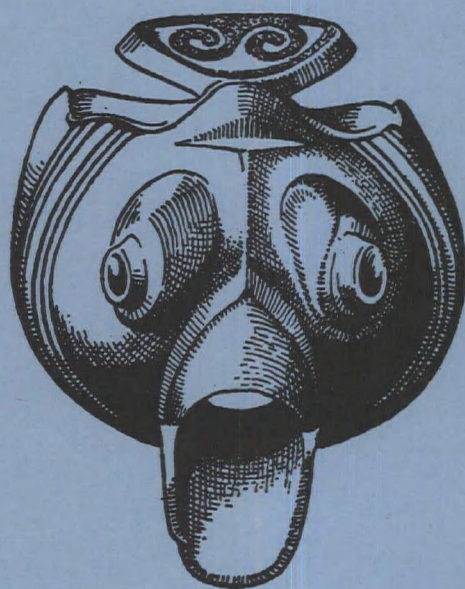


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CONTENTS

Radwell Excavations, 1974-1975: the Bronze Age ring ditches By David Hall and Peter J. Woodward	1
Shale Vessels of the Late Pre-Roman Iron Age: Context, Distribution and Origins By David H. Kennett	17
A Roman Lime Kiln near Cardington Mill, Bedford By R.F. White	23
Excavations at Pear Tree Farm, Elstow, Bedfordshire, 1976 By P.J. Woodward	27
A Cruck Frame Building at Sharnbrook By P.J. Woodward	55
Crowhill Farm, Bolnhurst, Bedfordshire: A Timber-Framed Building and its History By David H. Kennett and Terence Paul Smith	57
'Rowe's Cottage': a 'Wealden' House at Little Barford, Bedfordshire By J.M. Bailey	85
Lower Roxhill Farm, Marston Moretaine: a measured survey of a timber- framed building By J.M. Bailey	99

LIST OF ILLUSTRATIONS

Radwell Excavations, 1974-1975: the Bronze Age ring ditches

Plate 1	The central cremation urn from Ring Ditch I <i>in situ</i>	7
2	The reconstructed necklace from the central cremation urn, Ring Ditch I	7
3	Excavations Trench (Ring Ditch II)	13
Fig 1	Area Plan	1
2	Plan of Ring Ditch	2
3	The central cremation urn from Ring Ditch I	3
4	The grave goods from Ring Ditch I and the small finds from Ring Ditch II	5
5	Site Plan and sections of Ring Ditch II	9
6	Flint Analysis	10
7	Plan of Ring Ditch III	14

Shale Vessels of the Late Pre-Roman Iron Age: Context, Distribution and Origins

Fig 1	Reconstructable fragments of the shale vases from the Harpenden burial	17
2	Shale Vases and Iron Age Burials	18
3	The Catuvellauni and Cultural Poverty	19
4	The Barnwell Tazza	20

A Roman Lime Kiln near Cardington Mill, Bedford

Plate 1	Lime Kiln under excavation	25
Fig 1	Plan and section	24

Excavations at Pear Tree Farm, Elstow, Bedfordshire, 1976

Plate 1	The cropmarks at Pear Tree Farm, Elstow	29
2	The drilled cow tibia from Odell and Elstow	48 and 49
Fig 1	Cropmarks at Pear Tree Farm, Elstow: site plans	28
2	Excavation Area D	31
3	Plan of Trenches A, B, C	33
4	Sections: Iron Age features	36
5	Sections: medieval features	37
6	Pottery analysis	40
7	St Neots type shelly ware pottery	43
8	Other Medieval and Romano-British wares	44
9	Hand made Iron Age and (?) Saxon pottery	45
10	Small finds	47
11	Drilled Tibia	50
12	Numerical analysis of kanpped flint material	51
13	Ditch colourings	52
14	Ditch colourings by period	53

A Cruck Frame Building at Sharnbrook

Fig 1	The cruck-frame building at Sharnbrook	56
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Crowhill Farm, Bolnhurst, Bedfordshire: a Timber-Framed Building and its History

Plate 1	General views of medieval building from north, 1973 and 1976	77
2	General view from south, 1973; central chimneys, 1976	78
3	East wing with details of stack, 1973 and 1976; general view from north, 1976	79
Fig 1	Bedfordshire vernacular buildings: publication	59
2	Bolnhurst in 1575: buildings and landownership	60
3	The context of Moore's Farm, Bolnhurst, in the late-sixteenth to early-eighteenth centuries	62
4	The Fields of Crowhill in 1858	63
5	Immediate location of farmhouse and farm buildings	66
6	Plans and long section	68
7	The wing: sections and elevations	69
8	Section through hall	70
9	Reconstruction of hall-house and wing	71
10	Chimney stack	72
11	Panel infilling	73
12	Scarf-joint: hall wall-plate	74
13	Scarf-joint: wing wall-plate	74
14	Chamfer-stops	75

'Rowe's Cottage': a 'Wealden' House at Little Barford, Bedfordshire

Plate 1	'Rowe's Cottage', Little Barford, before dismantling	85
2	'Rowe's Cottage', Little Barford, without infill material during dismantlings	89
3	'Wealden' House at Box End, Kempston	96
Fig 1	The distribution of the 'Wealden House' outside of the primary areas	86
2	Plans and elevations before stripping	88
3	Elevations, sections and details	90
4	Original timber-framed building: plans, elevations and sections	91
5	Reconstruction of original 'Wealden House'	92
6	Original west front	93
7	Carpentry details	94

Lower Roxhill Farm, Marston Moretaine: a measured survey of a timber-framed building

Plate 1	General view from east	104
2	General view of east wing	106
Fig 1	Plans, elevations and longitudinal sections	100
2	Elevations and sections	101
3	North-East wing	102
4	South-West wing	103
5	Composite isometric view	105

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Radwell Excavations, 1974-1975: the Bronze Age ring ditches

DAVID HALL and PETER J. WOODWARD

SUMMARY

Five ring ditches, considered to be of Bronze Age date, are known at Radwell. Four are known from aerial photographs, the other was revealed under pasture land by gravel extraction works. These ring ditches lie on the gravel terrace of the River Great Ouse and gravel quarrying has now destroyed four of them. The three ring ditches described in this paper show characteristics typical of the Bronze Age ring ditches previously examined in the Great Ouse Valley. They seem to be the quarry ditches of ploughed-out barrows and are an element of complex settlement foci along the river valley.

INTRODUCTION

The three ring ditches (I to III) described in this paper lie on the gravel terrace of the River Great Ouse at Radwell. These three, and two others (IV and V), are typical of rings revealed by aerial photography that represent the quarry ditches of ploughed-out barrows of the Bronze Age period.¹ The Radwell ring ditches (Fig. 1) are the major Bronze Age features of a site which has been subsequently occupied in the Iron Age and Roman periods.²

Four of the ring ditches (I to IV) have been examined as a result of gravel extraction by Radwell Gravels Limited; and form part of the rescue work being carried out at the quarry. Some features of the Romano-British period and one of the ring ditches (IV) have been described in an earlier volume of this Journal.³ The present paper discusses the Bronze Age aspects of this multi-period site.

All the Radwell ring ditches have been identified by aerial photography,⁴ apart from ring ditch II which was found in pasture land as a result of topsoil stripping prior to gravel extraction.

Ring ditches I, III and IV were observed and recorded by David Hall and John Hutchings during machine stripping in 1973. The two-thirds of ring ditch II uncovered in the quarry was observed

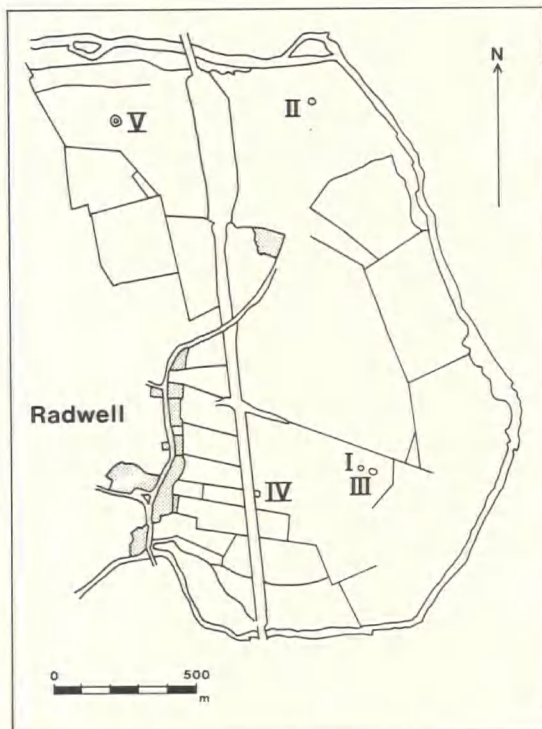


Fig 1 Area plan.

and planned by the same workers in 1974. At the same time a trial, hand-dug trench was excavated in the remaining third, and a more detailed excavation was subsequently carried out in 1975 by Peter Woodward for the Department of the Environment and Bedfordshire County Council.

In the following report the excavation of ring ditches I to III and their finds are discussed separately and in order. All three are then discussed together with ring ditches IV and V, so that they can be seen clearly within the context of Bronze Age settlement in the Great Ouse Valley.

The detailed excavation records and finds are deposited in Bedford Museum.

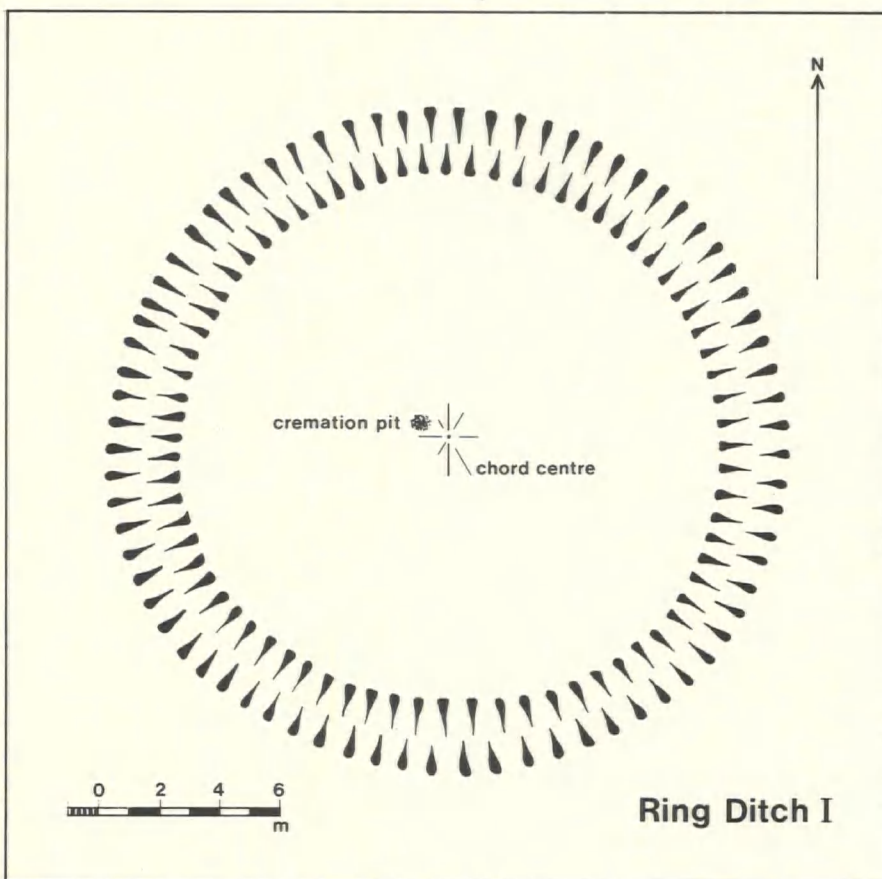


Fig 2 Plan of Ring Ditch I.

RING DITCH I

TL013575, Beds. C.C. S.M.R. 1797

DESCRIPTION

It was intended to excavate this ring ditch (together with III) by hand after mechanical topsoil stripping. However, due to the difficulties of precisely locating the ring ditches from the oblique aerial photographs available, part of ring ditch II was stripped by quarry machinery down to gravel bedrock some distance from where it was expected. At the time no labour was available to hand excavate the ring ditch in any detail. The third of the ditch exposed by quarry grading only survived to a depth of 25 cm in the gravel, and yielded no finds.

Mechanical stripping of the topsoil on the remaining two-thirds of the ring ditch exposed a

white streak of cremated bone near the centre at about 30cm depth. Manual excavation revealed the remains of an inverted collared urn, filled with objects and cremated bones in a shallow pit some 60 cm in diameter and 20 cm deep, cut into alluvial deposits. (Plate 1) The greater part of the urn had been ploughed away leaving only about 17 cm of the rim. A thin dark layer immediately below the rim suggested that the urn had been covered to stop the contents falling out upon inversion.

The ring ditch defined a circle of diameter 19 metres (Fig 2), with the ditch 2.4 metres wide at the top and penetrating gravel bedrock 25cm. The total depth was 1.2m below present ground level. No finds were made in the ditch fill during observation, as it was mechanically destroyed.

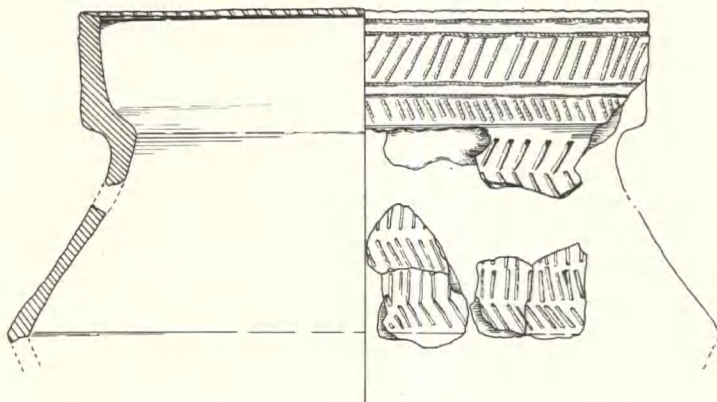


Fig 3 The central cremation-urn from Ring Ditch I.

THE CREMATION URN

(Fig 3, Plate 1)

The cremation-urn had been compacted by the weight of the machines that stripped the site and was in a crumbly and broken state when lifted. Medieval and modern ploughing had destroyed some of the urn above the shoulder and all of it below. The total height of the urn is, therefore, not known.

The fabric is very porous with small and medium sized grits evenly distributed and with occasional large grits up to 4mm diameter. There is also a high grog content and an occasional 'grass-tempered' impression. The fabric crumbles and shears very easily. The surface itself is fairly smooth and slightly soapy to the touch. The core is black; the external margin is thick and oxidized to a light yellow-brown; the internal margin is very thin and of light yellow-brown, but fired to a light grey-brown colour in parts.

The decoration of the urn is of three types:

- a On an internal bevel to the rim there are ovate impressions slightly angled to the circumference of the pot. This has probably been executed with the finger tip, a tradition carrying on into the later Iron Age, where it is a common characteristic of pottery found in the Ouse Valley.
- b On the external face of the straight-sided and near-vertical collar there are cord impressions in two pairs of horizontal bands. Between them are two lines of angled hatches which form a herringbone pattern split by one of the horizontal cord pairs.

- c Below the collar and above the shoulder there are at least four lines of angled, incised hatches forming a rough herringbone pattern. These have one end more deeply cut, suggesting an impression made by insertion of a blade which was then cut or slashed backwards. These lines of hatches sometimes slightly overlap. It is not possible to ascertain how many lines of decoration existed above the shoulder.

The surviving urn fragment exhibits only three of the traits required to place it in the Longworth's primary series of collared urns,⁵ one decorative, and two structural. However, the original number of traits is not known since the lower half of the urn is missing. Therefore the urn cannot even be classified as being late or early.⁶

Burial urns of Longworth's primary series have been found at several places along the Great Ouse.⁷ Most have some similarity both in decoration and form, but a detailed comparison will not be attempted here. It is, however, worth noting that the central collared-urn burial of one of the ring ditches at Roxton had an early carbon date of 1670 ± 80 b.c. (HAR.997),⁸ this was also of the primary series.

GRAVE GOODS

The jet and amber necklace (Fig 4, Plate 2)

Difficulties are encountered with any attempt to reconstruct a necklace from the numerous beads and fragments recovered from the central cremation urn of ring ditch II. Two main problems are:

- (i) The exact number of each constituent element of the necklace is not known since

there are many fragments and there is undoubted loss because most of the cremation urn had been ploughed away.

- (ii) Not all the constituent elements described necessarily belong to the same object, but it is assumed they are all part of a composite necklace.

Assuming that only one necklace is present and that most of the individual elements belong to it, then the following reconstruction is possible.

The single large jet spacer (Fig 4, C) suggests a necklace of three lines of beads arranged on either side. The beads (Fig 4, A, B and F) composing the lines would perhaps be arranged in alternate jet and amber long beads spaced out with disc beads. Assuming some symmetry, the necklace could be arranged using all the beads in a triple chain. Each chain could consist of a repeating unit of ovate jet spacer bead, 3 jet disc beads, an ovate amber bead and 3 more jet disc beads.

If the necklace did take this form, it would only be about 170mm long (with the number of beads recovered) which would hardly circle the neck of an adult.

There are the remains of at least one amber spacer bead that could convert the three-line necklace to a single line, which would then have a total length of 300mm or more. The bone finial, amber button, and pendants could also be included in the design, since they all have drilled holes for threading. The pendants and button could form a fastening at the back of the neck. Assuming symmetry, a design can be suggested as in Plate 2.

The bead totals are those recovered. If there were many more they could make the length of the three-strand section longer, so allowing some of the triple chains to hang in 'loops' (catenaries).

Description of the grave goods (Fig 4)

Jet

- A Disc bead. The outer diameter varies from 4.5-6 Omm., and the thickness 1.0-3.0mm. Some have bevelling around the threading hole on one side of the bead, some on both sides and some on neither. A total of ninety-four were recovered and two fragments.
- B Ovate bead, roughly cylindrical with wider middle cross-section. Three general sizes: *short*, less than 8mm long with 5mm maxi-

mum diameter (six complete); *intermediate*, length 10-13mm, diameter 5-6mm (five complete); *long*, length 18-19mm, diameter 6-7mm (two complete). There were fragments of at least two others. Beads of this form are widely distributed in Britain, and have been found in the lower Ouse Valley in Cambridgeshire.⁸

- C Spacer for three lines of beads; one complete example found.

Bone

- D Finial with two drilled holes (single example).

Amber

- E Ovate pendant with one drilled hole.
- F Finial button with curved hole drilled so as to enter and return in the flat surface.
- G Ovate beads of more symmetrical shape than those in jet. Two sizes: *short*, length 7-10mm, diameter 4-6mm. (six complete); *long*, length 11-13mm, diameter 4-6mm. (three complete). There are many fragments from at least three beads and probably many more. This material tends to crumble to dust, which would not have been recovered. Beads of this form occur in lower Ouse Valley sites.⁹
- X (not illustrated) A flat spacer, probably similar to C. Impossible to reconstruct, at least seven fragments, possibly from more than one spacer present.

Bronze

- Y A toiletry article or awl, 6cm in length, rounded at one end and pointed at the other. Similar to an example found at Roxton.¹⁰

The cremated bones

By C.B. Denston

Summary:

Colour:	Light-brown
Overall length:	0.57mm
Total weight	546.0gm
Number of individuals:	Possibly two
Sex:	Male and female
Age at death:	Adult

Description of recognizable fragments:

Two frontal processes of right zygomatic bones.
A right and left mastoid process.

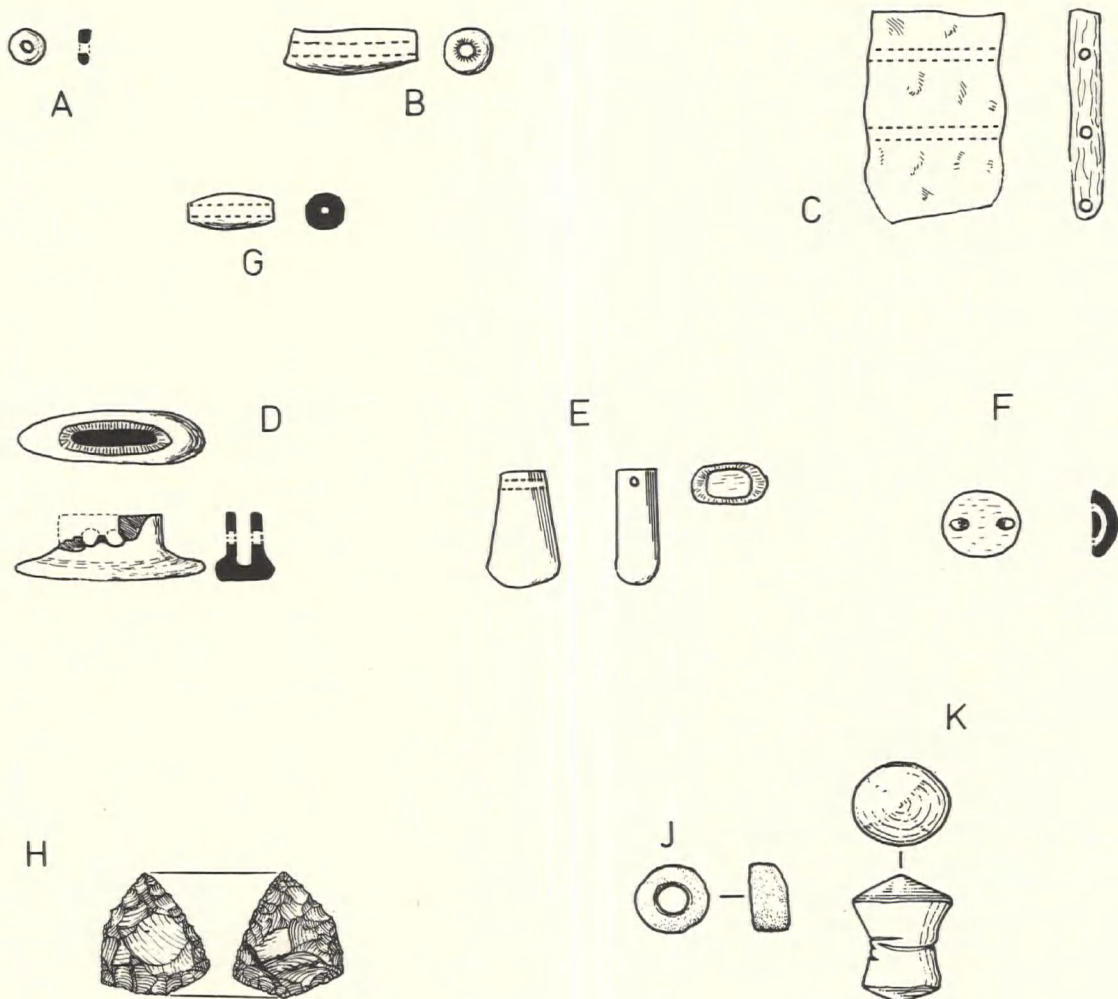


Fig 4 The grave goods from Ring Ditch I. (A-G) and small finds from Ring Ditch II (H-K). Actual size.

A petrous portion of a right temporal bone.
Fragments of maxilla and mandible displaying the alveoli.
Coronoid process of a mandible.
Roots of teeth.
Phalanges of the hand.
Metatarsal and Metacarpal bones.
Fragments of the shaft of femora.
Fragments of the shaft of tibiae.
Fragments of vertebrae, including the odontoid process of the axis.

Interpretation of the remains:

The two duplicated fragments of the frontal

process of right zygomatic bones suggested that the remains represented two individuals. This was substantiated by the presence of two fragments of bone from the mastoid area of temporal bones. Though the fragments were from opposite temporal bones, one was rather more robust than the other. Further evidence for the representation of two individuals was the presence of at least three identifiable fragments from the shaft of femora. One was a robust fragment displaying a prominent linea aspera, in comparison to a delicate appearance of the other two fragments, one of which also displayed the linea aspera.

The evidence in the previous paragraph, apart

from suggesting the presence of two individuals, also produced the possibility of the individuals being a male and a female. The size of the mastoid processes suggested that the individuals were adults. Fused epiphyses of a metatarsal bone, and of phalanges, substantiated this hypothesis.

A posterior fragment of the body portion of a cervical vertebra displayed osteophytosis, indicating osteoarthritis. The size of the fragment suggested the possibility that it was representative of a female individual. From the evidence of a fragment of a mandible, one of the individuals also had a certain amount of periodontal disease.

RING DITCH II, TL 01065887, Beds C.C. S.M.R. 1786

DESCRIPTION

This ring ditch was located in pasture and was about two-thirds exposed during overburden removal prior to gravel extraction. The plan of the ditch cut into the gravel was recorded by plotting points on its centre line. The chord centre for this part of the ring ditch was located almost at a single point (Fig 5). The ring ditch was nearly circular, although the portion excavated in trench 2 suggested that the circle used for laying out the ditch was of decreasing radius. The shallow part of the ring ditch exposed by the quarry was not otherwise examined.

Two trenches were placed in the undisturbed third of the ring ditch. Trench 1 was exploratory, dug in 1973, and trench 2 was excavated later to complete a section across the site and amplify the preliminary results. The section in trench 1 can now only be inferred from a site photograph and the section across the site (Fig 5) is therefore partly a reconstruction from available excavation data. Both trenches are described together. Detailed plans and sections of trench 2 are shown in figure 5, together with the site plan.

The topsoil was removed by machine in the case of trench 2 and by hand in trench 1. Below this, a layer of loamy clay alluvium (3), nearly stone free, was removed by hand to a depth of some 40cm, leaving a stony level, layer (8). The finds from this alluvial layer (3) and from the earthwork ditch (4) crossing the site — square section nails, glazed tile or pot and cow bones — show that this deposit was of post-Roman origin.

Layer (8) (Fig 5, Plan i) was criss-crossed with small 'u' and 'v' shaped linear marks (varying in depth from 3 to 6cm and interpreted as plough

works). Layer (8) faded out towards the north end of trench 2 (similarly in the south end of trench 1), where more stone-free deposits (9) and (7) were recognised. These two layers (Plate 3 and Fig 5 Section i) were the upper levels of the ring ditch silts and seem to be caused by ploughing.

Layer (8) contained a large number of knapped flints (including a transverse arrow-head), a few pieces of Romano-British pottery, a single nail and some soft hand-made pottery on its upper surface. The layer showed a slight rise, towards the 'centre' of the ring ditch, of about 3cm (refer to levels, Fig 3, plan i). Layer (8) can be interpreted as the ploughed-out remains of a ring ditch mound. It is clear that this dates from the Roman period.

Layer (8) continued over the ring ditch; levels (7), (9) and (18) can now be included with this plough-destruction phase. Layer (8) seals all other ring ditch layers (19) downwards, a 'buried' soil (32). and a turf line (35).

The Ring Ditch: The ring ditch cuts through layers (35) (a buried soil or turf line) and (42) (probably an earlier alluvial deposit). The ditch silts were clayey loams ranging in colour from 10YR 5/4 (18) to 7.5YR 4/4 (36) and become progressively freer of gravel, and more clayey and sticky towards the bottom of (36). The primary fill (37), (38), (39) of the ring ditch was very shallow at the base (37), (38) and non-existent on the outside edge. On the inside edge (39), it was rather thicker and partly sealed by layer (35). Also on the inside ditch edge there was a shallow berm cut into natural and sealed by layer (35). There is no clearly differentiated turf line in the ring ditch (which is characteristic of Bronze Age ditch profiles). Because of this the decreasing thickness of the primary fill towards the base, and the cutting of a possible turf line (35), which appears to seal an original berm, it seems that this ring ditch had been cleaned out or re-cut on its original line.

The distribution of knapped flint (Fig 5, Section i) shows that it originated from the inside of the ring.

Other finds from the ring ditch — a jet toggle, an amber bead, pottery and bone — were recovered from layer (33), which also provided a quantity of charcoal (blackthorn and hawthorn) at the levels indicated on the section. A carbon date of 1050 $\pm$ 90 b.c. is available for this layer (see below).

