problems associated with this area as wet pasture land. A post-medieval track indicated possible earlier land divisions. Scattered features, e.g. pits, gullies and ditches, were found across the site but could not be dated.

Finds: P.E.M.

Excavations

21. Boreham, Buxted Chicken Factory (TL 7530 0997).

S. Foreman, E.C.C.

Excavations beside the line of the London-Colchester Roman Road in Boreham (TL 7530 0997), revealed evidence of activity in the area from the Early Iron Age to the 19th century. The small quantity of Iron Age and Roman pottery found on the site was heavily abraded and apparently residual in later features, but it does indicate an early presence in the vicinity. A single phase of early medieval activity was indicated by a series of shallow ditches bounding parts of at least three rectilinear enclosures, aligned side by side along the south frontage of the main street and interpreted on the basis of pottery finds as early medieval tofts. Almost the entire area of one of the tofts was within the excavated area. It measured 7.25 m x 13.5 m internally.

Although the archaeology was truncated by later ploughing there were some surviving structural features and a hearth, indicating the presence of buildings, though not their plan. The majority of the early medieval finds, including a small iron strap fitting and sherds of shell-tempered and shell-and-sand tempered ware, derived from a charcoal-rich domestic rubbish deposit contained within the terminal of one of the ditches. The pottery was consistent with a date in the period 1000-1200 AD. The scarcity of finds and single phase of activity suggest that occupation of this stretch of street frontage was relatively short-lived and may represent a temporary expansion of an earlier settlement focus at the junction of the main street and Church Road. A number of sherds of later medieval pottery were found in the soil, but there was no evidence for occupation in this period. A small late 19th or 20th-century timber building was identified in the southern corner of the trench, consisting of six post-holes and a foundation beam slot. It was probably a small barn or shed.

Previous Summaries: Gilman (ed.) 1993, 197.
 Finds: E.C.C.; to go to Ch.E.M.
 Final report: Essex Archaeol. Hist.

22. Boreham, Great Holts Farm (TL 7515 1190)
 M. Germany, E.C.C.

Excavation prior to gravel extraction on this Bronze Age and Roman site has now been completed. The prehistoric features recorded included post-holes from a round-house of Bronze Age date, and a ring ditch probably representing a ploughed-out Bronze Age barrow. No evidence of activity during the Iron Age was recovered but a small farm was established here in the 2nd century AD, continuing in use until the 4th century. A large area was examined, revealing field boundaries and trackways. Structural remains included the remains of a building, consisting of 8 large post-holes arranged in two parallel rows of 4, forming a rectangle 12 x 4.5 m (Fig. 3). The building dates from late in the Roman period and seems to have had an agricultural use, probably as a barn. One of the most interesting finds is a boxed cremation dated to the 2nd century AD. However, few coins and other items of 'value' were recovered, and the collective evidence suggests that this is a small Roman farmstead. The site appears to have been abandoned by the end of the Roman period.

Previous Summaries: Gilman (ed.) 1992, 100
 Finds: E.C.C.; to go to Ch.E.M.

23. Canvey Island, Leigh Beck Marshes
 (TQ 823 832)

N. Faulkner, R.H.F.A.G.

A new programme of work was begun on this important Late Iron Age, Roman and medieval red hill and estuarine site. Preliminary research on unpublished sources showed that at least ten separate salt processing units had been recorded previously at different times. Most of these comprised a two-chamber hearth and a set of four clay-lined settlement tanks. A survey was carried out in an effort to determine the full extent of the exposed red hill deposit. However, since much of the red hill and later settlement is buried under alluvial mud and clay, it is hoped in future to carry out further survey work by boring and taking cores.

Salvage excavation of exposed features was carried out on the foreshore. One complete salt-processing unit was excavated, probably Late Iron Age, and comprised a two-chamber hearth of unusual design, a range of four clay tanks, and a floor of compacted clay and briquetage fragments. A second range of much larger tanks was also salvaged, though without obtaining evidence for a hearth or for dating.

Area excavation of a section of the surviving bank also began. An extensive medieval midden was sampled and dated by pottery to the 12th and 13th centuries. This contained fish bones, oyster shells and sheep bones, the latter including a very high

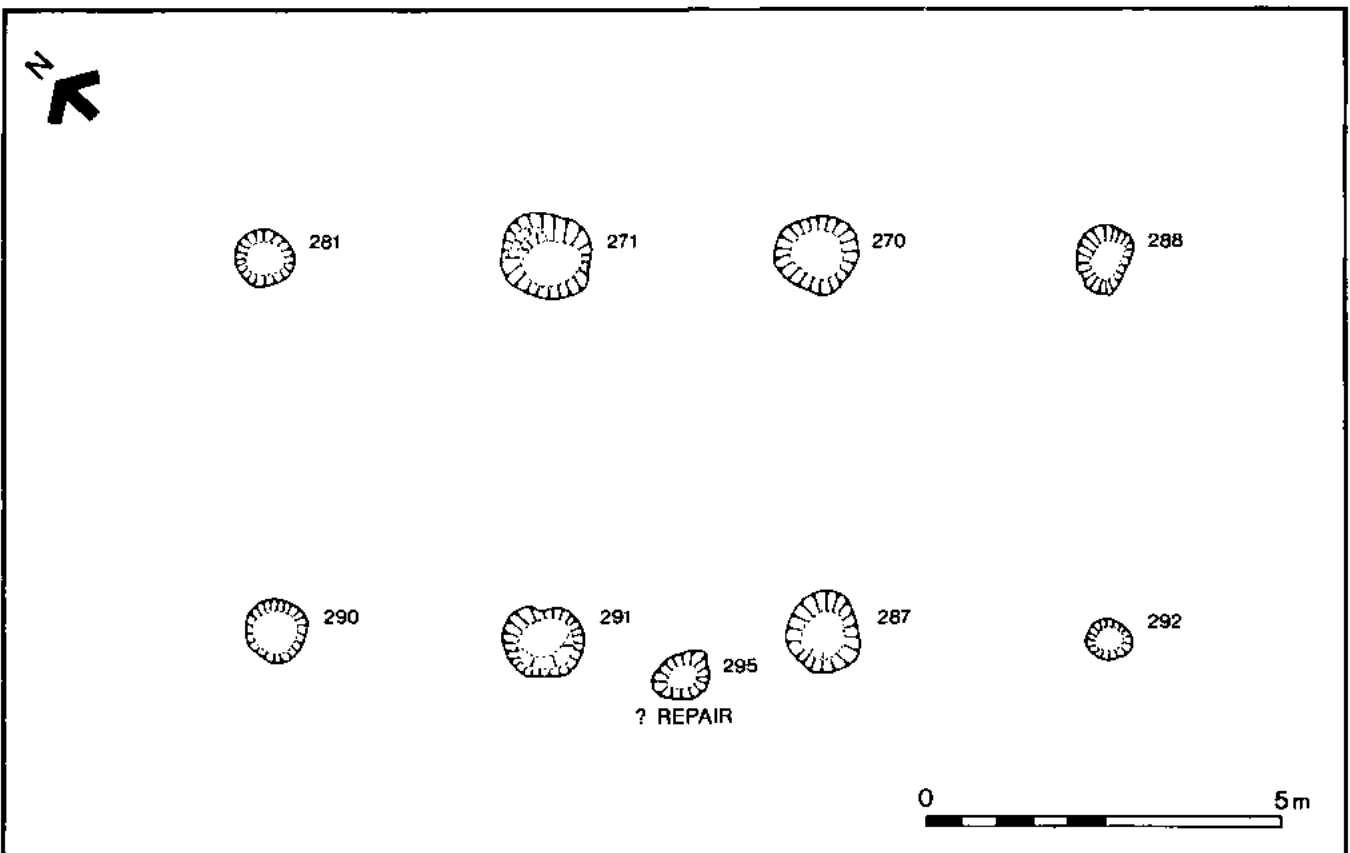


Fig. 3 Boreham. Plan of barn at Great Holts Farm.

proportion of young lamb, which may be evidence for culling linked to the production of sheep's milk cheese. Also present were quantities of struck flint fragments, perhaps evidence for the importation and preparation of building stone.

The remains of a Roman midden were also excavated, dating probably to the last quarter of the 2nd century and containing much pottery, oysters and other shellfish, and sheep bone. Work also began on red hill features and briquetage dumps underlying the later settlement deposits. Further work is planned to complete the area excavation, salvage more foreshore features, and study the large existing artefact collections from the site.

Finds: R.H.F.A.G.

24. **Castle Hedingham**, Sible Hedingham

Source Works (TL 786 348)

N.J. Lavender, E.C.C.

During groundworks for underground tanks adjacent to an area excavated in 1992, a broad, shallow feature was observed in section running north east-south west. It was 1.7m wide and 0.51m deep, and was sealed by colluvium. A very dark, nearly black, organic-type fill contained Roman tile, pottery, bone and a scrap of copper alloy. No other features were observed.

Previous Summaries: Gilman (ed.) 1993, 205.

Finds: Bt.M.

Final Report: Essex Archaeol. Hist.

25. **Clacton-on-Sea**, Little Clacton and

Weeley Heath By-pass

A.J. Wade, E.C.C.

Archaeological work in advance of this new road included several excavations and watching briefs. The most important was the rescue excavation of a medieval moated site at Gutteridge Hall, known from cropmark evidence and prior fieldwalking evaluation. Up to five separate phases of moat have been identified, the earliest defining part of the original medieval complex, the perimeter of which contained evidence for medieval structures provisionally dated to the 12/13th centuries. Later phases revealed how the hall and its surroundings expanded, the moat being modified to accommodate a substantial brick building, possibly Tudor, further to the south.

To the north of Gutteridge Hall, at Weeley Brook (TM 138 213), a watching brief located a complex of pits and post-holes, all containing burnt flint. Time and resources only permitted the recording of these features in plan, and the excavation of a single pit. No dating evidence was obtained, though it is presumed that these features may be prehistoric in origin. In Gutteridge Wood, Weeley (TM 139 211) excavation of an area where prehistoric and Romano-British pottery had been found during the fieldwalking survey

found five Romano-British cremations (all badly damaged by ploughing with only two in urns), and two ditches.

A watching brief at the site of a borrow pit north of the main London-Clacton railway line at Green Lane Farm, Weeley (TM 136 217) found several sherds of unstratified prehistoric and Romano-British pottery, as well as two undated features.

At Dead Lane, Little Clacton (TM 158 191) excavation next to two prehistoric ring ditches previously known by cropmarks, found several linear ditches and other features, containing both burnt and worked flint and pottery provisionally identified as being prehistoric in date. Also in Little Clacton, at Montana Nursery, (TM 165 181) excavation located part of the southern end of an undated enclosure previously known only by a cropmark. Pottery from several ditches and other features excavated during a nearby watching brief has been identified as Late Iron Age/Romano-British. A backfilled quarry, possibly post-medieval in origin, was also recorded. At Norwood Lodge, St Osyth (TM 149 202) excavation located two ditches (one undated, one post-medieval) previously known by cropmarks.

Previous Summaries: Gilman (ed.) 1991, 152.

Finds: E.C.C.; to go to C.M.

26. **Coggeshall**, Coggeshall House (TL 853 228)

R.M.J. Isserlin, E.C.C.

Topsoil stripping during the construction of an access road associated with a new housing development has revealed a buried soil which may be prehistoric in date and a quantity of Romano-British features, some of which may be structural.

Finds: E.C.C.; to go to Bt.M.

27. **Colchester**, Bourne Watermill (TM 0057 2384)

C. Crossan, C.A.T.

Extensive remedial work to prevent flooding of the mill's cellar involved excavation of two trenches against the west wall of the building. At the south-west corner a 2.5 m deep layer of dumped clay was found to seal a previously unrecorded floor of stone and re-used Roman tile. Suspended 600 mm above the floor was a well preserved 330 mm (13 ins) square-sectioned horizontal timber beam laid parallel to and 500 mm west from the wall face. The tie-points are unknown since both ends of the beam extended beyond the confines of the trench. Five metres to the north, a shallower trench at the leat inler to the mill exposed part of the west wall face to a depth of 1.3 m beneath the penstock, revealing relatively late alterations including underlying blocking. This may be associated with reconstruction of the leat at a higher level, possibly as part of the conversion of the mill wheel from an undershot to an overshot type.

28. Cressing, Cressing Temple (TL 799 187)

T. Robey, E.C.C.

Compared to previous years, relatively little excavation took place in 1993. Watching briefs were carried out on additional electricity trenches west of the Granary and south of the Toilet Block, on two tree holes in the Walled Garden, and on the North and South wall plinths of the Wheat Barn. This last revealed an extensive rebuild of the north plinth and replacement of the cill beams in the mid-20th century. One or two courses of an older plinth survived below ground level, but were not investigated.

Work also began on the construction of the Warden's Garden west of the farmhouse. A hedge trench was dug through the modern topsoil to a depth of 0.3m, and the foundations of an outbuilding covered by a concrete slab are being excavated. The building dates from the mid-19th century and cuts through a stone wall and a brick path, the latter built of re-used Tudor bricks around the beginning of the 19th century. The wall, which reappears in the south-western corner of the hedge trench, is still undated. It is clearly older than the path, and apart from some 19th-century capping bricks added later, is built entirely of flint with a soft course mortar bonding. The only other post-medieval stone-built structure on the site is the steeping pit in the Granary, which has brick, tile, and reused building stone in its fabric. It is therefore tempting to suggest that this new found wall may be medieval, but as yet there is nothing to corroborate this idea.

Repairs to the floor in the front room of the Farmhouse enabled the area beneath to be examined. A north-south footing was found 2.2 m west of the current east wall, showing that the front of the house had been extended in the 19th century. Brick joist supports perpendicular to the present set belong to the earlier phase of the house.

During the summer, a remote sensing survey of much of the monument was carried out. This did not, as had been hoped, find much of the missing sections of the moat, but did locate a number of new buildings, including an early south wing to the farmhouse and a large barn-sized enclosure in one corner of the monument. What is almost certainly the south front of the Tudor Manor House was also found, allowing a reconstruction of the 17th-century layout of the estate and its approaches.

Previous Summaries: Gilman (ed.) 1989, 161-2; 1990, 130-1; 1991, 153; 1992, 103; 1993, 204-5; Brown and Flook 1990; Robey 1993a, 1993b.

Finds: E.C.C.

Final report: Essex Archaeol. Hist.

29. Felsted, Stebbingford (TL 6745 2250)

M. Medlycott, E.C.C.

The site, which was discovered by aerial photography

in 1976, lies on the crest of a ridge on the east side of the Stebbing Brook Valley, 80 m to the south of the A120, which follows the line of Roman Stane Street. The photographs showed a complex of cropmarks, including field boundaries and a possible trackway. In 1990 a fieldwalking survey was undertaken in response to the proposed construction of the new A120 trunk-road, and a thin scatter of medieval pottery and tile was located within the cropmark complex.

In 1991 three trial trenches were excavated. These revealed a number of field-ditches of 12th to 13th-century date, containing domestic debris. Documentary research indicated that this site might represent the Domesday vill of Stebbingford.

Full scale excavations began in 1993, revealing an early medieval farmstead, with at least two buildings, fields, trackways, a possible small corpse or orchard, garden features and one large rectangular pit tentatively interpreted as a cellar/cold store. One of the buildings was a post-built structure with an internal hearth, the other was defined by shallow gullies.

Preliminary studies of the pottery indicates that the main phase of occupation was in the 12th to 13th centuries, with some 14th-century activity. A number of woodworking tools have been recovered. Environmental evidence includes bird and animal bones, and a large quantity of oyster shell. Of particular interest in this respect is the discovery of peat in the stream-bed which forms the southern border of the site; this is thought to date to c. 10,000 BC.

As well as the medieval farmstead, one feature of Roman date and a number of features of possible Early Bronze Age date have been found. The finds include a barbed-and-tanged arrowhead and a flint scraper.

Previous Summaries: Gilman (ed.) 1992, 99-100.

Finds: E.C.C.; to go to S.W.M..

Final Report: East Anglian Archaeol.

30. Great Dunmow, Buildings Farm (TL 618 220)

N.J. Lavender, E.C.C.

Following the results of fieldwalking an area to the north of the A120 west of Great Dunmow was further investigated by excavation. The edge of a Middle Iron Age settlement, which had not shown in fieldwalking, was located in the north-west corner of the site. Two phases of circular structures were revealed in the form of parts of penannular gullies, along with internal post-holes in the later phase. These buildings were surrounded by a deep (1.2 m below top of subsoil) enclosure ditch, probably belonging to the later phase. In the Late Iron Age or Early Roman period a field system was laid out. Fragments survive which suggest rectangular fields, measuring 30 x 40 m. In the late 1st century AD, a second field system was superimposed on this, apparently characterised by long, narrow fields. Second-century activity is marked by another field system, but with the addition of two ring-ditches

of as yet uncertain purpose. Later activity, in the 4th century, seems to be marked only by a single ditch running across the site, and some large pits and pit clusters.

Previous Summaries: Gilman (ed.) 1993, 198.

Finds: E.C.C.; to go to S. W. M.

Final report: Essex Archaeol. Hist.

31. Heybridge, Elms Farm (TL 847 082)

M. Atkinson, E.C.C.

The first of three stages of excavation in advance of the Elms Farm development covered c. 9 ha (22 acres), containing a known cropmark complex indicative of Roman field systems with possible occupation features along the southern edge of the Stage I area. Development of this area includes a by-pass and the construction of housing.

Topsoil stripping of the Stage I area revealed the major linear features suggested by the aerial photographs together with a wide range of previously undetected smaller features spread across the whole area. Two concentrations of prehistoric features were identified. One, located on the northern and highest part of the Stage I area comprised the truncated remains of a Middle Bronze Age barrow containing at least three, heavily disturbed, cremations, one of which included an inverted bucket urn. A number of contemporary features were located in its vicinity including several pits of varying size some of which contained assemblages of worked flint and pottery sherds. One such feature, in close proximity to the barrow was found to contain a deliberately deposited complete Anglian-type beaker displaying finger-nail decoration. These Middle Bronze Age features may be associated with another concentration of post-hole features, tentatively dated to the Bronze Age, which extended beyond the south-eastern limit of excavation.

Most features were dated to the Roman period, the ditches belonging to two, or perhaps three, apparent phases of field system with a gradual intensification of pits and post-holes southward toward the Roman 'small town' itself. Along the southern edge of Stage I, the density of intercutting pits was suggestive of the periphery of the settlement proper. Immediately outside of this, two exceptionally well-preserved Roman pottery kilns were excavated. Provisionally dated to the 2nd century, they shared the same stoke hole and appear to have been used in the production of domestic greywares. No associated waster pits have been identified as yet.

Such small scale industrial activity was not confined to the periphery of the settlement. A T-shaped structure and a square feature containing an under-floor air duct fed by a hearth or fire-pit were both found much further north. No associated features were found to elucidate their function, though it appears that both were used in drying processes, perhaps of agricultural produce.

Fourteen cremations, one of which was found to contain a group of Late Iron Age vessels, were excavated within Stage I. The 13 Roman cremations were, with one exception, unurned and arranged in a linear spread, aligned on, though some cutting, a Roman field boundary.

The Roman features from Stage I appear to be 1st and 2nd century AD in date. Saxon features were identified on the eastern edge of Stage I. These included a large *grubenhaus* surrounded by pits and post-holes. It is possible that this dwelling was aligned on and perhaps used a nearby Roman enclosure ditch. These occupation remains are thought to be the westernmost elements of an Early Saxon settlement, part of which has previously been excavated immediately to the north of the Stage III area.

Further excavation began, on a 13 ha (32 acre) area immediately to the south, in April for a period of six months. This investigation centres upon the Roman 'small town' itself.

Finds: E.C.C.; to go to C.M.

32. Hornchurch, Elm Park, site adjacent to 148 Maybank Avenue (TQ 5325 8515)

P. Greenwood, P.E.M.

Excavation was carried out in 1993 on land adjacent to a housing estate excavated in 1992 where evidence for Middle Iron Age settlement, a round-house and associated features, had been found. The present site contained more pits and other features which appeared to be the continuation of the adjacent settlement. Roman evidence was also found.

Previous Summaries: Gilman 1993, 205.

Finds: P.E.M.

Final Report: Essex Archaeol. Hist.?

33. Leyton, Old Leyton Baths (TQ 3787 8807)

P. Moore, P.E.M.

The site lay in the forecourt of the Old Leyton Baths on High Road Leyton, a road of at least medieval origin. Immediately beneath the tarmac and concrete of the Baths forecourt a deeply stratified sequence of deposits was found dating from the early 20th century back to the late medieval period. Buildings demolished in the 1930s, in advance of the construction of the Baths, dated from the 18th century and had associated rubbish pits, drainage systems, courtyards and property divisions. The buildings varied in use from habitation to industrial and commercial. The site was variously used for dumping and pit digging in the early post-medieval period and prior to that for agricultural purposes. Late medieval activity was represented by a ditch running almost parallel to the High Road and several pits. There was evidence at this period for the demolition of late medieval brick structures.

It seems that the property divisions running perpendicular to the High Road were late medieval in

origin and mostly remained constant. The late medieval ditch running parallel to the High Road seems to have continued through to the 19th century as a division, on paper, between freehold and copyhold land.

Finds: P.E.M.

34. Leyton, Oliver Close Estate (TQ 3768 8654)

P. Moore, P.E.M.

Two areas were excavated in this tower block estate in advance of redevelopment, one lying on the eastern gravel terrace of the River Lea, the other to the west in the flood plain. Beneath 1.2 m of ploughsoil and post war dumping on the gravel terrace lay a prehistoric horizon. At least nine structures were uncovered including a ring ditch, circular alignments of post-holes and various fencing alignments. Finds consisted of settlement debris, plain pottery, small quantities of worked flint and large amounts of burnt flint. The settlement has been provisionally dated to the Middle Bronze Age.

Two trenches were excavated through the alluvial deposits below the gravel terrace. One was excavated down to a depth of over 3 m to obtain an environmental column sample. The other found unstratified Roman finds overlying prehistoric pits.

Finds: P.E.M.

35. Leyton, Thorne Close (TQ 3906 8583)

P. Moore, P.E.M.

Evaluation and rescue excavation found that 19th-century terrace housing had been constructed over an early 18th-century house just west of Leytonstone High Road. Surrounding the house were fields which had been in use from the medieval period to the early nineteenth century. The house consisted of two main rooms divided by a fireplace, with what are probably brick-floored cellars at either end of the house. Associated with the house were rubbish pits dating from the 17th to 19th centuries. Just east of the structure was a probable pond or gravel extraction pit which contained organic deposits and which was probably backfilled soon after the construction of the house.

To the west of the house and running on a north-west-southeast alignment a ditch was uncovered. Its first fill dates to between 900 and 1250 AD and because of the nature of the sherds may indicate a nearby settlement of this date. The ditch was deliberately backfilled between the end of the 14th and beginning of the 15th centuries, sealed and ploughed over. Documentary evidence suggests that this ditch may be associated with Leyton Vill.

Finds: P.E.M.

Final Report: P.E.M. Monograph

36. Marks Tey, Coggeshall Road (TL 8987 2345)

D. Shimmin, C.A.T.

Machine stripping and limited excavation in advance of pipe-laying in a field adjacent to the A120 east of Little Tey revealed evidence for medieval activity. This included a large pit, an east-west gully and a ?hearth associated with an extensive dump/topsoil layer. Sampling produced quantities of medieval pottery and burnt daub, especially from the pit, as well as bone, slag, quern fragments, oysters and charcoal. Provisional assessment of the pottery suggests a 12th-century date. The evidence may indicate industrial activity on the site or perhaps it may derive from destruction/demolition of a nearby structure.

Finds: C.A.T.; to go to C.M.

37. Saffron Walden, Friends School, Young Farmers Field (TL 542 373)

J. Ecclestone, E.C.C.

See this volume, pp. 258-9.

38. Stebbing, Church of Saint Mary the Virgin

R. Clarke and D.D. Andrews, E.C.C.

A small excavation was undertaken following discoveries during the lowering of floor levels in the western half of the north vestry of Stebbing Church. A 1 metre wide trench was excavated north-south across the width of the largely undamaged eastern half of the vestry; several floor and make-up levels were identified and finds included a Charles I coin, and a sherd of 13th-century pottery from the lowest level recorded. A flint footing, possibly relating to an earlier structure uncovered by the contractors, internal to and running parallel with the existing north wall was also found. A subsequent watching brief revealed that this wall footing continued southwards at a similar distance from the existing (east) wall, but at a slightly higher level and in a more substantial form.

Several possible graves had been identified following the appearance of voids during construction work in the western side of the vestry. A grave constructed from mortared peg-tiles was excavated and found to contain the skeleton of a middle-aged male. To the north of the built grave there were at least three other adult graves and two, possibly later, infant burials.

Finds retrieved by the contractors and during excavation work include some large fragments of medieval carved stone, including a small gargoyle's head, and several medieval decorated floor tiles and sherds of stained window glass.

Finds: Stebbing Church/S.W.M.

39. Springfield/Boreham, A12 Interchange (TL 739 089)

P.T. Allen and N.J. Lavender, E.C.C.

Following fieldwalking and trial trenching during 1992, two areas within the field south of the A12 interchange

and north of Fordson Road were stripped. Part of a medieval settlement of the 13th-14th centuries was located within area A, in the western corner. One building, comprising ten main, squarish post-holes and measuring 13 m x 6 m was aligned east-west and surrounded on at least three sides by shallow ditches. A second, slightly smaller structure was set at 90 degrees to the end of this, evidenced by construction slots and small post-holes. The presence of at least three pottery chimney pots on the site suggests that these or other nearby buildings were well-appointed. Ditches in the vicinity are probably parts of stock enclosures.

The other area investigated, up against the eastern side of the field close to the A12 revealed a Late Bronze Age site. The northern and part of the western boundary of this activity was marked by a ditch c. 1m deep. The eastern side of the site was destroyed by the A12, and there was no sign of a southern boundary marker. A large number of post-holes and small pits were examined, but apart from a possible rectangular structure of eight post-holes close to the ditch on the western side and a possible fence running north-east south-west across the site, these do not form a discernible pattern.