The basic dimensions of the ring ditch from the

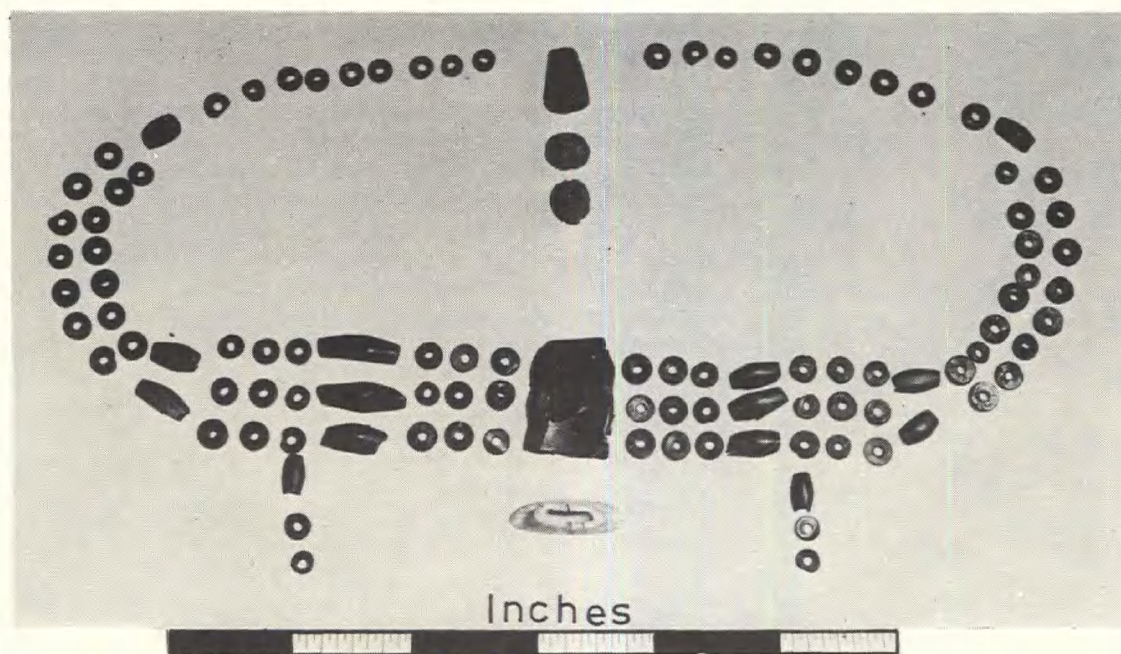


Plate 1 The central cremation urn of Ring Ditch I, *in situ*.

Plate 2 The reconstructed necklace from the central cremation, Ring Ditch I.

survey and excavation were:

External diameter:	26 metres
Ditch width:	2.2 metres
Ditch depth:	0.9 metres

The Buried Soil: Inside the ring ditch below layer (8) three distinct layers could be recognised — a pale-brown clayey loam nearly stone free in the centre of the ring (32), a reddish-yellow clayey loam (35) with gravel bands on the inside edge of the ditch, and an area inbetween (34) of strong, brown clayey loam with small-medium sized gravel.

Layer (32), which overlay natural, was probably a buried soil that had been much disturbed by animals on its northern side (34). Layer (35), previously mentioned, could represent an original turf line silt of the ring ditch which had been partially removed by a later cleaning.

These layers suggest the ring ditch and its original structure was a bell barrow, that had subsequently been disturbed in the middle Bronze Age and ploughed out in the Roman period.

Other Features: A number of internal features (post-holes, tree holes and animal holes) could be identified on the inside edge of the ring ditch (Fig 5, plan iii). These are probably contemporary with its construction, being sealed by (35). No features were recognised below the buried soil (32), and irregularly curving features cut into the top of this soil could be animal burrows (not illustrated in Fig. 5).

A single feature (7) (Fig 5, plan ii) below layer (8) and cut into layer (35) inside the ring ditch yielded no material finds, but could be the end of a shallow gully, possibly contemporary with the use of the ring ditch in the middle Bronze Age.

The irregular features of layer (34) (Fig 5, plan ii) can be interpreted as animal disturbance. Irregular features below (42) (Fig 5, plan iii) were probably tree holes.

THE FINDS

The Flint

The knapped flint material from trench 1 was numerically insignificant and has not been included in this analysis.

The knapped flint recovered from the excavation of trench 2 could be stratigraphically divided into four groups:

A Ploughed levels below alluvium — Layer 8.

B Plough-wash levels in ring ditch — Layers 7,9,18.

C Ring ditch deposits below plough-wash — Layers 19, 33.

D (i) Features cutting layer 8 (Group A) — Plough-mark features.

(ii) Alluvium sealing the ring ditch site — Layer 3.

Most of the material (about 85%) was recovered from contexts A and C. The other three groups are numerically and diagnostically insignificant and will not be discussed further.

The period(s) of origin of the two larger groups is uncertain because of the paucity of diagnostic flint tools, the lack of other datable material in these deposits, and the lack of dated comparable material in the area.

The only datable flint tool is the triangular arrowhead from Group A (Fig 6, No 1, and note following) and even this has a long period of use, although a date as late as the eleventh century B.C. (the carbon date for group C) would be unlikely. If this arrowhead is earlier in the Bronze Age, then some of the material must pre-date the ring ditch.

Stratigraphically the flint originates from within the ring ditch. The flint distribution from the western half of the ditch (trench 2) clearly shows this when plotted on the section (Fig 5, detail section i). Layer (8), within the ring ditch represents the ploughed out remains of a mound of the earlier Bronze Age. Group A material may be considered to have been incorporated in the mound when it was constructed, and represent occupation predating the ring ditch. Layers (19) and (33), (the deposits from which group C was recovered together with a carbon date of 1,050 b.c. $\pm$ 90 years) represent a secondary use of the ring ditch. The group C material can be interpreted as occupation debris of the Middle Bronze Age.

These two groups, A and C, can be compared: Similarities

- (a) The proportion of all flakes: total is about the same in each group (70%).
- (ii) The proportion of cores.
- (ii) The proportion of cores/worked lumps: total is about the same in each group (35%)
- (iii) The ratio of flake sizes in each group is not significantly different, although the number of long flakes is slightly greater in Group A.
- (iv) The amount of cortical material in each group is about 85%.
- (v) There is almost a complete absence of re-used material, and a complete absence of mesolithic/microlithic material.

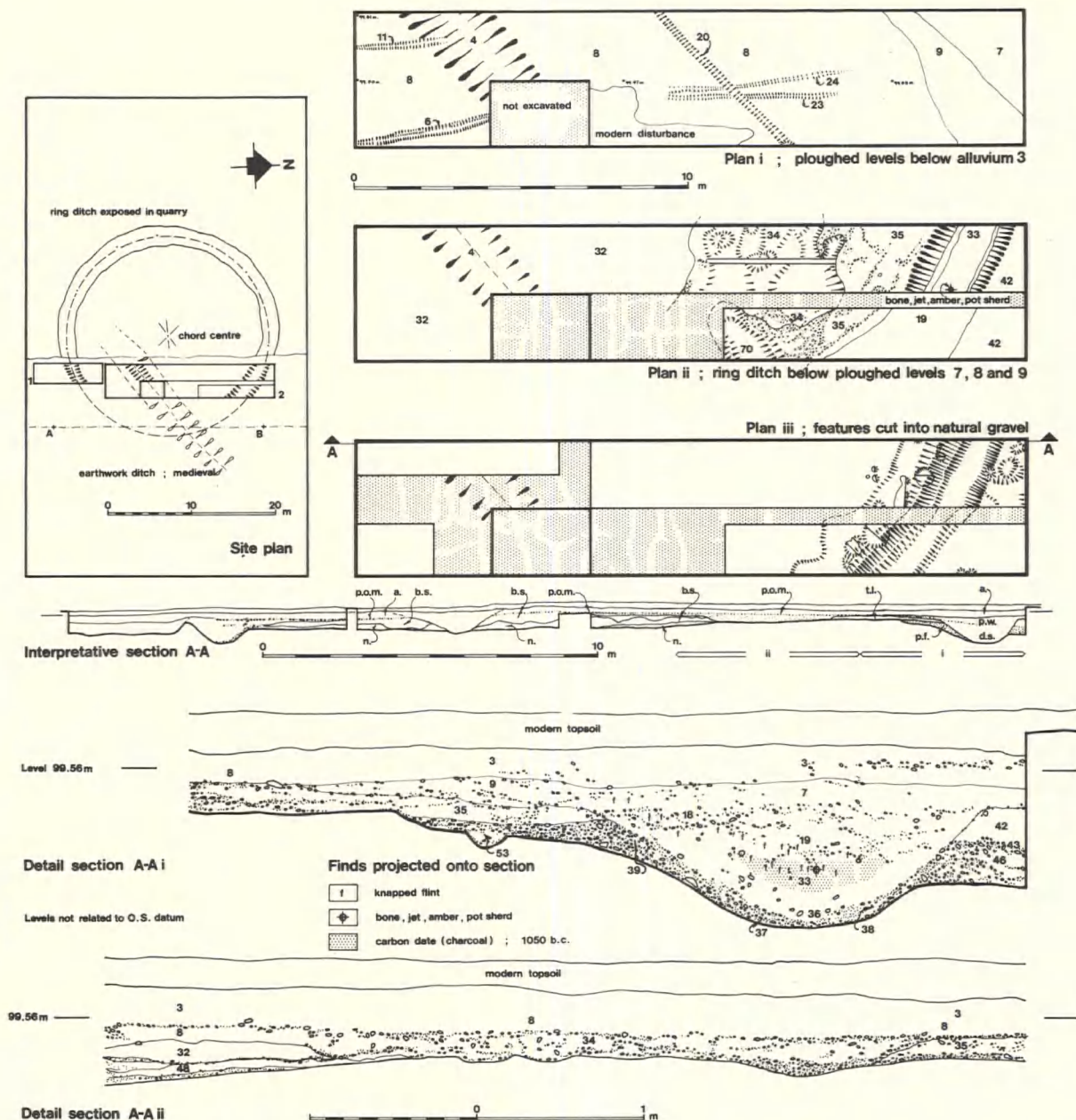


Fig 5 Site plan; trench 2 plans and Sections of Ring Ditch II.
The abbreviations on the interpretative sections are:

- m.p.s. — modern plough soil, (2)
- a. — alluvial deposit sealing ring ditch, (3)
- p.o.m. — ploughed out mound, (8)
- b.s. — buried soil, (32)
- t.l. — turf line, (35)
- p.w. — plough-wash in ring ditch, (7) (9) and (18)
- d.s. — ditch silts below p.w. (19) (33) and (36)
- p.f. — primary fill of ring ditch, (37) (38) and (39)

Contrasts

- (vi) The production of all secondary worked material in Group A is 40% and in C 10%, and in Group A there are some recognisable, albeit crude, tools as well as an arrow-head.
- (vii) The proportion of cortical material in Group A is about 10% and in Group C about 65%.

These two groups contrast in (vi) and (vii) and slightly differ in (iii). If we accept the evidence of the arrowhead and the stratigraphy then we are dealing with two assemblages from two different periods in the Bronze Age (group A predating group C) and these contrasts would therefore in some way represent this difference in date, the more highly patinated and secondary worked material with a slight preference for longer blades being earlier. This preference for longer blades in

industries predating and located on ring ditch sites has been noted at Roxton.¹¹ The degree of patination could be due to a difference in date, but is more likely to be caused by the differing nature and drainage of the two deposits.¹² The lack of secondary working in the material of group C is somewhat puzzling if the Middle Bronze Age use of the site is to be interpreted as habitation. However it is possible that the site could have been used simply to prepare knapped material for use elsewhere, the waste being discarded in the ring ditch. This would also explain the small quantity of material recovered, and the very slight phosphate levels recorded (see soils). The use of ring ditch sites for a Middle Bronze Age flint knapping function has also been noted on two of the ring ditches

Fig. 6 Numerical Analysis of Knapped Flint Material

Stratigraphic Location	Cores								Flakes											
	All Flint Total	Scrapers	Other Tools	Specialised	Non-Specialised	Worked Lumps	Non-Secdy. Worked	Secdy. Worked	Squat 1:1	Intermediate 1:1, 5:2	Long 5:2	Broken	All Secondary Worked Material	Re-used Material	All Patinated Material	Cortical Material	Mesolithic/Microlithic Material			
A. Ploughed levels below alluvium. Layer 8	81	2A	3B	0	0	18	8	7	7	9	1	7	10	5	32	1	8	63	0	
B. Plough-wash levels in ring ditch. Layers 9 and 18	8	0	0	0	0	2	2	1	1	0	0	0	1	1	2	0	1	8	0	
C. Ring ditch deposits below plough-wash Layers 19 and 33	42	0	0	1D	1E	10	11	1	11	2	3	1	2	0	4	0	26	35	0	
D.(i) Features cutting. Layer (8) (Group A)	10	0	0	0	0	4	3	0	2	0	0	0	1	0	0	0	0	9	0	
D.(ii) Alluvium sealing ring ditch. Layer 3.	7	0	1C	0	0	0	2	0	1	0	0	0	1	2	3	0	0	6	0	
ALL TOTAL	148	2	4	1	1	34	26	9	22	11	4	8	15	8	41	1	35	121	0	

- SCRAPERS: A. Two rough field scrapers, flake tools. One also used for chopping.
- OTHER TOOLS: B. One large hammer stone (possibly), one crude fabricator/chopping tool, one triangular arrow-head (Fig 6, 1).
- C. Crude multi-purpose scraper, chopping tool (broken)
- CORES: D. Single platform ('toe-nail') core.
- E. Single platform core (broken).

at Roxton, circa 1,100 B.C.

This interpretation of the flint material at Radwell is dependent on splitting the two groups into two stratigraphically separate units. However, an estimate for the height of the original ring ditch mound based on the surviving camber and the very small amount of plough wash deposits, would perhaps be only some 10 cm. The degree to which an earlier industry would be separated from an industry on the mound at a later date would therefore be marginal when the site was ploughed. It is therefore possible that some at least of the material apparently from the mound of the ring ditch (Group A) would be contemporary with that in the ditch itself (group C). This would explain the apparent lack of secondary worked material during the Middle Bronze Age. However, the evidence of the arrow head still indicates an earlier use of the site, which perhaps predates the ring ditch's construction.

In both groups the colour and quality of the flints was very variable. Colours ranged from blue – black through to grey – brown to translucent white. The material was often faulted and there was a high percentage of cortical material. This data indicates that the flint used for knapping was of local origin, probably coming from the gravel terrace.

THE TRIANGULAR ARROW-HEAD

(Fig 6, No 1):

This object was recovered from Layer (8), the ploughed-out mound at the southern end of trench 2.

It is triangular in shape with slightly curving sides of length 3cm, 2.9cm and 3cm. Its greatest thickness is 8mm, towards the centre of the object. The material is opaque black in colour with some faulting. It has been manufactured from a flake off a prepared core. Some of the bulbar face survives as a high point (the central face is on the right in the illustration). It has been retouched on all edges particularly the uppermost apex on the ventral face. The original hafting is uncertain; it could have been transverse. The bulky nature, and the 'unfinished' ventral surface with a high point not removed (possibly there was some difficulty because of the poor quality of the flint), suggest that the arrow-head was not completed. Wear marks on some surfaces and edges are probably a result of ploughing and rolling, although its later use as a scraper should not be discounted.

The Pottery

Very few diagnostic pottery sherds were recovered from the two trenches excavated. In the upper ploughed-out levels of the ring ditch (layers (7), (9) and (18)), a number of very abraded sherds of Romano-British coarse ware was recovered. These were wheel-turned sandy fabrics and a single colour-coated body sherd. No close dating can be given.

Body sherds of a soft, hand-made fabric were also recovered from these ploughed levels. They were characterized by a dark-grey to black core oxidized to a red-brown margin which was soapy to the touch. The matrix was generally slightly sandy with some grits. This could quite possibly be of Bronze Age date, although it is essentially undatable.

There was an absence of pottery from the ring-ditch layers below the ploughed levels, apart from one large body sherd recovered in close association with the small finds, and charcoal from layer (33). This sherd was a hand-made, red-brown soft fabric, sometimes reduced to a dark grey or buff on the surface. Frequent shell inclusions, up to 5mm across occur, and also some micaceous grits that are probably impurities. There is little similarity between this pottery fabric and that of the central urn from ring ditch I. The carbon date (1050 b.c.) for the charcoal found with it places it in the middle Bronze Age.

The Animal Bone

Very few animal bones were recovered from the site. Two were from the ring ditch in association with the jet toggle, and amber bead – a cow femur, from (33), and a sheep tibia, from (33)/(19).

A cow long-bone was recovered from the alluvium sealing the site (3) and a cow jaw-bone from the medieval earthwork ditch (4) cutting across the site.

The jet toggle and amber bead, (Fig 4 J and K) By Richard Bradley

These two pieces were recovered with shelly pottery and animal bone in the ring ditch layer (33), which from charcoal also recovered has a carbon date of 1050 b.c. $\pm$ 90 years.

The Jet Toggle (Fig 4 J)

The piece is unusual because of its uncommon profile and also because it lacks a perforation. The basic type, however, can be paralleled in Early Bronze Age contexts. It resembles finds

from four Early Bronze Age graves in Wessex, notably three 'pestle-shaped shale pendants' from Durrington G 14 and a rather cylindrical bone toggles from Bishops Cannings G 11 or 12 (Annable and Simpson, 1964, nos 275-277 and 448). The later was associated with a stone bracer and may be the earliest of the group. The Radwell toggle also recalls a 'baked clay stud or dress fastener' from Manton barrow, Presbute G 1a (Annable and Simpson, 1964, no 201). In the Gold Barrow (Upton Lovell G 2e) two thin gold cones were found which could have covered a toggle of just the type seen at Radwell (Annable and Simpson, 1964, no 231), a suggestion first made by Childe (1935, 136).

These parallels might suggest that the bone toggle is another residual item and could belong to an earlier period than the carbon date would indicate; this is not necessarily correct. There is still discussion of the real date of the last 'Wessex' graves and related finds of bone toggles in Scotland may be later. Their associations include collared, encrusted and cordoned urns (Callendar, 1929, 31-33). Each of these types could still have been current when Middle Bronze Age metalwork was in use in the south. A shale toggle identical to those from Durrington G 14 has been found on a Deverel-Rimbury settlement at Cock Hill, Sussex (Ratcliffe-Densham, 1961, 89 and pl 3b).

The Amber Bead (Fig 4 K)

This small cylindrical disc bead resembles those of jet from the central burial grave goods of ring ditch I. However, a date cannot be inferred because of this immediate parallel. There has been much discussion of the use of amber in the Early Bronze Age, but it also occurs, as here, in later contexts: a discussion of the relevant dating evidence is provided by Butler (1963, 216). The form of the bead is not chronologically distinctive.

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THE SOILS

This ring ditch and also I and III was cut into soils developed in fluvial sands and gravels of the flood plain terrace of the river Great Ouse.

The soils of ring ditch II could be classed as groundwater gley soils, but they show some evidence of gleying due to surface water impedance and because of their fine texture.

Higher up on the gravel terrace where ring ditches I and III were located, the soils are gleyic brown earths of the Biggleswade soil series with associated brown earths on similar parent materials.¹³

The ring ditch soils

- Layer 7 Strong brown (7.5YR 5/6) loamy clay with some clay lenses. Medium and small gravels.
Layer 18 Yellowish brown (10YR 5/4) clay loam. Medium and small gravels frequent. Slight phosphate presence.
Layer 19 Dark yellowish-brown (10YR 4/4), clay loam. Few medium and small gravels, often in lenses.
Layer 33 Yellowish-red (5YR 5/6) loamy clay. Few gravels. Slight phosphate presence.
Layer 36 Dark brown (7.5YR 4/4) loamy clay. Few gravels. Slightly stronger phosphate presence than 33.
Layers 37, Sandy grit and gravels (5YR 5/6 to 7.5YR 5/6).

The buried soil and turf line

- Layer 32 Very pale brown (10YR 7/4) clayey loam with strong brown (7.5YR 5/6) loamy clay features cutting its upper surface (animal burrowing). Fine gravels, some in horizontal banding; snails present. Slight phosphate presence.
Layer 35 Reddish-yellow (5YR 6/8) clayey loam with gravel bands.

The alluvial deposits

- Layer 3 Brownish-yellow (10YR 6/6) loamy clay with few gravels.
Layer 42 Strong brown (7.5YR 5/6) loamy clay with some gravel banding.

The pH of the soils ranged from 6-7. This pH was sufficient to allow some snail survival. (Vide Environmental Evidence).

The phosphate readings for the ditch silts showed progressively higher values in the lower silts; layer (36) recorded the highest phosphate reading. The readings for the buried soil (32) were also very low, so long-term habitation and animal usage for the site is not indicated.

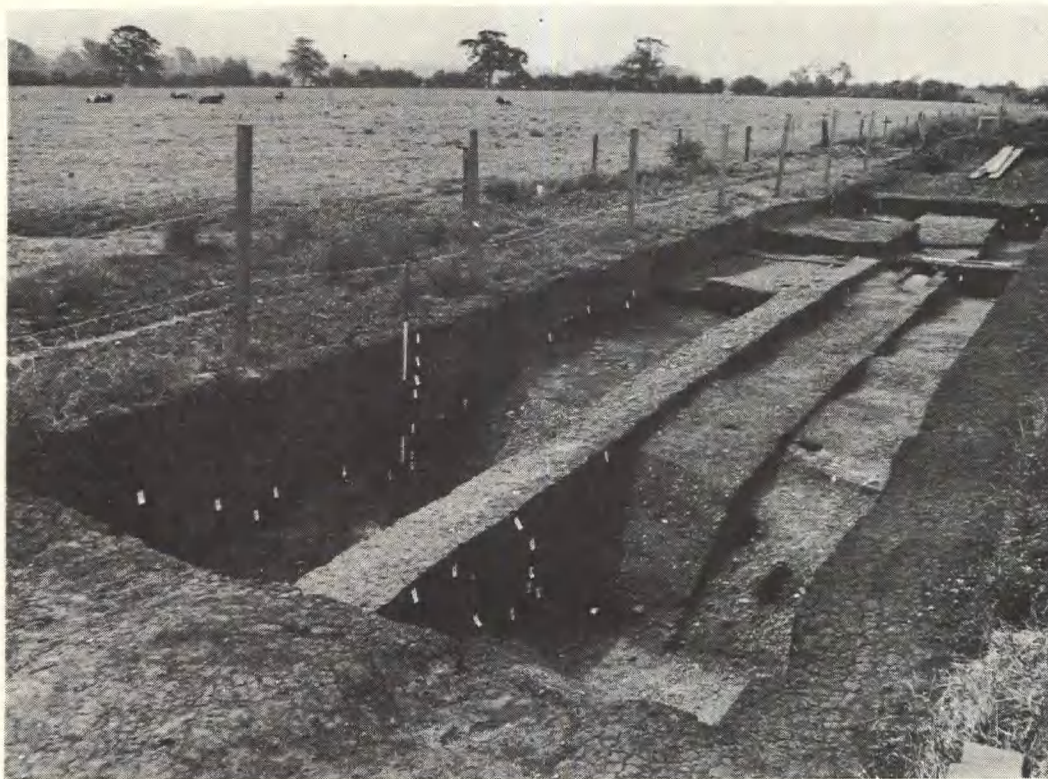


Plate 3 Excavation trench 2 (Ring Ditch II) looking south.

THE CARBON DATE

Quantities of charcoal were found at the base of layer (19) and in (33). They were well below the plough-wash layers and were considered to be uncontaminated by later material. This charcoal deposition was not well defined, but it may possibly represent a clearance horizon. A sample was submitted to Harwell giving the date 1050 b.c. $\pm$ 90 yrs. (HAR-1420).

THE ENVIRONMENTAL EVIDENCE

Charcoal identification

The charcoal sample submitted for carbon dating was mostly twiggy and in very small fragments, many unidentifiable. However, *Prunus* species (cf blackthorn), and hawthorn-type were tentatively identified. Charcoal above this level was identified as hawthorn-type.

Snail sample

Several clusters of large snails were recovered from layer (33) in the ring ditch. A large snail

sample was taken from this layer for flotation, as well as a column of soil samples from the ditch and a sample from the buried soil, layer (32), for soil analysis. These samples have not been examined, and a preliminary analysis of the snail clusters only gives an outline of the local environment of the ring ditch. A preliminary note is provided by Derek Gadd.

The snails present were all terrestrial and the following species were identified: *Helix* (*Cepaea*) *Nemoralis* (L.), *Arianta* *Arbustorum* (L.), *Retineila* *Nitidula* (Draparnaud), *Clausillidae*. The catholic habitat preferences of *Cepaea* *Nemoralis* render it of little use in environmental analysis; it is found in woods, hedges, marsh and downland. However, the presence of *Arianta* *Arbustorum* suggests a far damper situation. The single *Retineila* *Nitidula* occurs in a variety of habitats except the driest.

This group of snails prefers thicker rather than open vegetation; their occurrence would be consistent with a wet, but not waterfilled, overgrown ditch.

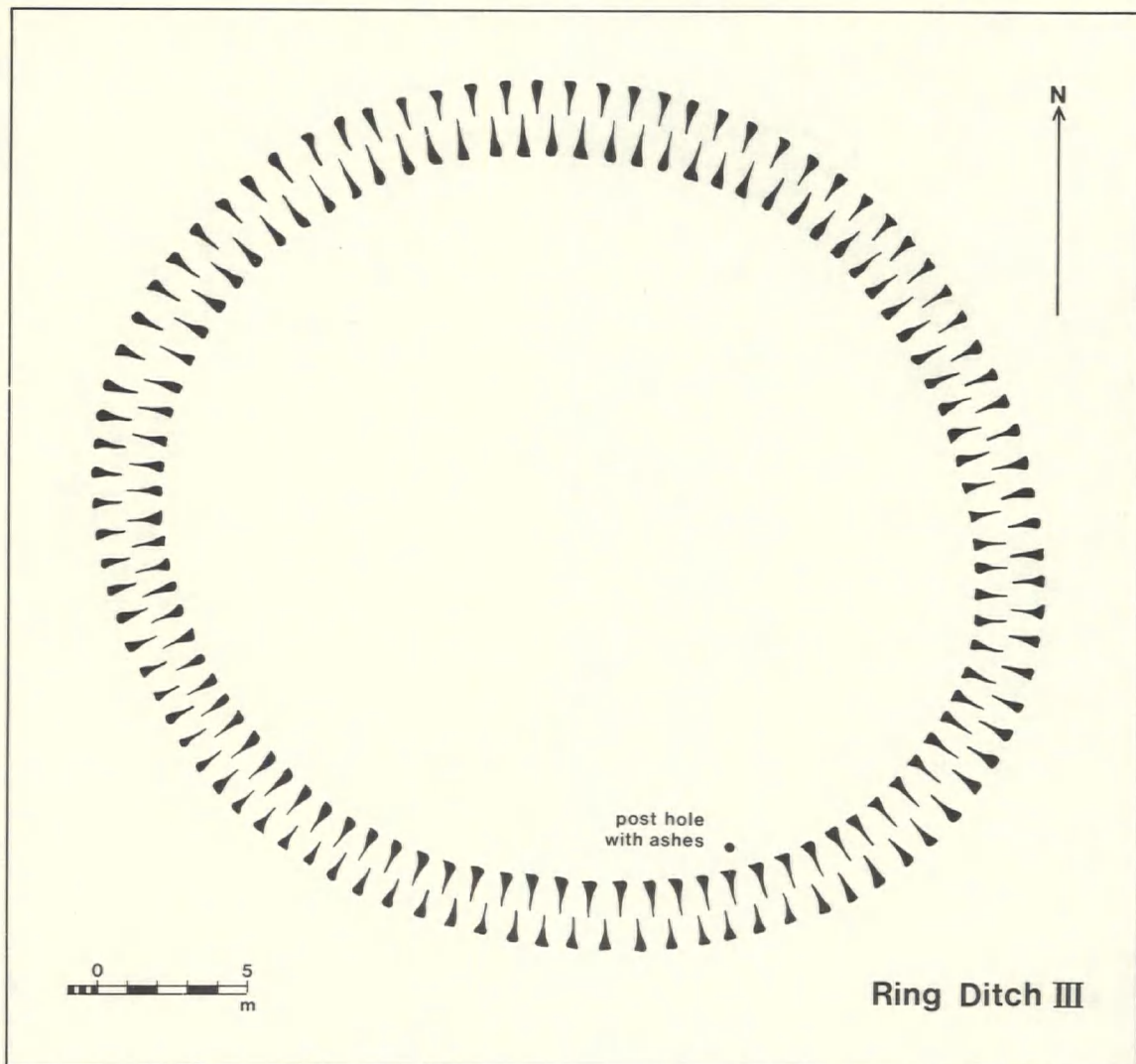


Fig 7 Plan of Ring Ditch III

RING DITCH III

TL013578; Beds. C.C. SM2 1797

DESCRIPTION

Ring ditch III was exposed by mechanical removal of the topsoil and surveyed (Fig 7). The ditch defined an area of approximately elliptical form with axes of 26 and 29 metres. The ditch was 1.5 metres wide when first exposed and was subsequently demonstrated to be about 1.5 metres deep.

The only interior features were a small post-hole filled with ashes and a shallow area filled with a dark soil, possibly the bottom of a burial pit. There was no other evidence to suggest the original

function, but the post-hole with ashes points to a possible funerary usage.

DISCUSSION

Although the excavation of three of the Radwell ring ditches was of a watching or sampling nature, the features, nevertheless, exhibit characteristics typical of ploughed-out Bronze Age barrows found on the gravel and cornbrash deposits of the river Great Ouse. These ploughed-out barrows have been identified by aerial photography in the differential growth of crops. Although not all ring cropmarks are ploughed-out barrows, those which are can generally be identified by their shape,

TABLE I CARBON DATES IN THE MIDDLE OUSE

(i) *Burial and Construction*

ROXTON: primary burial of ring ditch B 1670 ± 80 b.c. (HAR 997)

residual primary burial of ring ditch C 1850 ± 130 b.c. (HAR 999)

MILTON KEYNES: primary burial of Little Pond Ground (MK24) 1720 ± 80 b.c. (HAR 340).

(ii) *Re-use*

ROXTON: Inurned burial in ring ditch C 1250 ± 50 b.c. (HAR 1003)

Central, secondary burial, ring ditch C 1180 ± 60 b.c. (HAR 1001)

MILTON KEYNES: Clearance Horizon in ditch MK23 1280 ± 90 b.c. (I-7144)

Clearance Horizon in ditch MK13 (some uncertainty) 1500 ± 90 b.c. (I-7148)

Secondary burial MK13 1040 ± 80 b.c. (HAR 341)

Clearance Horizon in ditch MK21 (1340 ± 160 b.c. (HAR 471)

size and location.¹⁴ The Radwell rings could perhaps be termed Bronze Age 'ring-barrows'. However, additional features were identified in Ring ditch II at Radwell: a shallow mound and an internal berm; these suggest it was a shallow-mounded bell barrow.

None of the ring ditches is truly circular. The most circular is ring ditch II which had a chord centre almost at a single point. Ring ditch III had a shape nearing that of an ellipse. The others, I and IV are of varying radius, presumably because of errors in their setting out. The geometry of two of the ring ditches at Roxton were of this varying radius type.

Although only one of the ring ditches produced a central burial (I), and only one a stratigraphy that defined a mound (II), it would seem likely that all of them were constructed as burial barrows, sometime in the Bronze Age. The inverted collared urn with cremation and burial goods (I) suggests connections with rich Wessex culture burials. The nearest burial barrow with Wessex culture affinities and carbon date can be found at Earls Barton, Northamptonshire, on the River Nene¹⁶ with a test date of 1219 b.c. ± 51 yrs. Comparison with urned burials at Roxton¹⁷ would suggest a date of 1670 ± 80 yrs. b.c. A date somewhere prior to 1400 b.c. is probable, since carbon dates in the Ouse Valley suggest ring ditch construction in the early Bronze Age,¹⁸ with re-use and secondary burials in the middle Bronze Age.¹⁹

The use of ring ditches after their construction to make burial mounds, is variable. Those at Roxton and Milton Keynes had secondary burials inserted around 1100 b.c. Clearance horizons at Milton Keynes and settlement debris on two of the ring ditches at Roxton were also around this date.

The re-use of ring ditch II at Radwell can be placed in this middle Bronze Age re-usage phase at 1050 ± 90 b.c. This ring ditch clearly takes on the characteristics of a habitation enclosure, with flint debris scattering into a recut ditch from inside its perimeter. The small finds and hard, shelly pottery are placed in this phase, although it is possible that the jet toggle and amber bead could derive from a disturbed earlier central burial.

The re-use of ring ditches in the middle Bronze Age is also indicated by the occasional presence of double rings (ring ditch V, TL00385878, Beds C.C. S.M.R.558), which have been suggested as re-inclosure of pre-existing barrows to form a larger secondary monument.²⁰

The evidence from Radwell ring ditch II, some postholes on the inner edge of the ditch, coupled with those at Roxton and Milton Keynes points to ring ditch barrows being closely associated with adjacent settlement. At these sites it is both contemporary and earlier, and impinged on the barrows themselves in the middle Bronze Age. The relationship between settlement and ring ditches is discussed in greater detail elsewhere.²¹ The Radwell ring ditches with burials in the early Bronze Age and with evidence for continuing usage into the middle Bronze Age, are part of this pattern for Bronze Age activity in the Great Ouse Valley, which is gradually emerging from the excavation and survey of ring ditch monuments.²²

ACKNOWLEDGEMENTS

The authors would like to acknowledge the co-operation and help given by the Manager, Mr B. Lovell, and workmen of Radwell Gravels Limited. Thanks are also due to John Hutchings, Paul Martin, Arthur Goldsworthy, Richard Thomas, Richard Smart and the Students of Bedford College of Education, who helped excavate the sites at Radwell and in various weathers to Bernard

Denston who examined the cremation, to Carole Keepax and Richard Thomas who identified the charcoal, to Derek Gadd who identified some of the snails and to Richard Bradley who provided a note on the jet toggle and amber bead.

NOTES

- 1 Bronze Age ring ditches have been identified on the cornbrash and gravel deposits of the river Great Ouse, the definition and distribution of which has been discussed in K. Field, 'Ring Ditches of the Upper and Middle Great Ouse Valley', *Arch. J.*, 131, 1974, 58-74.
- 2 Cropmark and other features relating to these later periods have been omitted from Fig 1.
- 3 D.N. Hall, 'Rescue Excavations at Radwell Gravel Pits 1972', *Beds. Arch. J.*, 8, 1973, 67-91.
- 4 The cropmark rings were initially located from the aerial photographs of Dr J.K. St. Joseph and Ken Field. The location of ring ditches I, III and IV has been more precisely located on the site plan after subsequent excavation.
- 5 I.H. Longworth, 'The Origins and Development of the Primary Series in the Collared Urn Tradition in England and Wales', *Proc. Prehist. Soc.*, 27, 1961, 263-306.
- 6 Longworth, 1961, 288.
- 7 In addition to those cited by Longworth (Op. Cit. 296, 102-108), there are those recently excavated at Milton Keynes - H.S. Green, 'Early Bronze Age burial territory and population in Milton Keynes, Bucks. and the Great Ouse Valley', *Arch. J.*, 131, 1974, and at Roxton - excavation in process of publication; information can be found in *Beds. C.C. S.M.R.* 617.
- 8 Five ring ditches at Roxton were excavated between 1973 and 1975 by Alison Taylor, Granville Rudd and Peter Woodward. Publication in preparation; information can be found in *Beds. C.C., S.M.R.* 617.
- 9 T.W.J. Potter, 'Examinations at Stonea, Cambs: Sites of the Neolithic, Bronze Age and Roman Periods', *Proc. Camb. Ant. Soc.* 65, 1976, 23-54.
- 10 Similar to a bronze awl with the primary burial urn of ring ditch B at Roxton Taylor, Rudd, and Woodward, op. cit.
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- 12 Robert F. Schmaltz, 'Flint and the patination of flint artefacts', *Proc. Prehist. Soc.* 26, 1960, 44-49.
- 13 This soil profile at Radwell compares with those at other locations on the river Great Ouse (Elstow and Roxton) which have been generally described in D.W. King, 'The Soils of the Luton and Bedford District', Soil Survey, Harpenden 1969.
- 14 Field, 1974
- 15 A ring ditch of elliptical shape has also been noted in H. Case, 'Notes on ring ditches in the Oxford Region', *Oxoniensia*, 28, 1963, 19-52, and elsewhere.
- 16 C. Burgess in A.C. Renfrew, *British Prehistory*, 1974, 238.
- 17 Taylor, Rudd and Woodward, op. cit.
- 18 Taken as 1800-1400 b.c. Francis Pryor, 'The Prehistory of the Nene Valley'.
- 19 Taken as 1400-900 b.c. The full local pattern is summarised in table I.
- 20 Field, 1974.
- 21 P.J. Woodward, 'Flint Distribution, Ring Ditches and Bronze Age Settlement Patterns in the Great Ouse Valley' - the problem, a field survey technique and some preliminary results submitted to *Arch. J.*, (Forthcoming).
- 22 Paper submitted 2nd November 1977.

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Shale Vessels of the Late Pre-Roman Iron Age: Context, Distribution and Origins

DAVID H. KENNETT

The shale vessels of the late pre-Roman Iron Age from Bedfordshire and beyond are a small group of material, in forms corresponding to pottery current in the first century B.C. and the first half of the first century A.D. Most are from burials, but some finds are unassociated.¹ Two basic forms are known: the vase and the cordoned bowl, also found in a footed variety designated as a tazza. All are old finds, most having been discovered in the mid-nineteenth century. The two vases from Old Warden, Beds., were among the discoveries made during the building of the Midland Railway's line from Leicester to Hitchin, via Bedford, in and immediately before 1857. The three vases found at Harpenden, Herts., were discovered when the same railway company built a more direct line from Bedford to London, through Luton, Harpenden and St Albans, in 1867. Land drainage was responsible for the discovery of the two bowls in the rich burial at Great Chesterford, Essex, in 1856, and building work during the expansion of Cambridge revealed an extensive cemetery, unfortunately ill-recorded, at Barnwell, whose most spectacular finds — the shale tazza and an associated find of a handled glass flagon and glass facet-cut cup — date to the first century A.D. The fragment from Lexden, Colchester, was discovered in 1908, and has been described as a tazza, although the lower portion is not extant.

The distribution is heavily concentrated on an axis between Bedfordshire and Essex. Within this axis, other concentrations of rich finds may be noted: bronze bowls, bronze mirrors and 'Welwyn-type' burials stand out. The last-named date to 50 B.C. — A.D.50 and include the two burials at Standfordbury, near Shefford, Beds., two at Welwyn, one at Welwyn Garden City, another at Baldock and a fifth from Hertfordshire at Hertford Heath. In Essex, there is that found in 1849 at Mount Bures while the Cambridgeshire example at Snailwell was discovered in 1952.² The area has other rich and well-documented burials. One thinks of the burial under the tumulus at Lexden, Colchester,³ but worthy of wider cognisance is a

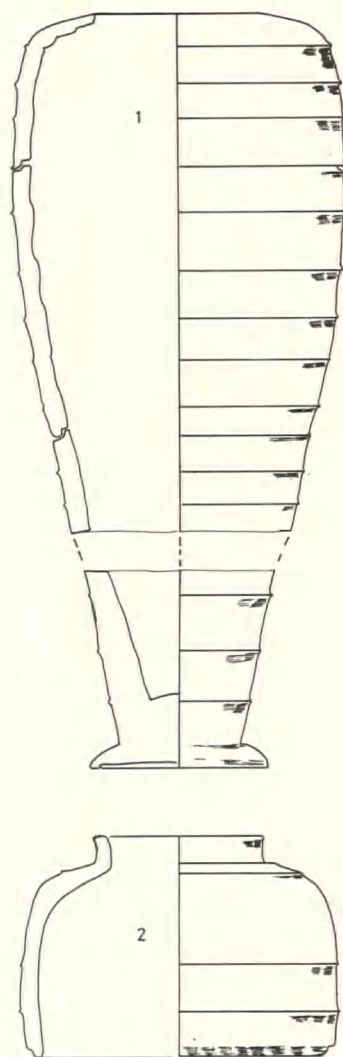


Fig 1 The reconstructable shale vases from Harpenden. (Scale $\frac{1}{4}$)

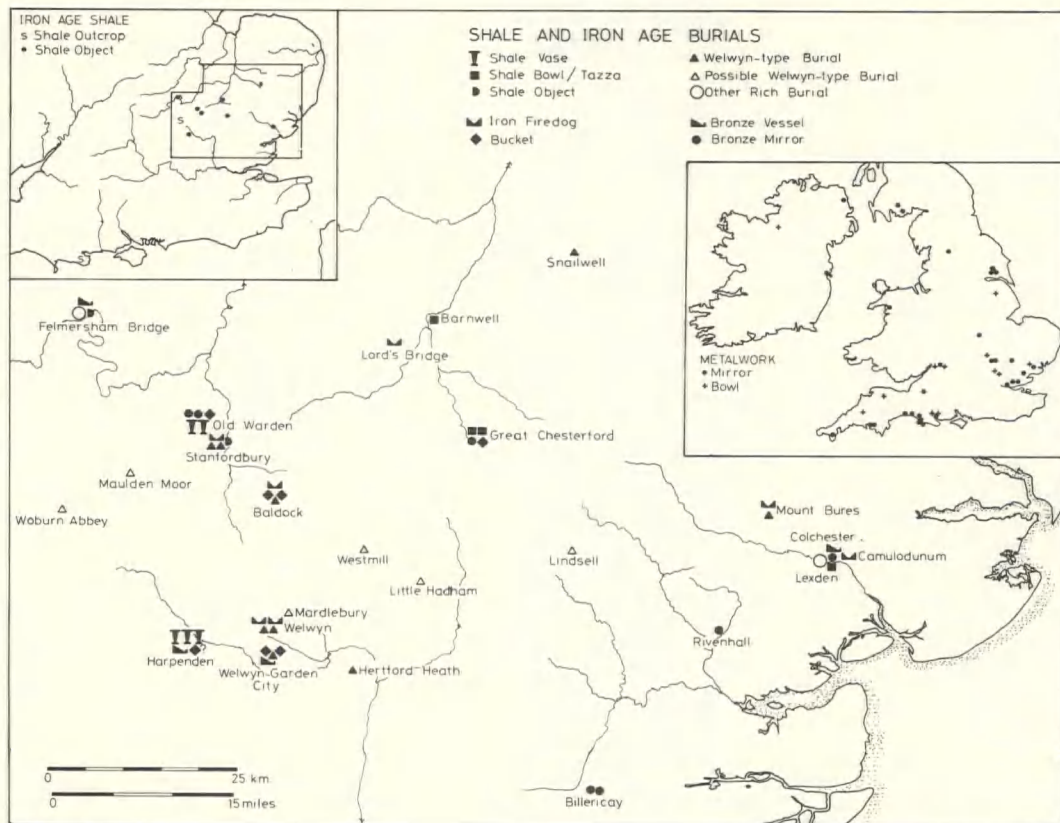


Fig 2 Shale Vessels and Iron Age Burials in Bedfordshire, Hertfordshire, Cambridgeshire and Essex.

group of ornamented buckets whose proveniences include the burials at Old Warden and Harpenden⁴ from which shale vases are known and another separate find at Great Chesterford.⁵ Shale vessels, like imported amphorae, may well be used to designate a specific group of rich burials in the area between Bedfordshire and Essex.

Bronze mirrors, too, are often found in burials. An earlier issue of the *Bedfordshire Archaeological Journal* has drawn attention to the richness of the mirror from Old Warden,⁶ and there is a second mirror handle from this group of discoveries.⁷ Decorated mirrors have been found in the area between Bedfordshire and Essex. In the latter county there are the finds from Great Chesterford, Colchester, Rivenhall and Billericay, where both an ornamented mirror and a second mirror handle have been found; there is also a plain mirror from Mucking. Extending the distribution to the north-

west is the celebrated find of the Desborough mirror from Northamptonshire. However, the greatest concentration of mirrors remains the long series from the southern coast of south-west England. There is one from Cornwall, found at Trelan Barrow, St Keverne; from Devon there are the two mirrors from Holcombe and Stamford Hill, Mount Batten, near Plymouth, from which latter site also a now destroyed handle is also known; and moving east, Dorset has proveniences of no fewer than two ornamented mirrors, one plain mirror and three handles, respectively from Verne, and Bulbury, and Portland, and from Bridport, Jordan Hill and Maiden Castle. Of these ten finds, five are from burials: the finds made at Mount Batten, Verne, St Keverne and Portland. Also from a burial is the mirror from Birdlip, Glos., which with the plain mirror from Glastonbury, Som., appears to link the two main distributions of

mirrors in England.⁸

The Birdlip burial⁹ figures too in the link between bronze bowls with ornamented escutcheons known from England. It has two bronze vessels among its contents. Although neither retains its ornamented fixture, the larger clearly from a square perforation was embellished by an escutcheon and the smaller would seem to be more suitably classed as a cup rather than as a large bowl. Such cups have a variety of findspots: in the burial with the Colchester mirror, as an isolated find Keshcarrigan, Co Leitrim, Ulster, and an individual handle from Macon, France, which is probably somewhat earlier than the other pieces.¹⁰ The three cups from Birdlip, Colchester and Keshcarrigan belong to the same general date range as the mirrors and that to which the larger bronze bowls are ascribed. One is the bowl from Birdlip and also from south-west England are those from Rosh Ash, Devon, and Higher Youlton, near Warbstow, Cornwall, the remains of at least two bowls in the hoard from the hillfort at Bulbury.¹¹ All these were made by a combination of lathe spinning and beating in contrast to the purely spun technique, ultimately derived from late Ornavasso type bronzes, found, for example, on the bowl upon which the Felmersham fish-head spout was affixed. The small cups from Keshcarrigan and Colchester are lathe spun. The Felmersham fish-head spout and its comparative pieces and classical precursors were discussed in the last issue of the *Bedfordshire Archaeological Journal*;¹² it may stand as an example of a bowl with an ornamented attachment.

Ornamented attachments in the south-western bowls range from the weak cow-head lacking detail on that from Rose Ash, through the stylised ram at Youlton to an unknown style on the bowls from Birdlip; the Macon handle is bovine as are the handles of the two cups. To this series may be added the two ram's heads from Harpenden, now in Luton Museum,¹³ of which illustrations have been published with accompanying ring-handles placed underneath¹⁴ and as bucket escutcheons with the handles separately mounted.¹⁵ The present author, however, would see the two bronze rings as belonging to a separate vessel to the two ram's heads, although it is an attractive suggestion to compare the arrangement initially published with that of the single mounting on the Rose Ash bowl. It is suggested that the two ram's heads were part of a bronze bowl, not otherwise extant, of a profile similar to those from south-west Eng-



Fig 3 The Catuvellauni and Cultural Poverty.

The shaded area represents the Catuvellauni as defined by Dyer.

Each dot is a findspot for a shale vessel, a Welwyn type burial, imported amphorae or an isolated find of fine metalwork, both bronze and iron.

For sources see text.

land and incidentally to the Felmersham bowl; it may be that the two heads from Harpenden were from a pair of identical bowls. The two ring handles would seem to be the two handles from a large cauldron: they are much larger in relation to the ram's heads than the single ring placed through the escutcheon of the Rose Ash bowl is to its accompanying piece. On this interpretation the parallels for these rings would seem to lie with a group of cauldrons found in Denmark: Eggers illustrates that from Illemose, Fyn, and he notes three from Zealand, one from Lolland and a sixth from north Jutland.¹⁶ They are contemporary with a whole series of cauldrons both purely of iron and with iron rims and handles but with a bronze body, which are distributed beyond the Roman world and date to the period between 100 B.C. and 100 A.D.¹⁷ An example from Britain is that

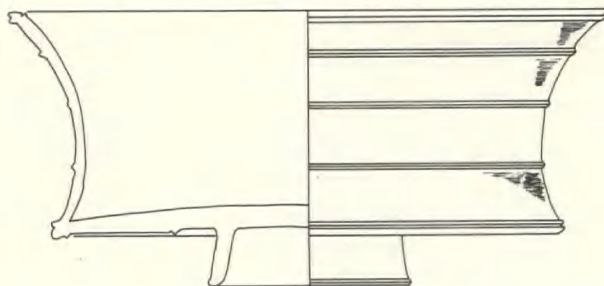


Fig 4 Shale tazza from Barnwell, Cambs. (Scale $\frac{1}{4}$)

found at Letchworth, Herts., in 1961, a rather early example of the type.¹⁸

Against this interpretation, it must be noted that the only fragments of sheet bronze from the Harpenden burial are two pieces and a handle from a bronze bowl¹⁹ whose only close parallel is a bowl found in grave III at Lubsow, (now Lubieszewo), in north Poland.²⁰

Clearly the Harpenden burial displays wide-ranging connections as do the other burials with shale vessels. The two bowls from Great Chesterford are associated with a pair of silver brooches silver chains whose parallels are to be found in Germany, north Italy and the Channel Islands.²¹ It may be thought persons of a culture with sufficient wealth to import goods from the continent could well draw upon the resources of another part of England for the shale vessels.

However, the origin of shale vessels is more complex than would seem to be superficially apparent: bronze mirrors and bronze bowls would both seem to reinforce a connection between the Bedfordshire-Essex region and the Kimmeridge peninsula in Dorset. The Roman shale industry of Kimmeridge began early: a trencher found in grave II of the burials at Grange Road Winchester, Hants., was buried somewhere in the last quarter of the first century A.D. as was another found in a burial at Jordan Hill, Preston, Weymouth, Dorset. Yet the distribution of these objects, for example, demonstrates the localised distribution of the products of the Kimmeridge shale industry in early Roman times: seventeen of the twenty-one known examples are from Dorset, with the others either from London or find-spots on the road thereto.²²

Oil shale of the form found at Kimmeridge is *not* unique to that locality, although the Dorset site is the most extensive outcrop. Along the greensand ridge in Bedfordshire it has been noted as a natural inclusion at a number of places, most noticeably in Flitwick Moor,²³ in the parishes of Maulden, Flitwick and Flitton. Bedfordshire rather than Dorset may well be the origin of the shale vessels from this and adjacent counties. The suggestion receives powerful support from the form of the vessels made. Vase, tazza and bowl all reflect contemporary Belgic pottery forms,²⁴ themselves of fairly localised distribution, not extending to Dorset. It may be that blocks of unworked shale were imported from Dorset, rather than that the Flitwick outcrops were worked. However, the technique of manufacture for shale vessels would involve the same basic apparatus as the manufacture of wheel-thrown pottery.

There are other objects of oil shale in pre-Roman Iron Age contexts: the Birdlip burial includes two beads of the material²⁵ and among the accoutrements of grave B at Stanfordsbury is a bracelet in oil shale.²⁶ The Felmersham Bridge finds include a small fragment from a small ring²⁷ and this albeit small group would seem to point to a local rather than a distant origin for the Bedfordshire pieces.

The Bedfordshire shale pieces and the shale vessels from the county and its neighbours suggest too a further line of enquiry. In the last volume of the *Bedfordshire Archaeological Journal*, James Dyer suggested that the Catuvellauni were a non-Belgic tribe.²⁸ By mapping a range of pieces — shale vessels,²⁹ Welwyn type graves,³⁰ imported amphorae,³¹ isolated metalwork finds³² — an

impression emerges. Figure 3 shows the cultural poverty of the tribe in the century between Ceasar and Claudius. The burials and finds delineated on figure 2 are confined to outside the fringe of the area of the Catuvellauni as defined by Dyer; an exception may be Hertford Heath,³³ just south of the bend of the River Lea. The sole findspot within the area is an amphora from Stanmore Park,³⁴ but this may be illusory as indicating any contact beyond the borders now suggested. Except for its fabric, suggesting an early rather than a late date, this piece is of a type primarily of the first and early second centuries A.D. At the beginning of that time span, the shale vessels found in Bedfordshire and beyond belong to an infrastructure of wide contact, while themselves possibly of local origin.

Almost as a postscript, it can be mentioned that shale pieces are found in Saxon graves: examples include two beads from one of the necklaces at Kempston,³⁵ and from Chamberlains Barn, Leighton Buzzard, graves 15 and 32 single beads of unusual form which may be as the Mrs Hyslop suggested spindle whorls.³⁶ A bracelet of a flattened D-section found at Girton, Cambs., is the only item from outside Bedfordshire known to the author. These pieces suggest that the Flitwick outcrop was exploited some four to seven centuries after the late pre-Roman vessels had been made.

APPENDIX I

SHALE VESSELS OF THE PRE-ROMAN IRON AGE

BARNWELL, CAMBRIDGESHIRE

Single tazza from a burial in cemetery found before 1868. Museum of Archaeology and Ethnology, Cambridge.

Literature C.F. Fox, *Pattern and Purpose*, (1958), pl. 45a.

GREAT CHESTERFORD, ESSEX

Two bowls found in 1856, associated with two pairs of silver brooches.

Museum of Archaeology and Ethnology, Cambridge.

Literature R.C. Neville, *Arch. J.*, 14 (1857), 84-87; W. Kramer, *Germania*, 49 (1971), taf. 26 lower.

HARPENDEN, HERTFORDSHIRE

Portions of three vases found 1867 associated with two bronze ram's heads, two large bronze rings, fragments of a bronze bowl with one handle.

Museum Luton Museum

Literature T.W. Bagshawe, *Ant. J.*, 8 (1928), 520-522; C.E. Freeman and W. Watson, *Ant. J.*, 29 (1949), 196-197 with fig 1 a-c, whence H.J. Eggers, *JRGZmMainz*, 13 (1966), abb 6 a-c upon which the constructional details are clear.

LEXDEN, ESSEX

Single, unassociated, fragment from tazza or bowl, found 1908.

Museum Colchester Museum

Literature A. Birchall, *PPS*, 31 (1965), 312 and fig 26, 214.

OLD WARDEN, BEDFORDSHIRE

Two vases from a group of burials found c. 1857, which included the bronze mirror, a second mirror handle, amphorae and possibly a bronze-bound wooden bucket.

Museum (a) British Museum; (b) Museum of Archaeology and Ethnology, Cambridge

Literature (a) *Later Prehistoric Antiquities of the British Isles* (1953), 71 and pl. 23, 3; (b), C.F. Fox, *The Archaeology of the Cambridge Region*, (1923), 96-98, pl. 15, 3.

NOTES

- 1 All shale vessels have been listed in Appendix 1, above.
- 2 I.M. Stead, 'A La Tene III Burial at Welwyn Garden City', *Archaeologia*, 101 (1967), 1-62, with citations to earlier literature; additionally *Ant. J.*, 48 (1968), 306 and pl. 77 for Baldock, with I.M. Stead, 'The Reconstruction of Iron Age Buckets from Aylesford and Baldock', *BMQ*, 35, (1971), 250-282.
- 3 P.G. Laver, 'The Excavation of a Tumulus at Lexden, Colchester', *Archaeologia* 76 (1926-27), 241-254.
- 4 Stead, 1971, 279; for additional references see Appendix 1.
- 5 Stead, 1971, 278 with pl. 91.
- 6 M.G. Spratling, 'The Late Pre-Roman Iron Age Mirror from Old Warden', *Beds. Arch. J.*, 5 (1970), 9-16.
- 7 J. Dyer, 'A second Iron Age mirror handle from Old Warden', *Beds. Arch. J.*, 3 (1966), 55-56.
- 8 The literature on mirrors is extensive. See particularly R.A. Smith, 'On a Late Celtic Mirror found at Desborough, Northants., and other mirrors of the period', *Archaeologia*, 61 (1909), 329-346; C.F. Fox and M.R. Hull, 'The incised ornament on the Celtic mirror from Colchester, Essex', *Ant. J.*, 28 (1948), 123-137; C.F. Fox, 'Celtic mirror handles in Britain with special reference to the Colchester handle', *Arch. Camb.*, 100 (1949), 24-44; C.F. Fox, *Pattern and Purpose, A survey of Early Celtic Art in Britain*, (Cardiff, 1958), 84-105 with figs. 50-67a and pls. 55-58a, 60; C.F. Fox, 'A Celtic Mirror from Great Chesterford', *Antiquity*, 34 (1960), 207-210; A. Fox and S. Pollard, 'A Decorated Bronze Mirror from an Iron Age Settlement at Holcombe, near Uplyme, Devon', *Ant. J.*, 53 (1973), 16-41. For illustrations see Smith, 1909; Fox, 1958; Fox and Pollard, 1973. Figure 2b is based on these with the addition of the handle for Ballymoney, Co Antrim, Ulster, for which see E.M. Jope, *Ulster J. Arch.* third series, 17 (1954), 94-96 with fig. 2, 2-3.