One unurned cremation burial was located, and several of the post-holes contained structured deposits of pottery suggestive of 'rites of termination'. Sherds of bucket urn from the ditch indicate a foundation date at the end of the Middle Bronze Age, and a fairly short life is suggested for the site, just overlapping the foundation of the Springfield Lyons enclosure 0.75 km to the south-west.

Previous Summaries: Allen and Lavender 1993.

Finds: E.C.C.; to go to Ch.M.

Final report: Essex Archaeol. Hist.

40. Rochford, Great Stambidge Pipe Line
(TQ 899 917-TQ 909 920)

M. Ingram, E.C.C.

Three ditches of post-medieval origin and a small undated gully were recorded. The ditches, probably field boundaries, produced post-medieval pottery and tile and some residual Iron Age and Roman material.

Finds: S.M.

41. Sandon, All Saints Church (TL 5743 2057)

R. Isserlin, E.C.C.

See this volume, pp. 279-85.

42. Thaxted, Weaverhead Lane (TL 613 309)

A.J. Wade, E.C.C.

Two large pits were located, both of 17th-century or later date, one of which seemed to cut an earlier feature. Residual Roman and medieval pottery indicate earlier activity in the area, but no direct evidence was found.

Finds: S.W.M.

43. Upminster (London Borough of Havering),
Hunts Hill Farm (TQ 566 831)

P. Greenwood and S. Waltho, P.E.M.

The 1993 phase of work was on the third field of the five to be quarried, lying on the south-west side of the site beside Aveley Road. The archaeology this time was perhaps the densest and most varied so far. Three main periods are represented:

1. Extensive settlement spanning the Late Bronze Age-Early Iron Age period, the continuation of that found in 1992 immediately to the north. Some finds and features seem more characteristic of the end of the late Bronze Age whilst others, such as the round-house, triangular loomweights and pottery with incipient footings, are clearly Early Iron Age.
2. Scant traces of Roman activity, associated with the areas to the north of the site
3. Ditches and pits with Saxo-Norman pottery, probably c. 1200 indicating a settlement, possibly a farm close to the edge of the site and the Aveley Road.

There is also evidence for rectangular buildings and structures. A number of small pits with single pots, either complete, broken in half or curiously damaged may be deliberate depositions. The most exciting discoveries were 4 large pits, interpreted as wells, dug into an old stream channel. One with a hollowed tree trunk and some timbers set into it is still undated. The others contained Early Iron Age pottery, one also with two bronze objects with decayed bone mounts, and large quantities of plant remains — timber, leaves and seeds. The excavation of these is not yet complete.

Combined with the discovery of some round-houses with similar finds at the north end of the site in 1990, the settlement evidence in 1992 and the earlier work in 1982 at Whitehall Wood, Upminster (Greenwood 1986) south of the present site, it is now clear that there were Late Bronze Age-Early Iron Age settlement and field systems spanning a distance of about 1 km here. There is also some similarity with the pottery from the Early Iron Age hillfort evaluated in 1988 at Marks Warren Farm, Romford. The settlement at Hunts Hill Farm appears, on current evidence to date to the 7th century BC.

Previous Summaries: Gilman (ed.) 1991, 159; 1992, 108; 1993, 207; Greenwood 1986; 1992.

Finds: P.E.M.

Final Report: P.E.M. Monograph

44. Writtle, Writtle Agricultural College,
Agronomy Centre (TL 677 067)

K. Reidy, E.C.C.

The site was located 150 m south east of the medieval site of King John's Hunting Lodge, Essex, east of

Lordship Road. It was being used as a car park, but had been used during the last war for vehicle maintenance and so was disturbed by vehicle-inspection pits and diesel tanks. The excavation revealed a series of pits between 1 m and 1.5 m deep and 2-3 m wide which produced 17th-century pottery; one ditch which produced no dating evidence; and a series of tree root boles (possibly a hedge-line running parallel to the road) which had disturbed a medieval feature, thereby producing pottery dated to the 13th century. This was the only medieval evidence found. A watching brief on the site was carried out during the excavation of foundations for the buildings. This revealed more post-medieval activity in the form of 2 pits.

Finds: E.C.C.; to go to C.E.M.

Watching Briefs

45. Bures Hamlet, Colchester Road (TL 9097 3327)

C. Crossan, C.A.T.

Flint finds from a watching brief on mains replacement in fields to the south of the River Stour at Bures included two large prismatic blade cores with opposed platforms, discovered in close proximity to each other during ploughsoil stripping operations. The cores are noteworthy since they may point to the existence of a local Late Glacial-Early Holocene long blade industry equivalent to that at Sproughton, Suffolk (Wymer 1985, 381). Blade and flake tools were also recovered which are possibly contemporary with the cores. No contemporary features were discernible in ground conditions which were less than ideal for observation.

Finds: C.A.T.; to go to C.M.

46. Clavering, Moat Farm (TL 439 319)

H. Brooks, H.B.A.S.

Further to observations made during 1992, a watching brief was held during the cutting of pipe trenches on the south and west sides of Moat Farm, Clavering, Essex (also known as Coldhams Double-Moated site: Essex Scheduled Monument 161). As before, no pre-18th century deposits were observed in the trenches. However, 'Tudor' brick wall lines were intercepted at several points, indicating the previous existence of an extension measuring 2.6 x 5.8 m on the west face of the farm. Whether this was a part of the original house (itself built of 'Tudor' bricks presumably in the 16th/17th century), or later work using reused material is not clear.

Previous summaries: Gilman (ed.) 1993, 197-198.

Finds: H.B.A.S.; to go to S.W.M.

47. Harlow, Fullers Mead (TL 473 093)

K. Reidy, E.C.C.

Removal of concrete revealed modern disturbance and clay-extraction features. These had been back-filled, possibly in the 18th century, with material containing a mixture of pottery dated from the 13th-18th centuries and which may be a build up of centuries of material from a nearby kiln.

Finds: H.M.

48. Harlow, Old House (TL 4835 0971)

M. Germany, E.C.C.

In 1991 a haulage road was constructed by the developers at Old House, Harlow as part of the Church Langley Housing Development. This action uncovered the remains of an Iron Age and Roman settlement. In 1993, the haulage road was widened and two additional areas were stripped by the developers. On this occasion a watching brief was maintained and previously unlocated Roman features were discovered (three pits and two ditches) and extensions were found to an additional four features (ditches) previously recorded in 1991. These features are believed to be the remains of field ditches forming part of a Roman farmstead.

Previous Summaries: Gilman (ed.) 1992, 106

Finds: E.C.C.; to go to H.M.

49. Harlow, The Tesco Site, Church Langley (TL 472 096)

J. Ecclestone, E.C.C.

Following previous evaluations and excavations at the Tesco site two areas were identified which were monitored during topsoil stripping. Area A, because of its proximity to Bronze Age settlement end; and area B because of the presence of a possible post-medieval waster pit. Area A revealed 4 small post-holes, 3 undatable and 1 with Roman shelly ware; no structural evidence was anticipated. Area B revealed a series of intercutting ditches, presumably field drains, dating to the post-medieval period, and one feature, previously identified as a waster pit. On further excavation however, it was found to cut a 20th-century pipe trench, and so the pottery within (wasters and kiln furniture) was shown to have been redeposited.

Finds: H.M.

50. Little Maplestead (TL 824 340-TL 817 340)

A. Garwood, E.C.C.

A watching brief was undertaken in advance of the renewal of a water main in the Little Maplestead area which cut through the site of a preceptory of the Knights Hospitallers (ESMR PRN 9412) on the site of Maplestead Hall. However, the watching brief only revealed two post-medieval boundary ditches and a modern landfill deposit.

51. Maldon, The Old Gasworks Site (TL 8543 0695)
G. Martin and M. Medlycott, E.C.C.

An archaeological watching-brief was undertaken during ground reduction at the Old Gasworks Site, High Street, Maldon, prior to the construction of Salvation Army housing. An area 24 x 15 m was stripped to the subsoil by machine, with an archaeologist present. The natural subsoil was a yellow-brown clay, with very few inclusions. The earliest features can be dated to the 12th-13th century, but the majority of the features date to the 14th-16th centuries AD. With the exception of the shallow gullies, all the features recorded appear to be pits. This would be consistent with interpretation of the site as part of the rear area of a property fronting onto the High Street. If so, the evidence for medieval activity would suggest development between the medieval town and the port at the Hythe, which have hitherto been interpreted as discrete settlement nuclei.

Finds: E.C.C.; to go to C.M.

52. Pleshey, Eastwyn, Backlane (TL 6642 1455)
D. Kenny, E.C.C.

A watching brief on a house extension at Eastwyn, Backlane, Pleshey revealed no activity on the site demonstrably earlier than the 19th century. However, the site produced residual pottery sherds, some dating to the early medieval period.

Finds: Ch.E.M.

53. Rayleigh, Holy Trinity Church (TL 808 909)
H. Brooks and J. Hudson, H.B.A.S.

A watching brief is being maintained on ground reduction in advance of the building of a new extension linking the north side of the church with the existing church hall. This showed that the graveyard was full — so far, more than 70 graves have been noted in the area of ground reduction. However, no remains of earlier structures have as yet been observed.

Finds: H.B.A.S., to go to S.M.

Survey

54. Aerial Reconnaissance
S. Wallis, E.C.C.

See this volume, p. 233.

55. Hatfield Broad Oak, Hatfield Forest, Warren Plantation (TL 536 197)
P. Struth, R.C.H.M.E. (Cambridge)

An archaeological survey was carried out of earthworks associated with the 'The Warren', a 17th-century rabbit farm, and the area immediately to the north (Fig. 4). The history of Hatfield Forest has been detailed by Rackham (1989) who, from documentary

evidence, suggests that the Warren was built c. 1640 by the then owner of the Forest, Lord Morley. At this date, rabbit farming was extremely lucrative — a single rabbit was worth 7d, i.e. more than half the average daily wage — and artificial warrens were being established in many areas of the country. Within a century, however, the Hatfield warren had fallen into disuse and the site is now largely wooded.

The Warren consists of 22 pillow mounds, artificial banks constructed to encourage the rabbits to burrow. Eighteen mounds are rectangular in form, ranging between 13 m and 45 m in length, although most are between 20 m and 25 m long. The mounds are flat topped, between 7 and 10 m wide and roughly 1 m high. Each is surrounded by a shallow ditch, perhaps the quarry for the mound material. The other four mounds are circular, about 5.0 m in diameter and only 0.4 m high. Despite their very different appearance, these mounds probably served the same function.

The Warren is surrounded by a ditch, enclosing an oval area roughly 4 ha (10 acres) in extent. There are very slight traces of an internal bank in places, but this is never more than 0.4 m high and often considerably less. In the south-eastern corner, the enclosure has been enlarged by the addition of a rectangular annex measuring roughly 60 m by 100 m.

Thirteen pillow mounds are arranged around the perimeter of the enclosure at irregular intervals, occasionally grouped together in pairs. The mounds were constructed along the course of the ditch and partly within it, although the reason for this remains obscure. The remaining pillow mounds are arranged end to end, forming north to south rows in the interior of the enclosure.

Rackham suggested that the 17th-century warren had exploited an existing enclosure, probably of prehistoric date. Excavation would be needed to prove this theory, since the surviving earthworks do not provide conclusive evidence, but it seems quite probable. Although rabbit warrens were sometimes enclosed by bank and ditch systems, enclosure was usually associated with the larger warrens on open heathland, seldom with small warrens of the type recorded at Hatfield. By contrast, pillow mounds often made use of pre-existing features — at Minchinhampton Common in Gloucestershire, two mounds were superimposed on an Iron Age linear earthwork.

56. Waltham Holy Cross, Royal Ordnance Works, North Site (TL 376 015)

P. Everson and W. Cocroft, R.C.H.M.E. (Keele)
Survey and recording of the site of the former Royal Gunpowder Factory was carried out following the closure, in 1991, of the government research establishment and prior to future redevelopment. The Factory had its origins in a 17th-century commercial enterprise that rapidly became one of the main suppliers of gunpowder to the Board of Ordnance. It was

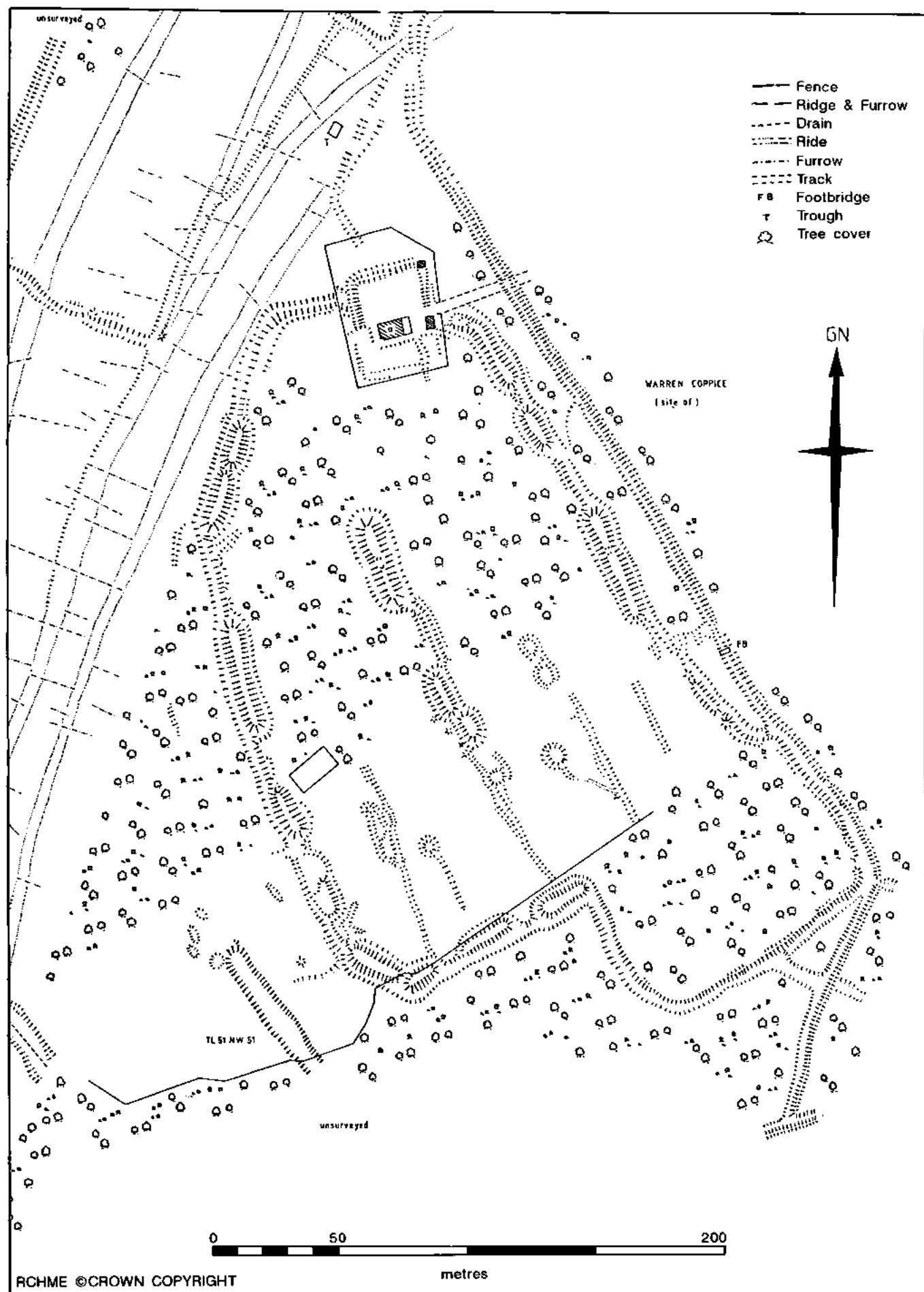


Fig. 4 Hatfield Broad Oak. Archive Field Plan of earthworks at The Warren, Hatfield Forest (© Crown Copyright).

purchased by the government in 1787, just before the Napoleonic Wars, and was substantially expanded and rebuilt. During the late 19th century, armaments technology developed quickly and specialised buildings were constructed to manufacture new products including specialised cannon powders, guncotton and cordite. During the 20th century, Waltham Abbey was responsible for the research and development of a number of high explosives including Tetryl, TNT and RDX.

The 75-acre North Site encapsulates the physical remains of the development of gunpowder and other technologies of explosives manufacture in a single monument. RCHME accordingly deployed a combination of archaeological surveyors and architectural recorders, and ground and aerial photography, to make a detailed record of the site and its components, both extant and buried. At the same time a voluminous archive of historic maps, plans, building drawings and technical manuals, as well as historic documents and photographs, has been drawn on to aid understanding of the specialised manufacturing processes of this internationally important site.

Through close liaison between the agencies, results from the project as they were prepared for archive have informed English Heritage's designation decisions

both for listing and scheduling. R.C.H.M.E.'s results and analysis have been prepared as a report for deposit in the National Monuments Record in the normal way, together with a large supporting archive.

57. World War II Defences

F. Nash, E.C.C.

A pilot survey was carried out to record pillboxes and other World War II defences in three areas of the Essex coast (Burnham and Foulness, Mersea Island, Holland Haven and Frinton). Prior to this study, 25 pillboxes and one searchlight emplacement had been recorded from these areas, but this research more than doubled the record with the addition of a further 37 sites. These included several rare structures, e.g. a decoy bunker on Mersea Island, a coastal artillery emplacement which has been converted to a cafe at East Mersea, and a two-storey minefield control tower near Burnham on Crouch (Plate I).

Later in 1993, a second pilot study was conducted in Epping Forest District. This was aimed to assess the survival of inland defences and included the North and South sites of the Waltham Abbey Royal Ordnance Works, as well as the important fighter base at North Weald. The survey established that the Royal Ordnance Works were comprehensively ringed with

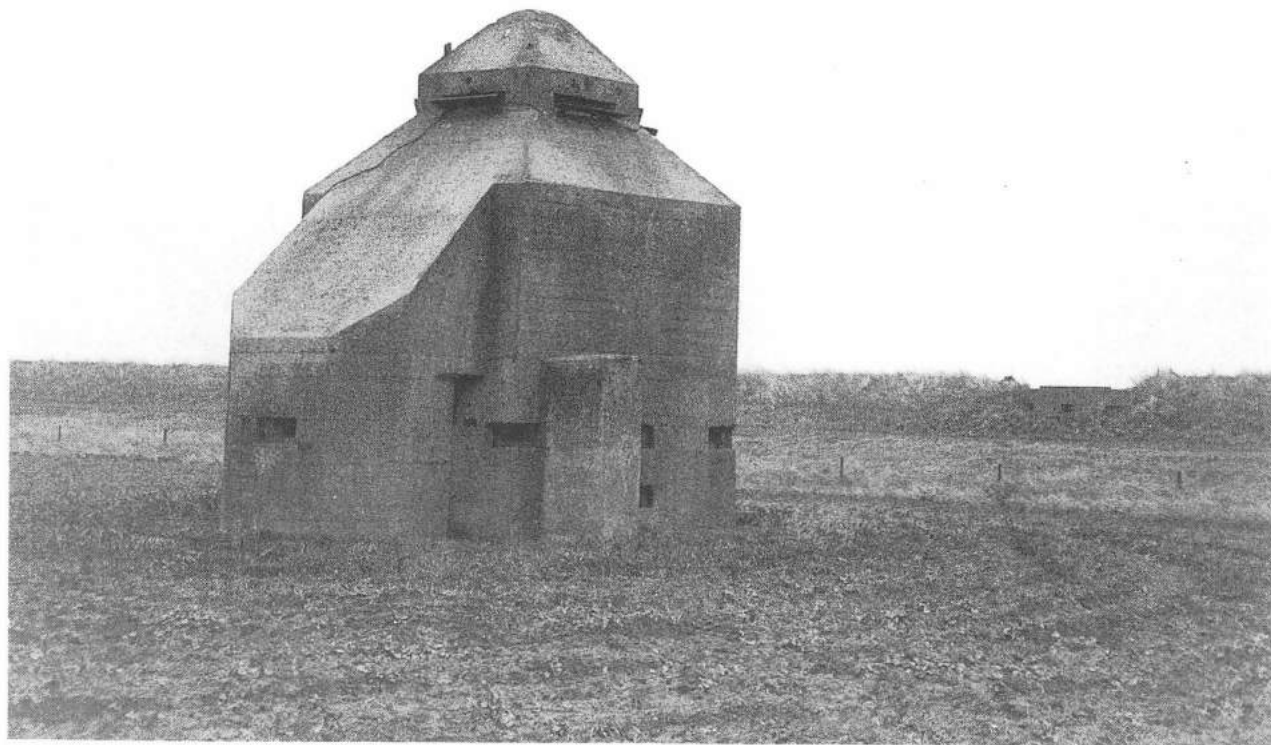


Plate I Minefield Control Tower near Burnham-on-Crouch. (Photo F. Nash.)

pillboxes, observation posts, and anti-aircraft gun emplacements. Overall, although only four sites had previously been recorded (Wills, 1985), 24 sites were discovered, 15 of which still survived as standing monuments. The latter included some rare survivals,

such as an anti-aircraft gun platform on the River Lea, and a steel Alan-Williams turret at a decoy airfield at Nazeing. The most surprising discovery was that of three retractable Pickett-Hamilton forts at North Weald airfield, two of which were actually *in situ*.

Abbreviations

Bt.M.	Braintree Museum
Ch.E.M.	Chelmsford and Essex Museum
C.A.T.	Colchester Archaeological Trust
C.M.	Colchester Museums (formerly Colchester and Essex Museum)
Cw.A.T.	Cotswold Archaeological Trust
E.C.C.	Essex County Council
E.F.D.M.	Epping Forest District Museum
H.B.A.S.	Howard Brooks Archaeological Services
H.M.	Harlow Museum
P.E.M.	Passmore Edwards Museum
R.C.H.M.E.	Royal Commission on the Historical Monuments of England
R.H.F.A.G.	Rochford Hundred Field Archaeology Group
S.E.A.S.	South-Eastern Archaeological Services
S.M.	Southend Museum
S.W.M.	Saffron Walden Museum
W.A.H.S.	Waltham Abbey Historical Society

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The Society is extremely grateful to Essex County Council for a generous grant towards the cost of publishing this article.

Shorter Notes

Palstave from Billericay (TQ 6695 9315)

N. Brown

Part of a Middle Bronze Age Palstave was recovered by metal detector, and reported to Mr S. Weller of the Billericay Archaeological and Historical Society, who arranged for the object to be loaned to the Archaeological Section for recording.

The axe fragment (Fig. 1) was recovered from a slope overlooking the headwaters of the River Crouch. The object is the butt end of a Palstave (wt 138g). The blade is missing, having been cleanly broken off, possibly in antiquity. There is much corrosion damage particularly to one face and side. The butt end is damaged. A blade midrib is continued through a deeply inset 'shield' to form a trident pattern. There are three short vertical ribs, on the septum immediately above the stop ridge; these are partly removed on one face by a deep blow hole beneath the stop ridge. The side least

affected by corrosion damage has a clear line of casting flash.

Attribution of particular Palstaves to a detailed classification is frequently difficult (Schmidt and Burgess 1981, 129), and this is especially so in view of the missing blade of this axe. However, the surviving features would seem appropriate to Schmidt and Burgess (1981) Type Wantage, Variant Blackrock.

Private possession.

Reference
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and Burgess C.
1981

The Axes of Scotland and Northern England,
Prähistorische Bronzefunde, IX.7

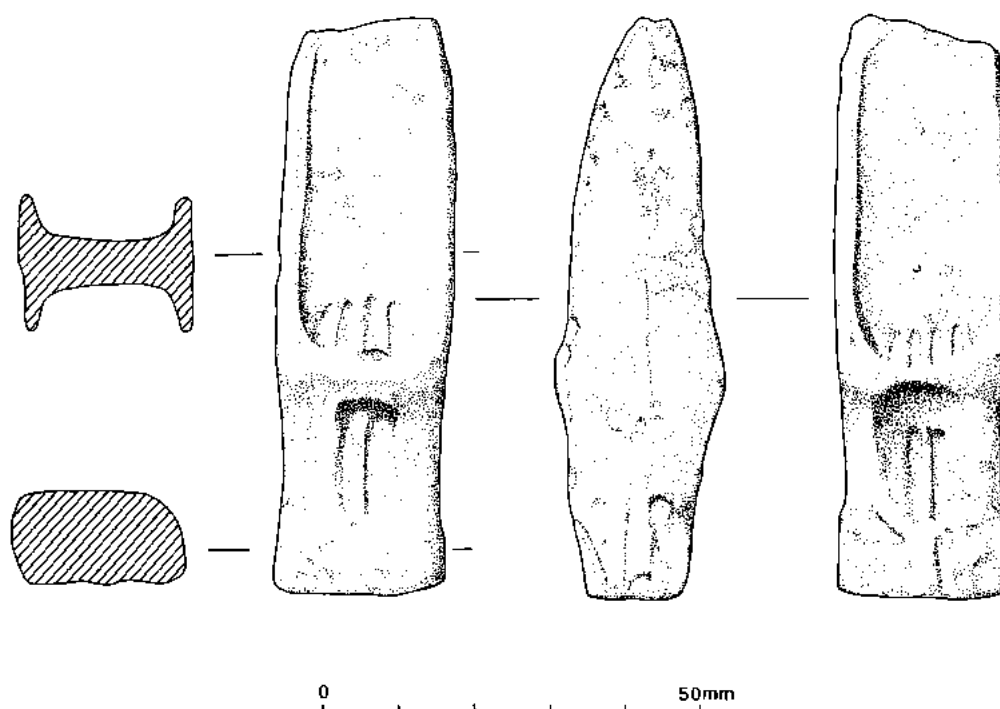


Fig. 1 Palstave from Billericay.

Early Iron Age occupation at Saffron Walden: excavations at the Friends School, 1993

J. Ecclestone

A number of early Iron Age features were identified on a housing development site at the southern edge of Saffron Walden. The most prominent feature was a group of inter-cutting pits, interpreted as quarries or working hollows, and implying settlement nearby.