- 9 'The Birdlip Early Iron Age Burials: a review', *PPS*, 15 (1949), 188-190. Good photographs appear in A. Fox, *loc. cit.* n. 11 below, pl. 34 for the bronze bowls.
- 10 Fox, 1958, fig 58; E.M. Jope, 'The Keshcarrigan Bowl', *Ulster J. Arch.* 17 (1954), 92-94; J.V.S. Megaw, 'A Bronze Mount from Macon', *Ant. J.*, 42 (1962), 24-29.
- 11 A. Fox, 'An Iron Age Bowl from Rose Ash, north Devon', *Ant. J.*, 41 (1961), 186-198; B.W. Cunliffe, 'Late Iron Age Metalwork from Bulbury, Dorset', *Ant. J.*, 52 (1972), 298 with fig 4 and pl. 57. The Youlton bowl is illustrated A. Fox, 1961, pl. 33 and Fox, 1958, pl. 51.
- 12 D.H. Kennett, 'Felmersham and Ostia: a metalwork comparison', *Beds. Arch. J.*, 11 (1976), 19-22, with citation to earlier literature.
- 13 T.W. Bagshawe, 'Early Iron Age objects from Harpenden', *Ant. J.*, 8 (1928), 520-522 with pls 82-84; C.E. Freeman and W. Watson, 'Early Iron Age objects from Harpenden: a new interpretation', *Ant. J.*, 29 (1949), 196-197.
- 14 Bagshawe, 1928, pl. 82-83, whence E.T. Leeds, *Celtic Ornament*, (Oxford, 1933), fig 28.
- 15 Fox, 1958, 76-78 with fig 47; good photographs, *ibid.*, pl. 50. This interpretation is rejected Stead, 1971, 280.
- 16 H.J. Eggers, *Der Römische Import im freien Germanien*, (Hamburg, 1951), 159, type 2, with taf. 2, 3 and karte 9.
- 17 Eggers, 1951, 159-160, typen 4-8 with taf. 2, 4-8 and karte 10-11. A good illustration is that from Sande, Norway, in H. Shetelig, H. Falk and E.V. Gordon, *Scandinavian Archaeology*, (Oxford, 1937), pl 30 a.
- 18 J. Moss-Eccardt, 'An Iron Age cauldron-rim from Letchworth, Herts.', *Ant. J.*, 45 (1965), 173-177.
- 19 H.J. Eggers, 'Römische Bronzegefäße in Britannien', *JRGZm Mainz*, 13 (1966), 69-70, 105 nr 32, abb. 6 d; the two individual portions of the bronze bowl are illustrated Freeman and Watson, 1949, fig 1 d-e.
- 20 H.J. Eggers, 'Lubsow', *Prähistorische Zeitschrift*, 35 (1950), 58-111, esp. 71 with taf. 2 a.
- 21 W. Kramer, 'Silberne Fibelpaare aus dem letzten vorchristlichen Jahrhundert', *Germania*, 49 (1971), 111-132, esp. 124-128 with taf 24-26; Kramer, *ibid.*, for parallels.
- 22 M. Biddle, 'Two Flavian Burials from Grange Road, Winchester', *Ant. J.*, 47 (1967), 224-250, esp. 233-234 with fig 6, and 248-250 with table II, and literature there cited.
- 23 H.S. Torrens and J.H. Callomon 'The Corallian Beds, The Amphill Clay and the Kimmeridge Clay', in R.C. Sylvester-Bradley and T.D. Ford (eds.), *The Geology of the East Midlands*, (Leicester 1968), 291-299, esp. 298-299; see also J.H. Callomon, 'The Kellaways Beds and the Oxford Clay', *ibid.*, 264-290, esp. 281 and 283 for shale in exposed geological sections at Stewartby and Bletchley.
- 24 A. Birchall, 'The Aylesford-Swarling Culture: the problem of the Belgae reconsidered', *PPS*, 31 (1965), 241-367, esp. figs 1-26; for Bedfordshire see A.H. Simco, 'The Iron Age in the Bedford Region', *Beds. Arch. J.*, 8 (1973), 5-22 with pottery there figured.
- 25 Green, 1949.
- 26 Stead, 1967, 56 no 16; the whole of the Stanfordsbury burials would repay study for a possible paper in a future issue of the *Bedfordshire Archaeological Journal*.
- 27 F.W. Kuhlicke, 'Postscript on the Iron Age finds from Felmersham Bridge', *Beds. Arch. J.*, 4 (1969) 81 and fig 2.
- 28 J. Dyer, 'The Bedfordshire Region in the First Millenium B.C.', *Beds. Arch. J.*, 11 (1976), 7-18, esp., 14-17 with fig 4.
- 29 This paper, with appendix 1.
- 30 Stead, 1967.
- 31 D.P.S. Peacock, 'Roman Amphorae in pre-Roman Britain', in M. Jesson and D. Hill, (eds.), *The Iron Age and its Hill-Forts*, (Southampton, 1971), 161-188.
- 32 References cited n.2-15 and 18; no item of metalwork (except the Desborough mirror) on fig 3 does not appear on fig 2.
- 33 J. Holmes and W.H.C. Friend, 'A Belgic Chieftan's Grave on Hertford Heath', *T. East Herts. A.S.* 14, pt. 1 (1959), 1-19; Stead, 1967, 44-48 and 50-52.
- 34 J.W. Brailsford, *Guide to the Antiquities of Roman Britain*. (British Museum, 1958 and 1964 eds.), fig 17. 11; Peacock, 1971, 177 and 185.
- 35 British Museum, reg. no. 1891, 6-24, 53. The necklaces from Kempston may not be the original stringings and cannot be related to the original discoveries.
- 36 M. Hyslop, 'Two Anglo-Saxon cemeteries at Chamberlain's Barn, Leighton Buzzard, Bedfordshire', *Arch. J.*, 120 (1963), 177 and fig 9, 15, and 179 with fig 12 k.
- 37 Museum of Archaeology and Ethnology, Cambridge.
- 38 Paper completed 5 March 1977.

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A Roman Lime Kiln Near Cardington Mill, Bedford

R.F. WHITE

SUMMARY

A 'Periodic' or 'flare' type lime kiln of second century date was excavated prior to destruction by the construction of the Bedford Southern Orbital Sewer.

INTRODUCTION

Aerial photographs by Professor J.K.S. St Joseph show a cropmark complex southwest of Mill Farm, Bedford lying on the route of the Southern Orbital Sewer.¹ The field has a relatively level surface (1.27m OD) which slopes very slightly west towards the River Ouse. The soil is classified as a Biggleswade Series gleyed brown earth² and was formed on Pleistocene valley gravels underlain by Oxford Clay.³ No features were apparent at surface level; after approximately 20cm of the surface horizon had been removed by box scraper a pit and a ditch were visible in the 50m working strip. Deeper excavation for the sewer trench itself exposed various other features in section of Iron Age, 'Belgic' and Roman date. One feature contained stem and twig fragments of hazel and a piece of worked oak (9.5 by 2.5 by 1.9 cm) associated with Roman pottery.⁴ These features continued in the field south of Mill Lane where a clay layer approached the surface inhibiting the drainage sufficiently to prevent cropmarks.

The lime kiln was first observed as a spread of reddish burnt clay on the east side of the trench at TL08074901 during a routine visit as part of the watching brief carried out by R. White and P. Woodward for Bedfordshire County Council. Initially this material was thought to represent spoil from a nineteenth century brick kiln at TL081492⁵ but subsequent cleaning exposed a stone structure sealed by the previously noted ditch. Accordingly a small salvage excavation was staged, principally by members of the Bedfordshire County Council Archaeological Field Team.⁶

THE EXCAVATION

The remains as excavated comprised some 5m of curved limestone walling with a projection, or throat, to the south.⁷ Much of the structure had

been destroyed by the sewer trench.

Roughly shaped Oolitic limestone had been set into the undisturbed gravel to form the wall of which a maximum of 5 courses (60cm) remained. The limestone had evidently been subjected to high temperatures; the clay matrix had been baked red. There were traces of clay lining, approximately 2cms thick, on the internal face particularly against the bottom 2 courses.⁸ The throat wall leaned inwardly and was more sound in its construction than the kiln. It is possible that its mouth may have been destroyed during excavation of the sewer trench since the stonework at the stokehole end was irregular and loose.⁹ An adjacent layer of hard red and green clay (layer 14) could represent the remains of a moulded funnel shaped mouth as occurred in limestone at Helpston.¹⁰ Alternatively it may simply be material used to cover or seal the external face of the kiln.

The gravel bottom of the kiln had been scorched red to a depth of 15-20cm with a more heavily burnt patch occurring near its centre which perhaps represents the seat of the fire (layer 6). It was covered by an even layer of hard lime some 12cm deep (layer 5) which had been scorched towards the centre as if a later fire had taken place (layer 7). The floor of the throat was slightly lower than that of the kiln, the upward slope being presumably to improve draught during firing. The kiln infill (layer 4) contained hardened fired clay and pieces of burnt limestone.

The area available for examination was too small to determine the former extent and shape of the stoking area which had also been disturbed by the later ditch and the recent sewer trench. A layer of charcoal resting on the undisturbed gravel close to the surviving throat structure (layer 9) was covered by a thin layer of lime (layer 10) with a thicker deposit of charcoal above (layer 11).¹¹ A number of limestone pieces had been set into this second charcoal layer either to provide a firm surface at an advanced stage of firing or simply deriving from later collapse.

There were no finds from the kiln itself only from the ditch fill above the stoking area from

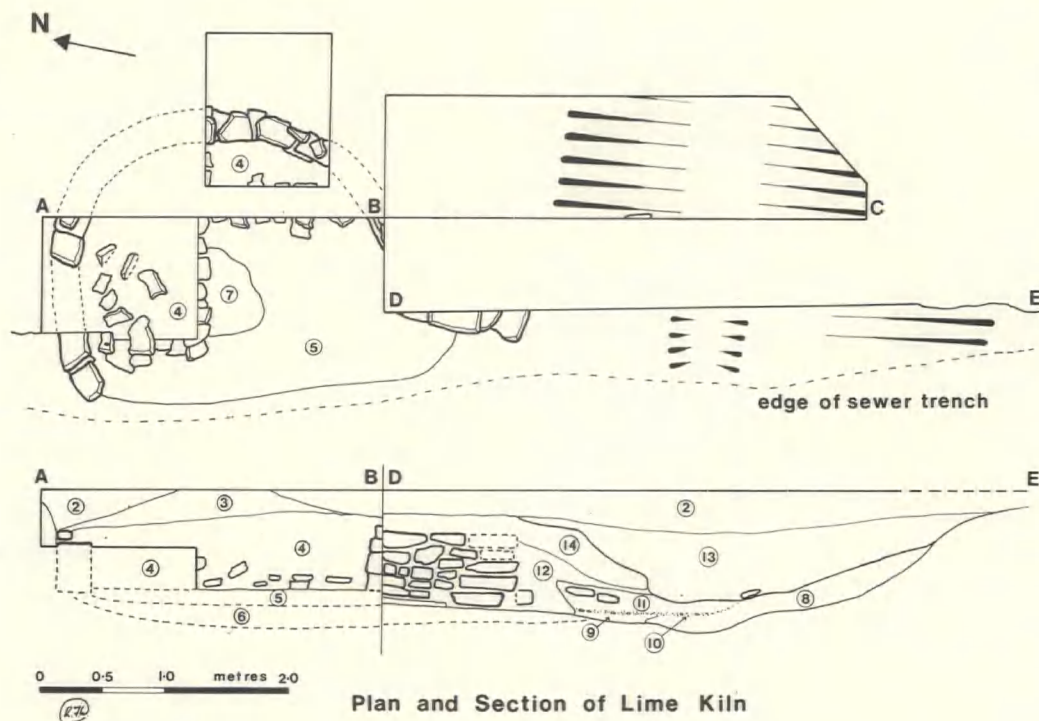


Fig 1 Plan and section of Roman lime kiln at Cardington Mill, Bedford.

which sherds of grey were of the second century AD and a small rim of samian ware, from a plain dish of form 18R, were recovered.

DISCUSSION

The kiln is a 'Periodic' or 'flare' type designed to produce an evenly burnt, white (charcoal free) lime suitable for plaster and stucco work as well as mortar.¹³ The remains as excavated formed only the lower part of such a kiln and it is not possible to determine its former height. However sufficient survived to suggest that the structure was originally of ovoid shape, set into the ground, with an internal diameter of approximately 2.5m.

There was no direct evidence for an internal ledge as has been observed elsewhere,¹³ but such a feature could have existed as a recess above the level of the surviving courses. The limestone pieces in the kiln infill were both too small and too random to represent the remains of a free standing ledge such as was present at Weekley (Period 2).¹⁴ They more likely represent the remains of higher courses of the kiln structure.

Fire traces on the lime surface covering the bottom of the kiln combine with the accumulation of charcoal and lime in the throat to suggest that the kiln was used on more than one occasion. It may reasonably be inferred that the charge was either Great Oolite Limestone or Cornbrash which outcrop 6kms upstream. After abandonment, perhaps sometime before the end of the second century AD, the kiln was intentionally demolished; the kiln stonework would have represented a tempting supply of stone despite the possible instability caused by the temperatures experienced during firing. Robbing of the kiln for building stone would explain the infill material above the floor of the kiln and the absence of limestone in the plough soil. The reasons behind the siting of the kiln remain uncertain although a small excavation at TL07984893 in 1958 revealed building debris of brick, tile, mortar and roofing nails associated with 'Romano-British' pottery.¹⁵ The pottery found in the ditch suggests that the kiln dates from before the middle to late second century, a mid-second century date would correspond



Plate 1a View of lime kiln under excavation from east.
 1b View of lime kiln under excavation from south.

with other known examples of similar kilns in the region.¹⁶

NOTES

- 1 eg AP No. GW0057. The site, Bedfordshire County Council SMR 302, is mentioned in RCHM, *A Matter of Time*, (1960) 54.
- 2 *Soils of the Bedford and Luton District* [Soil Survey of England and Wales (1969)] 20 and map.
- 3 Geological information from *V.C.H. Bedfordshire* Vol. 1, 1-32 and P.C. Sylvester-Bradley and T.D. Ford (eds); *The Geology of the East Midlands*, (1968).
- 4 These and the finds from the kiln will be deposited in Bedford Museum. I am grateful to Richard Thomas for identifying the wood and charcoal.
- 5 Bedfordshire County Council SMR 7200. Shown on the 1835 OS 1 inch map though not on the 1815 survey drawings nor on the 1882 6 inch map.
- 6 The excavation took place during the weekend of 2-3 July 1977. My thanks are due to those friends who helped me with the excavation and in particular to Brian Dix for his helpful post-excavation comments and suggestions. The co-operation of the site engineers, Miller Buckley, is gratefully acknowledged.
- 7 The terminology follows that expressed by L. Biek, 'A Note on Terminology' appendix to D. Jackson, L. Miek and B. Dix, 'A Roman Lime Kiln at Weekley, Northants'; *Britannia* 4 (1973), 128-140.
- 8 A lining of brickearth 5.7cm thick was noted at Northfleet, W.H. Steadman *Excavations on a Roman Site at Northfleet* (Dartford 1913); the interior of the upper section of the Helpston kiln was partially covered with lime and sand rendering about 3m thick, A. Challands 'A Roman Lime-kiln at Helpston', *Durobrivae* 4 (1976), 22.
- 9 Other excavated examples display considerably longer throats, e.g. that at Weekley (Period 1) was over 2m long. Jackson, Biek and Dix, 1973, 131.
- 10 Challands, 1976, 23, fig 16.
- 11 The only identifiable fragments of charcoal recovered were oak (*Quercus spp.*).
- 12 N. Davey 'A History of Building Materials' (1961) 98 ff. B. Dix (1973) 'The Production and Applications of Lime in the Roman World'. BA degree dissertation University of London.
- 13 eg at Weekley and Helpston. Jackson, Biek and Dix, 1973, 130 Challands 1976, 22.
- 14 Jackson, Biek and Dix, 1973, 131.
- 15 D.E. Johnston 'Excavations at Newnham and Mill Farm, Bedford', *Bedfordshire Archaeologist* II (1958), 16-19.
- 16 Paper completed 13 October 1977.

The Bedfordshire Archaeological Council is indebted to the Department of the Environment for a grant towards the costs of the publication of this paper.

Excavations at Pear Tree Farm, Elstow, Bedfordshire, 1976

P.J. WOODWARD

SUMMARY

The excavation of a cropmark complex, south of Elstow Abbey, at Pear Tree Farm (TL 050473), showed that by rapid mechanical stripping and a sampling of the exposed cropmark features, a fairly detailed assessment of their function and date could be made; and that this to some extent confirmed an initial interpretation of the cropmarks from aerial photographs. The only dating evidence for the site came from the pottery, and this in association with other finds and features showed evidence for small scale farming with domestic structures from the later Iron Age to the early Medieval period.

Domestic and infield farming activities in the later Iron Age were represented by a series of pits, 'ring' ditches and a rectilinear enclosure. Continuity of this occupation into the Romano-British period was noted. Apart from a single grubenhäus type feature, which could possibly be of Saxon date, the site was next used in the Early Medieval period (eleventh to twelfth centuries) where a series of parallel ditches and pits showed light industrial/stock farming activities. These were succeeded by a series of close boundary ditches laid off from what is now the A6, and which apparently ceased to be in use by the end of the twelfth century. A single beam slot outside a close boundary suggested the presence of a barn structure at this date.

INTRODUCTION

The excavations set out to examine a complex series of cropmarks (TL 050473, Beds C.C./S.M.R. 1624), noted by Dr J.K. St. Joseph, to the south of Elstow Abbey and adjacent to the A6 (Plate 1). These cropmarks are situated on the gravel terrace of the River Great Ouse, and those which form the focus of these excavations have been transposed onto a site/location plan (Fig. 1).

The only element of this cropmark complex which could be associated with surviving landscape features were a series of rectilinear boundaries laid off what is now the A6, and which bore some resemblance to the close surviving to the south.

Examination of an Enclosure map of 1767 showed no such closes surviving at this date; the site being a field called Warren, farmed by John Cox as a tenant to Dennis Ferrer Hillersdon in 1767.¹ These close boundaries could therefore be interpreted as being of an earlier Medieval period.

The cropmarks in this complex otherwise comprised of a series of spots (2-8m across) irregularly spaced, linear and curving features, ring cropmarks with associated spots, rectilinear enclosures, a 'droveway' feature, and a sharply turning right angular and linear cropmark.

The spot cropmarks could be interpreted as pits sometimes associated with the closes and sometimes clearly with the ring cropmarks. They were also thought to possibly represent grubenhäus type features of the Saxon period. The ring and rectilinear enclosure features were seen to be similar to other domestic and farming enclosures of the Iron Age and Romano-Belgic period, known on the gravel terrace of the River Great Ouse.² The regularly turning right-angular ditch could be associated with a more extensive cropmark of this type to the south-west,³ which could be identified from local information as being military practice trenches of the First World War period.

Due to the construction of the Bedford Southern Orbital Sewer in the Spring of 1977 for the North Bedfordshire Borough Council and the Anglian Water Authority, the northern part of this cropmark complex was threatened. An archaeological examination of the site was therefore undertaken in September 1976 for the Department of the Environment and Bedfordshire County Council prior to its destruction. The object of the investigation was to determine as rapidly as possible the date and function of the cropmark elements and to assess the archaeological potential of the site. The excavation was therefore of a rapid, sampling nature; total excavation was not contemplated.

The topsoil was stripped by a J.C.B. with ditching blade, to the natural gravel surface at a

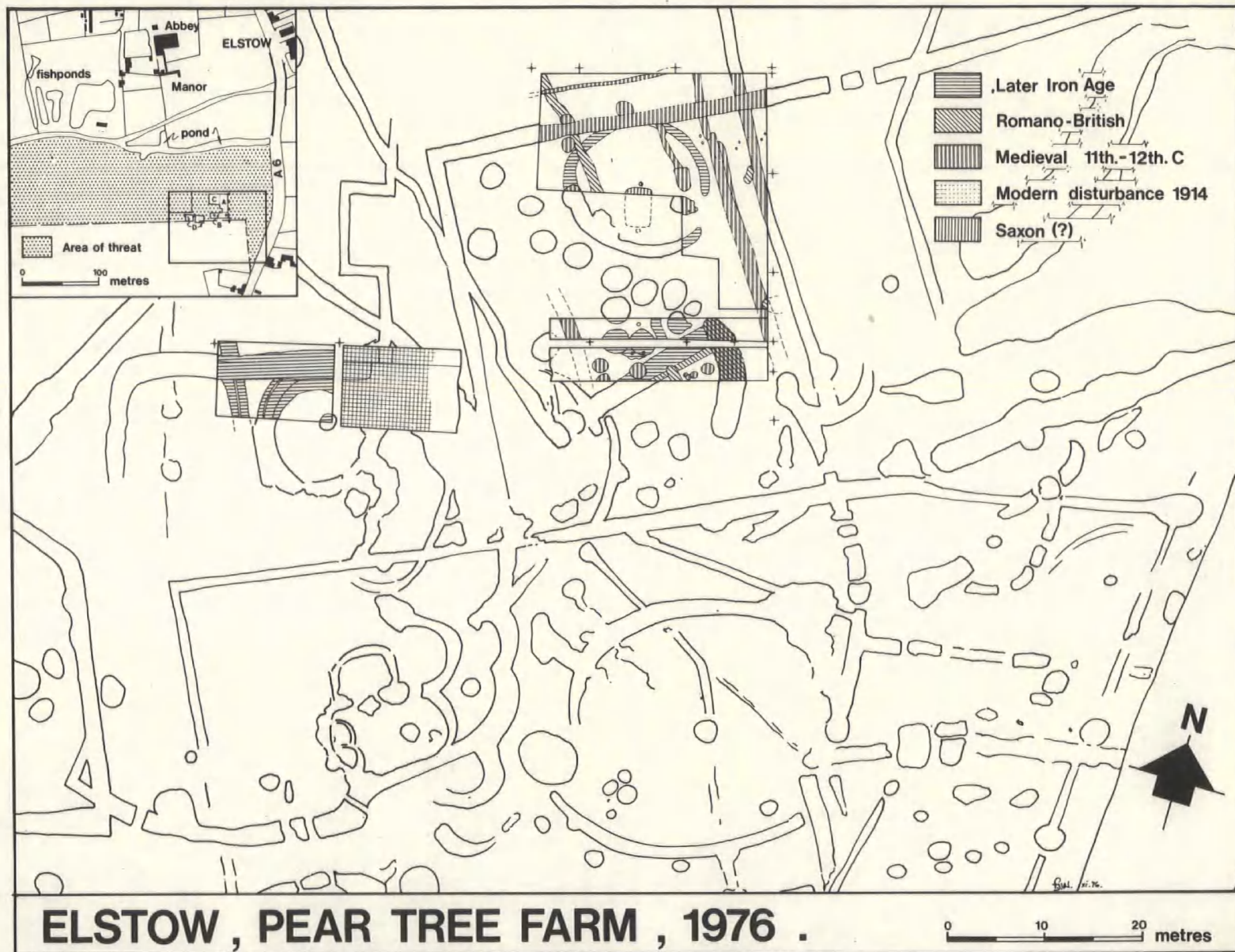




Plate 1 The cropmarks at Pear Tree Farm, Elstow, from the North East, aerial photograph by Dr J.K. St. Joseph.

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depth of 0.45 to 0.6 metres below ground level (layer 1). No alluvial build up was apparent but some areas of the site had some soil depth below the modern plough disturbance. This could be interpreted as being an old plough soil of varying depth (a result of differential soil movement within the field). It was clear that the original level from which the exposed features had been cut, had now been removed by ploughing. The exposed gravel surface and observed features were

then cleaned by shovel and spade and finally by trowel prior to their excavation. This cleaning was taken as layer 2.

A single sequential numbering system was used to denote general layers features, feature layers and small finds. This unique observable phenomenon (O.P.) number was prefixed by the year and Bedford Museum Accession Number (e.g. 1976/4/201). Each O.P. number was recorded on a standard record sheet. The site was divided into four areas (A-D) for ease of feature location. These areas are shown on the site/location plan (Fig 1) and in detail in figure 2 (Area D), and in figure 3 (Areas A, B and C).

All the site records and 'Level 3' record⁴ are deposited in Bedford Museum together with the finds.

Fig 1 Opposite the cropmarks at Pear Tree Farm, a location/site plan for the excavation trenches with a date interpretation for the major archaeological features excavated.

THE EXCAVATIONS

In this excavation report the various elements of the site are grouped and described by period rather than location. It was possible from the pottery to place most features into the general date brackets of Later Iron Age (pre-conquest), Romano-British, Saxon (possibly) and Early Medieval. Certain elements of the site could only be dated by inference and some (particularly random post-holes) could not be associated with any period. A number of features could be interpreted as animal burrows and natural solution holes; these are noted in the site record but are not discussed here and have been omitted from the published plans.

The dating of features, the occurrence of pottery and other material is summarised in the table in figure 6. Unless this material is of particular significance, it is not otherwise described in the following excavation report (Detailed notes on the finds follow this section). A detailed description of the soils is also omitted, but a general description is appended in a brief soil report.

THE IRON AGE FEATURES

(Site plans: fig 1 and 2, sections: fig 4)

The Iron Age features could be dated to the immediate pre-conquest period with continuing use after the conquest (see below; pottery report). These features were characterised by local hand-made pottery (primarily shelly wares) with the occasional finer Romano-British wheel-turned pottery in their upper levels and recuts. Animal bone and knapped flint often occurred, which with fired clay, daub quern stones, a loom weight, a bone pin, and a drilled bone in certain features (fig 6) indicated a domestic and small scale mixed farming function for the site.

One of the foci of this Iron Age activity was identified in Area D (Fig 2). Two sections were excavated through the rectilinear enclosure ditch (191). The section (fig 4) shows that the ditch was recut and the occurrence of an outer bank can be inferred from the ditch silts and a backfilling with gravel in the upper levels. The occurrence of Romano-British fine wares in this gravel layer (193) suggests the removal of the bank at this period. A small linear gully (229) (depth: 0.4m, width: 0.9m) cut into this layer, clearly supercedes the larger ditch and bank in the post-conquest period although only earlier hand-made pottery was recovered from it.

This rectilinear enclosure cut through earlier

Iron Age features; a ring ditch (208) and a series of linear gullies (214) and (225). The ring ditch comprised of a steep sided ditch with a trenched bottom and internal 'berm' and a surrounding gully (section: Fig 4). Although no post-emplacements could be identified in the fill of the ditch, the lack of collapsed gravel from its sides suggests that it was filled immediately on construction. This in addition to the trenched bottom suggests some form of palisade construction in the ditch, this being surrounded by a small drip gully (210). Shallow double and recut gullies (214) and (225) to the west would appear to be contemporary.

Inside the 'palisade' ring, part of a pit (199) was examined. This pit was unfortunately in the corner of the excavation trench so that its complete shape was not defined. However, it would appear from the section and its cropmark that it was circular with a tongue of gravel projecting into it, the fill of the pit collapsing around this tongue (section fig 4). The pit had undercut sides and two post-holes cut into its base. The pit seems to have been deliberately filled at some stage and a compacted hard clay and chalky deposit (202) suggests deliberate trampling of the fill. The finds from the pit of a quern stone, a loom weight and a bone pin suggests this pit was in a domestic area of the settlement. The shape of the pit and the post-holes suggest that this feature was possibly a covered storage pit.

Other Iron Age features outside this domestic focus were located in areas A, B, and C; areas much disturbed by later Romano-British and Medieval activity. These features include a ring ditch (94)/(169); a series of pits (274), (110), (74), (80) and a large recut linear ditch (103).

The ring ditch (169)/(94) was sectioned in several places, and was very much disturbed by animal burrowing and later medieval activity. Despite the animal disturbance, the three sections (fig 4) show a shallow 'V' profile with a trenched bottom. The ring was open with an entrance on the east side; the portion of the ditch to the south of this entrance (94) was disturbed by activities associated with the medieval slaking pit (86), located inside the entrance. There were no internal features apart from a shallow feature (197) and an associated post-hole, which have been interpreted as a possible *grubenhaus* and which are discussed under the Saxon heading. The finds from the ring, in comparison to those from the pit associated with the 'palisade' ring, do not indicate any close association with domestic activities for this feature.

EXCAVATION AREA D , PEAR TREE FARM , ELSTOW , 1976

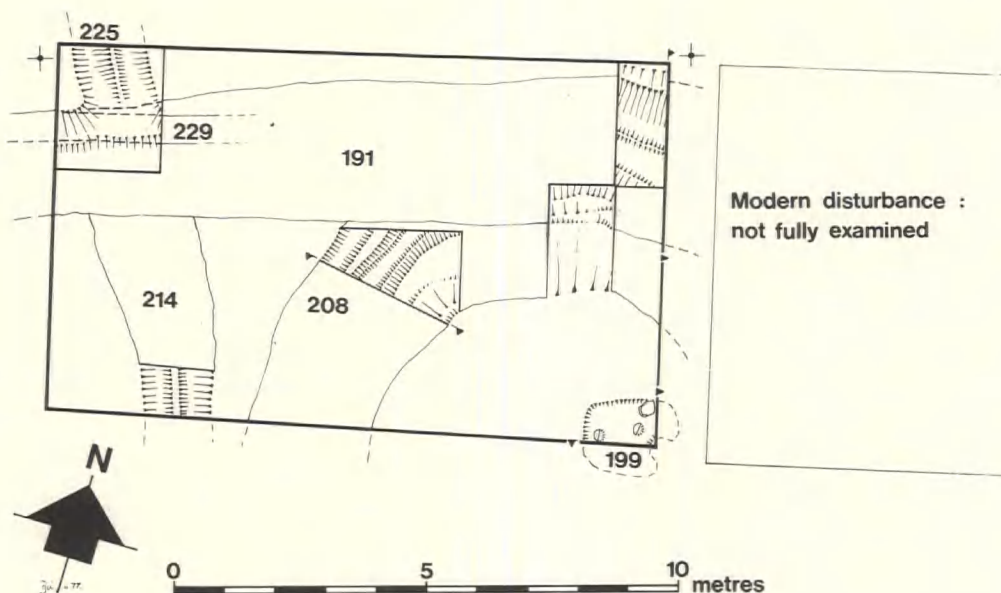


Fig 2 Excavation Area D.

The series of pits (274), (110), (74) and (80) excavated in area B were all very similar. They were steep sided with flat bottoms and were fairly accurately circular. Two of the pits (74) and (110) were conjoined on the southern side and had associated post-holes (124) (143) and (73). There were no finds from pit (274) and is therefore only one of this group of pits by inference. The dimensions and shape of the three pits sectioned were:—

- (110) — 75° sides, flat bottomed, 2.9 metres diameter, 1.6 metres deep.
- (80) — near vertical sides, flat bottomed, 1.8 metres diameter, 0.8 metres deep.
- (74) — vertical sides, flat bottomed, 2.6 metres diameter, 1.2 metres deep.

The fill of the pits was gravel and sand, with a small loam content. The shape and the fill indicate that they were backfilled almost immediately. The function of these pits is rather elusive but possibly a quarrying function could be suggested, their extremely symmetrical shape and careful concave construction does suggest that this is not the case.

To the south of these pits was a repeatedly

recut linear ditch (103) (section: fig 4). From the aerial photograph this would not appear to be an enclosure or boundary ditch. The section shows four phases of ditch construction. The first two phases (141) and (142) would appear to represent a recut 'U' shaped ditch similar to (191). Their upper levels were totally removed by a wide flat bottomed ditch (140) (phase 3). This ditch contained large amounts of pea grit and gravel with tip lines sloping down from the north which perhaps indicates an association with the pits previously noted. The final phase was a gully (144) running along its length, which contained some fine wheel-turned Romano-British pottery and was clearly a gully of post-conquest date. Apart from small quantities of hand-made pottery in the first three phases only one find of significance was recovered; a drilled cow tibia from phase 3. This object showed remarkable similarities to a bone from a first century context at Odell⁵ and is discussed in detail later in the report.

A gully (70) lying between the pits and cut by (103) (6.8 metres wide, 9.4 metres depth) with steep sides and a flat bottom contained a few sherds of hand-made pottery.

THE ROMANO-BRITISH FEATURES

(Site plan: Fig 3)

Apart from the continuing use of the Iron Age features, very few separate features could be associated with this period: a single boundary ditch (168)/(182), a shallow irregular feature (12), a curving ditch (77)/(22), a linear gully (83), and a partly observed feature (55) on the edge of the excavation. Apart from these, Romano-British pottery was recovered as a residual element in the medieval features, suggesting that parts of the Romano-British complex were removed in this medieval period.

The boundary ditch (168)/(182) had a 'V' shaped profile (width: 1.6 metres, depth: 0.4 metres) and ran from north-west to south-west across the Iron Age ring (169).

The shallow irregularly cut feature (12) (width: 0.8m, depth: 0.2-0.3m) was cut by a medieval ditch (13) and residual Romano-British pottery in this medieval ditch clearly showed the removal of this earlier feature in part. A complete and empty cordoned jar was found in this feature. The reason for its presence is not at all clear.

A large curving ditch (22)/(77) (width: 2.9m, depth: 1.1m) had a gentle 'U' profile and was much disturbed in its upper levels in the medieval period. Its function, like (103), is not at all clear but it would not appear to be an enclosure or boundary ditch.

A small linear gully (83) (depth: 0.45m, width: 1.2m) clearly relates in function to the last phase of (103) (i.e. Gully (144)). Both were linear and of similar dimension and fill.

It is clear that whilst some of the Romano-British features continued the use of some parts of the Iron Age complex, others cut across and replaced some of the earlier elements.

THE SAXON FEATURE

(Fig 3)

A single feature (197)/(196) which was partly excavated in area C could possibly be assigned to this period from the pottery and its shape. (197) was a shallow depression (depth: 0.2m, width: 3.1m) with a post-hole (196) on its north side. This to some extent resembles a very much ploughed out sunken hut (*grubenhäus*) and the hand made pottery suggests a Saxon date for it, although there is some uncertainty as the 'Saxon' pottery has close affinities with some of the Iron Age fabrics (see below: pottery report).

THE MEDIEVAL FEATURES

(Site Plan: Fig 3; Sections: Fig 5)

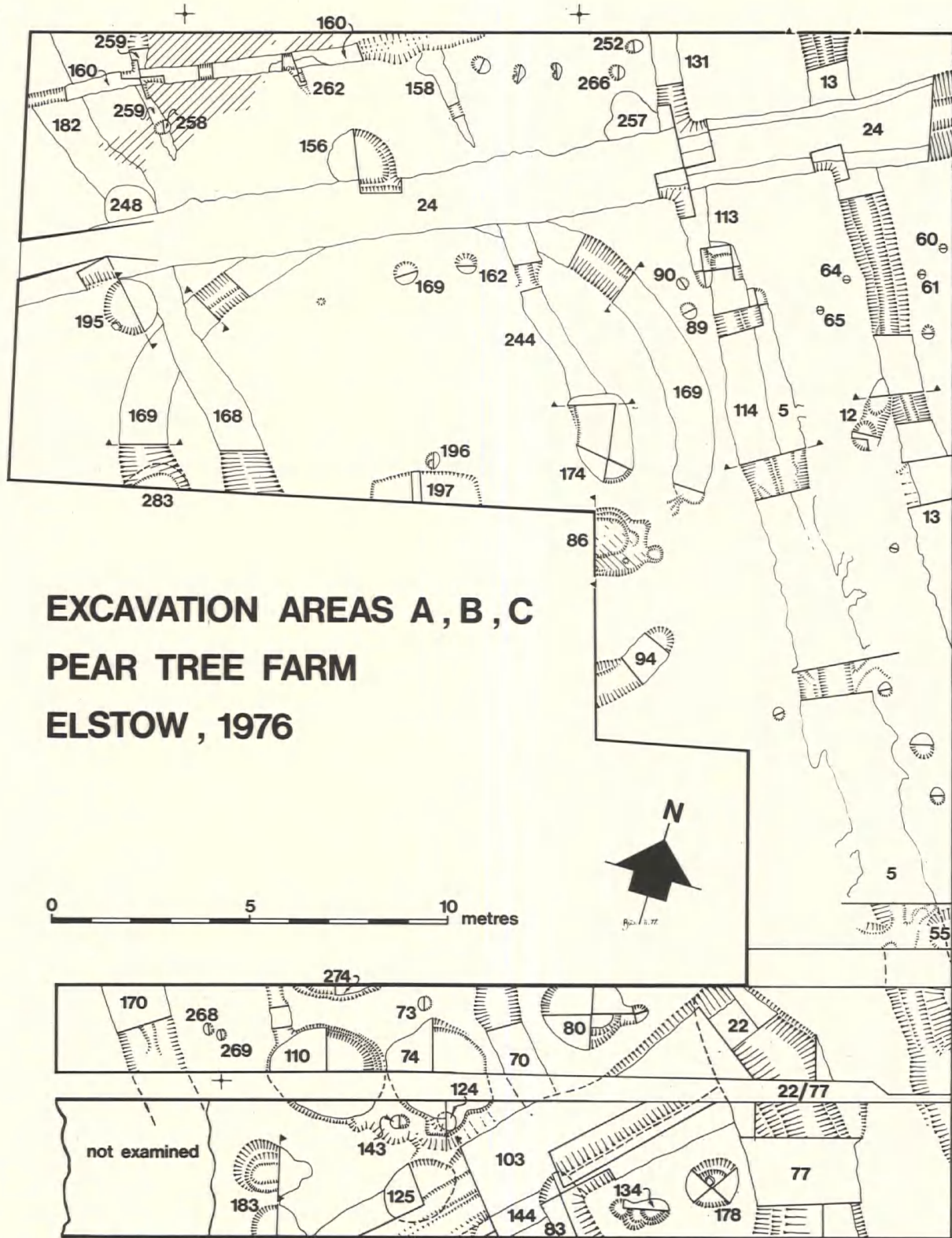
The medieval features were confined to areas A, B and C and it was clear from the stratigraphy that there were two phases of site usage. However the dating of the pottery was not fine enough to separate the two phases entirely from one another (refer pottery report). Both phases were within the eleventh and twelfth century, and both were characterised by local St Neots type pottery. However the upper levels of the second phase contained some 'Imported' medieval sandy wares, occurring in association with the St Neots type wares, which put the final use of the second phase to the later twelfth century.

The first phase was represented by a pair of parallel ditches (5) and (13), with their associated pairs of post-holes (60) and (61), (64) and (65), (89) and (90). Also some of the pit features could be assigned to this phase as they were clearly cut by (as were the parallel ditches) the Medieval close boundary (24); these were pits (248) and (156). The second phase was represented by the large close boundary ditch (24). Other features which could be associated with this phase because of the presence of imported sandy wares were linear ditch (170), the upper disturbance of the Romano-British curving ditch (22)/(77), and double pit (183). All the other features could have fallen into either phase. These included a series of pits (125), (283), (195) and (174); a slaking pit (86), a beam slot (160) and a series of 'post' pits (134).

The parallel ditches (5) and (13) ran NW - SE at some 2.5 metres apart. They had a shallow 'U' profile with a sharp trenched bottom (sections: fig 5). Paired post-holes associated with them suggests that they were contemporary rather than replacements for one another. Ditch (5) was clearly recut and extended by ditches (114), (113) and (131). It seems likely that they represented some form of driveway/penning system for animal stock. The boundary ditch (24) that cut across these parallel ditches was clearly part of a series of close boundaries laid off what is now the A6 (see site plan). The ditch silts indicated that it was an open ditch, and concentrations of gravel collapse showed that there was perhaps a bank to the north at one time (section: Fig 5).

The 'beam' slot (160) (width: 0.15-0.2m, depth: 0.3-0.4m, steeply angled sides and flat bottom), ran parallel to this close boundary to the north. The pottery from it; St Neots type rims and a

Fig 3 (opposite) Plan of trenches A, B and C.



single residual Romano-British rim (probably originating from ditch (182)), suggested that it at least belonged to the phase when the close boundary was constructed. Its position, parallel to the close boundary, does suggest that it was contemporary. It was positioned outside the close boundary and the length of the beam slot suggested a barn type structure. Various features (259), (262), (158) and post-hole (258) bore some relationship to this beam slot but their function was rather indeterminate. A break in the fill of the beam slot at its junction with (262) may indicate the presence of a joint in a cill beam. A layer of 'sticky' blue clay and gravel surrounded the beam slot on both sides (hatched on plan). This may represent a trampled clay floor.

Two of the medieval pits (248) and (156) clearly belong to the earliest medieval phase. The latter only was sectioned and had a shallow bowl shape (diameter: 1.8m, depth: 0.4m). This shallow circular shape to some extent resembled pit (195) (Section: fig 5). Only St Neots type pottery, animal bone and fired clay was recovered from these pits. Their function is rather elusive but the possibility of their being post-pits could be considered.

The other medieval pits (283), (174), (125) and (86) could, from the pottery belong to this earliest phase. Pits (283) and (174) had undercut sides. Pit (283) cut through the earliest Iron Age ring ditch (169) and undercut into the gravel to the east. Pit (174) (Section: fig 5) was very deep and undercut into fine sandy seams in the natural gravel subsoil. The possibility of quarrying for these two pits could be considered, albeit (283) being badly located. Pit (125) had a flat bottom and near vertical sides (depth: 0.4m, diameter: 1.2m) and more closely resembled pit shape (195) (section: fig 5). Pit (86) (section: fig 5) had quantities of pink chalky lime and gravel on its bottom surfaces (hatched on section and plan). The pink colour could have been formed from the heat produced in the slaking of lime, and a function for this pit as a slaking pit can clearly be inferred. Some animal disturbance, or possibly a post-hole, was evident on its eastern edge.

A series of smaller 'post' pits (134) contained St Neots type wares and a pottery spindle whorl. These bore little relationship to other post-holes but they were adjacent to 'post'-pit (178) which contained no diagnostic material. They could perhaps be all considered as a group, perhaps part of a structure unexcavated to the south.

The only other dateable medieval feature was part of a gully (170) uncovered in area B. This belonged to the second phase with its sandy wares. Two paired post-holes lay to its east.

UNDATED FEATURES

(plan: Fig 3)

Apart from the paired post-holes associated with the medieval parallel ditches, a large number of post-hole features could not be dated or identified into any structural grouping. However some of the post-holes did occur in pairs. Post-holes (268) and (269) adjacent to linear ditch (170) could be considered to have affinities with the paired post-holes and parallel ditches. Post-hole pair (266) and (252) have similar positional characteristics. A pair of shallow pits (161) and (162) (162 with concentrations of charcoal) could represent a pair of post-pits and be associated with the medieval occupation.

The date of gully (244) was not ascertained. Feature (257) was not excavated and no pottery recovered from its top surface, but it would seemingly represent another pit similar to (156).

MODERN FEATURES

(site plan: Fig 1)

Modern disturbance was examined to a depth of 0.6m in the eastern trench of area D. This was probably associated with the sharply bending angular cropmark feature (Site plan: Fig 1) which was probably a First World War military practice trench. This area was not examined further.

DISCUSSION

This cropmark complex is a fairly typical example of many found on the gravel terraces of the River Great Ouse⁶, and although it was possible from an initial interpretation of the cropmarks to suggest dates and functions for some of the elements of the cropmark complex, it is clear that on excavation these broad interpretations are greatly amplified and in some cases found to be erroneous and limited.

It is clear that cropmarks can only be interpreted if their shapes have some sort of period classification (e.g. Bronze Age ring ditches, Iron Age rectangular enclosures and hut circles), but it is not possible to identify the finer details of occupation continuity and site function. Also the majority of cropmarks represent only the infield boundary ditches and rarely the buildings that must be associated with them, unless they

are of substantial construction (e.g. a Roman villa), or are delineated by constructional ditches (e.g. some Iron Age hut circles).

This is particularly the case with timber buildings (those with cill beams or insubstantial post-holes) and, in the case of Saxon grubenhaus, their confusion with pits is obvious. Often the location of buildings is indicated by the arrangement of infield boundaries. However, this is sometimes not the case (e.g. the barn beam slot at Elstow) and it is clear that for a fuller understanding of a particular cropmark site, the areas both within the complex and outside should be examined. At Elstow a larger area to the north of the medieval close boundary clearly should have been excavated, but because of the limited nature of this excavation this was not possible, and the location of a trench in a blank cropmark area at the outset of an excavation is not sensible, unless there is other data available, which could identify the area as being of archaeological interest. One method, by which a cropmark site could possibly be augmented, is by systematic field-walking prior to excavation, which may identify occupation areas adjacent to or away from a cropmark complex. Documentary research may sometimes also give additional information.

The Iron Age occupation of the site at Elstow is represented by the rectilinear enclosures and curving ring cropmarks which have many parallels on the gravel terraces of the River Great Ouse.⁷ The earliest Iron Age features excavated (a palisade ring and storage pit and associated linear gullies) showed a domestic focus for the site. This was replaced by the larger rectilinear enclosure whose use continued into the post-conquest Romano-British period. Surrounding this domestic focus were pits, a 'ring' ditch and other ditches which probably served quarrying, infield farming and animal penning functions. In the post-conquest period the 'ring' ditch was replaced by linear gullies, probably representing small rectangular fields. The small portions of this Iron Age complex, which were excavated, therefore indicated a pre-conquest Iron Age farming focus continuing into the Romano-British period with alteration and modification and finally with total (?) rearrangement.

This type of continuity and changing settlement shape is very similar to another Great Ouse Valley site at Odell, where an existing later Iron Age farm, after slight modification around the conquest date, was remodelled in the late first century A.D.⁸ This sort of pattern of occupation is repeated at similar

excavated cropmark sites along the Great Ouse Valley.⁹

The evidence of these small rural farm sites, points to a well organised and settled countryside prior to the Roman Invasion, and that the later Iron Age Communities of the area needed to change little in order to accommodate themselves within the *pax Romana*.

The grubenhaus type feature at Elstow was rather uncertainly identified with the Saxon period and it is not possible to be certain about continuity of occupation into this period. However, it is worth noting that at Odell three wells of Saxon date were identified,¹⁰ but although this Saxon date is certain, the continuity link is not.

The medieval occupation was clearly split into two periods. The earlier period possibly represented small scale stock farming and industrial activities which were presumably outlying to a domestic focus that was not identified. The subsequent organisation of the site with close boundaries laid off what is now the A6 is perhaps representative of a transition from independently located domestic units to planned areas within a nucleated medieval village¹¹, or the expansion of the planned village into farming areas outside.

There are clearly limits to the amount of data that can be recovered from a rapid sampling excavation of this nature and a limit on the level of interpretation that can be placed upon it. However, if the data from an excavation of this sort is compared with that from more completely excavated and better stratified sites, then our overall archaeological knowledge of the various periods (in the Great Ouse Valley) can be greatly expanded. The picture generated will in turn (if the right questions are asked), suggest better strategies for sampling or complete excavation for the various types of site; with, in this case, particular reference to the elements of cropmark complexes known in the Great Ouse Valley.

THE FINDS

POTTERY

A. The Medieval and Romano-British shelly wares (Figs 7 and 8, Nos 1 to 39)

The medieval pottery, recovered from a series of pits and ditches at Pear Tree Farm, was primarily a wheel-thrown shelly ware of local manufacture. This medieval pottery was characterised by cooking pots, bowls and dishes with inturned

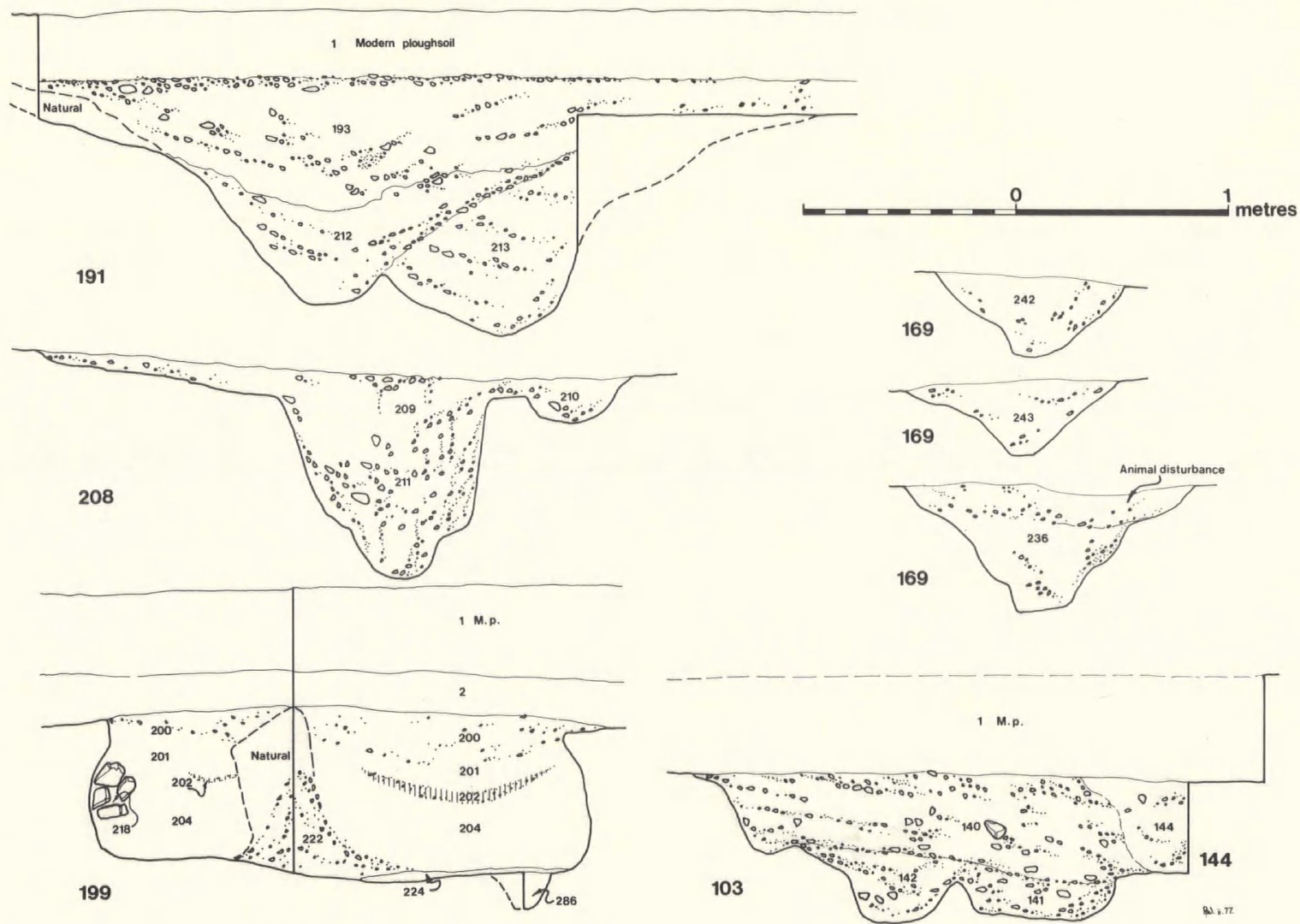


Fig 4 Sections through major Iron Age features.

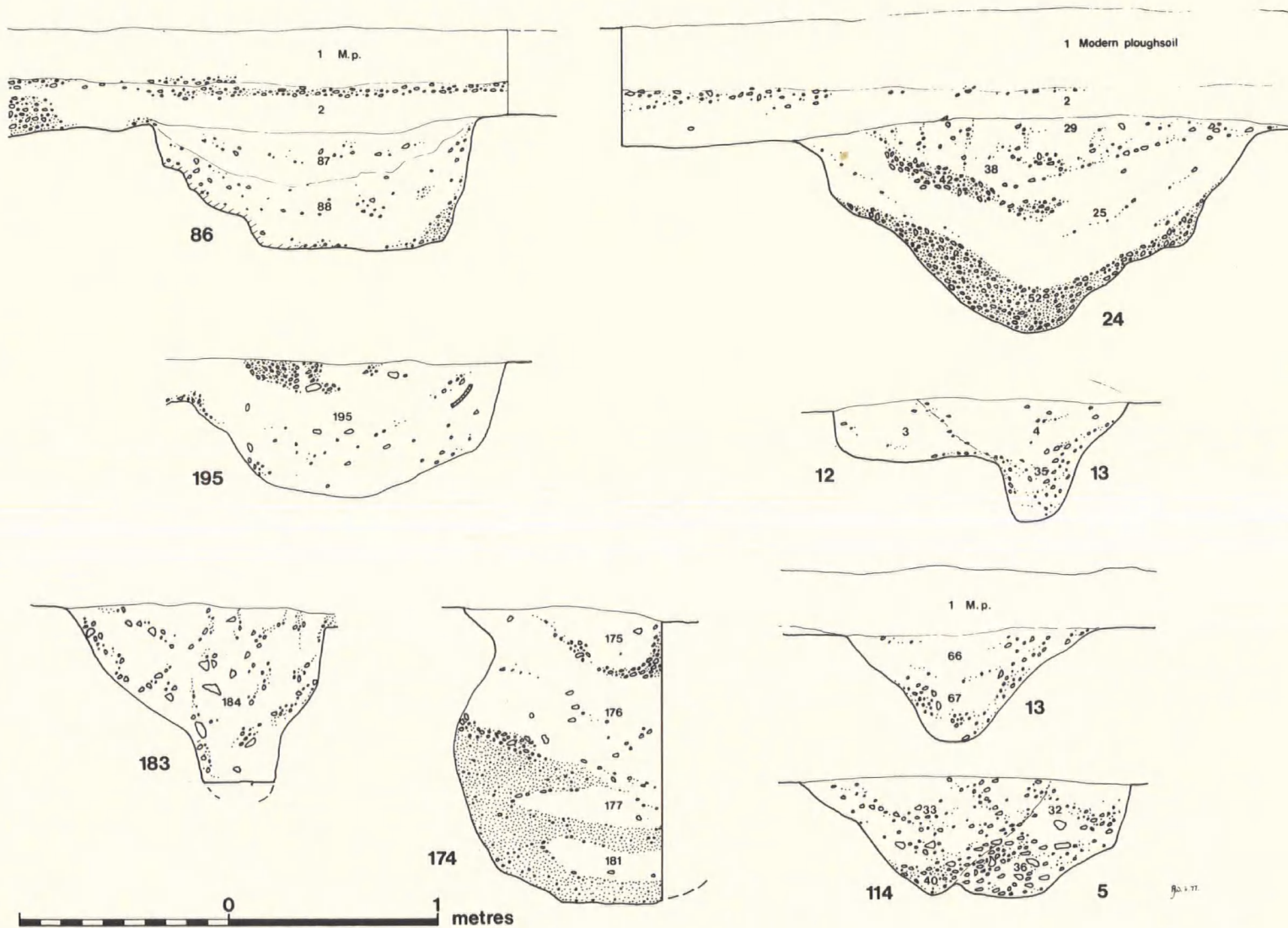


Fig 5 Sections through major Medieval features.

and flanged rims — a St Neots type ware of the eleventh and twelfth centuries (Fig 7, 1 to 11); and a range of cooking pots with everted rims, short curved necks and sagging bases (Fig 7, 12 to 20), bowl and jar rim forms (Fig 7, 21 to 27), and a handle (Fig 7, 28) — a developed St Neots type ware of the twelfth century. These types have been defined by Hurst,¹³ and illustrated and described amongst others by Addyman,¹⁴ Baker,¹⁵ Hassall,¹⁶ and Kennett.¹⁷ However until a more thorough analysis of the available excavated material from the Bedford area has been made,¹⁸ a more exact positioning of this material cannot be attempted. However two pit groups (156 and 195) to provide us with a context for directly associating some of the everted cooking pot forms with the St Neots type wares.

However it is clear that some of the vessel forms in this shelly fabric cannot be directly paralleled with medieval pottery from either St Neots or Bedford, some having closer affinities with vessel forms of an earlier Romano-British period. Shelly wares are indeed part of a long tradition of pottery manufacture in the Great Ouse region from the Iron Age onwards. The occurrence of a cordoned jar (Fig 8, 29), in an isolated shallow feature (12) and probably manufactured in the mid- to late first century, is clearly in the tradition of earlier Belgic forms. Many of the sherds recovered from features otherwise dated to the eleventh and twelfth centuries, clearly relate to this type of vessel and therefore can be seen as being of Romano-British origin. These residual Romano-British sherds are characterised by their rounded everted rims with sharply curving necks (Fig 8, 30–35). However, there were no Romano-British contexts, which were not disturbed by later medieval activity, and which could provide us with well stratified groups of this material.

The close similarity, between the shelly wares of the Romano-British and medieval periods, in both the fabric and in some of the forms, results in some difficulty in placing many of them in either period. Indeed, if the rim of the cordoned jar (Fig 8, 29) is seen in isolation, it has many of the characteristics of a rim of the twelfth century. A number of these rim forms are illustrated (Fig 8, 36–39) and are representative of those that are most ambiguous.

The fabric is very much the same in both periods — Fairly smooth surfaced, sometimes with a soapy texture and with ground shell evenly distributed throughout a fine clay matrix. The

shell varies from a very fine particle size to the occasional flat plate up to 20mm across, in which the shell structure is sometimes clearly visible. Rounded limestone fragments sometimes occur. Mica grit impurities sometimes occur on the surface. Rounded and pinhead spherical voids occur both internally and externally, originating from burnt out or eroded shell and very occasionally from vegetable particle impurities. The occasional grass temper is noted. The core is usually grey or black with a surface colour varying from light buff to pink, and which is sometimes reduced to light grey.

A detailed fabric analysis for the shelly wares from this site has not been carried out, although such an analysis would perhaps better define the nature of this material from the different periods of its manufacture. This type of fabric analysis is perhaps better applied to larger and better stratified pottery assemblages. A detailed fabric description of individual sherds is not included in the pottery catalogue.

The pottery catalogue for the shelly wares is arranged in the following order:

- A. i. St Neots type forms
Fig 7 Nos 1 to 11
- A. ii 12th century developed St Neots type forms
Fig 7 Nos 12 to 28
- A. iii Romano-British cordoned jar and other R.-B. forms
Fig 8 Nos 29 to 35
- A. iv ?Medieval or ?Romano-British rim forms
Fig 8 Nos 36 to 39

B. The Medieval Sandy Wares (Fig 8 Nos 40 to 45)

Medieval sandy wares were a very small percentage of the total medieval assemblage by weight (less than 5% of the total weight, although this percentage is approximate since some of the shelly wares could be of Romano-British origin).

The location of the sandy wares were mainly in the latest medieval features, and occurred with St Neots type forms. These wares were possibly imported into the Ouse Valley region from kilns to the south and perhaps farther afield. They can be dated to the later twelfth century.

C. Other Romano-British wares (Fig 8 46 to 50)

Fine wheel-made wares of the Romano-British period in other fabrics were very few compared to the shelly kiln products (less than 3% by

weight). These generally occurred in mixed contexts or in the upper levels or the recuts of earlier Iron Age features, which can therefore be seen to be of immediate pre-conquest date. One of the vessels illustrated (Fig 8, 46) recalls an earlier Belgic form and the material illustrated can perhaps be placed in the mid to late first century A.D.

D. Hand-made Pottery of the Later Iron Age and (?) Saxon Period (E)
(Fig 9 Nos 51 to 71)

Hand-made pottery, occasionally wheel finished, could be in the main be placed in the later Iron Age, although one group of black gritty pottery with a burnished surface (Fig 9, 69 to 71) could possibly be associated with the Saxon period.