Introduction

The site was first evaluated in August 1993, according to a brief produced by Essex County Council Archaeological Advisory Group, prior to planning permission being considered for a residential development by McLean Homes Ltd. The evaluation by trial trenching located several features with no dating evidence across the site, and a dense concentration of activity in the north-west, comprising part of a complex of pits and a post hole. This latter area was deemed worthy of further excavation and so in December 1993 an area 20 x 24m was opened up (Fig. 2). The stripped area was located so as to completely expose the complex of pits, and also to assess the extent of further activity in the area.

The site is located on the southern edge of Saffron Walden, 2.5 km east of the river Cam on a mixed subsoil of glacial chalky boulder clay and pure outcropping chalk. Processes of decalcification have led to large lenses of orange clay settling in hollows, which are visible at subsoil level and occur frequently on this site (Limbrey 1982, 35).

Prior to the 1993 investigations a few features of early prehistoric date were known in the vicinity: a series of deep pits and sections of ditch, parts of which contained human skeletal material, were excavated in the late nineteenth century about 500m to the north of the development site (Bassett 1982), and worked flint was found at the centre of the site (Essex Sites and Monuments Record PRN 0507).

Excavation

The area was excavated by machine onto the surface of the subsoil, which was then cleaned by hand. Features were then investigated by excavated sections.

The complex of pits (F45) first identified in the evaluation extended east and westwards over a length of 11 metres, and was marked by a large, deep and regular pit (F34) at its north-west end (Fig. 3). Towards the east end, the pits became progressively shallower and smaller. The feature appeared to be made up of twenty-three pits, four of which were not excavated but were suggested by the plan. They were generally circular/sub-circular in plan with a regular bowl-shaped profile (Fig. 3). They can be divided according to dimension into two groups, 'small' and 'large', where 'small' has breadth between 0.9m-2.95m (average of

0.61m) and depth between 0.2m- 0.65m (average of 0.35m) and 'large' has breadth between 0.9m-2.95m (average of 1.41m) and depth between 0.1m-1.3m (average of 0.54m). Six pits fall into the small category and seventeen into the large. Because of the highly truncated nature of many of the pits the measurements of some are approximate. However the split between the two sets of dimensions is clear.

The pits all exhibited similar vertical sections, filled with various silts and clays, with a marked lack of humic fills (Fig. 3). The whole complex of pits was finally filled by a homogeneous layer of silty loam to a depth of 0.25-0.5m (Fig. 3, sections B, C and D). There were few finds from the whole complex: pottery, struck flint and bone was found, but only in low densities. 102g of pottery was recovered (37 sherds) of which 24.5% by weight (4.07% by number) came from the top fill of silty loam. Of the remainder of the assemblage, most was found in lower or primary fills of segments excavated, with 55.6% by weight (8.34% by number) coming from F34, the large pit at the north-west end.

To the north of this feature, and running partially under the northern edge of excavation, was a large, deep oval pit (F21), similar in form though smaller in dimension to F34. All of the fill was removed to reveal undercut edges and a wide flat oval base, with a ledge on the southern side. The three fills of this feature were more organic than previously seen, and produced most of the pottery from the site, largely from just two vessels.

One isolated post hole (F10) was found at the west side of the excavated area which is probably associated with a similar one found during the evaluation, 10 metres to the south (F15). Its dimensions however are very similar to the pits in the 'small' category. Pottery and small fragments of bone were retrieved from this feature, which may have held posts for a fence line, or a structure possibly associated with the activities occurring at the pit complex.

Finds reports

Prehistoric pottery

by Nigel Brown

A small quantity of pottery (137 sherds, weighing 874g) was recovered from the excavations, and was recorded using the standard method for prehistoric pottery in Essex (details in Archive). All percentages in this report refer to number of sherds/sherd weight, in that order.

A range of flint-tempered (57%/39%), flint-and-sand (21%/48%) and sandy fabrics (11%/12%) were present, a few sherds (11%/1%) being too small to allow fabric classification. This range of fabrics is typical of early Iron Age assemblages in Essex (Brown 1987/1988), and the few rim sherds would also be appropriate to an early Iron Age date (Fig. 4).

The pottery from most of the features on the site, notably the complex of intercutting pits in the centre of the excavation trench, produced relatively little pottery, mostly of small sherd size and with a high degree of abrasion. It is likely that this pottery was only incidentally incorporated into the feature fills. The material from

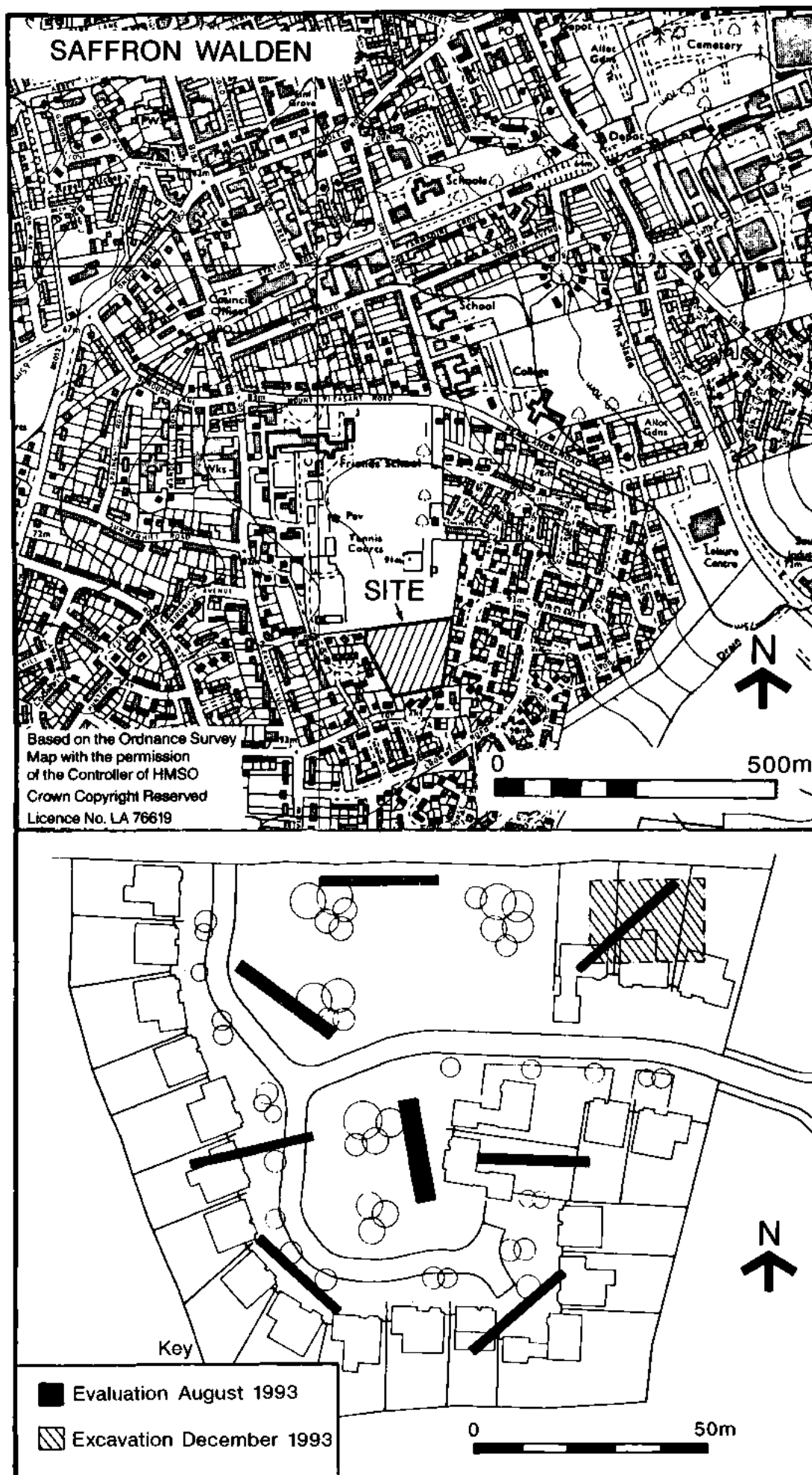


Fig. 2 The Friends School, Saffron Walden. Site location.

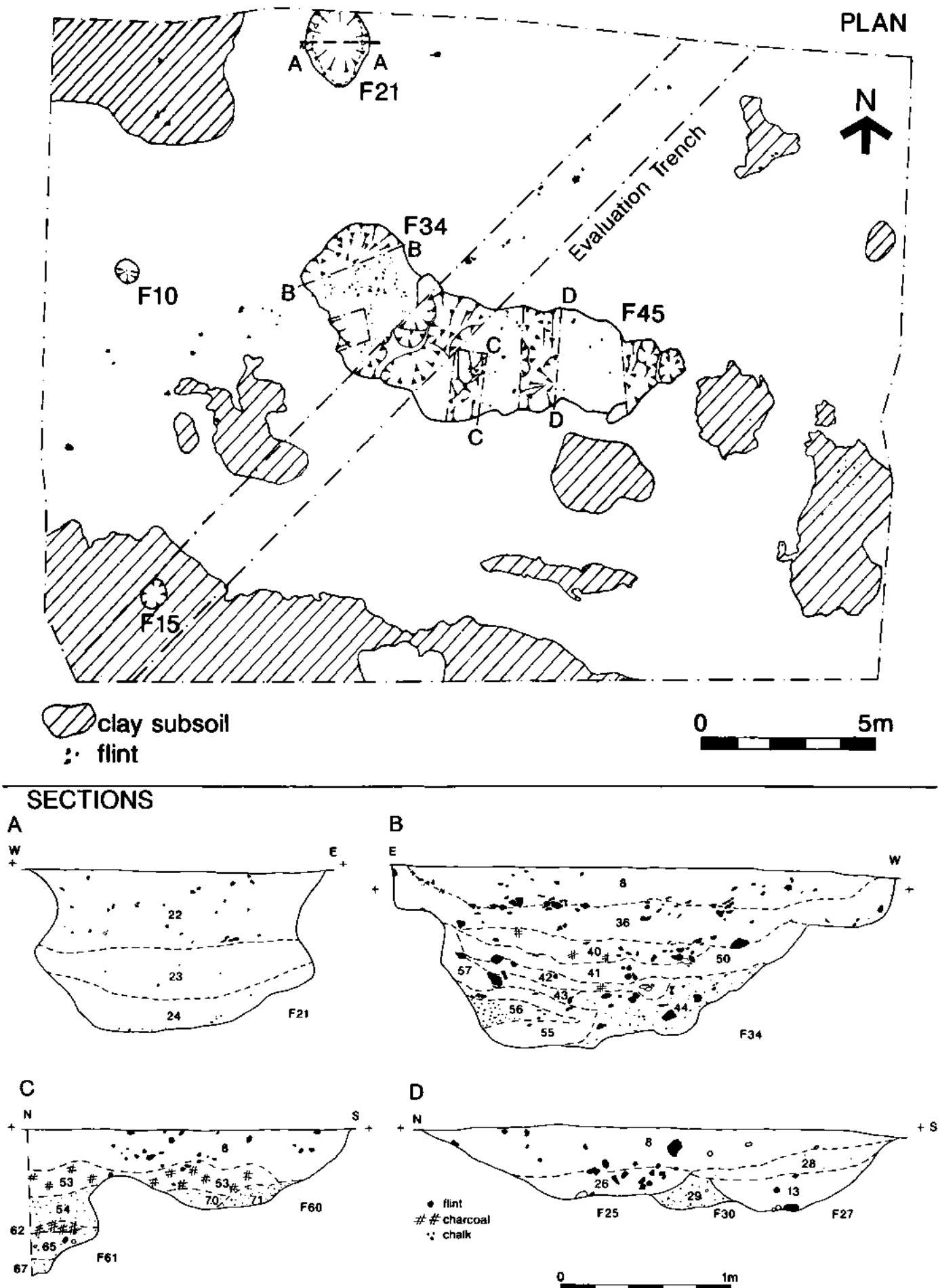


Fig. 3 The Friends School, Saffron Walden. Plan and Sections.

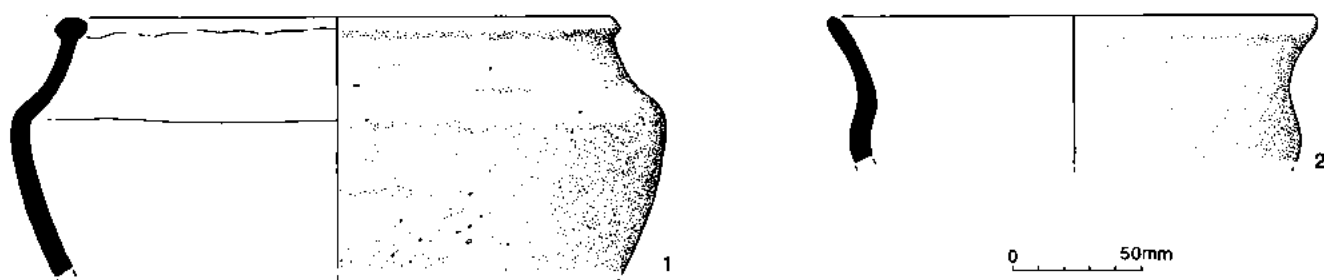


Fig. 4 The Friends School, Saffron Walden. Early Iron Age pottery, from F21.

1. Rim of round shouldered jar, smoothed surfaces. Flint and sand temper.

2. Rim of jar, roughly finished, sand temper with occasional voids left by burnt-out vegetable matter.

F21 is quite different. Most of the pottery recovered from the excavation came from this feature (59%/76%), and the assemblage included large parts of two jars (Fig. 4, nos 1 and 2). It is likely that the material was deposited soon after breakage.

Lithics

by Louise Austin

Thirty-two pieces of struck flint were recovered from the excavation, which were technologically suggestive of the later prehistoric period, more specifically the late Bronze Age/early Iron Age. The majority of the assemblage was flakes with wide plain butts. There were no distinctive tool types, or evidence of deliberate retouch except the use of a large flake as a core or scraper.

(Details in archive.)

Faunal Remains

by Alec Wade

The sample consisted of 41 pieces of bone derived from nine contexts, weighing a total of 220.5g. The assemblage was too small to provide any statistically reliable data regarding the local economy or diet. The preservation of the individual bones was poor, and only two species were identified, *Ovis/Capra* and *Bos*.

(Further details in archive.)

Discussion

The pit complex, F45

The density of activity in this area was high, with up to 8 pits identified in one segment. This does not imply successive phases of excavation, however, as each pit was cut to a similar depth to those surrounding it, and there is no sign of pits having been cut purely into the backfill of earlier pits. It is likely that the excavation of these pits was carried out in one or a few phases, which were close enough together in time to have prevented a large degree of silting to have occurred in between. The pattern of backfill is seen in the recorded sections as one of deposits of weathered material and small deposits of debris: rare patches of charcoal-rich material occur, as do occasionally more organic lenses. At a later date, the pits appear to have been abandoned simultaneously, as the top fill which covers the complex occurs to a similar depth across its entirety.

The lack of organic material and finds in the fills suggests that the pits were not intended for the

disposal of domestic debris, although the pottery and organic rich fills of pit 21 shows that there must have been settlement reasonably close by. Their shape and intercutting nature would seem to rule out storage being their function.

Comparable features of the same date have been recorded at Beacon Green, Maldon, Essex (Bedwin 1992), and further afield at Winnall Down, Winchester (Fasham 1985). The former were considerably larger, and fewer in number, but with very similar fills. The latter, a complex of 27 pits of similar size to those in F45 contained a higher density of pottery. Both sets were interpreted as quarry pits, and as they were sited on clay and chalk subsoils respectively this is a reasonable conclusion. The chalky boulder clay subsoil at the Friends School site may have been used as a building material similar to 'cob' of more recent times. The large lenses of orange clay found commonly across the site would also have been useful as potting clay if they were located. Finally, flint nodules occurred frequently in the subsoil at this location; its retrieval may have been either the purpose of, or a by-product of, the excavation of the pits.

A further example of similar features is at Little Woodbury, Wiltshire (Bersu 1940). These cover an area of c. 70m x 15m and are generally less than 1m deep. Here, the clean nature of the fills, apparent re-cutting/'cleaning' of the pits, ledges or 'sitting places' throughout the feature, and use of ethnographic analogy has led to their interpretation of 'working hollows'. This interpretation can be reasonably applied to F45; unfortunately no direct evidence of the activities involved was recovered.

F21

This pit, which has a slightly bell-shaped profile and a flat base is likely to have been a storage pit, measuring 1.0m deep and 1.8m wide (Fig. 2, section A). It is filled by three similar deposits of dark brown silty loam from which were recovered bone and pottery. The pottery, which all came from the top fill, was of similar

type to that found in F45, but was much less abraded and fragmented, which suggests deposition soon after breakage.

Features 45 and 21 had very different patterns of backfilling, the former casual and to a large extent natural, and the latter used as a dump for large deposits of material. This suggests that either they both had specific functions after their initial use which prohibited the dumping of rubbish in F45, or, that they were not open at the same time; it might be expected that two redundant features in close proximity would either be used, or abandoned in a similar manner.

Acknowledgements

The archive and finds will be deposited in Saffron Walden Museum. The excavation team consisted of E. Guttman, M. Holdsworth and L. O'Sullivan. The excavation was funded by McClean Homes. Illustrations were produced by I. Bell and J. Ecclestone.

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Roman Road at Ingatestone

J.V.H. Kemble

Pipe-laying along Ingatestone High Street in August 1993 provided an opportunity to monitor evidence for the existence of the London-Colchester Roman road. This is believed to have followed the line of the High Street.

Two sections were observed, the first just outside the the Crown Inn at the south end of the High Street, the second 250 m to the south of the Inn. Although considerable road build-up was noted, there was no positive evidence of a Roman road, nor were any Roman finds made.

A note on three Saxon brooches from Pishiobury, near Harlow

Susan Tyler

Three Anglo-Saxon brooches were found by metal-detector users in an area opposite Pishiobury Park on the Essex side of the river Stort to the north-east of the town of Harlow. The three brooches are broadly contemporary and may all derive from an Anglo-Saxon cemetery, much disturbed by gravel extraction, sited adjacent to the river Stort.

1. *Small-long brooch* (Fig. 5). Copper alloy. Triangular headplate; short, sharply curved bow; triangular footplate. Decorated with deeply incised parallel lines (in groups of twos, threes and fours) running across the headplate, bow and footplate; giving the surface of the brooch a corrugated appearance. In good condition. Surfaces slightly pitted; corners of headplate slightly damaged. Pin missing; catchplate and hinges incomplete. Length: 39mm. Max. width of headplate: 24.5mm. Max. width of footplate: 13mm.
2. *Cruciform brooch*. Copper alloy. Narrow headplate with single fully-rounded knob. Plain, sharply curved bow; flat decorative panel below. Narrow foot with highly stylized animal-head terminal. Decoration both on the headplate and the panel beneath the bow comprises two diagonally(-)opposed intersecting incised lines. In good condition. Surfaces pitted. Pin missing; catchplate and hinge complete. Length: 66mm. Max. width headplate: 8mm. Max. width of terminal: 7.5mm.
3. *Small-long brooch*. Copper alloy. Trefoil headplate; fairly narrow sharply curved bow; flattened oval footplate with circular terminal. Decoration on the headplate comprises 4 'bull's eyes' (formed by 2 incised concentric lines and a central dot). Bow decorated with 4 incised chevrons. Footplate has 4 'bull's eyes' as on the headplate. In fairly poor condition. Surfaces pitted and flaking. Edges damaged. Pin missing; catchplate and most of pin-hinge broken off. Length: 65.5mm. Max. width of headplate: 22mm (incomplete). Max. width of footplate: 14mm (incomplete).

The small-long brooch with triangular head (No.1) does not fit easily into any of Leeds' categories for the classification of English small-long brooches (Leeds 1945, 8-44); and must be regarded as an abnormal type. The brooch with its triangular footplate, as well as headplate, bears some resemblance to late fifth century 'equal-arm' brooches and may be a derivative of these. The simple incised parallel line decoration

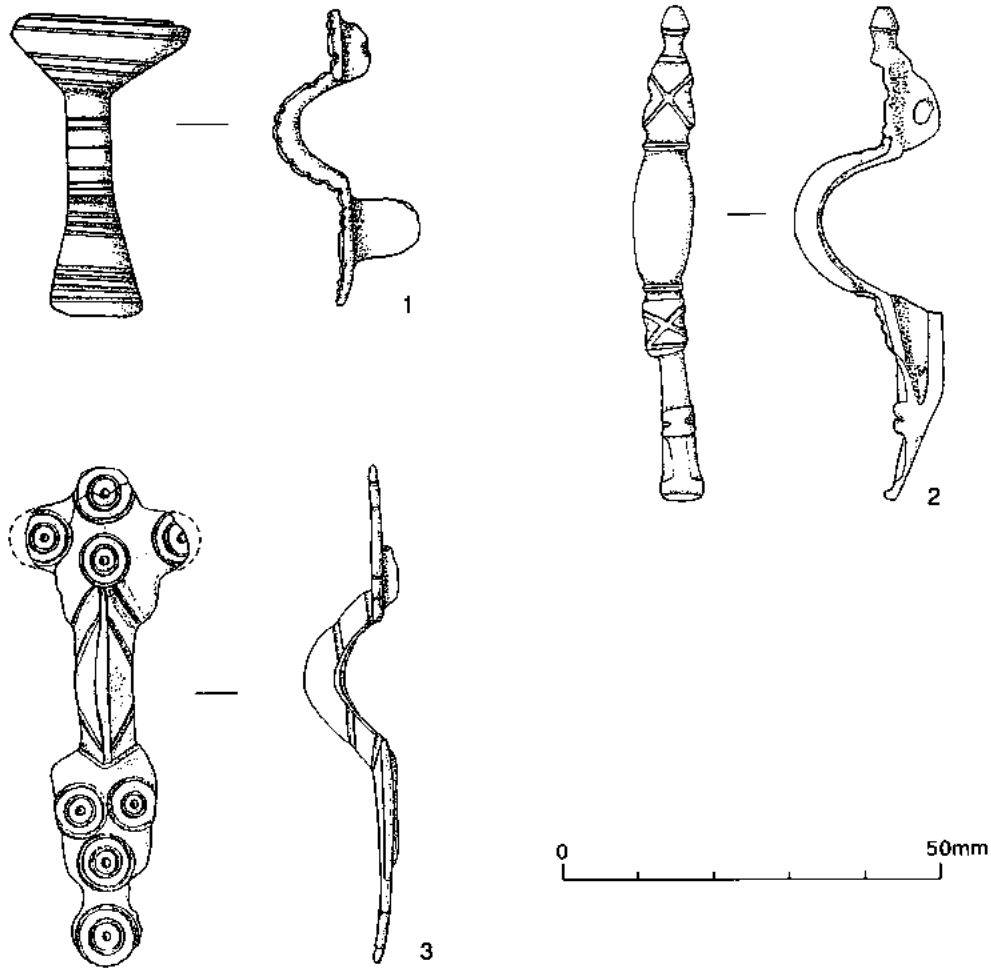


Fig. 5 Three Saxon brooches from Pishiobury.

suggests an early date for its manufacture, perhaps late-fifth to first half of the sixth century.

The cruciform brooch (No.2) is also an early type. The brooch has a narrow headplate with a central fully-rounded knob; it is simple and unelaborate in its decoration and has a splayed foot depicting an extremely stylized animal head. These characteristics place the brooch within Åberg's Group I (Åberg 1926, 33-6) suggesting a date of manufacture sometime during the middle of the fifth century. A number of similar brooches come from Suffolk and Cambridgeshire (Åberg 1926, figs 44-48).

The trefoil-headed small-long brooch (No.3) is slightly later than the other two. It does not have the long plain splayed foot that is a characteristic of the late-fifth to early-sixth century trefoil-headed brooches. Instead it has a large flattened ovoid footplate facilitating ring-and-dot decoration (as on the headplate); this characteristic is found on a number of small-long brooches from Surrey, Kent and Essex. A small example from Guildown, Guildford, Surrey (Lowther 1931, 22) has similar ring-and-dot decoration on both

head- and footplates; the headplate is however square, unlike the trefoil-headed Pishiobury example. The same is true of a brooch with similar decoration from the Anglo-Saxon cemetery at Buckland, Dover (Evison 1987, fig. 9.5); it also has a square, rather than a trefoil headplate. Ring-and-dot (bull's eye) decoration is found on the headplates of other trefoil-headed small-long brooches; the West Kent cemetery at Horton Kirby (Hilton 1980) produced a brooch with a headplate very similar to the Pishiobury example, but without the flattened ovoid footplate. The Pishiobury trefoil-headed small-long brooch does not fall into any of the major types identified by Leeds (1945, 8-44), but it does share some characteristics with a number of brooches, mostly from Kent (for example from the cemeteries at Bifrons and Sarre) grouped together as 'unclassified' by Leeds (1945, 40-43, figs.25-6). In Essex, the late-fifth to early-seventh century Saxon cemetery at Springfield Lyons, near Chelmsford has produced a number of sixth century small-long brooches with ring-and-dot ornament (Tyler 1987, 18, fig.15.1), but the headplates are either square or semi-circular. It

seems most plausible that the Pishiobury trefoil-headed small-long brooch is a mid-sixth century elaboration on the classic design of trefoil head and long narrow splayed foot seen on earlier examples.

Acknowledgements

The brooches were handed to Harlow Museum for identification and were drawn by Betty Gobel.

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Great Bardfield church unmasked: the Norman church beneath the 14th-century embellishment

Howard Brooks with D.D. Andrews

The digging of a dry area around St Mary's Church in 1991 provided an opportunity to examine the church foundations. What has always been thought to be a largely 14th-century church was revealed to incorporate earlier fabric. In the light of these observations, the account of the church given by the Royal Commission on Historic Monuments can be amended, and it is proposed here that the earliest church dates to the Norman period.

Introduction

St. Mary's is a large parish church with a tower, nave aisles and chancel. The massive 12th-century tower is well known for the huge clock face filling its north side. The church is otherwise 14th century in appearance, with a porch and square-headed traceried windows of that date, as well as, most famously, a stone rood screen separating nave and chancel, a feature it shares with Stebbing and Trondheim.