This hand made pottery compares well with other later Iron Age material to the north of and in the north of the county, at Irthlingborough, Easton, Strixton and Harrold. Reference should be made to D.N. Hall and N. Nickerson, 'Iron Age pottery from North Bedfordshire and South Northamptonshire', *Beds. Arch. J.*, 4, 1969, 1-15, for making more detailed comparisons.

This hand-made pottery can probably be placed in the immediate pre-conquest period as some of the material displays Belgic characteristics (vessels of inturned form and beaded rims: e.g. Fig. 9, 61, and compare to Belgic forms from Harrold, Hall and Nickerson, 1969, Fig. 7, 107 and 112); and some is found with later Romano-British wheel turned products in the upper levels and recuts of the Iron Age features (see above; site report).

The fabric was very variable and nearly every sherd recovered was slightly different in nature. However, the pottery could be classified into four general fabric descriptions:

i *Shelly Fabrics*: Fine ground shell, shell plates (up to 30mm across) and some limestone fragments occur in a coarse clay matrix. Voids of irregular rhombic, pinhead and disc shape often occur as a result of the erosion of these inclusions. The material 'laminates' but does not shear easily. The surfaces are medium to soft and can be scratched with the fingernail. The core is grey to black and sometimes has an oxidised surface of buff to reddish brown colour. The surface often has vegetable tempering and is frequently differentially fired. Quarzite and mica-grit impurities sometimes occur particularly on the surface. Some of the sherds have a marked grog content.

ii *Shelly Fabric with Grits*: This fabric is very similar to i. but has an evenly distributed small to medium (up to 2mm across) quartzite and mica-grit content. A grog content occurs in some of the material. This fabric often has a slightly burnished surface.

iii *Gritty Fabrics*: Reddish brown to white grit inclusions (up to 2mm across) occur in a fine sandy matrix with few voids. Mica-grits often occur more noticeably at the surface. The fabric has a smooth often burnished medium hard surface which sometimes appears to be wheel finished and is often soapy to the touch. The surface is sometimes oxidised to a buff or reddish brown colour, although more often reduced to black. The core is grey to black and the pottery is often differentially fired. There are occasional shell impurities and evidence of some vegetable tempering.

iv *Sandy Fabrics*: 'A grey sandy fabric in which pinhead voids occur, the surface of which is often oxidised to a buff or reddish brown colour. The surface is often slightly burnished and differential firing occurs. Infrequent quartzite grits, shell and mica grits can be taken as impurities; these often occurring on the surface.

The relative proportion of these general fabric groups are i: ii: iii: iv, 2750gm: 1190gm: 605gm: 50gm. Clearly the use of the shelly clays is the predominant feature of this pottery assemblage, as it was in the Romano-British and medieval periods. The vessels represented in these fabrics are primarily cooking pots and bowls. They have been arranged in the catalogue in their fabric groups. There is a great variety of forms, but the group as a whole is characterised by straight sided, or inturned vessels with a slight shoulder and with a slight out turning or beading of the rim. Finger-tip or thumb decoration of the upper rim surface is a typical detail.

One group of gritty black burnished pottery (group iii) from a 'grubenhaus' type feature (198) has characteristics of pottery from the Saxon period. However, its occurrence with fabrics, closer in similarity to other Iron Age fabrics on the site, and the occurrence of gritty black burnished pottery body sherds in other Iron Age contexts, does cast some doubt on this interpretation. The possible Saxon sherds are noted in the catalogue (Fig 9, 69 to 71).

Fig 6 Pottery analysis.

FEATURE	AREA	TYPE	POTTERY *						ANIMAL BONE	FLINT	SLAG	CLAY/STONE TILES, BRICK	FIRED CLAY	DAUB	LIME/MORTAR	'BLDG.' STONE	QUERN STONE	Fe NAILS	ILLUSTRATED SMALL FINDS	DATE			
			A				B	C													D	E	F
			(i)	(ii)	(iii)	(iv)																	
191	D	Enclosure ditch (first)							x											I.A.			
191	D	Enclosure ditch (recut)						x	x											I.A.			
229	D	Gully							x											I.A.			
208	D	'Pallisade' ring ditch							x	x					x					I.A.			
169	A/C	Ring ditch							x	x										I.A.			
94	A	Ring ditch (?)							x						x					I.A.			
225	D	Double gully							x									x		I.A.			
214	D	Double gully							x											I.A.			
103	B	Recut linear ditches							x											I.A.			
22/77	B	Curving ditch (lower)							x	x					x				206. Drilled Cow Tibia	I.A.			
144	B	Linear gully							x	x										R-B			
83	B	Linear gully							x	x										?R-B			
70	B	Linear gully							x						x					R-B			
168/182	C	Linear ditch																		I.A.			
12	A	Shallow feature																		R-B			
55	A	? feature																		R-B			
274	B	'Gravel' pit																		R-B			
110	B	'Gravel' pit																		I.A.			
74	B	'Gravel' pit																		I.A.			
80	B	'Gravel' pit																		I.A.			
199	D	Rubbish pit																		I.A.			
24	A/C	Close boundary ditch																		I.A.			
13	A	Linear ditch																		Med			
131	A	Linear ditch																		Med			
113	A	Linear ditch																		Med			
5/114	A	Linear ditch																		Med			
244	C	Linear ditch																		?			
170	B	Linear ditch																		Med			
22/77	B	Curving ditch (upper)																		Med			
283	C	Pit																		Med			
195	C	Pit																		Med			
248	C	Pit																		Med			
156	C	Pit																		Med			
174	A/C	Pit																		Med			
86	A	Lime pit																		Med			
134	B	Post-pits																		Med			
183	B	Pit																		Med			
125	B	Pit																		Med			
197	C	'Grubenhalls'																		Med			
160	C	Beam slot																		Med			

* POTTERY : A. SHELLY WARES - (i) Medieval, St. Neots type, (ii) Medieval other, (iii) Romano-British, (iv) Romano-British/Medieval.
 B. MEDIEVAL SANDY WARES. C. ROMANO-BRITISH, OTHER WHEEL THROWN WARES. D. IRON-AGE (later) HAND-MADE POTTERY.
 E. SAXON(?) HAND-MADE POTTERY. F. SHELLY WARES - UNDIAGNOSTIC.

THE POTTERY CATALOGUE

(Figs 7 to 9)

Each sherd description in the pottery catalogue is followed by the O.P. number of the feature in which it was found and, in brackets, the Bedford Museum Accession Number for that particular sherd.

The locational occurrence of the pottery type (A(i-iv), - E) is summarised in figure 6.

A detailed fabric description for the shelly wares (Ai - Aiv) and the hand-made Iron Age wares (D) are not included in the pottery catalogue, but conform to the broad fabric descriptions previously noted under the appropriate heading in the pottery report.

Ai. *St Neots type wares*

(Fig 7)

- 1 Upright dish rim with moulded shoulder and shallow sloping sides smoke blackened external surface. 195. (1976/4/298).
- 2 Slightly inturned dish rim with gently curving shoulder, smoke blackened external surface. 195. (1976/4/299).
- 3 Slightly inturned dish rim with gently curving shoulder. 176. (1976/4/292).
- 4 Inturned flanged bowl rim with sharply sloping sides, smoke blackened external surface. (Hurst 1956, fig 5, B38). 248. (1976/4/291).
- 5 Upright deep bowl with flat topped out-flared rim. 156. (1976/4/301).
- 6 Thickened inturned rounded rim. Smoke blackened externally. (Addyman 1973, fig 15, 1). 24. (1976/4/295).
- 7 Flat topped rounded inturned flanged rim with rounded external beading, of deep steep sided bowl. Smoke blackened internally and externally. 13. (1976/4/287).
- 8 Rounded and inturned flanged rim with rounded external moulding. Smoke blackened external margin. 5. (1976/4/296).
- 9 Triangular cross section rim with inturned rounded flange. Deep straight sided bowl. Smoke blackened external surfaces. (Addyman 1973, fig 15, 12). 13. (1976/4/300).
- 10 Triangular cross section rim with pronounced rounded external and internal flanges, shallow sided bowl. Smoke blackened external margin. 13. (1976/4/289).
- 11 Base of small bowl, cheese wire cutting on base. Possibly surviving portion of a bowl type described in Hurst, 1956, Fig 5, B1. 174. (1976/4/321).

Aii. *12th Century Developed St Neots Forms*

(Fig 7)

- 12 Everted cooking pot rim and shoulder, rim everted hollowed inside, squared on external lip, defined neck and slight curve to shoulder. (Hurst, 1956, fig 4, 1). 195. (1976/4/303).
- 13 Everted cooking pot rim, squared on lip with a slight hollow on inside of rim. 195. (1976/4/311).
- 14 Everted cooking pot rim, slightly hollowed on inside, sharp internal angle to neck. (Hurst, 1956, fig 4, 35). 156. (1976/4/306).
- 15 Everted cooking pot rim, squared on lip with a slight hollow on inside of rim. Sharp turn to short neck. 156. (1976/4/309).
- 16 Cooking pot with everted rim and slightly bulbous lip with internal hollow. Vertical sides and no neck. 195. (1976/4/305).
- 17 Cooking pot with straight everted rim and bulbous lip, flat top and internal beading. 5. (1976/4/312).
- 18 Cooking pot with everted rim bulbous lip, a slight internal hollow and smooth curve to short neck. 248. (1976/4/318).
- 19 Cooking pot with simply rounded everted rim and short curved neck. (Addyman, 1973, fig 14, 12). 13. (1976/4/317).
- 20 Sagging cooking pot base with near vertical sides. 156. (1976/4/304).
- 21 Bowl with everted round beaded lip, 5. (1976/4/315).
- 22 Bowl rim with overhanging lip and heavily moulded internal hollow. A sharp angled internal turn to vertical neck. 5. (1976/4/316).
- 23 Bowl with everted straight angled lip, squared and slightly bulbous. 174. (1976/4/314).
- 24 Bowl with sharply everted bulbous lip. 170. (1976/4/333).
- 25 Bowl with simply everted rim with bulbous lip and internal hollow. 5. (1976/4/336).
- 26 Bowl with simply everted rim and slight internal hollow. 195. (1976/4/308).
- 27 Bowl with rounded external moulding and slight internal bead. (Addyman, 1973, fig 15, 16). 5. (1976/4/337).
- 28 Simple handle or lug applied to side of vessel. (see note 18). 128. (1976/4/323).

Aiii. *Romano -British Cordoned Jar and other R-B forms.* (Fig 8)

- 29 Complete cordoned jar with internally hollow rim, sharply angled lip short straight

neck, and three slight cordons on a slightly rounded shoulder. There is a very slight pedestal to the base. Manufactured in the Belgic tradition, probably mid to late first century A.D. 12. (1976/4/9).

- 30 Slightly everted rim with rounded bulbous lip and grooved neck. 5. (1965/4/324).
- 31 Slightly everted rim with rounded bulbous lip and outward curving grooved neck. 13. (1976/4/330).
- 32 Short comparatively short necked vessel with outward curving rim and gently curving shoulder. 13. (1976/4/331).
- 33 Sharply everted rounded rim with outward curving neck. 5. (1976/4/346).
- 34 Everted rim with bulbous lip and sharp thin neck. 13. (1976/4/343).
- 35 Heavy almost clubbed rim. 22/77 (lower). (1976/4/329).

Aiv (?) Medieval and (?) Romano-British rim forms. (Fig 8)

- 36 Simply curved everted rim. 24. (1976/4/322).
- 37 Simply curved everted rim with internal hollow. 22/77 (lower). (1976/4/332).
- 38 Straight everted rim with rounded lip and sharp short neck with groove. 5. (1976/4/327).
- 39 Straight everted rim with flat topped lip and external beading. A sharp short neck with groove. 174. (1976/4/338).

B. The Medieval Sandy Wares (Fig 8).

- 40 Jar with slightly everted rim and external groove at lip. Fine hard sandy fabric with frequent micaceous grits. Grey core with dark red brown external and internal margins. Smoke blackened on external surface. 24. (1976/4/547).
- 41 Bowl with flat topped and external round beaded lip. Fabric as 40. Grey core with dark red-brown external and internal margins, reduced to a light grey on both surfaces. 125 (1976/4/348).
- 42 Bowl with upright moulded lip, fabric as 40. Light grey core with orange external and internal margins. 170. (1976/4/349).
- 43 Jar with slightly everted rim and grooved neck. Hard coarse sandy fabric with many pin-head voids and frequent small grits. Pale buff internal and external margins and steel grey core. 185. (1976/4/350).
- 44 Body sherd with applied thumb strip and incised lines. Fine hard smooth surfaced

sandy fabric reduced to a steel grey colour throughout. 248. (1976/4/352).

- 45 Simple circular spout thumb on to vessel. Fine sandy matrix with frequent small micaceous grits. Dark grey core with light pink internal and external margins, reduced in patches to a light grey. 24 (1976/4/351).

C. Other Romano-British wares (Fig 8).

- 46 Inturned rim of globular vessel. Shelly matrix with smooth surfaces slightly burnished. Grey core with light orange internal and external margins. Unstratified. (1976/4/357).
- 47 Simply everted rim to narrow mouthed vessel. Fine sandy matrix with slightly burnished smooth hard surfaces. Grey core with occasionally buff internal and external margins, which are more generally reduced to black. 83. (1976/4/356).
- 48 Simply everted rim with gently curving short neck. Fine sandy matrix with smooth hard burnished surfaces. Light grey core reduced to dark grey internal and external margins. 191 (recut). (1976/4/354).
- 49 Simply everted rim with sharply defined external beading on underside of lip. Fine sandy matrix with smooth hard burnished surfaces. Light grey core with buff internal and external margins sometimes reduced to a dark grey black surface. 83. (1976/4/355).
- 50 Body sherd of bowl with rouletted shoulder. Fine paste with occasional mica grits. Grey core with orange internal and external margins. Fine red-brown applied colour coat with a slight sheen on surface. 22/77 (lower) (1976/4/353).

D. Hand-Made Pottery of the Later Iron Age (Fig 9)

- 51 Club rim to straight sided vessel, with thumb decoration below external lip and thumb tipped hollows on top surface. Fabric D.i., 13. (1976/4/376).
- 52 Narrow necked jar with simply everted rounded, bulbous rim. Fabric D.i. Wheel finished; 208. (1976/4/373).
- 53 Slightly everted rim with external beading. Fabric D.i.; 199. (1976/4/371).
- 54 Bowl with upright rim with squared external beading. Fabric D.I.; 74. (1976/4/368).
- 55 Bowl with slightly everted rim. Fabric D.i.; 199. (1976/4/362).
- 56 Bowl with slightly inturned rim and finger

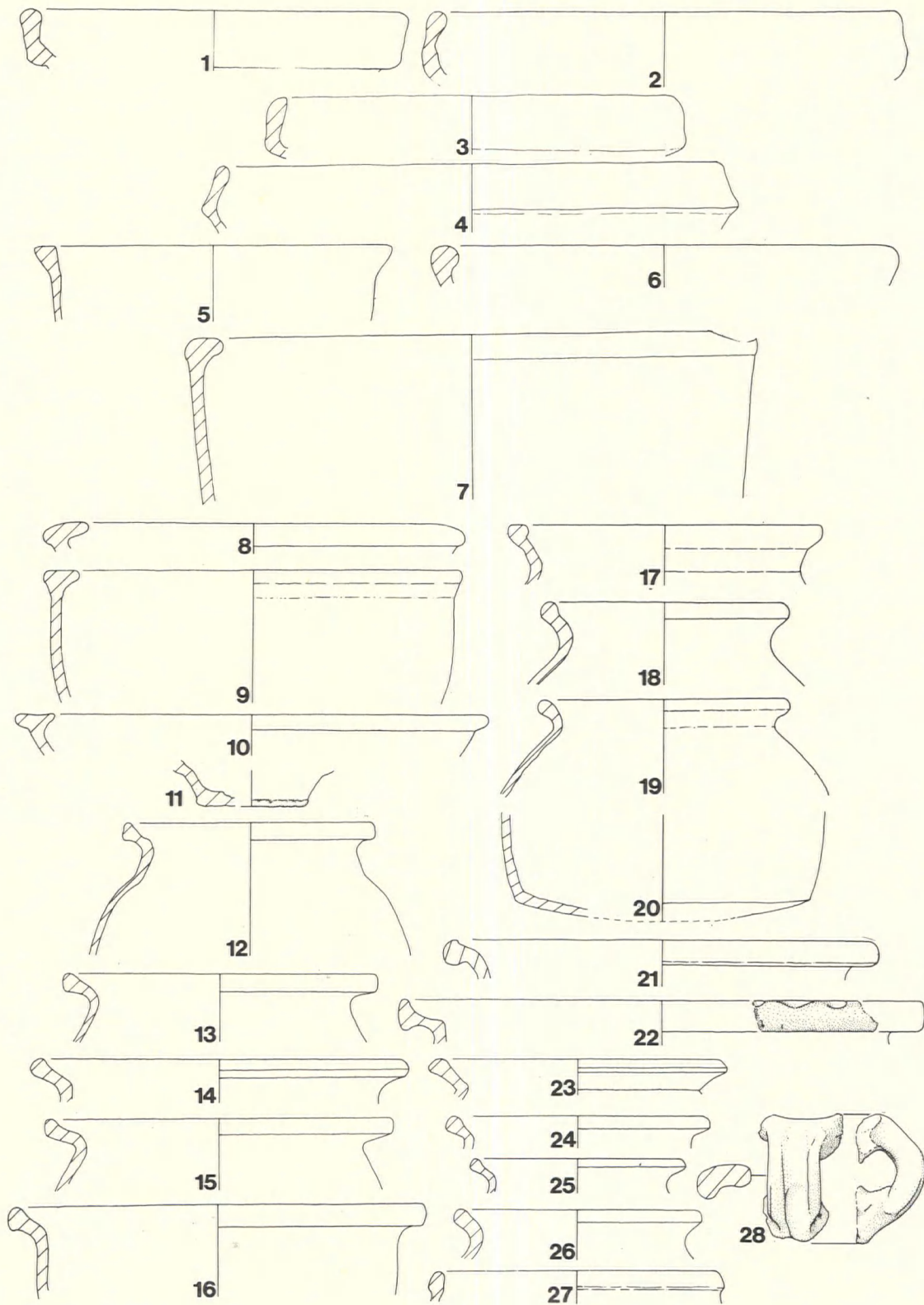


Fig 7 St Neots type shelly ware pottery (Scale: $\frac{1}{4}$).

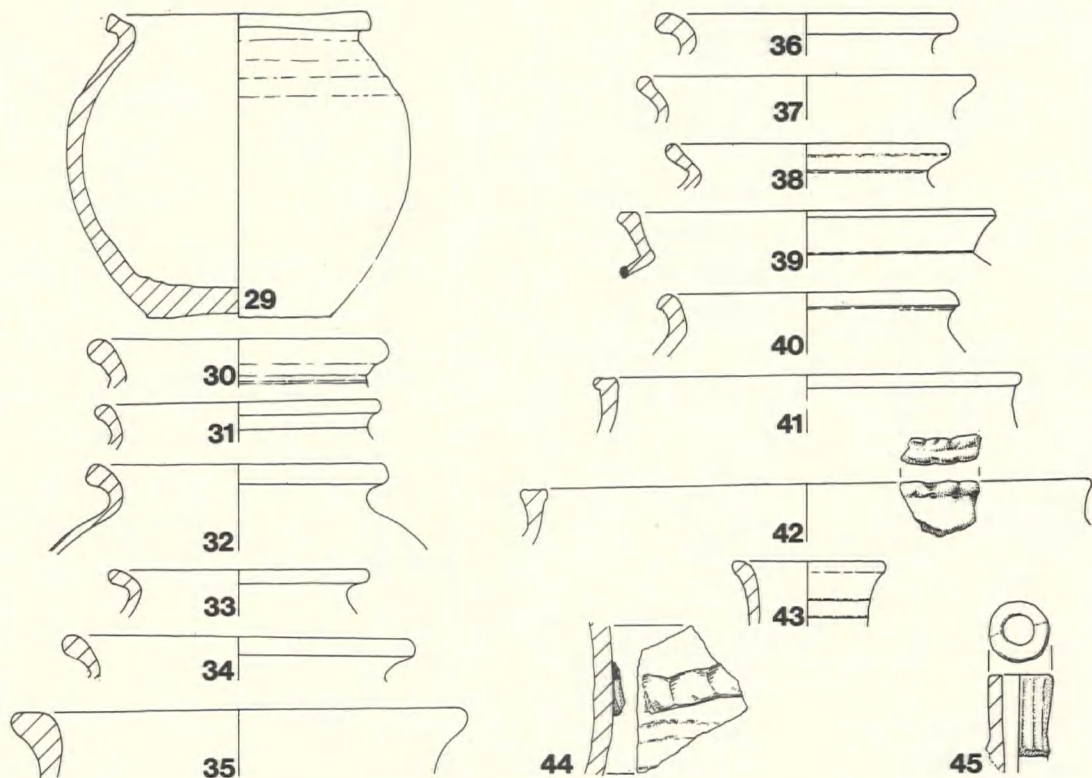


Fig 8 Other Medieval and Romano-British wares (Scale: $\frac{1}{4}$).

- tipping on the rims upper surface, at a slight angle to the body. Fabric D.i.; 199. (1976/4/360).
- 57 Bowl with upright flat topped rim. Finger tipping on rims upper surface. Frequent grass tempering. Fabric D.i.; 199. (1976/4/366).
- 58 Thistle shaped bowl with upright rim and small rounded internal beading. Fingertipping on rim at right angles to body. Fabric D.i.; 199. (1976/4/361).
- 59 Slightly out-turned straight rim with flat top and thumb tipped hollows. Fabric D.i.; 199 (1976/4/365).
- 60 Straight sided bowl with finger tipping on external lip. Fabric D.ii.; 191 (recut). (1976/4/364).
- 61 Large deep bowl with small beaded lip. Fabric D.ii.; 191 (recut). (1976/4/359).
- 62 Upright rim of small bowl with finger tipping at right angles to the vessel sides on the flat top to the rim. Fabric D.ii.; 199. (1976/4/372).
- 63 Upright slightly clubbed plain rim of small bowl. Fabric D.ii.; 199. (1976/4/363).
- 64 Body sherd with horizontal combing. Frequent grass tempers. Fabric D.ii.; 199. (1976/4/374).
- 65 Simple slightly everted rim with slight grooving on neck. Wheel finished. Fabric D.iii.; 208. (1976/4/370).
- 65 Inward curving vessel with slight upcurve to rim. Fabric D.iv.; 199. (1976/4/369).
- 67 Simply everted rounded rim. Wheel-finished. Fabric D.iv.; 191 (recut). (1976/4/358).
- 68 Inward curving small bowl with simple upward curving rim. Fabric D.iv.; 156. (1976/4/375).

E. Hand-made Pottery of the (?) Saxon period (Fig 9)

- 69 Slightly sagging base. Hard black gritty fabric with rounded and angular quartzite grits and mica grits. Smooth-hard surface with slight sheen and soapy to the touch. Similar to fabric D.iii.; 197. (1976/4/377).

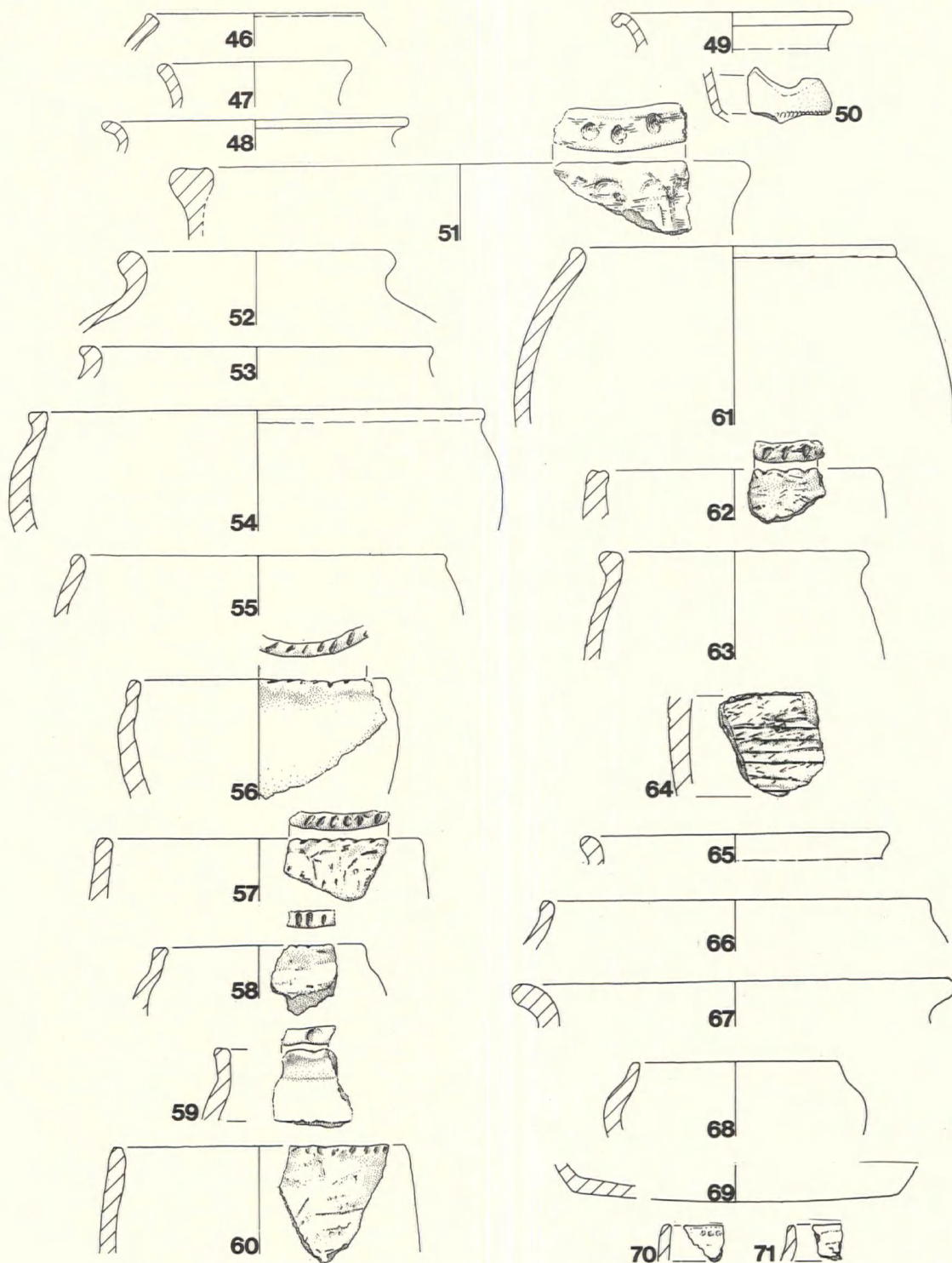


Fig 9 Hand-made Iron Age and (?) Saxon pottery (Scale: $\frac{1}{4}$).

- 70 Straight rim. Fabric as 69. 197. (1976/4/378).
- 71 Slightly everted rim. Fabric as 69. 197. (1976/4/379).

METALWORK

(Fig 10, 1-10)

Most of the metalwork recovered during excavations was found in early medieval contexts, and the objects from undated or mixed contexts probably originate from this period. The only bronze object (illustration 10) may date from the sixteenth to seventeenth centuries. Only a representative sample of the nails is illustrated. Each find is followed by its Bedford Museum accession number.

- 1 Animal-shoe nail; fiddle-key type for countersinking into shoe; from lower levels of Close boundary (24). (1976/4/30).
- 2 Square section nail with ridged head; from upper levels of ditch (22)/(77). (1976/4/380).
- 3 Square section nail with rounded flat head; from gulley (170). (1976/4/381).
- 4 Nail with flattened head and squarish cross section; from animal disturbance, but possibly of early medieval origin. (1976/4/382).
- 5 Small single edged 'paring' knife with straight tang angled to blade; from Area A layer (2). Possibly of early medieval origin. (1976/4/276).
- 6 Triangular section knife blade, single edged, probably pointed; from upper levels of close boundary ditch (24). (1976/4/238).
- 7 Harness buckle; a form characteristic of the Early Middle Ages;¹⁹ from Area C, layer (2). (1976/4/152).
- 8 Hinge (female socket) with two broad flat tangs; from ditch (5). (1976/4/54).
- 9 Animal-shoe (ox-shoe), three countersunk holes on outside edge, one with nail; from ditch (5). (1976/4/122).
- 10 Triangular bronze hook with curving profile and two holes punched near base; marked edge strip; curved hook bent at right angles to the body plate and with three angled cuts on reverse of hook;²⁰ from Area C, layer (2). Possibly of 16th-18th century date. (1976/4/153).

LOOM WEIGHT AND SPINDLE WHORLS

(Fig 10, 11-13)

- 11 Bone spindle whorl cut from end joint of

animal femur. From early medieval ditch (13). (1976/4/10).

- 12 Stone loom weight; Hard grey metamorphosed and micaceous stone, source not identified but probably imported. From pre-conquest Iron Age 'storage' pit (199). (1976/4/223).
- 13 Pottery spindle whorl, shelly ware fabric (dark grey core, buff surface). From early medieval post emplacements (134). (1976/4/128).

WHETSTONES

(Fig 10, 14-15)

- 14 Broken honestone; grey/green metamorphosed mudstone. From area A layer (1). Possibly of early medieval origin. (1976/4/281).
- 15 Perforated micaceous schist hone. Characteristic of the early medieval period. — 'Hones of this material are absent from prehistoric and Roman deposits in this country, but have been found in a number of sites of the Norman period, but not later in South-Eastern England.'²¹ From early medieval pit (283). (1976/4/237).

A small oblong and rounded glacial erratic pebble (9.5cm, by 3.0cm by 2.0cm) with worn facets, was also recognised as being a whetstone. From area D layer (1). (1976/4/282) — not illustrated.

BONE OBJECTS

(Fig 10, 16-18)

- 16 Bone bodkin with hole cut in broader end, tip broken; From close boundary ditch (24), early medieval. (1976/4/15).
- 17 Bone bodkin; worn at both ends, possibly a bird bone; From pre-conquest Iron Age 'storage' pit (199). (1976/4/205).
- 18 Polished bone pin with worn facets, broken at broader end, circular cross-section; From area A, layer 2. (1976/4/275).

THE DRILLED TIBIA

(Fig 11, Plate 2), (1976/4/207)

This drilled tibia (cow) was recovered from the third phase of the large linear ditch (103), of Later Iron Age date (see above; pottery and site report).

The object has a series of five drilled holes in a 'T' formation on one of the ridges of the tibia and the two adjacent surfaces, with a shallow curved

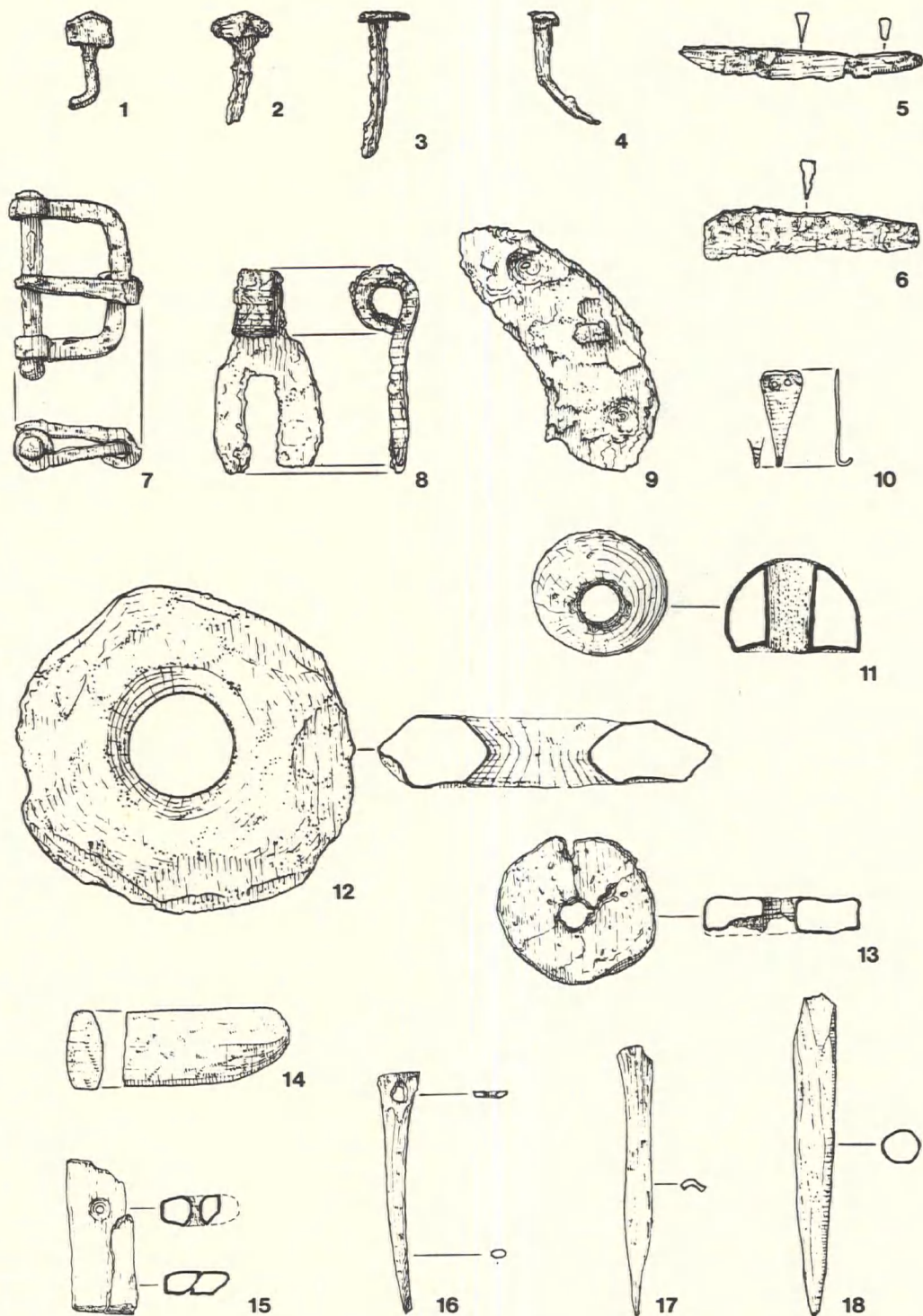


Fig 10 Small Finds (Scale: 1/2).



Plate 2 The drilled cow tibia from the Odell excavations (left) compared to that from the Elstow excavations (right).

[Photographs: Bedfordshire County Council, copyright reserved]

ELSTOW EXCAVATIONS



ELSTOW EXCAVATIONS

notch below the lowest of these (the top end of which has apparently been drilled through by this lowest hole). Three drilled holes (two upper and one lower) are located on the opposite facet of the tibia; the two uppermost lining up approximately with the central hole of the opposing 'T' formation. All these holes have straight sides; are very finely drilled; and show no particular signs of wear. There are also no other signs of wearing on the bone apart from a smoothing of the cut notch. The bone has been hollowed out and the base of it has a carefully formed circular hole (drilled?). The base otherwise does not appear to be worked. The upper end of the tibia is clearly broken.

This object can be directly paralleled with another drilled tibia found during the excavations at Odell²² in a similar Later Iron Age/Romano-British context – a quarry pit (subsequently used as a pond), which was within a small farming settlement, and which was filling in the middle years of the first century A.D. Although there are differences in the drilling arrangement, the two bones have remarkably similar design characteristics.

The Odell tibia (Plate 2) has a series of three holes in a 'Y' formation on one of the ridges of the tibia and the adjacent surfaces. The lowest of these is located in a cut notch. Two drilled holes both at the same level, are located on the opposite facet of the tibia, the one on the left lining up with the lowest hole of the opposing 'Y' formation. Apart from the upper two holes of the 'Y' formation the holes have straight sides; are very finely drilled; and show no particular signs of wearing. The upper two holes of the 'Y' formation have rebates formed by crude scratching (perhaps an initial attempt to form the holes or a method of locating them). The cut notch is not as smoothed as the one on the Elstow tibia, and on the opposite tibia facet scratches are noted between the pair of holes. Cut marks, possibly representing slaughtering are noted on the facet to the right of the 'Y' formation. Otherwise marks are probably representative of later abrasion. The bone is hollowed out and the base of it has been cut through rather crudely. The upper end of the tibia has been carefully cut but is smashed at the top end of the drilled ridge.

The differences between these two bones is clear and contrasting, but the intention of the design, for whatever purpose, must be very simi-

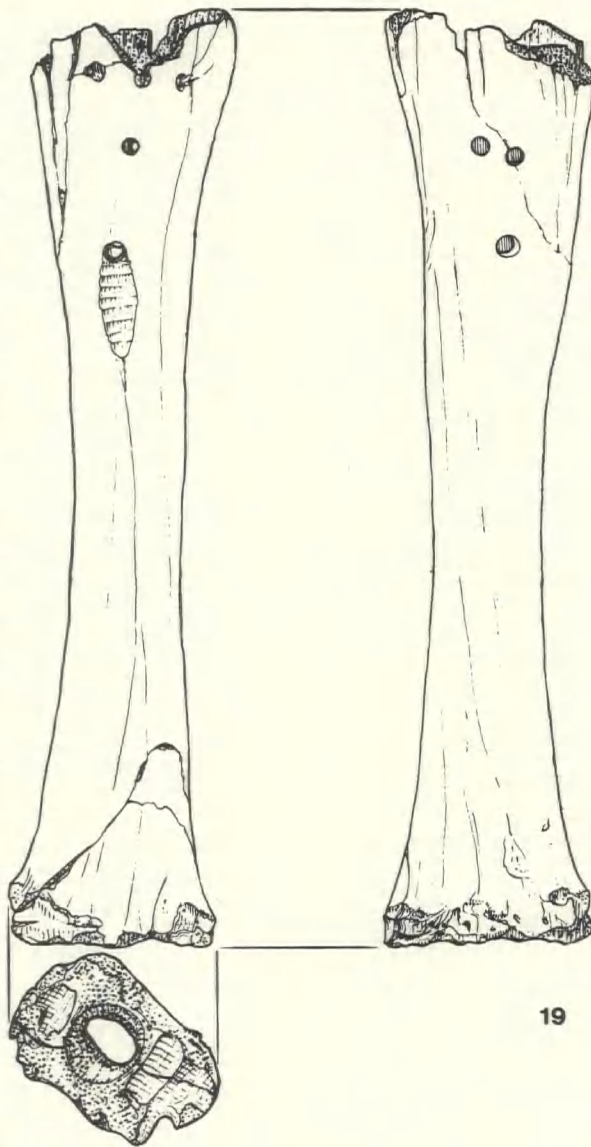


Fig 11 Drilled Tibia (Scale: ½).

lar. The type of bone chosen was clearly for its 'triangular' nature, and it appears to be irrelevant which facet or ridge is used for the drill holes. The function of the bones clearly relies on opposed holes but the location of the notches differs and perhaps precedes the location of the drill holes. The objects are broken at their upper ends and would appear to be discarded because of this. In addition, the Odell tibia particularly indicates that it is the loss of this upper part of the drilled ridge, which caused them to be so discarded.

Feature	Cores										Flakes									
	All Flint Total	Scrapers	Other Tools	Specialised	Non-Specialised	Worked Lumps	Squat >1:1	Intermediate <1:1, >5:2	Long <5:2	All Secondary Worked Material	Reused Material	All Patinated Material	Cortical Material	Broken Flakes	Mesolithic/Microlithic Material					
Medieval Features	19	0	0	1 ^a	1 ^b	3	6	0	3	0	2	0	0	0	4	13	3	0		
Romano-British Features	9	1 ^f	0	0	2 ^c	0	0	0	0	5	0	1	0	3	8	1	0			
Iron Age Features	15	0	0	0	0	2	2	0	5	0	1	1	1	0	5	8	4	0		
Unstratified/Undated Features	47	1 ^g	0	1 ^d	5 ^E	9	9	1	12	1	8	2	5	0	18	30	1	0		
Total	90	2	0	2	6	14	17	1	20	1	16	3	7	0	30	59	9	0		

Notes: CORES: a. Single Platform; b. Two Oblique Platforms; c. Single Platform, Two Platforms at right angles; d. Two Opposite Platforms; E. 2 with >5 Platforms, Single Platform.

SCRAPERS: f. Crude Distal End Scraper, Rounded, Squat proportion. g. Crude End Scraper, Round End, Side Usage, Intermediate, proportion, Patinated, Cortex.

Fig 12 Numerical analysis of knapped flint material.

The hollowing of the tibia and the cutting away of the upper ends was obviously necessary for their function, but the shaping of the base hole does not appear to be important.

Having described the objects themselves and their design characteristics the purpose of them remains unclear. That they were tools connected with some manufacturing process seems most likely, although lack of wear marks do in no way confirm this. Toys, musical instruments or ritual (!) objects could be equally well proposed. That they were part of a more complex object with other materials being used in its construction does not seem unlikely. However, until other more complete examples in more informative contexts are found, their function at present must remain a mystery.

FLINT (Fig 12)

The knapped flint material from Elstow was recovered from features of all periods. There was no consistency in knapping technique and none of the tools, cores or utilised material indicated a specific period from which this group of material could have originated. The nature of this assemblage is summarised in the table (Fig 12). The majority (just over 50%) of the material came from unstratified contexts or undatable features and the remainder from medieval, Romano-British and Iron Age contexts. The material was examined

in these period groupings, although clearly the material could be residual in all cases. No high concentrations of flint debris were noted. The locational occurrence of the flint from dateable features is shown in Fig 6. Although the total number of flints in the analysis does not provide us with results which are to any extent statistically valid, certain features of the assemblage are worth noting:

- (i) There is no preferential core technique and most cores are crude. The flakes are removed with little regularity in size or shape.
- (ii) The three category flake analysis shows no preferred flake size, if all flakes are considered together. If, however, the periods are considered separately, contrasts can be noted with long flakes peaking in the R-B period. However, because of the high percentage of unstratified flakes (about 57%) and the small total number of flakes, these contrasts are not particularly valid. Only a small amount of secondary working was noted on the flakes (about 8% of all flakes), and although chipping and marking on a great many flakes was noted, this was not interpreted as any form of utilisation, because of the likelihood of breakage and abrasion.
- (iii) The two flake scraper tools noted were very crude examples with very little retouch. They had no characteristics that could place

DITCH FEATURE	SURFACE LAYERS OF FEATURE	AVERAGE MUNSELL DETERMINATION FOR SURFACE LAYERS	APPROXIMATE WIDTH OF DITCH FEATURE	AVERAGE DEPTH OF DITCH FEATURE	GENERAL DATE
5	27 = 28 = 6 32 = 120 = 119 33 = 121	10YR 3/2 10YR 3/2	1.5 m	0.6 m	Med
13	34 = 4 66	10YR 3/3 10YR 3/3	1.0 m	0.5 m	Med
24	29 38 25	10YR 3/2 10YR 3/3 10YR 3/2	2.1 m	1.1 m	Med
22/77	78 = 72 23	10YR 3/2 10YR 4/3	2.8 m	1.3 m	Med
113	115 = 117	10YR 3/2	0.4 m	0.25 m	Med
131	131	10YR 4/4	0.7 m	0.15 m	Med
244	245 = 157	10YR 3/3	0.6 m	0.2 m	Med
169	236 = 242 = 243 = 100	10YR 5/4	0.8-1.4 m	0.5 m	I.A.
208	209 210	10YR 4/4 10YR 5/4	1.0 m 0.5 m	1.0 m 0.2 m	I.A. I.A.
214	215 216 217	10YR 4/4 10YR 5/6 10YR 5/4	2.2 m	0.3 m	I.A.
225	227 228	10YR 4/3 10YR 5/4	1.9 m	0.7 m	I.A.
191	193 230 229	10YR 3/3 10YR 5/6 10YR 3/4	3.0 m	1.2 m	I.A.

Fig 13 Table showing Munsell Colour determinations for the top surface colours of 'dated' open silting ditches.

them with a 'dateable' tool type. They could perhaps be termed 'field scrapers'; i.e. ones prepared rapidly as one-off tools for immediate use and then discarded.

- (iv) 30% of the material was patinated which is a fairly typical percentage for material recovered from the gravel terraces.²³ 60% of the material had some cortex. These two points combine to show that small flint nodules were obtained locally from the gravel terrace (presumably from the field surface), for knapping.

- (v) No Mesolithic/Microlithic material was noted.

The absence of material that could with any certainty suggest that this flint debris could have originated from a time prior to the Iron Age does

suggest that perhaps most of it comes from this period or later. However, there is no great likelihood that the flint occurring locally was knapped for any reason in the medieval period. It is suggested that this type of assemblage, characterised by random knapping techniques, no preferred flake size and crude one-off field tools, would be representative of Later Iron Age casual usage of the material. There are however no assemblages in the immediate locality with which it can at present be compared.

ANIMAL BONE

Animal bones were recovered from most features but in small quantities, because of the limited sampling nature of the excavations. No large groups of well stratified bones were recovered, and much of the bone was from the open silting of and the recutting of ditches, where a residual element was almost certain to be present. Many of the bones were broken and damaged. Any detailed analysis could be seen to be of little statistical value. Most of the bones were likely to be of the usual domestic type (cow, sheep . . .) on a site of this type. No detailed analysis was therefore undertaken but the bones are available for study in Bedford Museum.

QUERN AND GRINDING STONES

Three fragments of Rhenish lava querns were recovered from the early medieval parallel ditches (5) and (13) — clearly these are most likely to be of early medieval date, although a residual Romano-British pottery element was present in these ditches.

A quern fragment of a medium hard fossiliferous sedimentary rock (not limestone) was found in the Iron Age gully (225). This had been shattered by burning and had a ground surface rising from the outside curved edge — presumably the upper half of a quern pair. The original diameter was probably about 32cm.

A large rounded igneous boulder (290cm by 160cm and 140cm in height) with a ground surface slightly rising towards its centre was found in the Iron Age storage pit (199). No direction of grinding was noted but its use for grinding grain seems likely.

OTHER MATERIAL

Other material finds of slag, tile, brick, daub, lime/mortar and cut stone were recovered from a

range of features and have been noted in the table of finds for dateable features (Fig 6).

The slag occurred exclusively in the medieval features; tile and brick occurred in medieval and the occasional Romano-British contexts; daub of various composition (sometimes fine clay with wattle impressions, but more usually a very friable impure clay with a shell content, samples were often burnt) occurred most commonly in the medieval features, but occasionally in Iron Age and Romano-British contexts; lime/mortar, apart from being present in the slaking pit (86), was present in very small quantities; there was the occasional cut piece of 'building' stone (limestone). The occasional oyster, snail, seed and charcoal was collected but these were of no environmental or dating value.

THE SOILS

A general impression of the soils in the Elstow area can be obtained from the 'Reconnaissance Survey of the Soils of the Luton and Bedford District' by D.W. King (Special Survey No. 1, 1969). The soils at the Elstow site were gleyic brown earths derived from the fluvialite and glacio-fluvialite sands and gravels of the river terrace of the Great Ouse.

A detailed analysis of the soils at the Elstow site was not undertaken and a detailed description of the soils comprising the various stratified archaeological layers is not included in the site report published here. However, a more detailed description of specific deposits can be found in the site record (ref. Bedford Museum 1976/4). The soil deposits generally fell within the loamy sand to clay loam range with varying quantities of small and large gravels. The colour range was from 10YR3/2 to 10YR5/6.

Observation of the colour of the soils on the site suggested that the colour of the earlier features was significantly lighter. A graphical comparison of the top surface colours of 'dated' ditches was therefore thought valuable to test this site observation. It was thought that a comparison of the 'open' ditch colours would be most certain since they would have filled in similar ways at different periods and therefore be closely related to each other and to the principal soil series of the area. The top surface colours only were compared. Those ditches used for this comparison are tabulated in figure 13 and the colours graphically compared in figure 14.

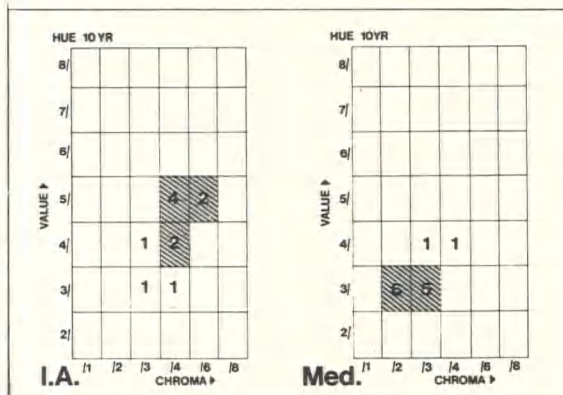


Fig 14 Graphical representation of Munsell Colour determinations for the top surface colours of 'dated' open silting ditches. The shaded area denotes about 75% of the determinations in each group.

A relationship between colour and date clearly does exist; however it would be a very uncertain means of establishing a date for ditches or other types of feature which are otherwise undated. This phenomena would also only provide for a local comparison, and is probably a result of a leaching of the soils by water movement.²⁴

ACKNOWLEDGEMENTS

These excavations were carried out on behalf of the Bedfordshire County Council and the Department of the Environment. The author is grateful to Mr Hall, of Pear Tree Farm, Elstow, for his co-operation and access to his land prior to the sewers construction. Thanks are also due to Brian Dix who drew attention to the 'Odell' bone and for providing information relating to his excavations, to Dennis Mynard and Jane Hassall who commented on the pottery, to Kate Scott who drew the pottery, and finally to the excavation team for all the hard work that they undertook during the variable autumn weather of 1976.

NOTES

- 1 Noted from a survey of 1767 in Bedfordshire Record County Office, document XI/6/1,4.
- 2 The site at Odell, at present being excavated by Brian Dix for the D.O.E. and Bedfordshire County Council, exhibits similar characteristic cropmarks (Beds. C.C. S.M.R. 543; SP 956568); and other extensive and small cropmarks of similar type can be seen all along the Great Ouse on the gravel terrace, for example at Roxton (Beds. C.C., S.M.R. 745; TL158557), at Cardington (Beds. C.C. S.M.R. 584; TL 091474 to TL 093474) and many others.

- 3 This cropmark is recorded by Dr J.K. St Joseph (ref YT30) at TL 049469 and is located in the Beds. C.C. Sites and Monuments Record as accession 1624.
- 4 'Level 3' publication as defined in *Principles of publication in Rescue Archaeology*, Report by Ancient Monuments Board for England's Committee for Rescue Archaeology, D.O.E., October 1975.
- 5 Brian Dix drew attention to this bone, found during his excavation at Odell (10c *cit.* note 2).
- 6 *Loc. Cit.* notes 2 and 8.
- 7 *Loc. Cit.* notes 2 and 8.
- 8 A summary to date of the excavations at Odell can be found in C.B.A. Group 9, *Newsletter* 7, 1977, 9-10.
- 9 The site at Newnham (TL 073491; Beds. C.C. S.M.R. 986) shows similar characteristics, and has been summarised to date in C.B.A. Group 9, *Newsletter* 6, 1976, 17; as also does the excavated site at Bromham (TL027523, Beds. C.C. S.M.R. 975), Peter Tilson, 'A Belgic and Romano-British Site at Bromham', *Beds. Arch. J.*, 8, 1973, 23-66.
- 10 Information provided by Brian Dix. *loc. cit.* note 8.
- 11 The change of settlement pattern from the Romano-British one, of independent small scale farming units, to the planned, complex and nucleated Domesday villages, has been noted for the Medieval villages in the rivers Nene and Welland in Northamptonshire. (R.C.H.M., *County of Northampton*, Vol. 1., pp xxxvii). Although Elstow is mentioned at Domesday (Elnestou - E.P.N.G.3 see A. Mawer and F.M. Stenton, *The Place-Names of Bedfordshire and Huntingdonshire*, [Cambridge, 1926]), it is not certain as to when it was so called or as to when it took this nucleated or organised form.
- 12 This point has been similarly raised in an excavation and survey programme to examine Bronze Age settlement in the Great Ouse Valley, being carried out by Peter Woodward for the D.O.E. and Beds. C.C. Summaries of which can be found in C.B.A. Group 9, *Newsletter* 6, 1976, 14, 15; and *Newsletter* 7, 1977, 23-25. A more detailed publication has been accepted for the Archaeological Journal (1978).
- 13 J.G. Hurst, 'Saxo-Norman Pottery in East Anglia', *Proc. Camb. Ant. Soc.* 49, 1956, 43-70.
- 14 P.V. Addyman, 'Late Saxon Settlements in the St Neots area - III: The Village of Township of St Neots.' *Proc. Camb. Ant. Soc.*, 54 (1973) 45-99.
- 15 D.B. Baker, 'Excavations in Bedford, 1967', *Beds. Arch. J.*, 5, 1970, 67-100.
- 16 J. Hassall, 'Excavations at Willington, 1973', *Beds. Arch. J.*, 10, 1975, 25-40.
- 17 D.H. Kennett, 'St Neots ware from Bedford: Jugs and Bowls', *Beds. Arch. J.*, 4, 1969, 17-25.
- 18 The material excavated from Bedford in the last ten years is at present being prepared for a Monograph publication (*Beds. Arch. J.*, 13, 1978, forthcoming) and reference should be made to these pottery series, when they are available.
- 19 *London Museum Medieval Catalogue*, 1940/1967, 277 and plate LXXIX.
- 20 A similar bronze plate hook was found in Southampton in a 16th to 18th century context. D.C.M. Platt, 'Excavations in Medieval Southampton' 1975 Vol. 2, 265, Fig 245 (1863).
- 21 *London Museum Medieval Catalogue*, 1940/1967, 293 and plate XCIV.
- 22 Brian Dix drew attention to this parallel, and agreed to details being published prior to his full excavation report.
- 23 A comparison of flint by fieldwalking at Roxton between that recovered on the gravel terrace and that recovered on the surrounding clays, shows that about 15-30% of the material on the gravel terrace was patinated as opposed to about 80-95% on the surrounding glacial clays. This piece of fieldwalking and survey has been prepared for publication. *loc. cit.* note 12.
- 24 Paper submitted for publication July 1977.

The Bedfordshire Archaeological Council is indebted to the Department of the Environment for a grant towards the costs of the publication of this paper.

A Cruck Frame Building at Sharnbrook

P.J. WOODWARD

The cruck frame at Sharnbrook (Beds. C.C. S.M.R. 5923; at SP 996595) was noted by N.W. Alcock and P.J. Woodward, 'Cruck Frame Buildings in Bedfordshire', *Beds. Arch. J.*, 11, 1976, 51-68, on page 63 of that article. Access to the building, No. 30 High Street, Sharnbrook, has now been possible during alterations, so that a fuller description of the structure can be given; this has somewhat changed the previous interpretation.

The cruck stands in the centre of a two room plan house with limestone walls and a fireplace on each gable. This surviving cruck truss is shown in figure 1. It will be noticed that it is off-centre relative to the enclosing limestone walls. This relationship can be explained in two ways:

- (i) That the cruck truss represents the surviving fragment of a true cruck which has later been encased in stone.
- (ii) That this is a raised cruck set in limestone walls and later alterations have moved one wall outwards, possibly when the building was ceiled and heightened.

It is not certain which is correct since the lower portion of the complete cruck blade (iv), is hidden, and there is no evidence surviving at ground level for a footing below the cut cruck blade (the floor was lowered by 0.4m during alterations which showed that the ground had been very much disturbed and built up behind the limestone retaining wall). However the unlikelihood of the building's width being altered by such a small amount makes the first case the more likely. This true cruck would then be quite similar to the crucks further south in Bedfordshire (*op. cit.*)

It is clear that the uppermost tie (iii), is a later addition, being crudely pegged to the face of the free blade ends. These free ends have been sawn horizontally, at some date, and it is possible that at one time they met at an apex; other Bedfordshire crucks have blades that do not meet,

The arrangement of the spurs above the cross-beam (i), bears some resemblance to the closed cruck truss at Husbourne Crawley (*op. cit.* fig 9).

However, the spur joint (a crude splayed lap joint) contrasts with the one at Husbourne Crawley (a carefully constructed lap joint with a notch). Also, if the wall-plates had been located (as at Husbourne Crawley) on these spurs, then the pitch of the rafters (lying between this wall-plate and a through purlin at the collar (ii) would have been very shallow, and the strain placed on the spur quite considerable, because of the spur length and rather weak joint to the cruck blades. In fact both spurs are displaced and cut. One seems to have a purlin notch which is inexplicable unless a purlin was inserted to carry sagging rafters. All this suggests that the spurs were inserted at a later date, perhaps when the building was heightened.

The remaining elements of the truss would appear to be original. The truss is clearly a closed one with wattleholes and two mortices, cut into the underside of the cross-beam (i), and surviving studs and wattles above. Smoke blackening in a limited area (stippled in Fig 1) shows that the original structure had an open hall and smoke hood to this side of the truss. The ends of the collar (ii), have been sawn off, but one end of it shows a cut which must represent a notch for an original through purlin.

It would seem that when the cruck was encased in limestone walls, the building was raised. It was also ceiled over at some stage. The present stud partition truss that supports the ceiling spine beam is slightly away from the cruck trusses line, and is clearly constructed of re-used timbers (there are many random pegholes and wattleholes and one of the studs is smoke-blackened). It also supports the spine-beam through two timber wedges, which suggests that this stud frame was not its original support. It was possibly inserted when the lower half of the cruck truss was removed and after the open hall was ceiled. A door was cut through the cill beams of this stud frame at a later stage. A floored loft was inserted on the North side (the side away from the originally open, but now ceiled hall) of the cruck truss.