Relatively high external ground level had caused dampness inside the church. To counteract this, a dry area was excavated around the perimeter of the building in October 1991 leading to the exposure of the church foundations (except for the porch where little

of the foundations were uncovered). The investigation and recording were confined to the relatively narrow trench already dug by the contractors. Although the trench bottom could easily be cleaned out in some areas to reveal underlying foundations, the proximity of graves meant that it was impossible to widen the trench to any great extent. The objective was therefore to record and photograph what was exposed, and to interpret the findings against the visible fabric of the church and the descriptions of it in the Royal Commission on Historic Monuments (RCHM 1916), and Rodwell and Rodwell (1977).

The tower

The church tower was found to sit on a foundation with a pronounced projection made of Roman brick and flints in sandy orange mortar. There are two ways in which the present tower differs from this foundation:

- (1) The first is in alignment and size. On the north side of the tower, the foundation projects between 120mm and 200mm beyond the face of the tower; and on the west side between 600mm and 700mm. However, the greatest divergence is on the south side, where it projects 450mm at the west end, after which the edge of the foundation follows a quite different alignment and merges into the angle of the tower and south aisle walls.
- (2) The second difference is in the masonry: the present tower is mainly of flint, with only an occasional Roman brick fragment; the foundation is quite different, and consists of re-used Roman brick, flints and other stone.

The foundation was also observed to be of one build with the foundation of the west wall of the south aisle, showing that these were contemporary.

A point of considerable interest is that large stones were found incorporated into the south-west and north-west corners of the early tower foundation. They were similar to, but probably not as large as, the boulders presently visible under the east end of the chancel.

In the 18th or 19th century, the flint facing of the tower at ground level was replaced with three courses of red brick. These inserted brick courses have created a plinth, which now projects 50-80mm out from the wall faces.

The misfit between the tower and foundation in both alignment and fabric indicates that the sandy orange mortar foundations are of an earlier period than the present tower. There is no reason to dispute the dating of the tower by the RCHM (1916) to the late 12th century, though the Rodwells (1977, 95) prefer the late 12th or early 13th century. These new observations, however, make it clear that there was an earlier tower datable presumably to the 11th or 12th century.

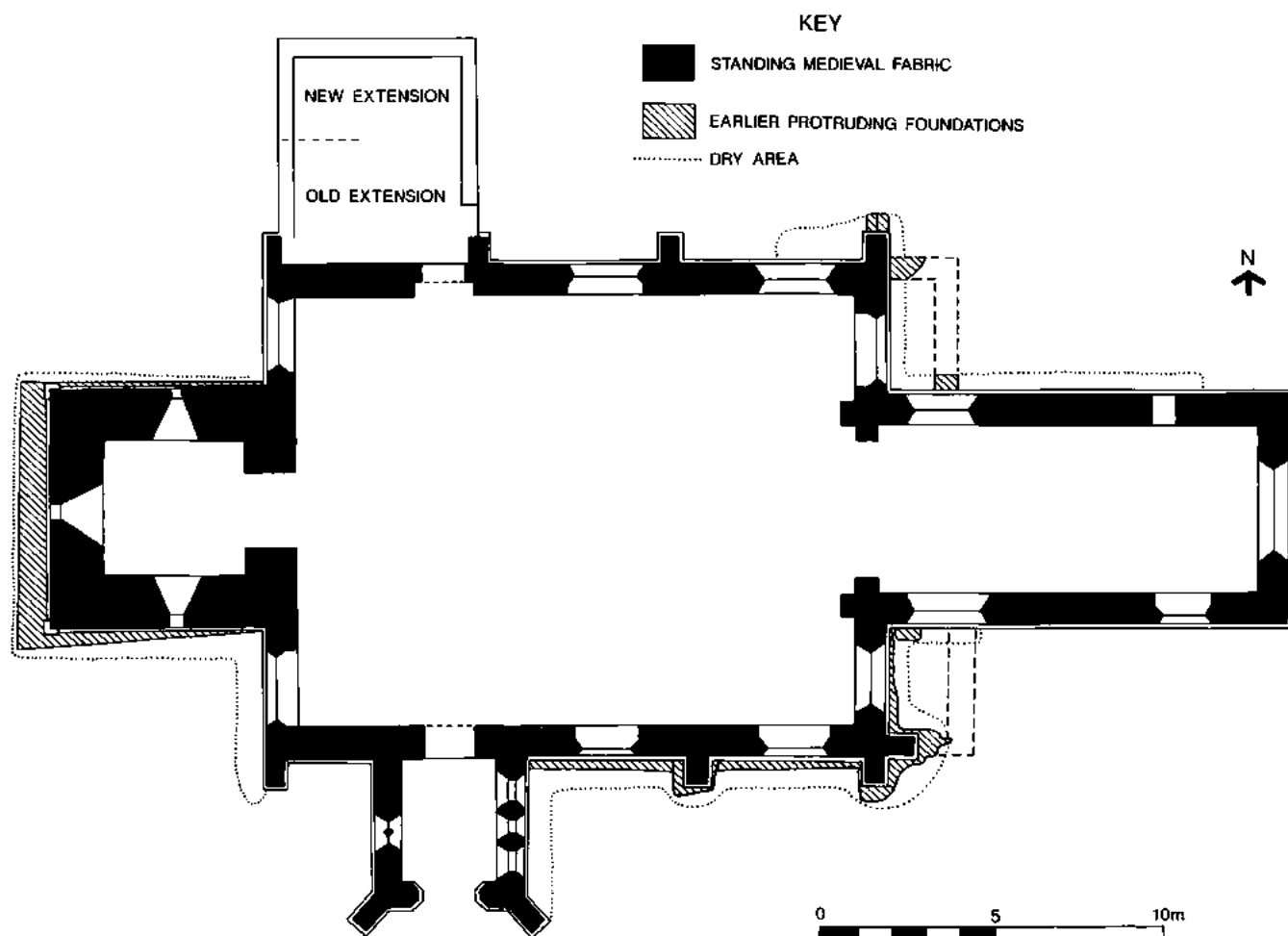


Fig. 6 Great Bardfield church. Plan showing the excavated dry area.

The south aisle

Cutting back of the present wall face in 1991 showed that, on the west and south faces of the aisle, the existing plinth made of flint with oolitic limestone dressings has been applied to an earlier wall or foundation of flints in orange mortar. The orange-coloured mortar of the earlier wall matches that of the tower foundation, and, as already noted, the two are bonded together, though the top of the earlier wall is about 200mm above the level of the tower foundation.

The face of the earlier wall is flush with the upper part of the existing aisle wall, but there was a break between the two, the earlier wall or foundation being smooth sided and the upper part of the wall more roughly finished.

The buttress at the south-west corner of the aisle is clearly an addition. It has a quite different, wholly flint foundation, and the front face of the earlier wall has been cut back to allow the added buttress to be keyed in. This buttress was probably contemporary with the plinth.

The buttresses in the centre of the south aisle wall, and at the south-east corner of the aisle, are earlier than the existing face of the aisle wall, which seals them. The buttresses were also seen to sit slightly askew on earlier foundations bonded with light brown mortar which pre-date the plinth. The existing buttresses are rebuilds on these foundations belonging to the same phase as the plinth.

At the south-east corner of the aisle, it was evident that its south wall originally extended further eastward as the early foundation bonded with the orangey mortar was traced for 1.5m in this direction. A northward return for it was not seen, nor was there any sign of it on the chancel wall. This shortening of the aisle may explain the rather unusual ragged foundation of its east wall. The existing angle buttresses showed the same sequence as that in the centre of the south wall, in that they had been rebuilt on an earlier foundation apparently contemporary with the plinth and added to the face of the earlier wall.

The south chancel wall

In the angle of the east wall of the south aisle and the south chancel wall were two features of interest. The first was a mortar pad of unknown depth (but over 40mm) underlying several ashlar blocks which seemed to be earlier than the two walls. The second was what appeared to be a mortar layer (at least 20mm deep), which had a floor tile *in situ*, probably part of an early floor. Two other floor tiles were found loose in the bottom of the excavated area at this point (Fig. 8). It is important to note that the mortar and the tile were sealed by the chancel wall. This is clear evidence that what is now outside the church was formerly a tiled internal area. The mortar pad did not have a neat edge against the tile floor, suggesting the two features were not contemporary.

Both the south and the north chancel walls had been repaired at their bases in brickwork which looked 17th-18th century in date.

The north chancel wall

Most of the length of the trench dug around the north chancel wall was quite shallow, and it was only at the west end that any meaningful observations could be made.

A mortared flint foundation was found running north from the chancel wall, and then west under the east end of the north aisle. Its south end had a rather rough edge close to the north chancel wall. This was clearly a medieval wall line, of a similar fabric to the chancel wall. This foundation was presumably the original north-east corner of the north aisle, and had been cut through by the existing chancel wall. It is comforting that this is exactly the same situation as revealed at the junction of the south aisle and south chancel walls, except that the old east wall was seen on the north, but not on the south side of the church. A mortar pad was also found in the angle of the chancel and aisle walls, again mirroring the pad in the angle of the south aisle and chancel walls. However, in this case there were no ashlar blocks associated with it.

A row of bricks (225 x 105 x 60mm) laid on edge ran north from the chancel wall. The bricks were not mortared, and do not seem to have had another course above them. Gentle probing showed a firm surface extending from the wall towards a grave stone to the north. Therefore the bricks are probably the remains of a low wall running around this particular grave. It may be the case that the wall joined up to the brick wall running east out of the east wall of the north aisle, forming an enclosed rectangular area containing the grave mentioned above, and also a box tomb dating from 1812.

The north aisle

Raking out on this wall was limited, but at the one point where the present plinth was cut back at foundation level, the older, orange mortar face was visible, as

on the south side of the church. Additionally, and mirroring the situation on the south aisle, all three exposed buttresses rested on earlier footings (the north-western buttress is now half hidden by the vestry and therefore was not exposed). In the case of the eastern buttress, the earlier footing projected 550mm north of the aisle wall, and in all cases there was an identifiable north edge (i.e. these are earlier buttresses, not wall lines). As in the case of the south aisle, the present flint footing under the Barnack plinth overlies the earlier period of footings.

A revised structural history of St Mary's, Great Bardfield

In terms of the building history of the church, the significance of the 1991 observations is as follows:

- 1) there was a church with a large west tower, very slightly larger than the existing one, and nave and aisles in essentially the same position as today. The existing chancel probably belongs to this build as its foundations were observed to be similar to those of the aisles. This phase is characterised by orangey mortar, and the tower at least included a relatively large amount of reused Roman brick. The aisles extended 2m further east than they do today.
- 2) the existing tower is a rebuild of the earlier one.
- 3) at some date before the major 14th-century rebuild, buttresses were added to the church, at least two on the south aisle and three on the north aisle.
- 4) as part of the 14th-century rebuild, the plinth was added to the earlier walls and the buttresses rebuilt and maybe some added. It was probably at the same time that the aisles were shortened.
- 5) repairs have been made in brick to the base of the chancel walls, and also to the south-east corner of the south aisle, probably in the early 19th century.

It remains to square these discoveries with the conventional history of the church, for which, as usual in Essex, we have to turn to the magisterial survey by the RCHM¹, which proposed this sequence:

1. late 12th-century tower. The chancel was also suspected of being 12th century, and the possibility was hinted at of the aisles and porch predating the 14th century.
2. major rebuild in the 14th century: the porch is placed early in that century, the arcades, aisle windows, and screen to the end of it.
3. early 17th-century chancel roof.
4. 19th-century restoration.

The 1991 discoveries make it clear that there was already a substantial church at Great Bardfield with a tower, nave, aisles and chancel before the construction of the existing tower which is datable to the late 12th

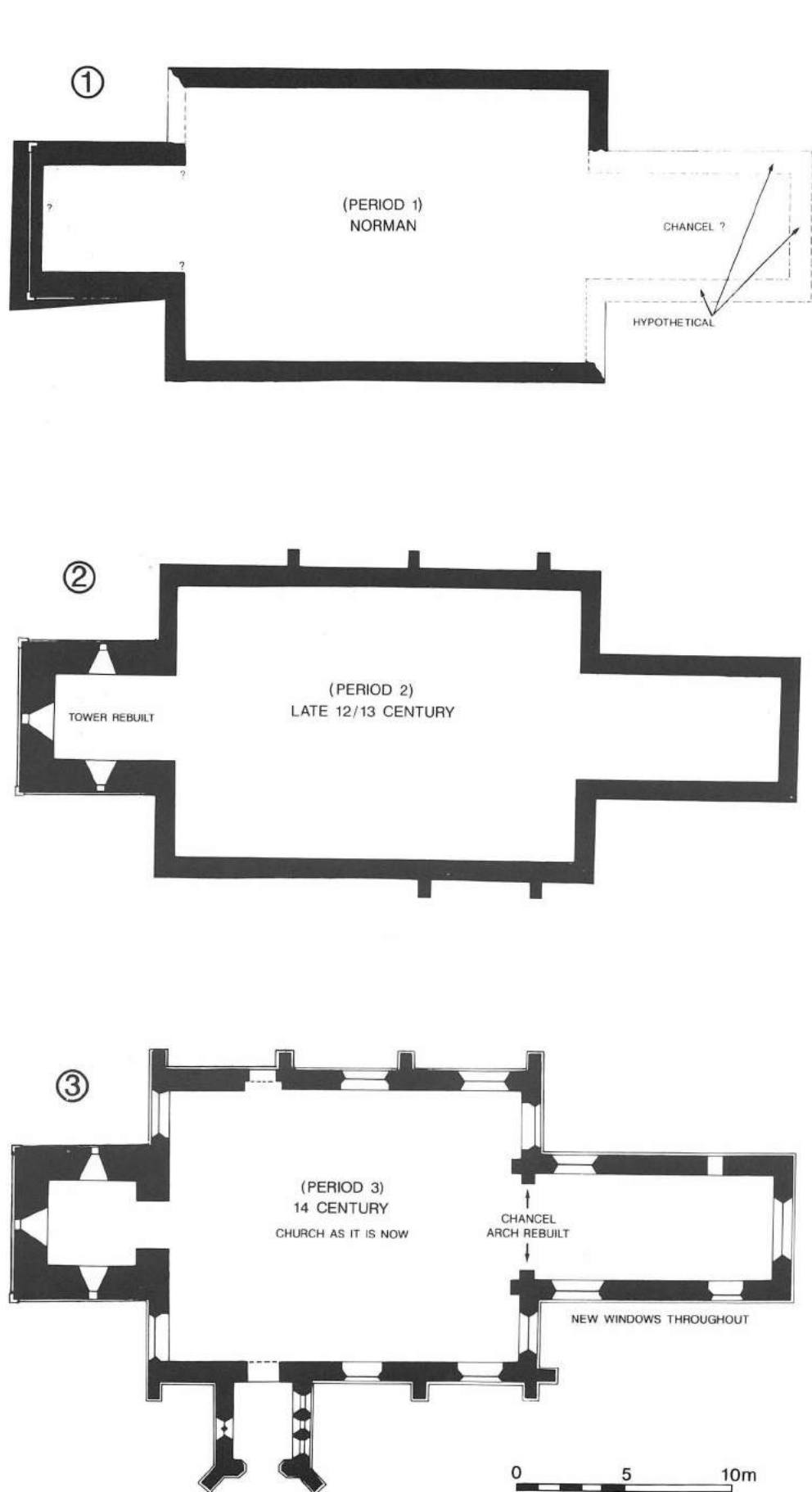


Fig. 7 Great Bardfield church. Phase plans showing the development of the church.

or early 13th century. The date of this church can only be a matter for speculation, but it can hardly have been much earlier than 1100 and is more likely to have been early 12th century. The 14th-century work is revealed as something less than a major rebuild: externally it constituted a cosmetic updating of an already old building through the insertion of new windows, and the addition of a plinth and buttresses. The shortening of the aisles is not readily explained. It may be that in the earlier church the aisles overlapped the sides of the chancel. Alternatively, the chancel was slightly shorter than today, in which case the bay division of the arcades in the early church was rather different to that of the 14th-century one.

Putting the two sequences together, we arrive at the following building history for St. Mary's:

- I. church with tower, nave, aisles and chancel earlier than the late 12th century or the early 13th century.
- II. existing tower, built in the late 12 or early 13th century.
- III. buttresses added to aisles.
- IV. early 14th-century porch.
- V. major rebuild later in the 14th century. The main aspects of this observed in 1991 were (a) the addition of the plinth and probably the buttress at the south-west corner of the aisle, together with the rebuild of the other buttresses; (b) the slight shortening of the aisles, presumably part of the same operation.
- VI. the 17th-century chancel roof.
- VII. brickwork repairs to the base of the tower and chancel walls probably in the early 19th century. Other 19th-century restoration works have yet to be identified, but they probably included much refacing. The vestry was added in the 19th century.
- VIII. in the 20th century, the interior was restored in 1957², and the vestry enlarged in the mid 1980s.

Discussion

Two fundamental points have arisen from these observations. The first is that the earliest building on the site pre-dated the existing tower of c.1200. Whilst this is not unexpected, inasmuch as it is increasingly common to find evidence of early buildings on church sites, it is more surprising to learn that the 11th or 12th century church already had aisles. Its size at that period suggests that it may have been of above average ecclesiastical importance, or that it served a community which enjoyed considerable prosperity at that period.

An indicator of the availability of considerable wealth in the parish at a later period is the major rebuilding which took place in the 14th century. When

seeking a source of finance to explain this reconstruction, it is tempting to look at local persons of substance. Elizabeth de Burgh was one of the wealthiest and most influential noblewomen of the fourteenth century. She had one of her principal residences at Great Bardfield adjacent to the church, and spent a considerable part of her life there (Ward 1992, 47). It would therefore not be surprising if she were responsible for rebuilding work at St Mary's. However, a recent study (*ibid.*) has cast doubt on this possibility.

The effect on our understanding of the architectural history of a church when both the foundations and walls (stripped of later encumbrances) are available for inspection has been effectively shown by the Rodwells' work at Rivenhall (Rodwell and Rodwell 1985). The discoveries at Great Bardfield are an example of how even small-scale works can reveal architectural details and building phases hitherto unsuspected.

Appendix 1: The floor tiles

Three fragmentary tiles were recovered from the angle between the south aisle and the chancel. They are 22-24mm or one inch thick, with undercut sides. The only intact side measures 150mm or six inches. They are in an orange to red somewhat sandy fabric, usually with reduced cores and fairly smooth sandy bases. Two (Fig. 8) have slip decoration, the triangular piece preserving a pale green glaze over it, the other being too worn for much trace of glaze to survive. The third fragment, also a triangular piece and the tile found *in situ* in the mortar bedding, is monochrome, being slipped with traces of a relatively transparent glaze. These tiles should predate the 14th-century remodelling of the church.

Appendix 2: A medieval grave slab

This was removed from the north wall of the nave to a point near the northern boundary of the graveyard. On advice from the Diocesan Advisory Committee, it has since been installed in the porch. Miller Christy recorded it as being against the north wall of the nave in his time, so the current story that it was found in a garden in the village is probably erroneous. Although he had seen it in the past, when he wrote his study of Essex grave slabs, Christy was unable to examine it again and merely noted that it was exceptional in still having a well preserved base. This was unfortunate, as it is unusual in other ways. It is made of oolitic or Barnack limestone, and measures 640 x mm, now being in two pieces. The slab is 4½ inches thick, and has a low-relief half-round moulding just below the top of it running down its sides. Three decorative elements are identifiable on the slab. At the top of it, there is the indent for a shield, with two copper-alloy pins for its attachment surviving. Below this, there is a now very eroded cross. It looks like a cross pate within a circular border. It lacks the normal shaft running the length of the coffin lid; instead there is below it another indent running across the width of the lid, with four copper-alloy fixings.

Acknowledgements

This investigation was made possible through the co-operation of the architects, KC White, and the contractors, Lodge & Sons Ltd, who kindly reported the discoveries to the Essex County Council Archaeology Section. The work was sponsored by Braintree District Council and Essex County Council. Thanks are due to the churchwardens and the Revd Norman Clift, formerly rector of St Mary's, for their interest in the work, and to Lodge & Sons Ltd for adjusting their work programme to allow the archaeological recording to take place — especially to Colin Morris who was particularly helpful on site.

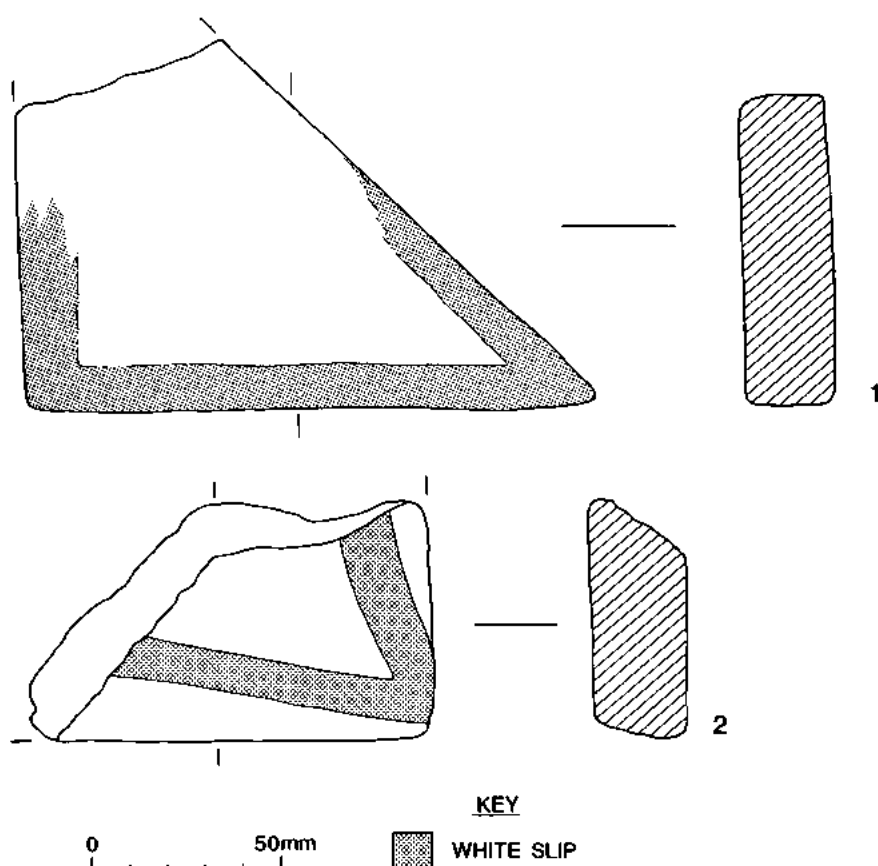


Fig. 8 Floor tiles found at the junction of the south aisle and chancel.

Notes

1. A curiosity of the RCHM account of the church is the plan which does not show any of the buttresses. They undoubtedly existed as they can be seen on a 19th-century watercolour of the church in the Essex Record Office (Mint Binder).
2. See photos in a folder in the Essex Record Office.

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Investigations at St Michael's Church, Great Sampford, 1992

Raphael M.J. Isserlin

Observations during building-work revealed buried portions of a church of the 13th century or earlier. In the 14th century the structure was rebuilt and aisles added. It underwent further alteration then and subsequently, not considered in detail in this report. In the Victorian period the floor-level was lowered.

Introduction

St Michael's Church (NGR TL 422 535) lies on the brow of a low hill at the junction of the roads to Saffron Walden, Thaxted and Finchingfield. Churches dedicated to St Michael were often built on high ground (Woodward and Neale 1992, 3), and the position of this particular one, some 5 metres above the valley-bottom captured the attention of at least one antiquarian, Muilman. He noted that it stood '*pleasantly on a small eminence by the roadside*' (Anon. 1769, 263). However little subsequent archaeological attention appears to have been paid until the Royal

Commission on Historical Monuments survey of the church earlier this century. Its sequence for the development of the building relied on observation of the fabric and particularly the stylistic date of stone mouldings (R.C.H.M. 1916, 133-6). The purpose of this note is to proffer further evidence for the development of the church, based on recent fieldwork.

The early history of the church is obscure. No material remains or documentation have been recognised from before the Norman Conquest. A church at Sampford was granted by William Rufus (along with the subordinate chapel at Hempstead) to Battle Abbey, Sussex in 1094, perhaps confirming a grant by William I. This might imply a pre-Conquest church, perhaps on this site (Woodward and Neale 1992, 3-4). But nothing of this period is visible above ground, and (as is usual in Essex) Domesday mentions no church in its assessment. The earliest masonry above ground is 13th/14th century.

The excavations (Figs 9-12)

In 1990 a trench 0.45 m. deep was dug along the outside of the south wall of the south transept, with a connecting trench leading off to a soakaway. The lower courses of the masonry were exposed. In 1992, seven areas (A-G) inside the building were exposed when the builders replaced the wooden pews with York stone paving. These were all cleaned and planned, yielding a selective composite view of strata of varying dates. In Areas C and D, grave-fills which had slumped considerably were partly emptied by the builders until the first sign of burials began to appear. Thereafter no further excavation took place, and no bones were removed. The exposed sides of the grave-cuts were cleaned in order to provide a section through the archaeological sequence. The strata were drawn and the graves filled. The features apparent in the multi-period plans are discussed below:

Area A contained a layer of loam silt (150) cut to the north by the foundation trench of the northern aisle wall (149, filled with sand 148); and by the foundations of tiling of the central and side aisles on all other sides (151) (Fig. 12);

Area B contained a layer of loam silt (143); in one part of Area B flooring 143 butted up against the north aisle wall and sealed the unexcavated fill of its foundation trench. Where it had slumped into the trench, layer 143 was overlain by sand 141, mortar 142, sand 144, and silt clay 145. It was cut by the foundations of retiling of the central and side aisles on all other sides (140) (Fig. 12);

Area C contained a deposit of silty clay (100). This sealed the remains of a linear spread of flint cobbles (109), and was cut by foundation-pit 111 (for pier 113). An area of slumping in the surface of make-up

100 may indicate a northward course for wall 105 (of flints bonded in yellow mortar; in foundation trench 106/103) observed in section in the side of grave 101. The upper part of wall 105 was robbed and its robber trench filled with clay (104). Trench 106/103 was cut through grey white mortar 107, which in turn sealed a stiff silt clay (108). A buff-brown clay (112) which sealed layer 107 is the equivalent of layer 100, not visible for its full extent in section. The trench for a heating duct cut this area on all sides (114) (Fig. 12);

Area D contained silt clay make-up 130 and a linear strip of silt clay, 139, possibly a discoloured version of layer 130. Layer 130 was cut by a grave (132, fill silt loam 131; this was in turn cut by another grave (126, fill silt clay 125)). The deposit was cut by foundation-pit 135 (for pier 137; fill silt 136). It sealed a linear spread of flint rubble (133), the demolished remains of walling. Layer 130 seems to have been an homogeneous deposit; thin portions of silt and mortar were visible in section, incorporated into it (127, 135). Underneath layer 130 was a deposit of stiff clay (128) which overlay a deposit of silty clay 129 (with mortar, charcoal, and pebble inclusions) seen in the side of grave 126. A trench for a heating-duct disturbed the remains on all sides (Fig. 12);

Area E contained two different sorts of tiles: 115 (decorated tiles, laid in a chevron pattern, on a pebbly silt loam (116)) and plain pammets (117). The tiles on the south and west sides abutted the wall of the church and were partly sealed by wall-plaster; on all the other sides the remains were disturbed by a heating duct (Fig. 12);

Area F contained a flooring of plain pammets (117, on silt clay make-up 118) (Fig. 12).

Area G contained a layer of brown-buff silty clay (154) which sealed a patch of grey-white mortar (153). This layer also sealed a patch of rubble (159) and wall 158, of flint rubble in yellow mortar. It was cut by foundation-pit 155 (for pier shaft 157; filled with mid brown silt clay 156). A patch of charcoal lay on its surface (152) (Fig. 12).

Phasing

Our understanding of the development of St Michael's comes from three main sources: the documentary history, the RCHM survey of the standing building, and, most recently, this limited archaeological excavation. It is therefore unfortunate that the archaeological excavations cannot be tied in neatly with these other two sources. A broad outline of the development of the church is attempted in Table 1. Note that the standing building corresponds mostly to Period 4; the three preceding periods are based on rather variable and limited evidence, often not tightly dated.

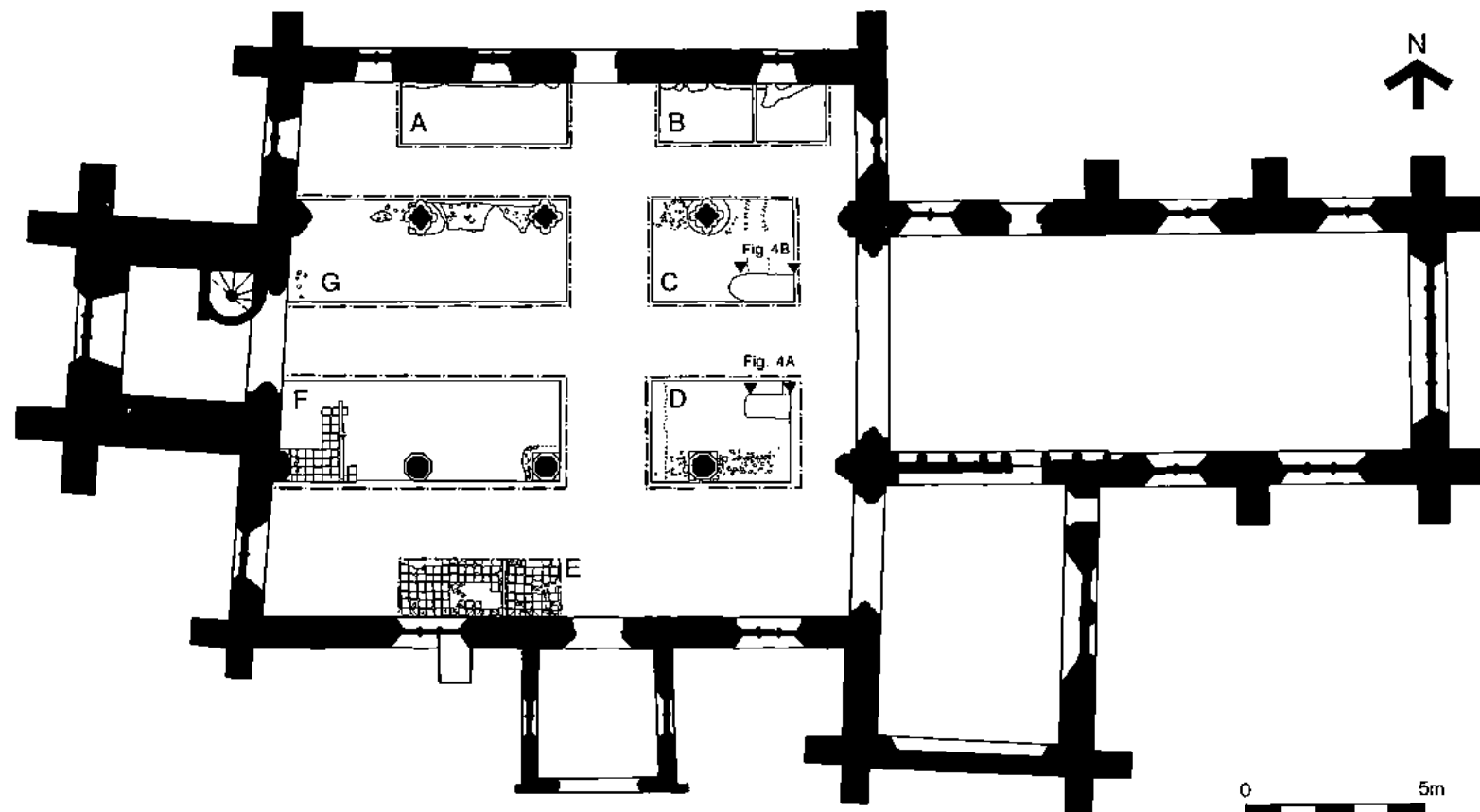


Fig. 9 St. Michael's, Great Sampford: plan of church showing 1992 excavations. Standing masonry in solid black.

Table 1 St. Michael's church: major periods.

Period	Documentary History (Woodward & Neale 1992)	Architectural Survey (RCHM 1916)	Archaeological Observations (Issertin 1994)
1 (notional); Late Saxon	Minster church (based on historical speculation)	---	---
2 Undated but pre-early 14th century	---	---	Dumping (corresponds to context 129 Area D) [N.B., need not be structural, could relate to demolition]
3 Undated, pre-early 14th century	Grant of A.D. 1094	South transept recognised watching-brief	South transept footings seen in 1990; Wall-footings exposed in nave in 1992 ? Cruciform
4 Mid 14th century (this corresponds to most of the standing building)	---	Church largely rebuilt; wall-paintings	---
5 Mid 14th-17th century	Decay of building ERO D/ACV 9E; D/ACV 9A; D/ACV 5	New windows inserted	Reflooring
6 Mid 17th-19th century			Reflooring

Period 1 (Anglo-Saxon-13th century)

Woodward and Neale (1992) speculate on the existence of a Saxon minster church on the basis of a grant of A.D. 1094. This may confirm earlier grants (implying the existence of an earlier church), but no such documentation has survived. There is no firm evidence above or below ground corresponding to such a church.

Period 2 (pre-early 14th century) (Figs 10, 11)

The ground-level was artificially raised by the dumping of loam and clay, incorporating charcoal and mortar fragments.

The earliest layer was a silty loam incorporating building debris (129: Area D; Fig. 12B). There were no datable finds from this layer. The floor of the south porch lay 1.0m higher than the top of this level. Clearly there had been a rise in ground-level since the deposition of layer 129 (Fig. 11). Apart from the fact that this layer is earlier than Period 4, this period 'floats' stratigraphically.

Period 3 (pre c. 1320) (Figs 10-12)

It is suggested that a stone church was built. Its form is uncertain, but it may have been cruciform.

Beneath the arches of the existing arcades, there were found two parallel walls, 6.10 metres apart and aligned east-west. Only wall 158 was exposed for its full width (0.70 m; Area G; Fig. 12). The other walls were spreads of rubble (109; 133; 150: Areas C, D, A) showing up through later material, or disturbed by later activity (eg foundation trench 119: Area F). A small concentration of rubble lay at the western extremity of this deposit (159; Area G). It was not possible to expose these foundations completely, and so investigate them fully, but the possibility that more than one phase of structure was present must be considered. As the Period 3 foundation-trenches were not emptied of their fill, no direct evidence is available for the walls within them, though a *terminus ante quem* of c. 1320 may be offered by comparison with Period 4. The few portions of masonry of which the mortar was visible were all bonded with the same yellow material, which argues for their being of a coherent group. The offset foundation of what was to become the transept wall, exposed in 1990 seemed to be original, though it remained partly obscured by cement render. It may therefore be of this phase.

One wall aligned north-south was observed in section (105: Area C). Its foundation trench cut layer 108 and its presence elsewhere can be inferred by slumping in the surface of Period 4 make-up 100. It may have been some internal structure and was robbed in Period 4. Possible floor deposits (128, observed in section, and its equivalent, 108, in Area C) overlying earlier deposits may belong to this or an earlier period. Unfortunately it was not possible to relate these deposits to the walls.

Period 4 (1320-1350) (Figs 10, 12)

[This is the main phase of the standing building.]

The building was levelled to the ground and rebuilt, the south transept alone being retained. The new expanded church had four bays, side-aisles, west tower, south porch and chancel. The former transept became the south chapel.

In the nave, the upper part of wall 105 (Area C) was robbed. It clearly survived into the beginning of the Period, as its robber trench (104) was flanked by mortar 107 (probably slumped make-up for a robbed tile floor).

The Period 3 structure seems to have been mostly

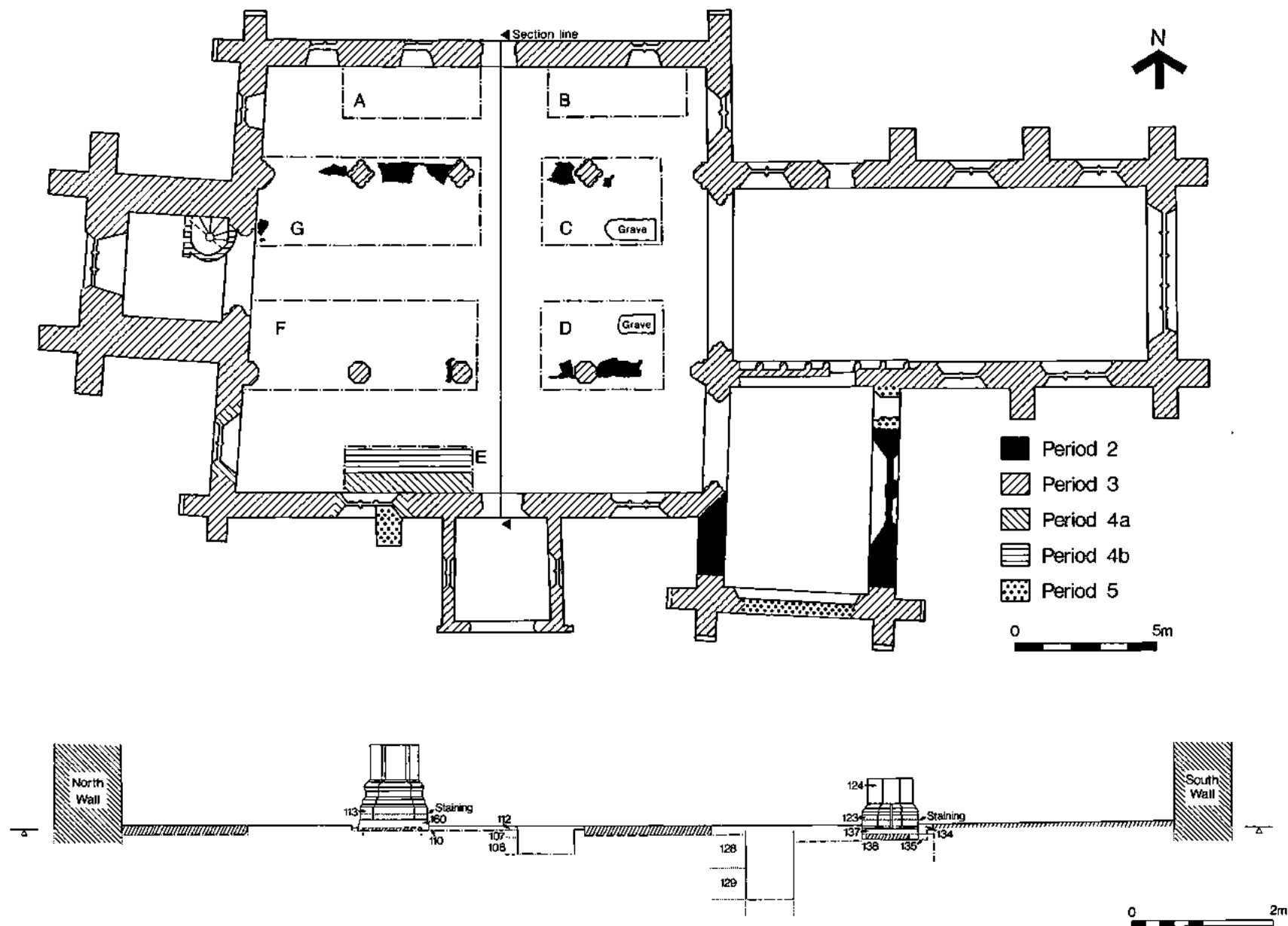


Fig. 10 St. Michael's, Great Sampford: period plan and main section.

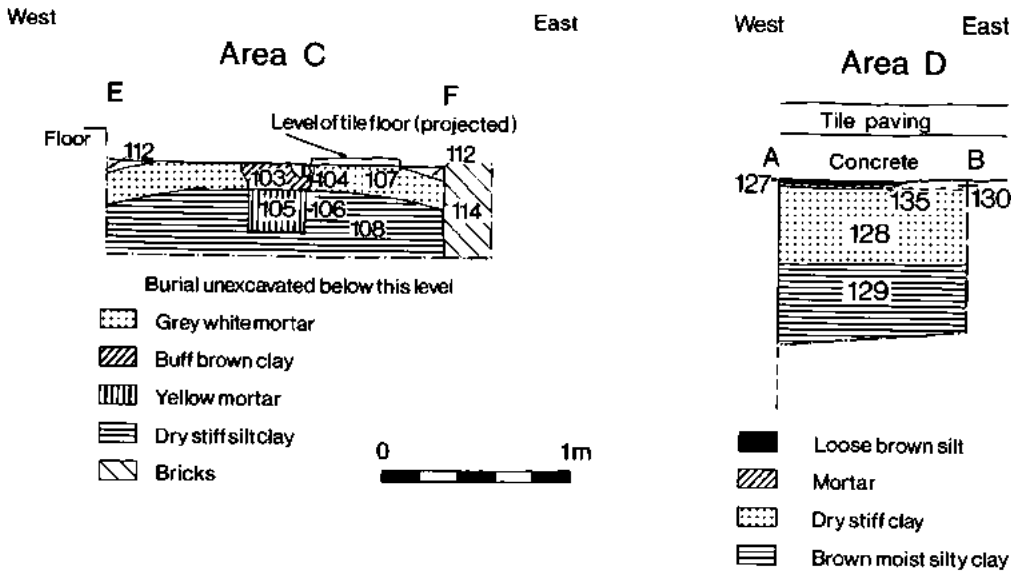


Fig. 11 St. Michael's, Great Sampford: sections (see Fig. 12 for position of these).

demolished: stubs of nave walls were sealed by dumped make-up (112; 118; 130; 154: Areas C, F, D, G; Fig. 12). The piers for both northern and southern arcades cut through this material.

Because of Period 5 activity, only the foundation pits for the northern arcade were visible, 155 (Area G) and 111 (Area C). The lower portion of pier 113 rested on a pad of hard grey-white mortar (160: Area C), the fill of a foundation-pit. The piers of the south arcade follow a similar sequence: pier base 137 sits on a bed of white-grey mortar (Area D).

The northern arcade pier shafts were quatrefoil, and the southern ones octagonal. Both were of the same limestone, and both employed the same grey-white mortar mix for both substructure and superstructure, suggesting that they are of the same build. Also during this Period the aisle, chancel walls and tower were built. They were all of flint rubble, with architectural details in limestone. It seems from the stratigraphic and the structural evidence that this was more or less a single operation. The make-up for the aisles varies a little from the material used in flooring the nave, and consisted of an impure loamy silt (143; 150: Areas B, A; Fig. 12), as opposed to the relatively pure silty clay material discussed above. This may be indicative of no more than a reflooring. The north wall of the chancel may replace a (demolished) Period 3 transept. The north aisle and chancel were roofed (Hewett 1982, 14 for details).

The tower probably incorporated footings of the demolished Period 3 outer west wall as foundations for its east wall. This would account for the peculiar angle which the tower makes with the nave. The majority of

the south transept was retained (window-glass of this period was recovered from the exterior of the south transept: Andrews, below). Observation in 1990 of the foundations of the corner buttresses of the south transept revealed that they are not continuous with those of the wall of the previous Period, implying that they are later than it, and may therefore have been added during this Period. A wall was inserted between the south transept and the chancel to transform it into a chapel, access being gained via the south aisle. Some 13th-century windows are preserved in the south chapel. The exterior of the structure was decorated by consecration crosses on the tower and under the east end window. Inside, the north arcade was painted with decorative scenes (Woodward and Neale 1992, 8). The elaborate south door may be of this phase (Hewett 1982, 86).

Though the Period 4 reconstruction is dated by styles used in masonry and carpentry, the precision of this dating is illusory. Together, the dates provided by the published sources suggest that work started on the north side, shifting progressively southwards. The quatrefoil piers of the north arcade are dated to c. 1320-1330, ten years after the carpentry employed in the roofing of the north aisle and chancel (*no later than* c. 1320: Hewett 1982, 14). The door carpentry is early 14th-century (Hewett 1982, 86). The window inserted into the south chapel is dated c. 1340. The octagonal piers of the south arcade are dated to c. 1350. The south aisle, south porch and west tower were built c. 1350. There is a difference of 30 years in the dates of the north and south arcades, the quatrefoil and octagonal pier profiles indicate. However the carpentry

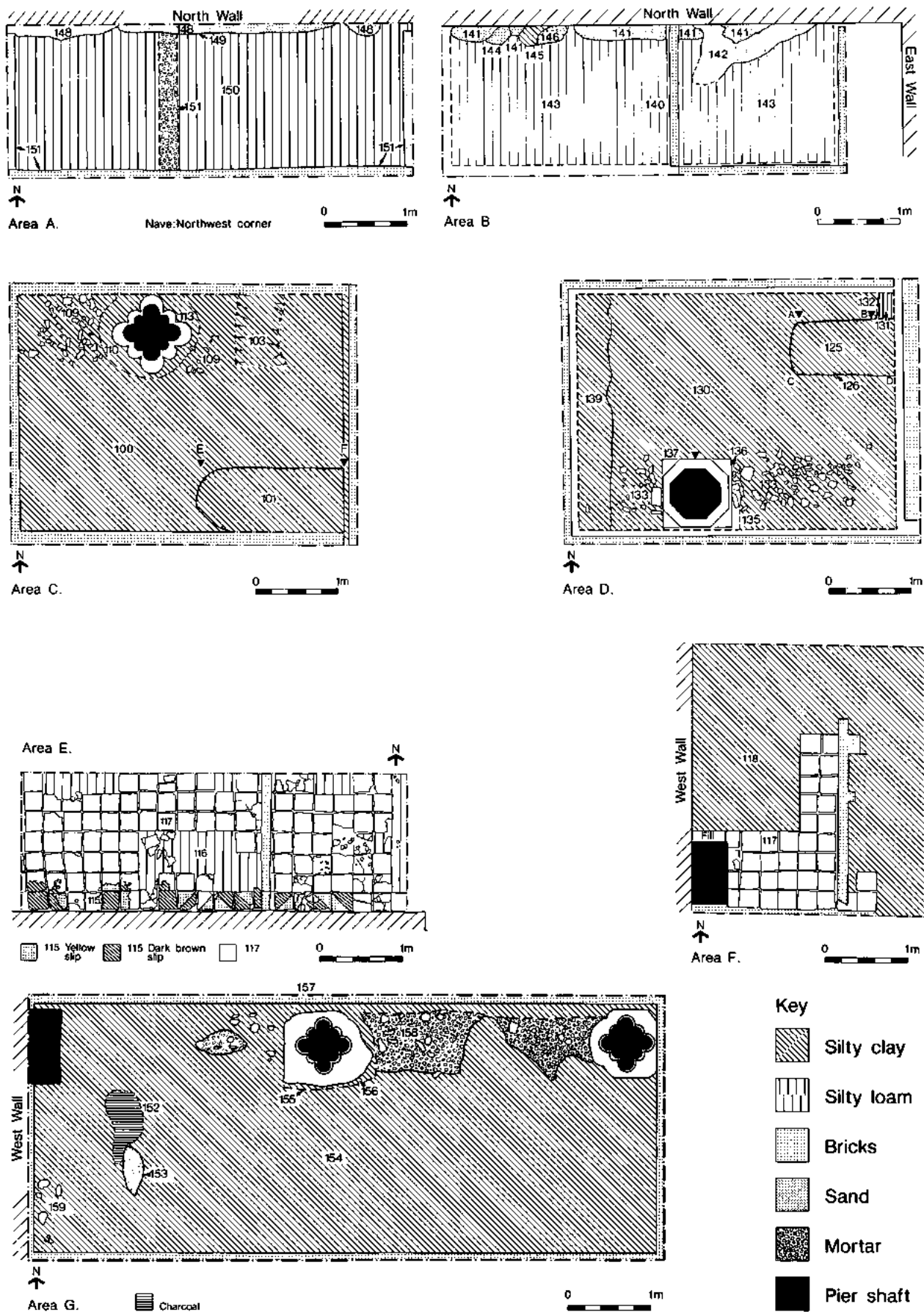


Fig. 12 St. Michael's, Great Sampford: detailed plans of areas A-G.

dating rests on the dating of the masonry, which more modern scholarship would no doubt revise. Dr Andrews notes that the abuttal of the buttress-foundations to those of the wall of the south transept, is consistent with the dating of the walls to the 13th century and the buttresses to the 14th century [N.B., this does not conflict with the possibility that the wall of the south transept might be even earlier; R.M.J.I.].

Period 5 (1350-1647/1660) (Figs 10, 12)

Floor-tiles were laid and graves dug inside the building. The windows were replaced.

The building was floored in decorated tile. An area of intact paving was found in the south aisle (115; Area E). It comprised a few decorated tiles, perhaps of the 15th-16th century. Elsewhere in the nave a flooring of plain pammets survives (117, 118; Area F). In the north aisle, a series of sandy deposits along the outside wall may be bedding for a robbed tile floor, slumped into the foundation-trench (141, 142, 144, 145: all Area B; 148: Area A). A patch of white mortar in the west end of the church (153; Area G) might have been floor make-up (see however Period 6).

Two graves (102: Area C; 126: Area D) were partly excavated in the north half of the nave. An earlier grave (132) was cut by grave 126. The floor make-ups probably hide many more graves not immediately visible. In the south-west corner of the building, the windows were replaced. It is not possible to relate this to any other episode.

The dating of the Period 5 tile flooring is based on the chronology of other, locally dated examples (see Andrews, below). The decorated pammets from 115 were late 15th-16th century; the plain ones were 16th-17th century and testify to the date of their manufacture, but are of little value in dating deposits that they may seal, as they may be redeposited. It is likely that the Period 5 burials predate the 19th-century legislation prohibiting burial inside churches. As however the burials were merely partly exposed (and not fully excavated) this is not indicated by the mortuary culture. No coffins were observed. A coin from context 101 (the upper fill of grave 102) dates it to after the first quarter of the 17th century. The dating of the Period 5 windows is stylistic (RCHM 1916, 135).

Period 6 (1660-1878) (Figs 10,12)

The building was extensively refloored. Several other minor alterations were carried out but were not apparent during the course of the survey.

The nave was refloored and pews constructed on timber pew platforms (these had decayed and were removed before recording could take place). Elsewhere in the nave a tiled floor was laid. The south transept window was bricked up; glass from it is discussed by Andrews (below). The ground-surface required some preparation where the pews were to be built. It was lowered in order to prevent the wooden flooring

coming into contact with the moist earth. Thus the Period 5 material was removed down to the tiling of Period 4. Thereafter wooden pews were built. Black and red tiles were laid on a concrete screed 4-5 inches thick, to create alleys, edged with bricks laid on bed. It is likely that here too the ground-surface was lowered as the area in between the Period 5 graves suggests. As no earlier floor-tiles were visible in the base of the concrete, they must have been removed.

The height of the wooden flooring is indicated by a band of staining against the whitewash of the pier bases. The insertion of the pews required parts of the pier bases to be cut away in order to receive them (Fig. 10). The presence of a stove near the tower may be inferred from the spread of charcoal on the ground-surface (152: Area G; Fig. 12), perhaps during building-works. Nearby a patch of white mortar (153) may be the roof of a vault or bedding for a tile floor of Period 4.

The reflooring of Period 6 can be dated to 1878; this date was observed written in pencil on the underside of a pew, which had been removed during building-work. In the 19th century, the south transept window was bricked up.

General discussion

The main discoveries of the 1992 work were the evidence for the aisle-less church, and the sequence of post-medieval flooring. As already mentioned, because of the restricted scope of the archaeological investigation, these findings make only a limited contribution to a wider understanding of the church's general development.

The early churches: Periods 1, 2 and 3

The role of minster has been suggested for the church at Sampford, serving the whole administrative districts of Freshwell and Uttlesford Hundreds (Woodward and Neale 1992, 3-4). No archaeological evidence in support of this was found in 1992. Evidence for early structures may have been detected by dowsing¹. Layer 129, the lowest stratum observed, incorporated small quantities of mortar and charcoal (Area D), but was not closely dated. While charcoal could derive from a buried soil, mortar implies human activity, specifically a rise of at least 1.0m created by dumping. This could have been a layer related to demolition and clearance of the Anglo-Saxon or Norman churches, or a levelling layer for them or the standing church, built in the 13th century.

Of the 13th-century building (i.e. Period 3), only the South Chapel survives above-ground, but it may have been cruciform. Figure 10 shows the alignments of the buried walls and the surviving masonry. The South Chapel may be part of a retained Period 3 south transept dating to the late 13th century. The northernmost (buried) wall is aligned approximately perpendicularly to the (eastern) standing wall, so they

may have been contemporary. The north transept was demolished in Period 4 or never built due to lack of funds (cf. Muilman 1763, 263).

The skewed alignment of the Period 3 tower may reflect the presence of an earlier wall, aligned approximately parallel to the walls of the South Chapel/transsept. This may explain the angle between the west wall and rest of the standing fabric. If the superstructure of the west wall is all of one build, then the aisles were added in Period 3. The east end remains unlocated. It cannot be represented by wall 105 (Area C). This is far too narrow to have been an external load-bearing wall. It may have been an inner fixture — e.g. part of the base for a rail, screen or altar. The other walls may represent the earliest church structure found on site, a simple nave without arcading or aisles.

Rebuilding and expansion: Period 4

For centuries Sampford Magna enjoyed a deanery status. Nor was Sampford Parva alone in being subordinate to it (Reaney 1935; Neale 1988). Its chancel has 21 *sedilia* (the number of churches in the deanery; K. Neale, pers. comm.). The standing of Sampford in the ecclesiastical geography meant that the building was rebuilt well beyond the size of most Essex parish churches. Its status may be rooted in its possible former role as a 'minster' church, but evidence would be needed to bridge a gap between the 10th and the 14th centuries and demonstrate that there was an original role for Sampford as an ecclesiastical 'central place' which could be resumed. By the 14th century, the concept of *minster* was long obsolete (Blair 1988).

Stagnation: Periods 5 and 6

Beyond the refloorings of Period 5, and replacement of windows, little alteration was apparent during the 1992 investigation. A parapet was added to the south aisle in the 15th century, while in the 16th century a brick staircase was built inside the tower (R.C.H.M. 1916, 134; removed in the late 1930s). In 1539, when Battle Abbey was dissolved, the church was transferred to the Dean and Chapter of Canterbury. The earliest indication of the dedication of the building to St Michael is in 1540 (ERO CR 4/84). Sixteenth-century documents record the poor condition of the fabric and a roof repair (ERO D/ACV 9E; D/ACV 9A; D/ACV 5).

The 1992 survey uncovered only features specific to the areas of building-work so these activities were not correlated archaeologically. In the 17th century, the poor condition of the fabric was notable (Woodward and Neale 1992, 4); bells were added to the tower; in the 17th and 18th centuries floor slabs record burials; and the chancel was restored (R.C.H.M. 1916, 135-6). This last is therefore almost contemporary with the activity apparent in the nave, an attempt to make good the decay.

The finds

The pottery

by H.M. Walker

A single sherd of medieval coarse ware was recovered; the date-range of this ware is 12th/14th-century (Context 143: Area B).

The coin

by H.J. Major

A copper farthing of Charles I was recovered from the fill of grave 102. Its surface was badly corroded. The coin was probably struck between 1625 and 1634 (Context 101: Area C).

The floor-tiles

by D.D. Andrews

Two large floor-tiles or pammets were collected from the area of paving preserved in the south-east part of the nave. Both are 9 inches (232 mm) square and 1 inch thick, with undercut edges. One is scored diagonally, one half being painted with yellow slip below a brown glaze. The tile resembles ones found at Pleshey castle and thought by Drury (1977, 113-4) to be Flemish. The Sampford example lacks the nail holes in the base which are a distinguishing feature of the Flemish tiles, and there seems no real reason to doubt that it is of local manufacture. A 15th-16th century date might be proposed for it. The second tile is worn, but preserves traces of dark brown glaze though apparently not of slip. It would be reasonable to think that this was part of the same floor as the first tile, but it may be slightly later in date.

Window glass from the south transept

by D.D. Andrews

About 60 unstratified fragments of window glass were recovered from the excavation of a contractors trench in 1990, all presumably derived from the south window of the transept, which is now blocked in 18th-19th century brick. About 16 fragments about 1mm thick and slightly greenish in colour, were probably post-medieval, but the rest were probably late medieval. Most were badly devitrified and fairly thick, but they included six painted fragments, of which two joining fragments are illustrated here (Fig. 13). They are 3-4 mm thick and devitrified, but not laminated or iridescent. The right-hand edge is grozed. The painting is a dull purplish red and represents a leaf and a curvilinear stem or border. It seems to be a fragment of grisaille or monochrome foliate pattern, and may be dated to the 13th-14th centuries.



Fig. 13 St. Michael's, Great Sampford: glass.

Acknowledgements

Thanks are due to the incumbent of the church, the Rev. Dr M. Glasswell for access; to Dr D.D. Andrews, Dr O. Bedwin and Mr K.S. Neale for commenting on the text; to Uttlesford District Council and Essex County Council for funding; to the contractors, Messrs Baker of Danbury, for assistance; to Ms H. Walker for dating of the pottery, and to Messrs S. MacNeil and D. Smith for illustration work. The author thanks his colleagues Messrs M. Germany, M. Ingram and A. Wade for their help on site. Thanks are also due to the staff of the National Monuments Record, Royal Commission on the Historical Monuments of England, for their supplying a copy of an original survey drawing of the building; to Dr D. Trump for supplying information concerning his dowsing of the site, and to the staff of the Essex Record Office, especially Mrs June Beardsley and Mr Christopher Marsden for help in supplying documents.

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Notes

- 1 A northern transept, revealed by dowsing, projected beyond the northern aisle. It is too far west to be a counterpart to the southern chapel, but, if real, might be part of a smaller (earlier?) church. This requires solid proof.

A medieval doorway at St Andrew's Church, Sandon, Chelmsford

Raphael M.J. Isserlin

When the north doorway of the church was unblocked, a door and door-surround, both dating to the mid-14th century were revealed. The construction techniques of the door shed valuable light on medieval carpentry.

Introduction (Fig. 14)

St Andrew's Church, Sandon (NGR TL 743 048) dates back to at least the Norman Conquest. It lies by the village green, some 3 miles distant from Chelmsford. Portions of 12th-century and later fabric are evident in the standing fabric of the church. The structure has been surveyed at least twice with an eye to its archaeological potential: by the former Mayor of Chelmsford, Frederick Chancellor (Chancellor 1896) and by the Royal Commission on Historical Monuments. The latter body created a preliminary sequence for the development of the building, drawing on Chancellor's work and its own analysis of the fabric (RCHM 1923, 132-4). An outer northern aisle, datable to the mid-14th century, was identified as an addition to the church. Undoubtedly this sequence can be amended by excavation and detailed survey, but only the north aisle is considered here. In 1993 planning permission was granted to build an extension on the north side of the church. The doorway in the north aisle had to be unblocked to permit passage through to the new extension. As it was considered that the work would affect surviving below-ground archaeology and reveal details of the blocked doorway, Essex County Council Field Archaeology Group carried out work in September 1993 under the direction of the author.

The scheme of archaeological work

Prior to investigation, nothing of the interior of the doorway was visible. The area had been completely infilled and plastered over, and several memorial plaques were fixed to the wall. The exterior of the doorway was photographed before work began as remains were visible there, but it was not possible to draw it at this stage. However, the opportunity was taken to draw sections of two holes dug by the builders for wall-footings, adjacent to the exterior of the north aisle. They exposed footings of jambs of the blocked doorway and part of a modern sub-floor heating-system underneath the north pier of the door.

Removal of plaster and mortar by the builders from the interior face of the wall revealed the mouldings of the doorway, with an infilling of brick and an horizontal timber bar. The blocking consisted of hand-made unfrosted bricks laid in yellow mortar. The style in which they were laid approximated to English Bond (a sample brick measured 65 x 108 x 230 mm (2.5 x 4.2 x 9 ins). Removal of this blocking

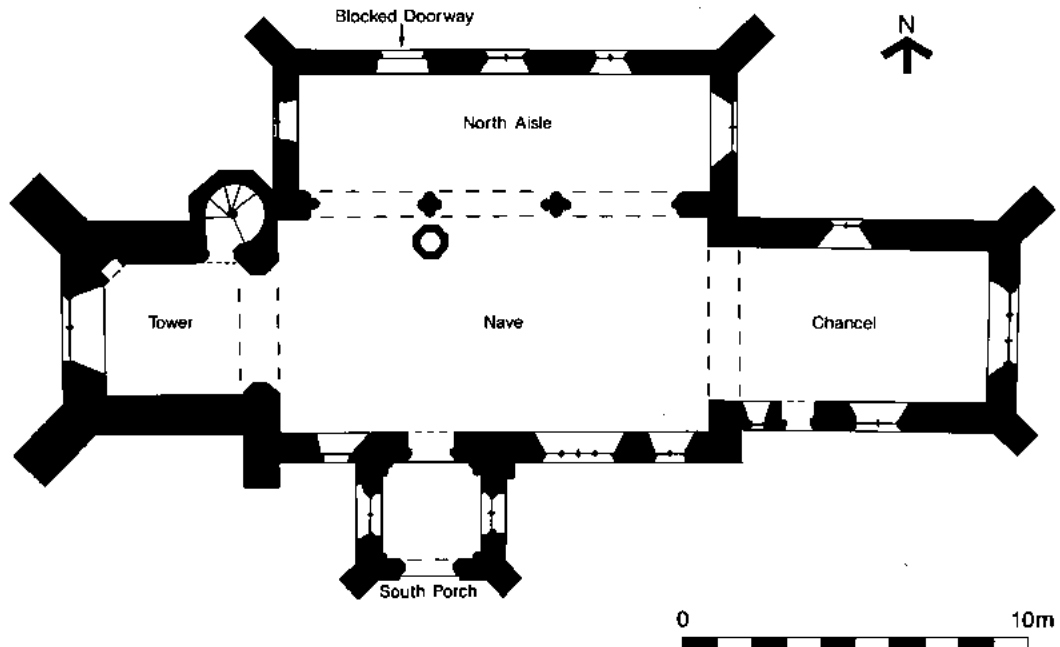


Fig. 14 Sandon Church: ground plan.

material exposed the interior face of the door and doorway.

During this work several portions of unsound plaster and mortar were removed by the builder back to a sound surface for remortaring. The affected areas were the inner face of the wall adjacent to the doorway, and the arch intredos. The removal of this material exposed wall-facing, and moulded stones at the intredos to the arch, where they had been reused as wall-material. One of these threatened to tumble out from the wall-core, to which it had not adhered properly, once its entire means of support, some 2.5 centimetres of loose mortar underneath it, had been removed. It was removed by the builder as a safety precaution and retained for study (see specialist report). The door, the interior of the doorway, and the adjacent portions of walling were then drawn and photographed. Following the completion of building works in the vicinity of the doorway, the exterior face and mouldings were also recorded.

The door was in very poor condition. Its timbers had wide cracks in several places, were fragile, and rotten at the base. Some shrinkage may be due to natural air-drying of timbers, but some deterioration may be directly attributable to the walling-up of the door, with insufficient air-circulation allowing dry rot spores to grow. The base of the door suffered from severe wet-rot. Several hair-line cracks were visible in the mouldings of the limestone door-pilasters, at about head-height.

Following archaeological recording, areas of walling exposed by the removal of plaster have been

remortared, and the door is to be rehung in the body of the church, most probably behind the organ. The archive and finds will be stored at the Chelmsford and Essex Museum under the site code SASA 93. The site is catalogued in the Essex Sites and Monuments Record (PRNs 5635-7).

The doorway — exterior (Fig. 15)

The doorway which forms the surround for the present door is a two-centred lancet arch with double-chamfered jambs. It is composed of a series of 16 tooled limestone blocks. Many are in poor condition, and the two pieces comprising the hood moulding are clearly later replacements, as are the two bases of the jambs. The block above the northernmost base is cracked. Staining on the bases of the jambs suggests the level of the ground when these were inserted. There are no traces of the original ground-level such as a threshold or door-step. Below the northernmost jamb are the soot-filled remains of a sub-floor heating-system.

The doorway — interior (Fig. 16)

The doorway which forms the surround for the present door is a recessed lancet arch, exposed by the removal of modern blocking. The reverses of the most of the limestone voussoirs lack any tooling or ornamental detail, and are set flush with the door. The piers which support them are set flush into a mass-walling of sandstone and puddingstone, mostly obscured by plaster. Two pier-blocks had a central recess to contain the bar securing the door. Above the voussoirs, the infilling

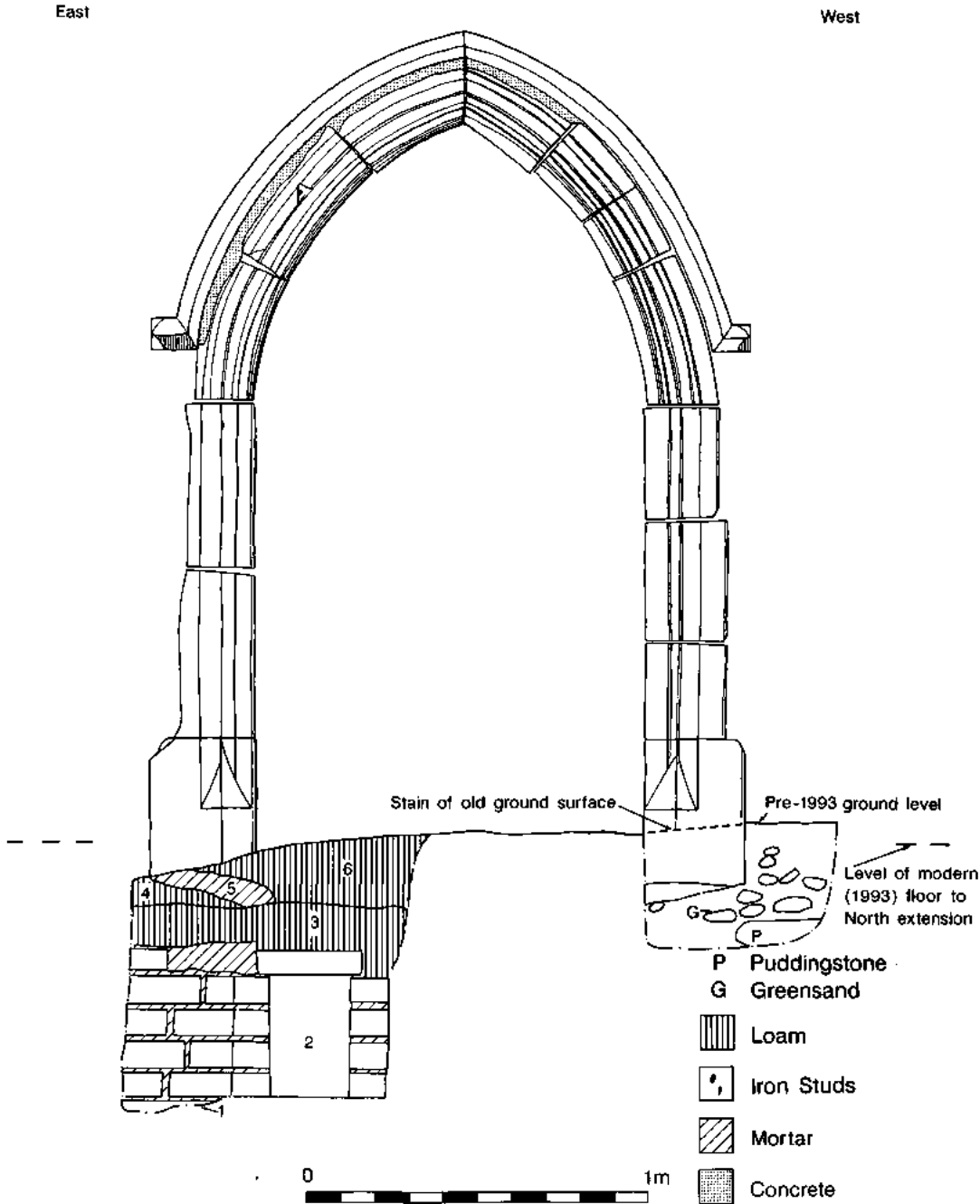


Fig. 15 Sandon Church: doorway, exterior.

consists of puddingstone, greensand, limestone blocks and bricks. Most of these were irregular and showed no signs of working, but one portion of moulded stone was incorporated into this. A further archway lies above the recess of the doorway. This appears to be round-headed and composed almost exclusively of reused portions of architectural fragment.

The door (Figs 16, 17)

The door was constructed from a series of 10 vee-edged boards (or panels) made from oak planks, cut to

size (A-J). They were secured to one another by tongue-and-groove joints, and dropped into an edge-trenched bottom rail or base-plate (K) (Fig. 16). To hold the carcase of the door together, a false frame was constructed.

Two curved top-rails, overlapping the top of the door, were dropped onto the door interior, and nailed to the boards from the inside (L, M). The door was then turned over and the boards nailed to it from the outside face. The door was then turned over once again. Two frieze rails were then placed in between the

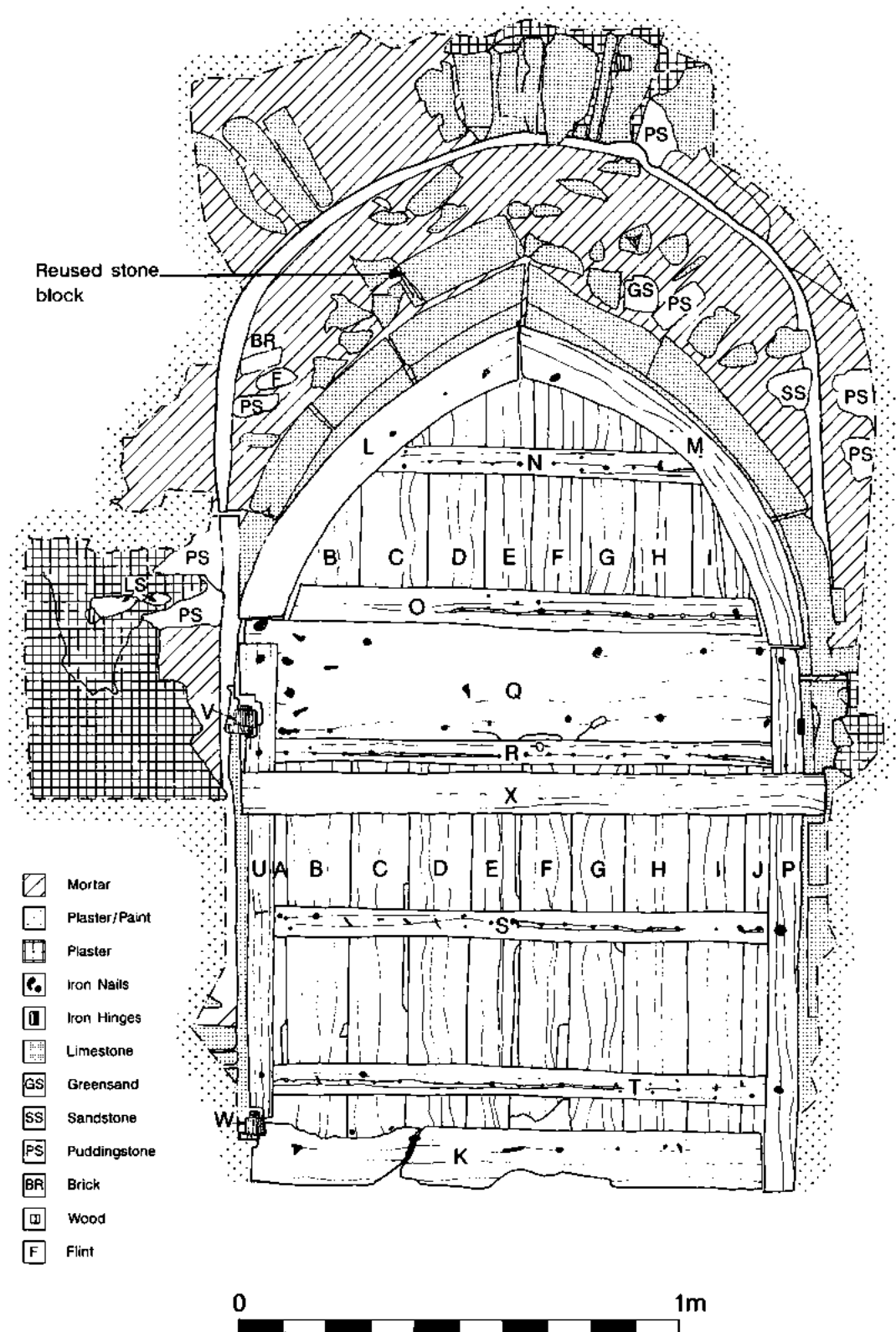


Fig. 16 Sandon Church: doorway, interior.

curved top rails, and they too were secured to the boards from the inside (N, O).

A shutting stile was then placed on the inner edge of the door, below one of the top-rails (P). A horizontal board was placed on the back of the carcase, butting flush with the frieze rail and shutting stile (Q). Immediately beneath it was placed a central (or lock) rail (R). Two other intermediate ledges or rails were then placed between the central (or lock) rail and the bottom rail (or base plate) (S, T). They were secured to the

shutting stile by mortice and tenon joints (which, it should be noted, were not pegged together). Finally, a hanging stile (U) was placed on the side of the door where the hinges were to be sited (it had rebates cut into it at the approximate positions of the hinges). This was placed against the frieze and intermediate rails, butting up into a shoulder cut into the horizontal board. The false-framing thus formed was secured to the carcase of the door. Nails were hammered through the stiles into the planks via the mortice-and-tenon joints.

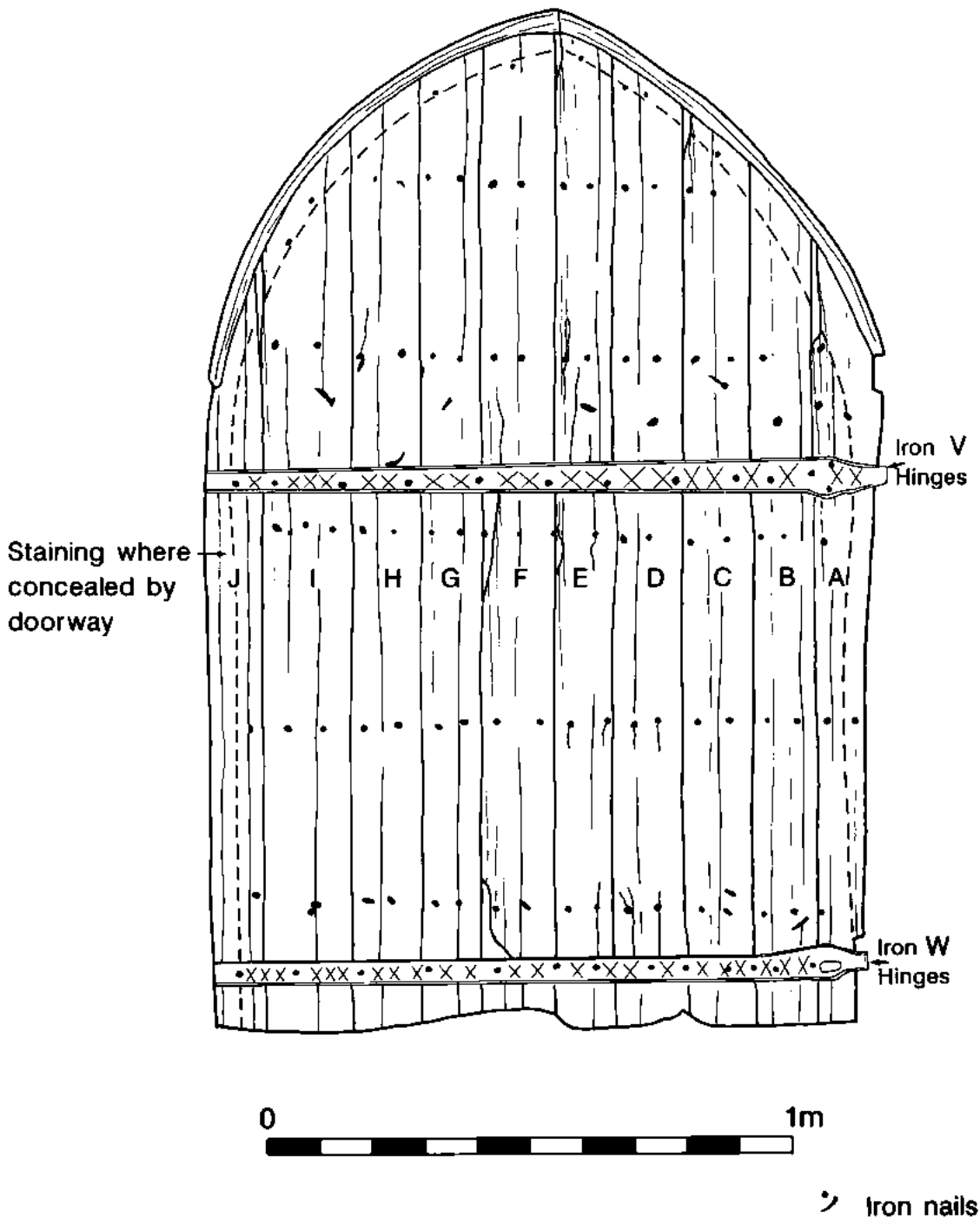


Fig. 17 Sandon Church: door, exterior.

Once carcase and false frame were secured to one another, the door was then turned over. It was rested on the shutting stile in order to slide the broad, hinge ends of a pair of hinge straps (V, W) into the recesses cut for the purpose in the hanging stile. It was then placed on the ground, its exterior face uppermost. The few protruding nails were hammered flat into the outer edge of the door. Then, the horizontal wrought-iron straps, with incised saltire decoration and terminating in hinges, were fixed to the door (holes had been punched through the straps before this took place). Nails were driven from the outside of the door, through these, through the boards, into the false framing on the inner face of the door. The portions affected were the bottom rail and the very bottom of the horizontal board. The free ends of the strapping were wrapped around the shutting stile, probably by rearing the door rested on its bottom rail.

Once all remaining nails were hammered flat, the finished piece was then hung in a recessed doorway. The nature of the stone mouldings means that it could only have swung inwards. Though the term 'lock rail' has been used to describe the central rail, it should be noted that there are no signs of a handle, bolt or lock having been fitted to either side of the door. However, hollows cut into the limestone door-surround suggest that a horizontal bar (X) was used to secure the door, preventing it from opening when this was not desired.

All the timber used was new, for there were no signs of joints other than those cut for the purpose of creating a door. The use of vee-edged boards in church doors in Essex occurs from the 13th century onwards (Hewett 1982, 85), while the use of planks set in a baseplate is known in the 12th and 14th centuries in London waterfront structures. It is considered that this may reflect other technical developments in domestic carpentry (Milne 1992, 150-1). There is little sign that the door was altered over the centuries. However, a series of tacks running parallel with the edge of the door and set in from it, suggest an attempt to cover the door at some stage with a draught-proofing material, such as hide, sail-cloth or canvas. It is not possible to say if this was part of the original work.

When closed the door would have fitted flush, with the stonework of the doorway overlapping its margins. In this area of the door exterior there were traces of a white substance. On its inner face, traces of the same substance were visible where it had seeped through cracks between the beams and the boards. This was also visible on the inner face of the door mouldings. It is suggested that this was the remains of whitewash or similar stuff that escaped subsequent removal.

General discussion

The 1993 observations provide little insight into the broader architectural history of the church. The following brief observations are offered.

mid-14th century (Fig. 15) The exterior wall of the north aisle was constructed of rounded greensand and puddingstone blocks in white-yellow mortar, the exterior portion of which was visible at ground level in the western trench. This may prove to be contemporary with the material exposed around the interior face of the door-surround, sandstone and puddingstone; and perhaps slightly earlier than the puddingstone, greensand, limestone blocks and bricks noted above the interior doorway, inasmuch as this contained reused material. The limestone door-surround described above was set into it, and the door hung. There are no grounds to believe that the door and doorway are of different date. The stylistic dates for the door-surround arrived at by the RCHM, and for the door, discussed here, are compatible.

The masonry reused above the doorhead gave the impression of replacing robbed masonry that had formed a round-headed arch. It may be pertinent to note that the easternmost window of the northern aisle a fragment of dog-tooth moulding is visible, apparently also part of a round-headed arch. It may be that the present window, and the doorway that forms the subject of the present note, were both inserts into earlier, semi-blocked apertures. Stripping of the plasterwork from the interior of the northern aisle, and recording of the results may reveal a complex structural history.

19th/20th-century (Fig. 15) A trench (1) was dug, a flue (2) inserted, and the trench backfilled (loam, 3). Door jamb-bases and hood-moulding were renewed (loam 4 and mortar 5). In the western sondage a new jamb was inserted into the wall, resting on a pad of mortar, slightly below ground-level. The doorway was blocked and plastered flush with the wall interior. On the outside, the ground was levelled up (loam 6). The door was blocked by 1896 (Chancellor 1896, 69, 72) and perhaps by 1873 (ERO T/A 641/3).

The stone fragment (Fig. 18)

by Raphael M.J. Isserlin

A moulded stone was retrieved from the intredos to the arch: soft (can be scratched with fingernail) calcareous oolitic limestone with brachiopods and shell fragments, visible at x5 magnification. Carved with chamfer cusp and foliate tracery; the back portion damaged. Some tooling-marks visible at unbroken end. A fragment of lead adheres to one portion of broken cusp. Decorated style; designed to be fixed to a wall; possibly from a screen, multi-light window or tomb-canopy? Late 13th-14th century; date of reuse and deposition somewhat later, perhaps? (compare Andrews and Thorne 1984, 75, no. 8 and fig. 12).

Acknowledgements

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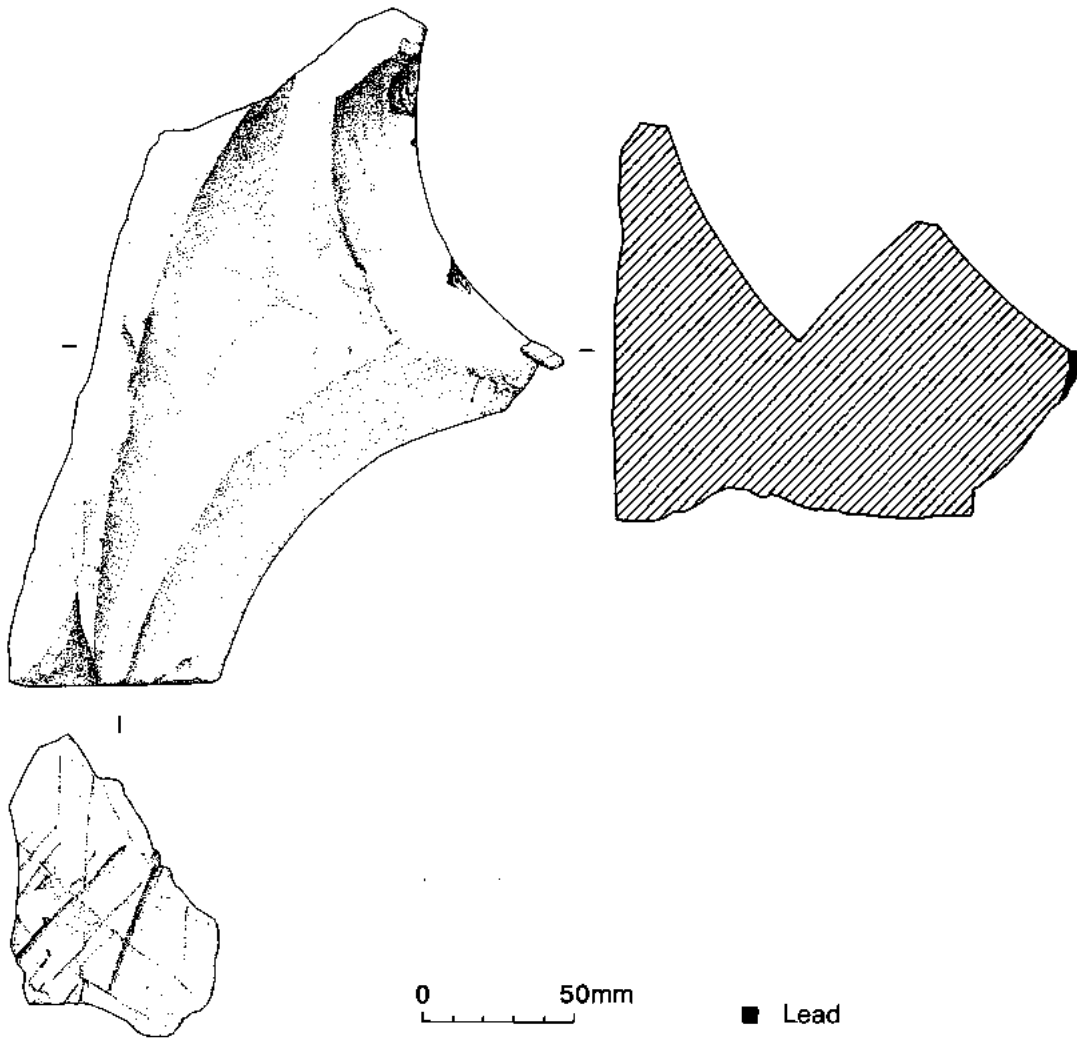


Fig. 18 Sandon Church: reused stone fragment.

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The dovecote of Berechurch Hall, Colchester

John McCann and Kenneth Robins

A roofless brick building formerly concealed by ivy has been identified as a dovecote. It was built in the Gothick style, probably in the early nineteenth century, and until recently retained evidence of a potence and nest-boxes of clay bats.

Donald Smith's major work 'Pigeon Cotes and Dove Houses of Essex', published in 1931, described and illustrated 59 examples in the county, all he could find after extensive enquiries. Seven others came to his notice later, which he reported in *Essex Review*, volumes 42-4 (1933-5). Another dovecote has come to light more recently. A building south of Berechurch Hall Road, Colchester (TL 989 218) first came to the notice of D.F. Stenning about 1982, at which time it was unidentifiable owing to a thick growth of ivy. By 1991 the ivy had been removed, and the building became the subject of a planning application; Stenning then recognized it as a dovecote. This report is based on an examination by the authors in September 1992,

by courtesy of the owner, Mr C.P.R. Bowen-Colthurst.

It is a brick building on a level site 50 metres west of Stable House, formerly the stable range of Berechurch Hall, and 4 metres east of the only surviving arm of a moat. The First Edition 1/2500 O.S. map of 1876 shows the moat as having three arms then, with the dovecote inside the rectangular moated area. It is 17 feet square and 23 feet high. (Dimensions are given in the English units in which it was built. 1 foot = 12 inches, 1 inch = 2.54 cm.) At the time of inspection, work had already commenced on converting it to residential use. A large aperture had been made in the front elevation, facing east-south-east, and another in the rear elevation, towards the surviving arm of the moat. The owner reports that the building has been roofless for at least forty years. Figure 19 is a measured reconstruction, incorporating the evidence of photographs taken before work began on the residential conversion. There was only one window aperture originally; the greater part of the window-frame survived off-site (Fig. 20).

The dovecote is built of red bricks of fine quality, $8\frac{1}{2}$ to 9 inches long by $4\frac{1}{4}$ inches by $2\frac{1}{2}$ inches laid in Flemish bond, four courses rising 12 inches. A simple plinth stands four courses above ground, forming a 3-inch step outside and a 2-inch step inside. Rusticated quoins are formed of bricks projecting 2 inches, which evidently were rendered from the outset; they were not cut to shape, but bevelled edges were formed in plaster. Some old lime render remained on the north elevation, but the use of Flemish bond indicates that the brickwork was originally intended to be seen, and that the render has been applied later. Numerous nail holes to a height of 16 feet show that fruit has been grown against the walls.

The walls are 14 inches thick, reducing inside to 9 inches to form the step which supports the roof. At the base of the parapet parts of an original cornice survived, roughly formed in brick but moulded to a classical profile in plaster (Fig. 21). The crenellated parapet had been damaged by a falling tree, but retained some plain coping stones. On the inside, traces of

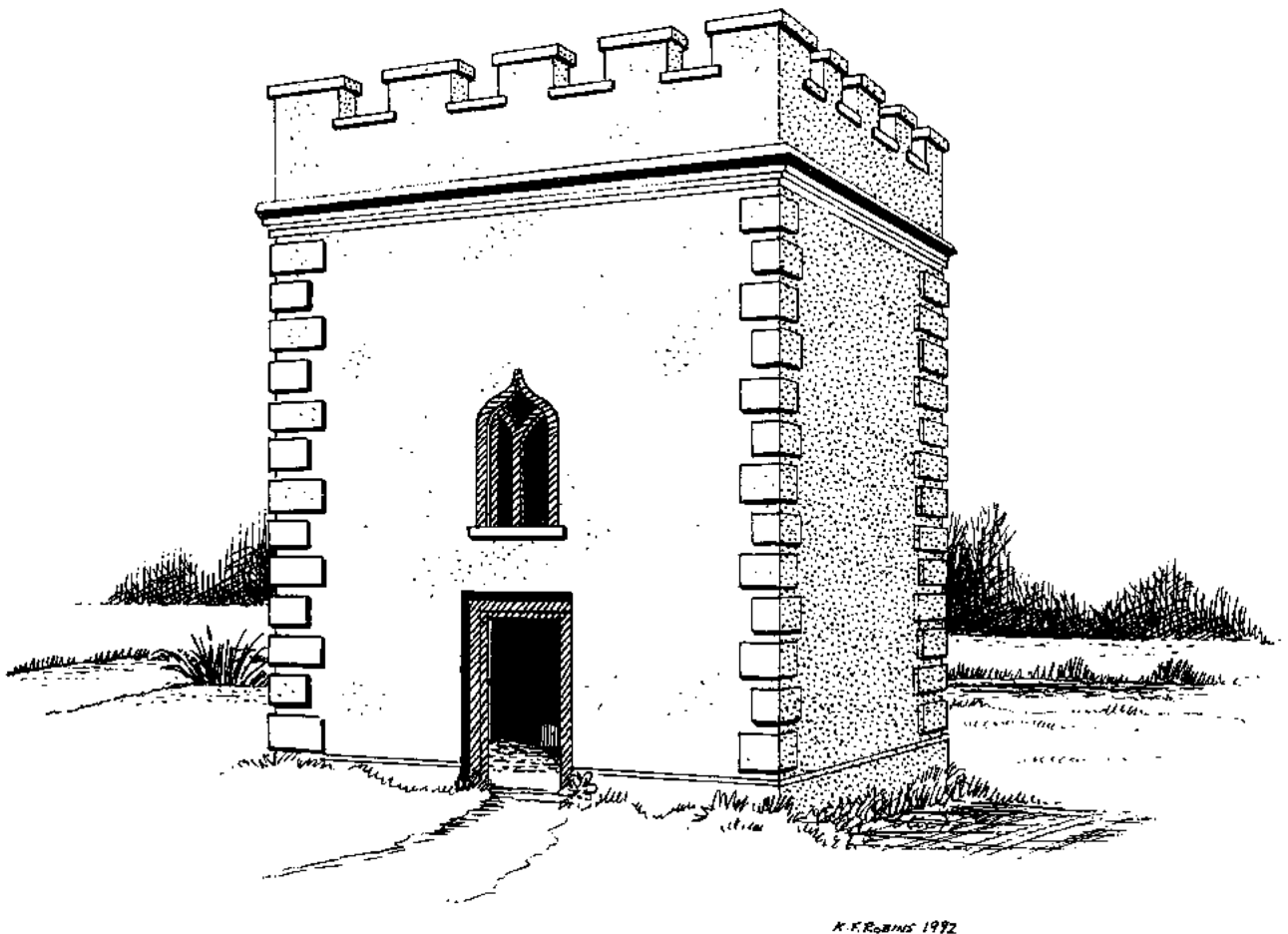


Fig. 19 Berechurch Hall dovecote.

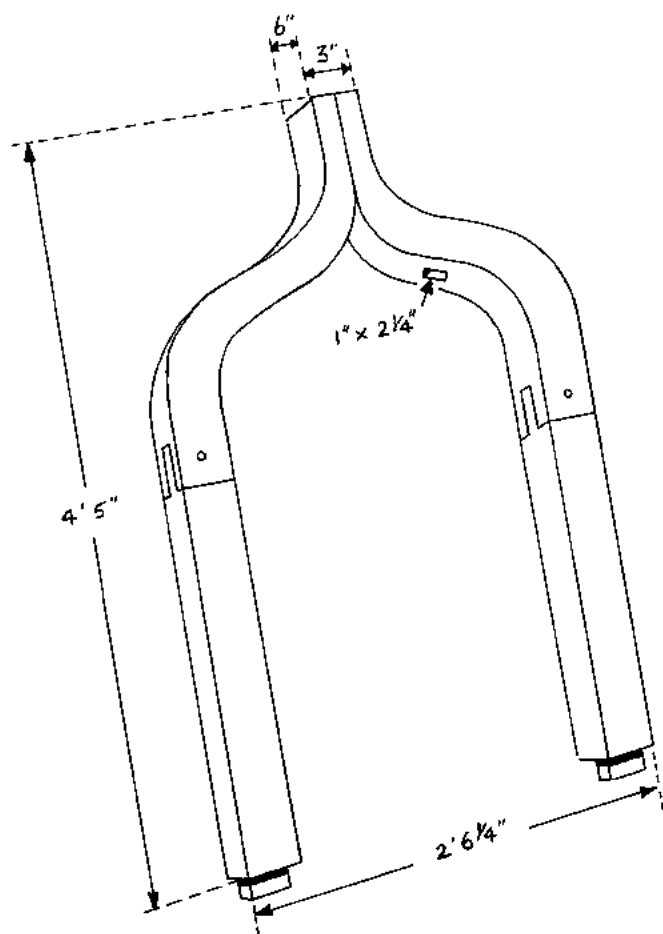


Fig. 20 Berechurch Hall dovecote. Gothic ogee-headed window frame.

weatherings outlined the form of a low-pitched roof, the ridge orientated north-south; it would have been concealed from view by the parapet. Part of the decayed south tiebeam remained *in situ*. There was no trace of the former entry for the birds, and no illustrations of it have been found, but comparison with other dovecotes suggests that it took the form of a square turret on the ridge.

The owner remembers a *potence* or revolving ladder *in situ*. By 1992 all that remained of it was a decayed timber stump forming the lower bearing, 10 inches in diameter and standing 9 inches above ground. A north-south cross-beam 5 inches square, set in the brickwork one foot below roof level, had a hole in the middle for the upper bearing; the axis of the *potence* would have been 17 feet long.

No nest-boxes remained. The only evidence of them comprised tiers of wooden plugs $2\frac{1}{2}$ by 3 inches sunk in the brickwork at 14 to 16-inch centres horizontally and at 15-inch centres vertically. If the nest-boxes were constructed of one-inch boards they would have been 14 x 14 inches internally, an exceptionally large size. It is more likely that they were made of a thicker

material such as clay bats, which were much used in Essex and Cambridgeshire dovecotes (Smith 1931, 64 and 202; Davis 1986), tied back to the brickwork by battens. If the clay bats were 3 inches thick, the nest-boxes would have been 12 x 12 inches internally, forming 44 boxes in each tier, and 12 or 13 tiers. Allowing for those omitted at the door and window, this would have made a total of 500 to 550 nest-boxes.

In the absence of firm information about the date of construction the dating must depend on the style and materials. The Gothic style displayed in the window and crenellated parapet was used in the eighteenth century, but is more often found in dovecotes and other garden buildings of the early nineteenth century. Many of the bricks exhibit horizontal pressure marks, formed when they were stacked to dry before firing, although a small number have oblique pressure marks. Studies undertaken by Patricia M. Ryan show that most eighteenth-century brickwork has oblique pressure marks; most nineteenth-century brickwork has horizontal pressure marks. Probably this dovecote was built in the first decades of the nineteenth century.

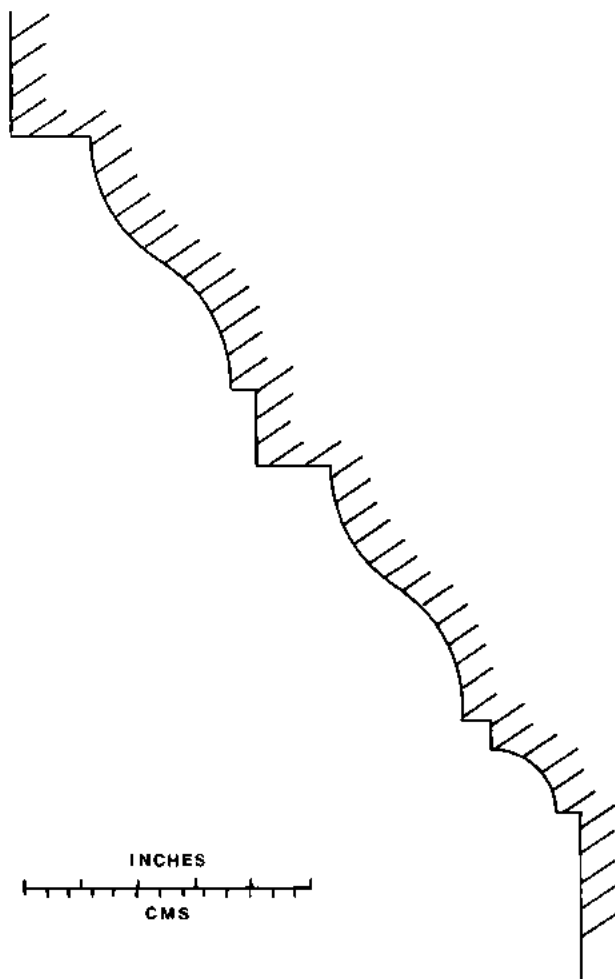


Fig. 21 Berechurch Hall dovecote. Profile of original cornice.

It is unlikely to be later, for progressive farmers were turning against large-scale pigeon-keeping; the corn the pigeons consumed in the fields was shown to outweigh their value as meat. The keeping of pigeons for food continued, but it declined in scale to a small farmyard operation, similar to the keeping of other poultry (McCann 1991, 97).

The manor of Berechurch was held by St. John's Abbey, Colchester, until 1536, when it was acquired by Sir Thomas Audley; it remained in the Audley family until 1714. The original manor house is assumed to have been on the moated site. Morant reported that by 1765 it had decayed and become a farmhouse. Sir Robert Smyth built a new manor house on another site 250 metres to the east (Morant 1768, 1, 137-9). Its site is now occupied by a block of flats. The stable range (now Stable House) between it and the dovecote was built in the late nineteenth century.

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Some Essex mansions and estates lost but archives saved

F.G. Emmison

The last century has seen an extraordinary transformation in society. Among the changes has been the disappearance of many families of the nobility and gentry, often coupled to a lesser extent with that of their houses through inability to bear the cost of maintenance, taxation, neglect and fire. While this is well known generally, the effect in Essex, as in the other metropolitan counties, has been unusually severe. Details of the loss of these mansions and their owners are not readily accessible in a single book of reference, partly because no Essex volume of Kelly's directories has been issued since 1937. It seems desirable therefore that the *Transactions* should give certain information, limited for the present to metropolitan Essex in a broad sense, with the intention of dealing later with rural Essex.

There are, however, three Essex books, printed a century ago, now quite rare. Fortunately, I have possessed all three for many years and have found them of immense use in relation to the chief inhabitants and houses of the time. First, a pair of slim volumes. *Seats in Essex comprising picturesque views of the Seats of*

the Noblemen and Gentry, with historical and architectural descriptions, by J.A. Rush (London 1897), gives over 60 houses, mostly with full-page photographs, each afforded 2-9 pages of largely accurate information of earlier families, but details of the fabrics are meagre. *Whoandwhere: a Muster Roll of prominent men and women and leading residents* (Benham & Co., Colchester, 1909) contains about 900 reliable biographies of varying length, in alphabetical order, with 50 useful one-page advertisements. The first entry is fairly typical:-

Abdy, Sir William Neville, 2nd. Bt., created 1849; b.1844; m. (1), 1883, Marie Therese Petritzka (d.1902), Prague; (2), 1902, Eliza Sarah, d. of Oscar W. Beach. *Educ.*: Merton College, Oxford. A Student Interpreter in China, 1867-8; High Sheriff of Essex, 1884. Owns about 3000 acres. *Heir*: Captain Anthony Charles Sykes Abdy, b.1848; m.1886, Hon. Alexandrina Victoria Macdonald, d. of 4th Baron Macdonald. *Addresses*: 18 Lowndes Square, S.W.; 23 Ryder Street, S.W.; Albyns, Romford. *Club*: Carlton.

In contrast, the third book is an ambitious commercial venture, produced to meet the desires of late Victorian and Edwardian men who had become affluent in manufacture, trade or profession as well as representatives of both old and newly established Essex families. *Essex in the 20th Century: Contemporary Biographies* (Pike's New Century series, Brighton, 1909) is an indispensable work of its genre: a glossy, 336-page tome, heavy boards richly titled in gold lettering. A preliminary section on the history of the county, by Charles E. Benham, a well-known Colchester writer, is followed by an 80-page descriptive account of 'Essex Homes', by the 'Editor' (probably Benham). These two sections have about 180 small but clear photographs of the larger houses (in no order, but with index), mostly exterior but some interior views. Sample entries for a large and a smaller house are:-

COPPED HALL, Epping. The seat of Ernest James Wythes, J.P., is situate on a hilltop. It is a handsome square mansion of white brick with Portland stone facings, and stands in a finely wooded park, the estate being together 4000 acres in extent. It was built in 1753 by John Conyers, the then owner, to which family there are memorials in the parish church, and the architect was Wyatt, from whose designs also the decorations were executed. The house has been added to and re-decorated under the direction of the late C.E. Kempe by the present owner, into whose family the estate came by purchase in 1869. (Pictures of the front and the terrace.)

FREMNELLS, Downham. The old manor house of Fremnals, or, as it is now called, Fremnells, is a most interesting mansion. It is the residence and property of Mr. M. Tarbett Fleming. The west frontage is 100 ft. long, and the principal front is built of thin red brick used in the 16th and 17th centuries, with a grand old semi-octagonal bay in the centre, 16 ft. in width. To the north of the entrance hall, which is boldly panelled, is a massive oak staircase, 5 ft. in width. The windows have oak moulded mullioned frames with quarry glass, mostly old. The court in front of the mansion measures 100 ft. by 80 ft. The house was bounded on the north and east by the old moat, now filled up. (12 lines as to former owners.) The estate of Fremnells was in the Blyth family till recently. (Fremnells was lost in the construction of the reservoir.)

A short article on 'Fox Hunting in Essex' is provided with 17 fine contemporary pictures and reproductions

of older scenes including the superb Wolstenholme paintings (1831).

The principal objective was the compilation of the 'Contemporary Biographies'. They appear, according to equally contemporary social convention, in strictly descending social status: Nobility and Gentry; Gentry and Magistrates (by far the longest part); Clergy (71 incumbents only!); Legal; Medical; Dental; Scholastic; Literary;¹ Architects, Engineers, Accountants; Surveyors; Land Agents, Etc.; Veterinary Surgeons; Commerce, Finance, Etc. Thus the coverage is widespread, having regard to the period (no trade union officers or the like). For every subject in all these biographies, over 500 of them, there is an oval-shaped photograph, mostly three to each page.

The entire book is a primary source for all concerned with fair-sized houses and affluent people around the early years of the twentieth century.

I pass to the mansions which no longer grace the Essex landscape and the families associated with them. The somewhat enlarged area of metropolitan Essex fortunately coincides with that already covered by the monumental volumes of the *Victoria County History for Essex*, to which this short article is much indebted where the bare double fact of loss and year is stated. Information regarding former owners normally precedes the note of the house having been pulled down or badly damaged by neglect or fire. The famous houses named below excludes some smaller (manor) houses.

Grievous as the disappearance of many historic houses has been, the loss in terms of heritage is much less than is generally appreciated. Far from our knowledge being limited to old prints or photographs, there has usually survived a fair number, in some cases a surprisingly large quantity, of original and mostly unpublished and little known archives. While relating chiefly to each estate and the families owning it over the centuries (some in the possession of a single family for many generations), the documents may yield astonishingly interesting details about the family seat by way of building accounts, inventories (see illustration) of the furniture and household goods, servants' wages, and so forth. And these precious manuscripts have been preserved, not for a few estates, but for the great majority. It should be heartening to learn that the

2nd edition (1969) of the *Guide to the Essex Record Office* deals with the archives of nearly every large estate, thanks to the public spirit of the owners and their solicitors having placed them in the county repository. The list of lost mansions in south-west Essex appropriately combines references to both the *V.C.H.* and the *Guide*. Whilst the latter records the estate and family archives in summary form, the amount of information may be gauged from the fact that the entries for the 40 largest estates² and 59 smaller estates take up 58 and 13 pages respectively. From such documents we are able to reconstruct some conception of the impact of these houses and broad acres and their land-owners on the economy and life in their areas.

Wanstead House, demolished, 1823-4 (*V.C.H.*, vi, 324; *Guide*, 112).

Copped Hall, Epping, severely damaged by fire, 1917, only shell remaining (*V.C.H.*, v, 124; *Guide*, 144).

Gidea Hall, Romford, pulled down, 1930 (*V.C.H.*, vii, 69; *Guide*, 155).

Dagnams, Romford, demolished c. 1948 (*V.C.H.*, vii, 66; *Guide*, 142).

Bishops Hall, Lambourne, demolished, 1936 (*V.C.H.*, iv, 80; *Guide*, 143).

Mark Hall, Latton, largely destroyed by fire, 1947; pulled down, 1960; Victorian stable now a cycle museum (*V.C.H.*, viii, 154; *Guide*, 143).

Weald Hall, South Weald, pulled down, 1950 (*V.C.H.*, viii, 81; *Guide*, 127).

Belhus, Aveley, demolished, 1957 (*V.C.H.*, viii, 7; *Guide*, 118).

Notes

1. Including the 40-year-old (Sir) Gurney Benham, who appointed me as archivist 30 years later and was a keen supporter of so many Essex historical activities.
2. *The Guide* is out of print, but the names of the larger estates are listed, *Essex Journal*, Vol. 26 (1991), 56-58.

Book reviews

The Maynard Lieutenancy Book 1608-1639, ed. B.W. Quintrell (1993), Essex Historical Documents 3; Essex Record Office Publication No.123. 2 volumes, xcvi and 450pp. £00.00.

The publication of the letters contained within the Maynard Lieutenancy book is an event which should be welcomed by two traditionally distinct, but increasingly convergent, groups of historians. On the one hand the book meets the needs of the earnest local historian who may be looking for information about the governance of Essex in the Early Modern period. For this group the contents of the book will provide a treasure trove of the minutiae of the activities of the office of Lord Lieutenant, or more accurately, his hard-working and greatly put-upon deputies. However, the contents of the Lieutenancy book also has considerable value to those historians who rely on local histories to fill the gaps in the much larger national picture. The letters cover the Stuart period from shortly after the accession of James 1st to the outbreak of the Bishops' War and as such provide us with a window through which we may view the impact of national politics on the local scene. Historians who are working on the origins of the English Civil War are becoming increasingly aware that the activities in the hot-house at Westminster have clouded our judgement, and that local history can shed new light on an old problem.

Although the vast bulk of the two-volume work is made up of the letters and memoranda themselves, the first volume also contains a very useful introduction which provides the reader with a well thought out review of the issues to which the letters relate. The introduction makes the material easily accessible to the novice or non-specialist reader and this is commendable. The introduction is particularly informative in the way it relates the difficulties encountered by the Lord Lieutenant's deputies in raising the trained bands upon whom the defence of Essex and, to a large extent, the foreign policy of the government, depended. Quite simply, seventeenth-century Essex Man refused to fight, or at least he refused, often on the most flimsy pretext, to take part in the preparations for war. The sense of desperation on the part of those with whom the responsibility for the raising of the trained bands rested is almost tangible in the letters. Even at times of crisis, such as the threatened Spanish invasion of 1625, the Essex bands refused to take their job seriously and led the Earl of Warwick to note that they were more likely to use their muskets as clubs than as firearms.

Time and again the letters reveal the conflict between the demands of national security and foreign policy, as dictated by central government, and the stubborn intransigence of the Essex bands. In places it is clear that the intransigence of some was the result of

their hostility towards central government, largely in the form of opposition to Charles's forced loan, but it is also evident that opposition owed a good deal to a more practical effort to reduce the burden on the gentry's purses, rather than a principled opposition to the prerogative.

Considering Essex's status in terms of its geographical proximity to London and in terms of its strategic significance with regard to an increasingly unsettled Europe, the somewhat lax attitude of the Essex gentry towards defence is a little hard to understand. Dr Quintrell's evaluation of the difficulties inherent in raising the appropriate level of enthusiasm, never mind professionalism, from gentry who had grown accustomed to peace, is a very satisfactory piece of work, as is his description of the way in which the use of professional soldiers marked the transition of the trained bands from a poorly organised rabble into a credible, if not formidable, fighting force. The letters also reveal the way in which the Lord Lieutenant's deputies were often expected to perform little short of miracles of organisation, whilst lacking the authority either to compel attendance at the musters or to effectively punish those who persistently refused to attend.

Overall the impression one forms of the Maynard Lieutenancy Book is that it is a rich seam which historians of the period, particularly those interested in the organisation, equipping and training of the Essex bands in the period immediately before the outbreak of the Civil War, would be well advised to study in some depth. At the same time, anyone using the book should also acknowledge the editorial skills of Dr Quintrell who has done so much to open up this invaluable collection of letters to the local historian and those working in the wider, national field.

Philip Long

Sworn to Serve: Police in Essex, 1840-1990, Maureen Scollan, Phillimore. x and 150pp. £14.95.

Essex has good reason to be proud as a pioneer in the establishment of a county police force in 1840, and its able historian has done full justice in her account of the beginning and carried the story right through to the present time. It has been an important piece of research resulting in a valuable, interesting and well-illustrated book, handsomely produced by its publishers. Virtually the whole credit for the organisation of the new Essex Constabulary was due to the powerful personality of Captain John McHardy, R.N., who deservedly has a place in national police history. Of his efforts the author gives ample information, preceded by details of the legislation of the 1830s, which led to the Constabulary Act of 1839. The scenario of McHardy's appointment is briefly but vividly

described: 'On the day for interviews — 11 February 1840 — more magistrates crowded into the Shire Hall than the *Chelmsford Chronicle* reported had ever seen. Nineteen of the original 31 candidates were interviewed, many being military or naval officers.' Parallel action in several other counties is related to give balance. The first decade demonstrated new demands on the Essex Constabulary; these included some control of the activities on the arrival of the navvies building the railway through central Essex. The ever-widening burdens and important developments in the next 140 years are comprehensively chronicled as regards events and costs, with supporting statistics. While most readers of this journal will be fascinated by the story of the early years, the more modern times are of course dealt with in equal if not greater length, with lively emphasis on personnel from Chief Constables downwards. Of topical concern is the tragic murder in 1893 of a village policeman: the assailant was hanged.

Maureen began her career as an assistant to the late Hilda Grieve in the Essex Record Office, where many received encouraging advice from the budding young archivist. Her early interest in police work led her to change career, when my staff and I were all very sorry to lose her services. I cannot refrain from telling an anecdote against myself. Brigadier Gimson had asked me to set out a small display in the church at a Great Braxted fair. A special constable was directed to safeguard it. In the gloomy church light I addressed her (she wearing uniform with dark glasses) as a stranger, not recognising her. She treated me with a broad, unofficial grin. Joining the Essex Constabulary soon afterwards, Maureen Scollan has gained promotion to the rank of Inspector. She is now reading part-time for an M.A. in Victorian Studies at London University.

Reluctantly, but rightly, Inspector Scollan has said nothing about the parish constables, originally manorial officers. The Essex Record Office probably has the largest number of constables' accounts for any county,¹ and it is hoped that a short book will be prepared for publication. Their accounts preserved in parish records date from 1578. Their activities cover a wide range besides watch duties, such as parish armour and vagrancy.

F.G. Emmison

Reference

- 1 F.G. Emmison (ed.), *Catalogue of Essex Parish records, 1240-1894* (2nd revd. edn., 1966) (Essex Record Office), esp. pp. 16-19.

Cressing Temple: A Templar and Hospitaller Manor in Essex, edited by D.D. Andrews. Essex County Council. £13.

This volume consists of the 8 contributions from a 1-day conference held at Cressing Temple in

September 1992, with the addition of a chapter on brick and tile typology. The purpose of the conference was to present the results of 5 years of research into the site and its environs since it had been purchased by the County Council in 1987.

The scene is set by Vic Gray, formerly county archivist in Essex, whose introductory chapter recounts the circumstances in which Cressing Temple came into County Council ownership (with substantial grant-aid from the National Heritage Memorial Fund, the European Community and English Heritage). The long-term aim is the scrupulous development of the site as an attraction both for the general day-tripper and the specialist visitor. Already many initiatives have made good progress, and the laying-out of the medieval garden this year will make it a new feature for visitors in 1995.

Pat Ryan's chapter on the documentary sources reflects the vicissitudes of the estate, which has passed through many hands since the Knights Templar established its preceptory there in the twelfth century. The estate was transferred to the Knights Hospitallers in the early fourteenth century. In 1539, Sir John Smyth, a baron of the exchequer of Henry VIII, obtained the lease. The Smyth family subsequently became the owners, Henry Smyth (grandson of Sir John) changing his name to Nevill in 1591.

As Catholics, the Nevills backed the Royalists in the Civil War. By 1656, it had become necessary to sell the estate to meet debts, and the estate subsequently had numerous owners before its purchase in 1913 by Frank Cullen. It was from his son, A.L. Cullen, that the County Council purchased Cressing Temple in 1987. All these changes in ownership cause one to reflect on the singular good fortune that has enabled the 2 great barns to survive for nearly 800 years. Even the conflagratory episode during the Peasants' Revolt of 1381, when the nearby Manor House was burnt to the ground, left the barns unscathed.

The next contribution, by John Hunter, widens the focus by looking at the development of the landscape in which Cressing Temple is set. This is an exemplary piece of landscape analysis using documentary and cartographic sources, and provides a reconstruction of the lay-out of the home farm c. 1300. A convincing case is also made that the 2 enormous barns could have held the harvest from the arable acreage in the medieval period.

The archaeology of Cressing Temple, summarised by Tim Robey, starts with some enigmatic Bronze Age and Iron Age features, many perhaps field boundaries. Rescue excavation in advance of car-park construction in Dove House field to the east of the barns identified a spread of Roman features, and it is highly likely that there was a Roman farmstead here. There is then a substantial gap in occupation until the twelfth century and the arrival of the Templars. The two barns and a stone-lined well all date to the Templar period. In

addition, excavation has identified a plethora of buildings, including a single-celled chapel under the lawn to the south of the walled garden, which formed part of the Templar preceptory. Most of the archaeology, however, relates to the post-medieval period, including the development of the walled garden. The mystery surrounding the location of the sixteenth-century Manor House (the Great House of the documentary sources) is left unsolved. It is particularly bad luck for Tim Robey and his colleagues that the likely solution to this problem came just too late to be included in this volume. However, fortunate readers of this journal can find the answer for themselves on pages 79-106.

The next contribution, by Dave Stenning, provides a comprehensive review of early barns, comparable to the Wheat and Barley barns, in Essex and beyond. The conclusion, that the majority of these buildings had ecclesiastical or monastic origins, is perhaps not entirely surprising, but it is welcome to see it so clearly demonstrated.

Ian Tyers gives a good, general introduction to the problems of getting reliable dendochronological samples, and then concentrates on the Essex sequence, including the Cressing dates. He has been able to construct an Essex curve for much of the period from AD 1100 to 1800, with a couple of gaps around 1300 and 1600, though it is suggested that future samples from Cressing could close them.

Next Oliver Rackham brings his individual analytical style to the issue of just what woodland resources would have been needed to build the two great barns. Although only c. 35% of the original Barley Barn timbers remain, it is possible to reconstruct the whole and to estimate how great a demand it would have placed on the local timber supply. Rackham's calculations suggest 480 oak trees of various sizes were needed for this barn, and 472 for the Wheat Barn. He concludes that both barns came from managed woodland and represent the limits of what can be built using ordinary trees, rather than exceptional oaks coming from some distant source. (In this respect, the barns differ from cathedral roofs, which often require exceptionally long timbers.) Other medieval barns in Essex, and one in Cambridgeshire, are compared with the Cressing examples, and the results conform to a remarkably similar pattern, each needing 400-500 oaks, grown in coppice-woodland.

From the soaring timbers of the great barns, we move to rather more mundane building materials, the humble bricks and tiles. These unsung artefacts nevertheless possess considerable dating potential, and a preliminary chronological development for Cressing bricks is presented by David Andrews and Pat Ryan. The earliest of these are the so-called 'Coggeshall bricks' of the late twelfth/early thirteenth century. There is also a very useful descriptive table of securely-dated brick finds from Essex, the first of its kind for the

county. It is worth emphasising that some bricks can be dated to within 50 years, as good as or better than some contemporary pottery types.

The same two authors then turn their attention to that highly variable masonry enclosure, the walled garden. Again, painstaking, but unspectacular, investigation has identified the many rebuildings that have taken place.

Finally, the editor (partly usurping the role of the reviewer) provides an epilogue, which is both a commentary on the contributions, and a pointer towards future objectives. Already, two years have passed since these objectives were formulated, and at least one of the more important ones, the locating of the Great House (see above) has been achieved.

In summing up, this reviewer can hardly avoid the cliché that a long-term, multi-disciplinary study of a site like Cressing Temple pays enormous dividends, not just for the site itself, but for the whole of Essex and beyond. The five years of prudent stewardship exercised by the County Council have been remarkably productive as this excellent volume shows; it is to be hoped that the next five years are likewise.

Owen Bedwin

Excavations at Mucking, volume 1: the site atlas, by Ann Clark (£25) and **volume 2: the Anglo-Saxon settlement**, by Helena Hamerow (£35). English Heritage in association with British Museum Press.

Volume 1: the site atlas

The 45 acres of gravel terrace investigated by Margaret and the late Tom Jones between 1965 and 1978 at Mucking represent one of the largest and lengthiest area excavations in Britain. As the many interims testify, the excavation of the multi-period cropmark was one of the most remarkable of its era, and already, 16 years after fieldwork finished, it has passed into legend.

Alas, it has not so easily passed into print, and these two volumes are the first of several planned reports in which the site is to be dealt with on a chronological basis. It is highly unlikely that anyone in 1965 thought of how the site might be published, but even if they had, the final site archive was of a complexity without precedent. There were, *inter alia*, 44,000 features, 363 site notebooks, 5000 plans, and 6 tonnes of ceramics. Ann Clark in her introduction makes the point about what preservation by record really means; the ancient landscape at Mucking, represented by that classic aerial photograph, has been transformed into a landscape (or perhaps basement-scape) of drawers, cupboards and plan-presses.

The site atlas consists of an A4 volume of 42 pages (including bibliography and index), plus 25 large-scale unphased plans at A1 size, folded into A4, covering the entire excavated area from south to north. Such a publication is not easy to review, not least because it is extremely difficult physically to spread out even a few

plans of adjacent areas. Equally, the plans themselves, being unphased, have no real separate existence, and become useful only as an adjunct to the other volumes, such as the Anglo-Saxon settlement, reviewed below.

The short A4 volume which accompanies the plans is of much interest, not least because it recounts the history of the post-excavation process in some detail, and is therefore in many ways a partial chronicle of how post-excavation procedures developed in British archaeology during the late 1970s and 1980s. By modern standards, the site recording was inadequate; so many staff were involved over the years that there was huge variability in recording. Some site notebooks were illegible whereas others simply contradicted one another. Merely producing an accurate overall site plan has been a considerable achievement. Most of the finds did not have a satisfactory context; it is drily noted that even now only a third of the 1.7 million finds have a proper context (which of course makes the finds specialists' task extremely frustrating). The account of the attempted computerisation of the post-excavation makes grim reading; it is a remarkable commentary on this aspect of the work that someone closely involved with it should have concluded that 'the computer was more of a hindrance than a help to the publication of the site of Mucking'.

Nowhere (unless this reviewer has been careless) is the word 'nightmare' used, but clearly that is what much of the Mucking post-excavation must have been. It is a salutary lesson for all those involved in large fieldwork projects. Anyone who is inclined to decry the apparently rather cumbersome procedure outlined in English Heritage's *Management of Archaeological Projects* (2nd edition), or MAP2, as it is usually known, should read this description of the Mucking post-excavation. Perhaps they will come to realise just how difficult finalising large projects can be unless all aspects (fieldwork, archive preparation, publication and finds deposition) are conceived and managed as an integrated whole.

Owen Bedwin

Volume 2: the Anglo-Saxon settlement

The excavations of the multi-period cropmark complex at Mucking, Thurrock represent one of the major archaeological rescue projects of recent years; such a huge excavation project inevitably leads to the equally awesome task of post-excavation analysis leading finally to publication. This volume and the *Site Atlas* (reviewed separately) are the first in what will be a series covering the prehistoric, Roman and Saxon periods. A major point to be made regarding this volume is that it deals with the Saxon settlement at Mucking, but not the cemeteries, which are to be published separately at a later date (Hirst and Clark forthcoming). I found this to be a problem as the author refers to cemetery material throughout the book and I was left with the impression that had she been able to

present the evidence from the cemeteries as well as the settlement we would have had a more fully rounded portrait of the Saxon settlers at Mucking; the author herself writes that 'the picture painted by the settlement evidence is totally different to the picture of wealth and status that one gets from the analysis of the cemeteries'. Perhaps it would have been better to have published the settlement and cemeteries together as complementary, or rather inseparable, volumes.

So to this report: I found the major strength of the volume to be the chapter on the pottery. This is an extremely useful analysis of a large corpus of Saxon pottery and I for one will no doubt be referring to it time and time again as I struggle to date small assemblages of Saxon pottery from Essex. Her fabric analysis and descriptions of pottery forms are particularly welcome because of their clarity and unambiguity: for example we are told exactly what is meant by the names given to the pot forms, thus a 'Biconical bowl' is defined as that which has 'a restricted, complex profile, with a corner point <120; rim min. 87, max. 186, average 130'; there is also a glossary of terms used, thus 'restricted' equals diameter of orifice < max. diameter'. Some aspects of the discussion may need to be reassessed once the pottery from the cemeteries has been analysed; for example as the author herself points out the 'discussion of the decoration cannot take into account the more than 300 vessels from cemetery II which are yet to be analysed.'; 'analysis of the cemetery pottery will almost certainly modify conclusions drawn here regarding the chronological development of certain decorative elements'. Similarities with material across the Thames is discussed briefly, but we must wait for the appearance of the cemeteries volume before the complete picture of stamp-linked pots from Mucking and cemeteries in north-west Kent.

As far as dating is concerned, the distribution of datable finds (i.e. coins, brooches, belt-fittings etc.) show that 'finds of different date cluster in relatively discrete sectors' and this is used as a control against which distributions of pottery can be compared. Thus she demonstrates that grass-tempered pottery had a marked increase of use in the sixth and seventh centuries; combing and pinched rustication occurs mostly in fifth-century hut assemblages and so on. This is all very useful to anyone concerned with the dating of Saxon pottery in the county and beyond.

The extensive finds inventories provide valuable comparanda; although it is a pity that the worked stone is omitted from the inventories because of limited time and resources. Also organic traces on knives are not discussed, but will be considered in the cemeteries volume.

And so to the rest of the volume which may be considered disappointing in some respects, in particular the analysis of the structures: 'no new interpretation of structural reconstructions has been attempted', this despite there being a very large corpus (some 203

examples) of Gröbenhauser. Also 'none of the Gröbenhaus finds assemblages is suggestive of a specific function for a particular hut, with the exception of the spinning and weaving equipment'; what it appears to boil down to is that the author is not prepared to stick her neck out on hypothetical reconstructions based on 'the generally poor quality of the structural evidence'. I was also surprised to read that few, if any of the Gröbenhauser had true occupation layers and that there were no major Anglo-Saxon pit assemblages. With regard to the layout of the settlement the author demonstrates that we are dealing with a shifting settlement: a fairly dense group of Gröbenhauser marked the initial phase of fifth-century settlement which gradually wanders northwards during the course of the sixth, seventh and possibly eighth centuries. This spatial development hypothesis is well-argued throughout the volume and is a reasonable interpretation of the evidence; but notwithstanding this major exception, interpretation of the nature of the settlement is rather thin on the ground. We are presented with a scenario of Saxon Mucking as a sprawl of huts with a sprinkling of halls presenting little or no organisation with no obvious centre and little or no differentiation between functions of buildings, which I suppose may well be as accurate a description as we are ever going to achieve. I was however, very pleased to read that the interpretation of the site as initially a

settlement of *foederati* (Jones *et al.* 1968, 226) still holds good; Hamerow concludes that the evidence 'is not inconsistent with this scenario'. Now, here is a story to capture the imagination — Germanic mercenaries providing military service to the depleted Roman army in return for land; one of a series of mercenary settlements along the Thames whose function was primarily to protect London; I'm glad I can still relate this to interested parties as it provides a reason for Mucking's existence and demonstrates an interaction with a sub-Roman population which otherwise is totally unevidenced.

The presentation of the volume and the illustrations are of the highest standard; a few more plates would have been appreciated. It simply remains to say that this is essential reading to anyone interested in Anglo-Saxon Essex and the author and all others involved in its production are to be commended.

Susan Tyler

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Andrew Phillips
Paul Sealey

Hilda Elizabeth Poole Grieve
B.E.M., B.A., F.S.A. (Scot.), F.R. Hist. S.
1913-93

Hilda Grieve, who died in Chelmsford on 1 November 1993, was Senior Assistant Archivist in the Essex Record Office (1939-66) and Deputy Editor of the *Victoria County History of Essex* (1966-73). Born of Scottish parents on 4 September 1913, she was particularly proud of her fellowship of the Society of Antiquaries of Scotland. Through her father, James Henry Grieve, she was descended from the Plantagenet kings of England. She was educated at Queen Margaret's School, Scarborough and Westfield College, London, where she read History under Gladys Thornton (later, as Mrs Ward, a well-known member of our Society), and also captained the college hockey team. She took a brilliant First Class in 1934, and then taught for three years at Mistley Place boys' preparatory school in north Essex before returning to Westfield to work for a doctorate. Although her thesis was never completed, an essay based on it, 'The deprived married clergy of Essex, 1553-61', won the Royal Historical Society's Alexander Prize in 1939.

In April 1939 Hilda was appointed Senior Assistant Archivist in the newly opened Essex Record Office. During the Second World War she was employed on Civil Defence duties, particularly exacting in those years, when much of East London was administered from Chelmsford. For that service she was awarded the British Empire Medal in 1946.

Hilda returned to the Essex Record Office in 1945 as supervisor of the students' room, where she gave a friendly welcome as well as expert advice to an increasing number of students at every level from junior school children to university teachers. In 1951, when the *Victoria County History of Essex* was revived, Hilda's help was of the greatest value in compiling the lists of sources to be searched for the topographical volumes. She had already designed the Record Office's principal parish index, and this, with the other indexes and resources of the Office, enabled Essex to play a leading part in the movement, under the general editorship of Ralph Pugh, to extend the range of subjects treated by the *V.C.H.* series in its town and parish histories. In those busy post-war years Hilda also shared in the administrative work of the E.R.O., in its exhibitions, and in its publications. Her *Examples of English Handwriting* (1954), which combined two earlier booklets, provided an admirable introduction to the palaeography of local archives, and has been many times reprinted.

In 1954 Hilda was seconded by the County Council to write the official history of the 1953 floods in Essex. A few months earlier she had undergone an operation so serious that at one moment she overheard someone say that she was going to die. She did not agree, made a full recovery, and sailed into the new undertaking with her usual energy. *The Great Tide*, published in 1959, opens with an excellent survey of floods and sea-defences down the centuries, and then provides an hour-by-hour

narrative of the 1953 floods and their aftermath. Besides carrying out all the documentary research, correspondence and interviewing, Hilda spent her Sundays walking the sea-walls of Essex, from West Ham to Harwich, along with a group of friends known as her 'travelling circus'. Besides its historical interest, the book achieved distinction as a handbook for emergency planners.

Back in the E.R.O., Hilda played a full part in the Office's move to the new wing of County Hall. Two years later she took up a new challenge. The *Victoria County History of Essex* had for some time been short-staffed after advertisements had failed to produce a suitably qualified assistant editor. Hilda came to the rescue, enquiring if she could be of service. The *V.C.H.* Committee made haste to accept the offer, and appointed her to the more senior post of deputy Editor, which she took up in November 1966.

Hilda remained with the *V.C.H.* until her retirement in 1973. Experienced, resourceful, and buoyant, she worked mainly on the towns of Walthamstow and Leyton, which together comprise a large part of the long and complicated volume covering metropolitan Essex (*V.C.H. Essex* volume six). Her last *V.C.H.* assignment, for volume seven, was the small marshland parish of Wennington. There, it was thought, nothing of importance awaited discovery. But Hilda decided to 'put little Wennington on the map', and she proved triumphantly that it once had an inland harbour, navigable by a creek from the Thames, traces of which could still be seen on the ground.

Retirement enabled Hilda to devote herself to the history of Chelmsford, for which she had long been collecting material. The first volume, covering the medieval and Tudor periods, was published in 1988 as *The Sleepers and the Shadows*. A remarkable feature of the book is its reconstruction of the historical topography of the town, from court rolls, rentals and surveys, title deeds, tax assessments, and John Walker's map of 1591. The second volume, up to 1888, was well advanced by 1991, when Hilda had another major operation. Life became difficult, but with great courage she worked on to finish the book a few weeks before her death. It is being seen through the press by Mrs Beryl Board, a former *V.C.H.* colleague and a member of our Society, and will soon be published by the Essex Record Office.

Tall, erect, with a fine voice, Hilda Grieve was a compelling lecturer, who could fill Chelmsford cathedral and hold her audience's attention for two hours at a stretch. She was an accomplished pianist and a keen gardener. She travelled widely and loved watching cricket at the County ground near her home. She was able to enjoy her 80th birthday party in the company of her friends, who were constantly in her thoughts during the last days.

W.R.P.

Notes for Contributors

1 Contributions should be sent to the Editor, The Manor House, The Street, Pebmarsh, Halstead CO9 2NH.

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Hawkes, C.F.C. and Hull, M.R. 1947 *Camulodunum*, Society of Antiquaries.

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