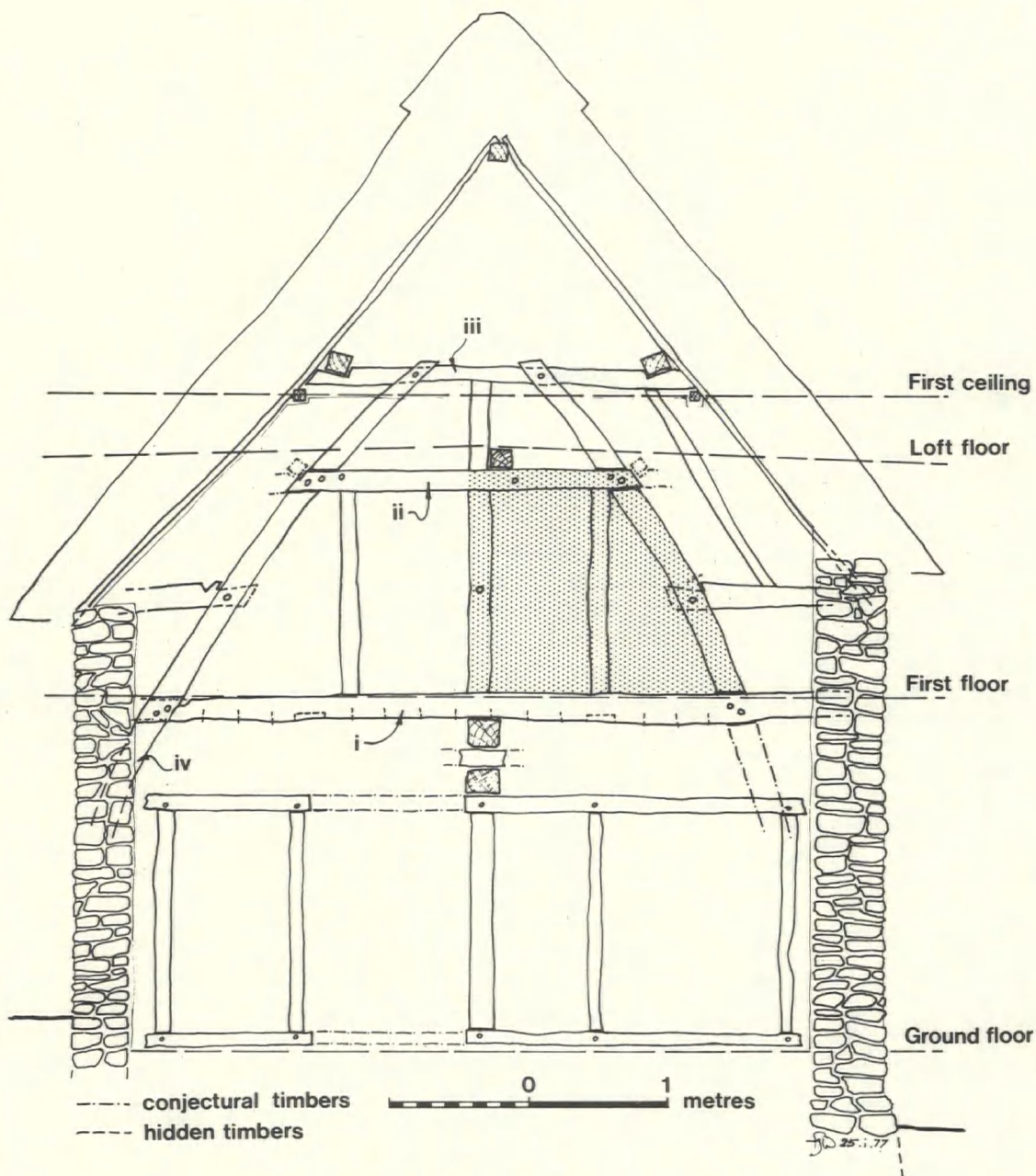


Fig 1 Cruck-frame building at Sharnbrook.

ACKNOWLEDGEMENTS

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County Council. The author would like to acknowledge Albert Giddings for drawing attention to the building and to N.W. Alcock who commented on the text.

The Bedfordshire Archaeological Council is indebted to the Bedfordshire County Council for a grant towards the costs of the publication of this paper.

Crowhill Farm, Bolnhurst, Bedfordshire: A Timber-Framed Building and its History

DAVID H. KENNETT and TERENCE PAUL SMITH*

SUMMARY

The surviving, though unoccupied, farmhouse at Crowhill Farm (formerly Moore's Farm), Bolnhurst is a complex building exhibiting several phases of building operations, and with extensive documentation going back to 1537. The tenurial history is first set out, followed by a detailed description and analysis of the building – its site, its planning, its structure, its decoration, and its dimensions. The building-phases are then distinguished and linked to particular periods or episodes in the tenurial history. The first house was a late medieval hall-house with services at one end and a two storey wing at the opposite end, all probably dating from the same time, c. 1500 or a little later. Subsequently, the hall was floored-over and a smoke-bay constructed, probably by Richard Moore, 1541-47. Later still a stone stack was inserted in the smoke-bay and a stack added to the wing, probably by Robert Moore, 1557-84. The present roof to the main range may date from c. 1600. A new west end was added, in place of the former services, in the mid-to-late nineteenth century, and there have been subsequent minor alterations.

INTRODUCTION

The farmhouse at Crowhill Farm, Bolnhurst, Bedfordshire is a large and now derelict building of complex history both as a structure and in its ownership and tenancy. Now unoccupied and in a poor state of preservation, it has been studied by the two authors to provide an example of the interrelationship of structural and tenurial history. The detailed examination of this one building was preceded by a general survey of the external features of the buildings of Bolnhurst,¹ and by a thorough study of the documentary evidence for the parish.² The latter study showed that from the mid-sixteenth century until the late 1830s the farm now known as Crowhill Farm had been called Moore's Farm, a name which is used in our account of the tenurial history.

MOORE'S FARM: THE TENURIAL HISTORY

Amongst the collections of family muniments in the Bedfordshire County Record Office are the documents of the Francklin family – sometime landowners in north Bedfordshire, principally in Great Barford and in Bolnhurst – deposited by Commander P. Francklin in 1945.³ When sold in May 1944 the Francklin estate in Bolnhurst comprised the four farms known as Mavourn, Crowhill, Brook End, and Blacklands, together with the adjacent Tilwick Farm, Ravensden, a compact body of land in south-west Bolnhurst and north Ravensden (figs 2 and 3b). The Francklin muniments do not designate Crowhill Farm by this name until an estate map of 1858,⁵ though its initial usage dates from some years before, the farm is called 'Crowhill' on the first edition of the Ordnance Survey map, which was first issued in 1835, and is readily available in a reprint of the first electro-type edition of 1865.⁶ The latter is not extensively revised from the 1835 edition except for the addition of railways. In 1839-40 John Green, the tenant, was indicted for allowing 1386 yards of the public highway in Bolnhurst, from the boundary with Thurleigh to Church Lane, to become "very ruinous, very deep broken, and in great decay for want of reparation and amendment":⁷ the document specifically refers to him as "of Crowhill Farm". The Census Enumerators' Book of 1841 also designates the tenement as "Crowhill".⁸

The extensive documentation might have remained unrecognised as it is catalogued as "Moore's Farm" with no suggestion that the name has subsequently changed. However, the 1858 estate map already cited treats this farm as "Crowhill Farm"

*Whilst this paper is in every sense a joint production, D.H.K. has been mainly responsible for writing the tenurial history and T.P.S. for the sections on the building; the final portion – relating the building evidence and the documentary evidence – has been written jointly. Figures 1-4 and the 1973 photographs are by D.H.K., the other figures and plates are by T.P.S.

but includes a "Moore's Wood" (fig 4), which is a coppice in the centre of these lands. Confirmation of the identification is given by checking field names on the Bolnhurst tithe map of c. 1846.⁹ The Francklin muniments have no fewer than forty documents definitely to be connected with Moore's Farm, including conveyances, leases, rentals, marriage settlements, terriers, and wills.¹⁰ For the nineteenth century there are directories, issued at irregular intervals since 1847,¹¹ the Census Enumerators' Books of 1841, 1851, 1861, and 1871 (but as yet unavailable for later dates),¹² and before that the annual Land Tax returns from 1797 to 1832,¹³ and an earlier isolated return of 1783.¹⁴ English property is extensively documented.

That this is so is the historian's gain. For Moore's Farm, Bolnhurst, the first definite reference is the conveyance in 1541 by Robert Chernock of Hulcote, gentleman, to Richard Moore of Colmworth, yeoman, of a messuage with 100 acres of arable, 10 acres of meadow, 40 acres of pasture, and 6 acres of woodland.¹⁵ Inference may be allowed to take the story back a few years, and incidentally to demonstrate the fluidity of the land market in the late 1530s. In a deed of 10 May 1548, the lands are described as being "late in the occupation of John Richards".¹⁶ The chance note allows a history earlier than 1541 to be recognised. Robert Chernock had not held the lands for long: on 26 April 1540 he had purchased them from one James Barnard of London, who had been their owner only since 1537. Early in 1537 these lands had still been the property of John Richards of Cardington and his wife Joan; but he sold them to William Markham of Husborne Crawley on 4th July 1537. Markham subsequently sold these lands to Barnard on 17 July 1537.¹⁷ To the early months of 1537 is as far back as the history of Moore's Farm may be carried with certainty.

But there is a tenuous connexion which may take the story back into the early years of the sixteenth century and before that into the late fifteenth century. This depends on whether John Richards who sold the lands in 1537¹⁸ is the same man as is mentioned in a deed of 27 January 1506.¹⁹ By this, Simon Canown of Tilbrook granted power of attorney to Thomas Peyn of Bolnhurst to deliver seisin to John Ricard of Bolnhurst amongst others. The lands are described as being Beyleys and Margarettes Yard, abutting on the King's highway to the west.

These are certainly the same lands as were granted by William Dey, chaplain of Little Staughton, on 29 July 1481 to Simon Canown,²⁰ but whether they are also the same lands as John Richards sold in 1537 is questionable. There is no discrepancy in the description of lands being in Bolnhurst and Pertenhall, since Wood End, Bolnhurst was a detached part of Pertenhall parish until 1878.²¹ Wood End, Bolnhurst, which the extant collection of late medieval deeds in the Francklin muniments speaks of, is 2½ miles (4 km) distant from the lands comprising Moore's Farm. Of course, it may be that John Richards of 1537 was John Ricard of 1506 (or his son) and that during his life he moved his holding; but then one would expect the deeds to have been transferred with that other holding. It may be that John Ricard owned two separate parcels of land and that at the conveyance by John Richards to William Markham the wrong set of deeds was handed over: at each land transaction, so that absolute title might be proved, custom was to give the new owner all documents relating to that particular piece of land.

However that may be, from the reliable mid-sixteenth-century documents it is clear that the farm was purchased by Richard Moore in 1541 and remained in the ownership of the family until the 1590s.²²

Richard Moore was a prosperous farmer of the next parish east of Bolnhurst and it may well be that he bought the farm in western Bolnhurst to provide for a younger son. It was, however, bequeathed to his eldest son, another Richard Moore, when the purchaser died. The man who bought the lands in 1541 is thought to be the same Richard Moore whose will was proved in 1547.²³ A decade later, Richard Moore of Colmworth, yeoman, conveyed to his brother, Robert Moore, all lands left by their father, Richard Moore.²⁴ The second Richard Moore seems to have died in the latter part of 1558 and to have left lands in Colmworth, Colesden (in the parish of Roxton), and Wilden to his son, William Moore. By his will, dated 1 August 1558,²⁵ he made his brothers, Robert Moore and Geoffrey Moore, his joint executors.

Conveyance of Moore's Farm, Bolnhurst to Robert Moore had taken place on 3 August 1557, and the next two decades suggest both stability and increasing wealth for this family as for their Bolnhurst neighbours, the Francklins.²⁶ Robert Moore certainly seems to have been a fairly successful farmer of his age. He left ample evidence of

his wealth and prosperity in his will made 31 May 1584 and proved in the Prerogative Court of Canterbury on 29 October 1584.²⁷ Robert Moore had been able to send a son, Richard, to the University of Cambridge. This son is mentioned first in the will, and in the absence of a son named Robert may have been the eldest son. Bequests to Richard Moore were specific: a silver goblet with a parcel gilt cover, a silver salt with a gilt cover, a dozen silver spoons, and two gold rings, which — since they are specifically recorded as “my two gold rings” — may be presumed to be the only ones that Robert Moore possessed. Richard Moore was also left bedding: the will speaks of “my best bedstead with the trundle bed in the parlour, my best feather bed, my best mattress, with bolsters, pillows, and pillowbiers of the best, two pairs of my best sheets, my two best blankets, my best coverlet, and my best curtains”. Richard Moore was also left “at his chambers in Cambridge” a choice of cattle or their monetary equivalent: “two kine worth £4 or £4 in money and a nag worth 4 marks [£2.13s 4d] or 4 marks in money”. A specific monetary bequest of £12 completed Robert Moore’s gifts to his son.

Each of four other sons received a separate farm. Geoffrey Moore was left a messuage and lands in Roxton, Colesdon, and Great Barford in the several tenures of John Swansone, James Child, and others. Another son, Stephen Moore, was left a messuage and pigtle in Ravensden, called Copes Pigtle, which by its name suggests a small piece of land. A completely separate farm had been purchased by Robert Moore from Robert Purslowe of Tydlowe, Derbyshire, for another son, John Moore. This farm at Colesdon, Roxton, Chawston, and Wilden was let to Thomas Loggesden in 1584. These three parcels of land were each separate from the holding built up by Robert Moore in Bolnhurst and bequeathed by him to his wife, Amy, and his son William Moore, who received also rights of contingent remainder, except if he married without the consent of his mother and an uncle, Geoffrey Moore, who was one of Robert Moore’s executors.

Two points emerge from the will of Robert Moore: he was a man who had done well for himself and he was a man who sought to provide separately for each of his male children.

When he made his will he was “weak in body”, but his age is not known. In the absence of the parish registers of both Colmworth and Bolnhurst prior to 1605 and 1602 respectively,²⁸ not even intelligent guesses can be made about a



Fig 1 Crowhill Farm, Bolnhurst, and other published vernacular buildings in Bedfordshire.

Crowhill Farm, Bolnhurst: this paper.

General Survey: Eaton Socon (now Staploe) and Threligh, *Beds. Arch. J.*, 4, 1969, 43-68.

Cruck-Frame Buildings: *Beds. Arch. J.*, 11, 1976, 51-68; *Beds. Arch. J.*, 12, 1977, 55-56.

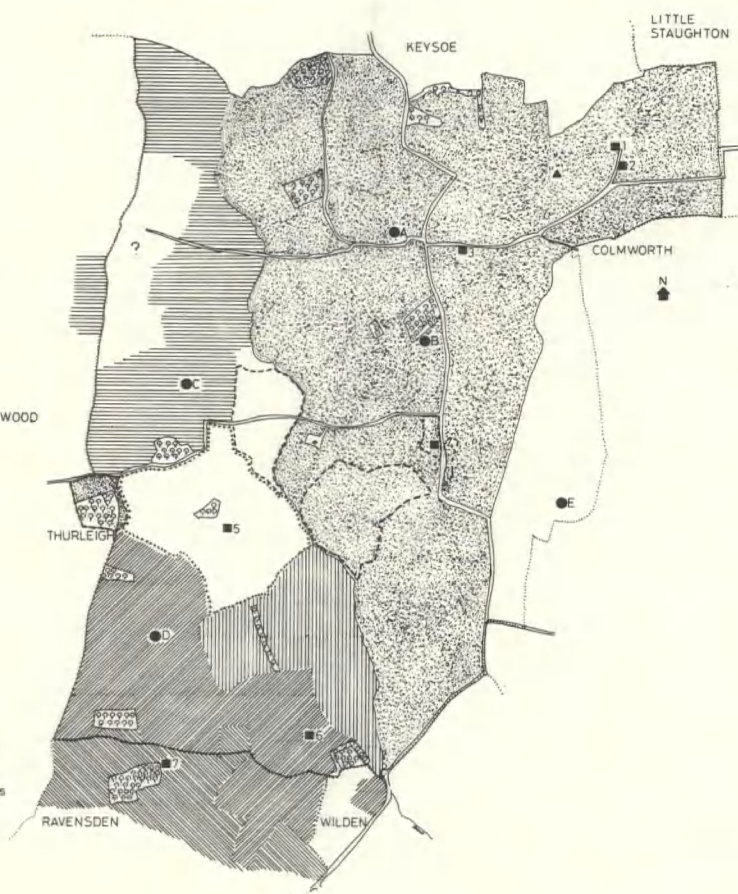
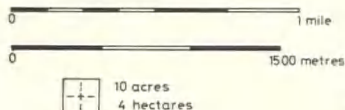
Other Buildings: Cumberland Street, Luton, *Beds. Arch. J.*, 8, 1973, 127-130; Peddar's House, Luton, *Beds. Arch. J.*, 7, 1972, 73-77; Calcutt Farm, Houghton Regis, *Beds. Arch. J.*, 10, 1975, 53-63; Tyrrells End, Eversholt, *Architect. Rev.*, 144, 1968, 138-140; Lower Roxhill Farm, Marston Moretaine, *Beds. Arch. J.*, 12, 1977, 99-106; The Moot Hall, Elstow, *The Moot Hall, Elstow*, 1969, 5-8; Box End Farmhouse, Kempston, *Beds. Arch. J.*, 12, 1977, 95-96; The Chantry House, Tempsford, *Beds. Arch. J.*, 8, 1973, 123-126; Rowe's Cottage, Little Barford, *Beds. Arch. J.*, 12, 1977, 85-98.

BOLNHURST IN 1575

BUILDINGS AND LANDOWNERSHIP

- PARISH CHURCH OF ST DUNSTAN
- MOATED SITE
- LATE MEDIEVAL HOUSE
- ▲ SITE OF MILL
- 999 WOOD
- MODERN PARISH BOUNDARY

- BOLNHURST MANOR
ST JOHN 1541-1640
- GREENSBURY FARM
JULYAN alias TAYLOR 1579
- BACKNOE END
ownership not traced
- BROOK END FARM
ownership unknown before 1703
FRANCKLIN 1852
- MAVDURN AND BLACKLANDS
FRANCKLIN 1573
(leased from 1539)
- CHURCH FIELD
FRANCKLIN 1583
- SPENCERS CLOSE AND SPENCERS WOOD
FRANCKLIN 1583
- BRAVES FARM
(Building now The Old Plough)
FRANCKLIN 1583-1640
Open Field Land shown by
Post-Enclosure Allotment
FRANCKLIN 1852
- TILWICK FARM RAVENSDEN
FRANCKLIN 1589
(leased from 1529)
- MOORES FARM
RICHARD MOORE 1541-1547
ROBERT MOORE 1557-1584
(in occupation from 1548)
Land includes Highoms Closes
leased by Robert Moore 1578
FRANCKLIN 1592/1597



man buried in the churchyard at Bolnhurst in 1584 but who may have married in Colmworth church earlier in the century. All that can be noted is that Robert Moore's will implies that his son, Geoffrey, was not aged 30 in 1584, and that his son, John, had not yet reached the age of 25. If the order of names in the will is the order of their births, then it may be presumed that his eldest son, Richard, was perhaps born in the early 1550s and that Robert and Amy Moore had married in the late 1540s. It is probable that Moore's Farm was in the tenure of Robert Moore from about 1548.²⁹

Yet although Robert Moore was a successful yeoman of the late sixteenth century, he did not achieve the status of a gentleman, unlike his neighbour John Francklin.³⁰ And towards the end of his life he seems to have become increasingly unable to farm all his lands. A small portion of

his lands were leased from George Francklin of the Middle Temple and John Francklin of Thurleigh: the lease for 10½ acres in Church Field and Coppridge Field had been drawn up on 13 May 1580.³¹ Another portion of land, once leased by Robert Moore, namely Highoms Close, had been leased to George Francklin on 30 June 1578. The freehold was later granted to this rising lawyer on 5 March 1580, combining this with a separate parcel of land in Highoms Close, first rented on 25 March 1576 from Roger Grendon of Great Barford, gentleman, and Kenverick Davies of Shefford.³²

George Francklin already had more than a toe-hold in the lands of Moore's Farm, and whilst Amy Moore seems to have tried to continue farming the lands after her husband's death the burden of doing so may have proved too great for

Fig 2 (opposite) Bolnhurst in 1575 Buildings and Landownership in a north Bedfordshire parish.

Sources

Parish Church, Moated Sites, Late Medieval Houses, personal fieldwork by D.H.K. and T.P.S.
 Woods; personal fieldwork, Bolnhurst enclosure map, B.C.R.O., map BS 907 (of c. 1777).
 Modern parish boundary, Ordnance Survey six-inch map. The former parish excluded Cherry Orchard Farm, marked as 'E'.
 Bolnhurst Manor, St. John, 1541: *V.C.H. Beds.*, III, 1912, 124.
 Greensbury Farm, Julyan alias Taylor 1579/1583, B.C.R.O., FN 87-89: lands traced from sale catalogues B.C.R.O., BS 188 (1812), BS 199 (1843),
 Brook End Farm, Francklin 1852, B.C.R.O., FN 136; earlier documents B.C.R.O., BS 466 (Abstract of Title, 1703-1833), FN 122-134 (1810-1852).
 Mavourn and Blacklands, Francklin, 1573, B.C.R.O., FN 85-86, with lease 1539, B.C.R.O., FN 82.
 Church Field and Spencer's Close, Francklin, 1583, B.C.R.O., FN 109.
 Brayes Farm, Francklin 1583-1640, B.C.R.O., FN 109-111; repurchase of Open Field land, 1852, B.C.R.O., FN 136.
 Tilwick Farm, Ravensden, Francklin, 1589, B.C.R.O., FN 169-175, lease to Francklin, 1529, B.C.R.O., FN 164.
 Moore's Farm, Richard Moore, 1541-1547, B.C.R.O., FN 58-60; Robert Moore, 1557-1584, B.C.R.O., FN 64 and FN 1248, pp 792-796; Francklin, 1592/1597, B.C.R.O., FN 67-72.
 Highoms Closes, B.C.R.O., FN 104-107.

Key to Sites

A Bolnhurst Manor	now Manor Farm	house of late 18th century
B Bolnhurst Rectory		house of mid-19th century
C Greensbury Manor (alias Grimsbury Manor)	now Greensbury Farm	house of mid-19th century
D Mavourn Manor	now Mavourn Farm	house of late 17th century
E Cherry Orchard Farm		house of mid-19th century

Late Medieval Houses

- 1 Wood End Farm
- 2 Elm Tree Farm
- 3 Little Farm
- 4 'The Old Plough' public house
- 5 Crowhill Farm
- 6 Blacklands farm
- 7 Tilwick Farm, Ravensden

formerly the Parish Workhouse
(in 1777)

formerly Brayes Farm
formerly Moore's Farm

Two other *possible* late-medieval houses are

a. Turnpike Farm: at north-east corner of cross-roads opposite 'A'

b. Brook End Farm: in north-east corner of lands so marked, adjacent to Bolnhurst Brook.

This map may also be read as "Bolnhurst in 1475: buildings and landownership".

The buildings remain as given; the landownership may be read:

Bolnhurst Manor	Thorney Abbey	from 10th century
Greensbury Manor	Chantry of	
Mavourn and Blacklands	Pleshey, Essex	from an unknown date
Other messuages	ownership unknown	

her slender resources. On 5 April 1592 she resigned her rights in favour of her son, William Moore,³³ a similar quitclaim was issued by Richard Moore of Cambridge two days later.³⁴ On 6 April 1592 George Francklin purchased the lands of Moore's Farm from William Moore for £800.³⁵ The lands purchased were a garden, an orchard, 60 acres land, 8 acres meadow, 40 acres pasture, 2 acres woodland. Of the purchase price, £40 was

retained until 10 April 1597 and the final £140 not paid over until 30 April 1597.³⁶

The tenurial situation at the onset of the seventeenth century is uncertain; it may be that the house was unoccupied. But by 30 November 1634 Moore's Farm was in the tenure of John Gale at an annual rent of £30.³⁷ He probably took up the tenancy at about the time of his marriage to Ellen Harley on 28 June 1610: his children were bap-

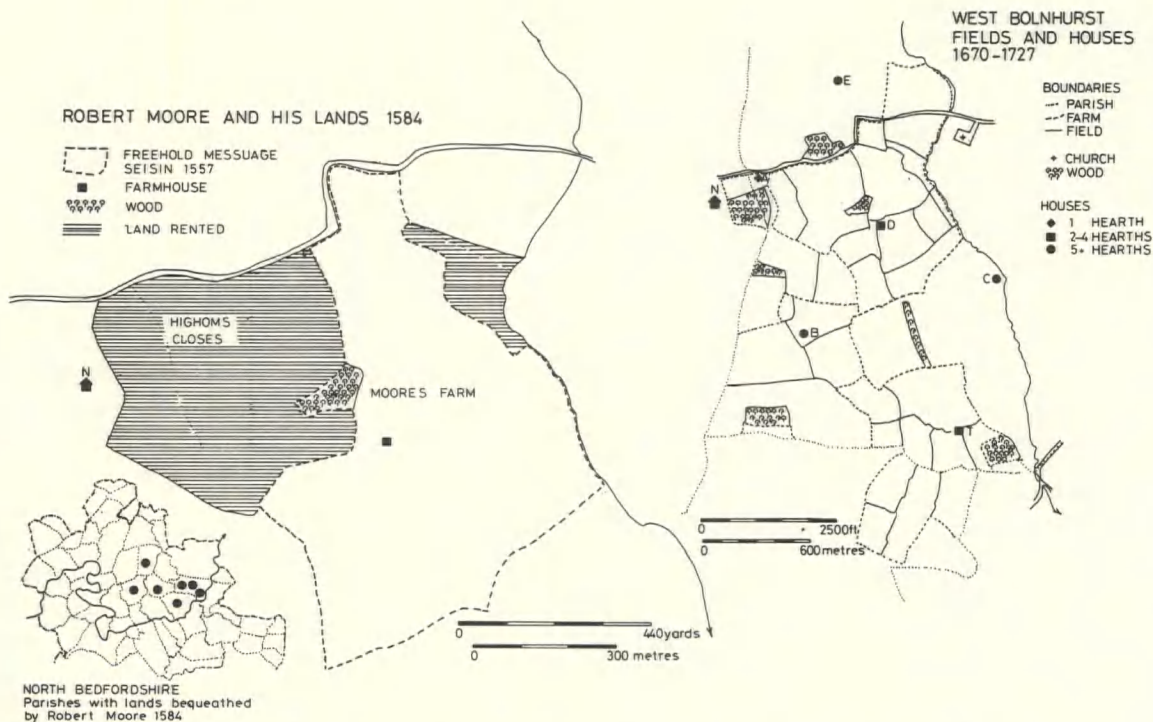


Fig 3 The Context of Moore's Farm Bolnhurst, in the late-sixteenth to early-eighteenth centuries. Robert Moore and his lands, 1584.

Source

Will of Robert Moore, P.C.C. will Watson 31, transcript in B.C.R.O., FN 1248, pp. 792-796, with lease B.C.R.O., FN 106.

By his will Robert Moore held individual parcels of land in Bolnhurst, Ravensden, Wilden and Great Barford, and three parcels in Roxton, Chawston and Colesden; the last-named being hamlets of Roxton.

West Bolnhurst: Fields and Houses, 1670-1727

Sources

Houses: Hearth Tax, 1671, printed *B.H.R.S.* 16, 1934, 134-135.

Fields: Francklin leases, B.C.R.O., FN 74, Moore's Farm, 1679; FN 94, Spencer's Farm, 1696; FN 95, Mavourn Farm, 1702; FN 98, Spencer's Farm, 1714; FN 120, Blacklands Farm, 1714. These have field names to be compared with Valuation of 1821, B.C.R.O., FN 1002, and map of 1858, B.C.R.O., map FN 1018.

General sources for correlations: Francklin estate rentals, B.C.R.O., FN 1248, pp. 733-739, George Francklin, early 1650s; FN 1000, transcript FN 1248, pp. 740-747, William Francklin, before 1678; FN 996, transcript FN 1248, pp. 748-751, William Francklin, 1691.

Other sources: Will of Gilbert Tompkins, B.C.R.O., will ABP/W 1696/69.

Key to Houses:

Number	Occupier, 1671	Hearths	Notes	
A	Robert Luffe	1	Spencer's Farm, 1650s and before 1678	70ac rent £36 in 1670s
B	Richard Parker	11	Mabourn Farm, before 1678	188ac rent £69 in 1670s
C	William Lavender	5	Brook End Farm	
D	William Cobb	3 (should be 4)	Moore's Farm, before 1678 probably from 1657.	170ac rent £82 in 1670s
E	Gilbert Tompkins	7	Greensbury Farm	
T	Alexander Newham	4	Blacklands farm, early 1670s Early 1650s farm let to Thomas Newman, but before 1678 let to John King	160ac rent £65 in 1670s.

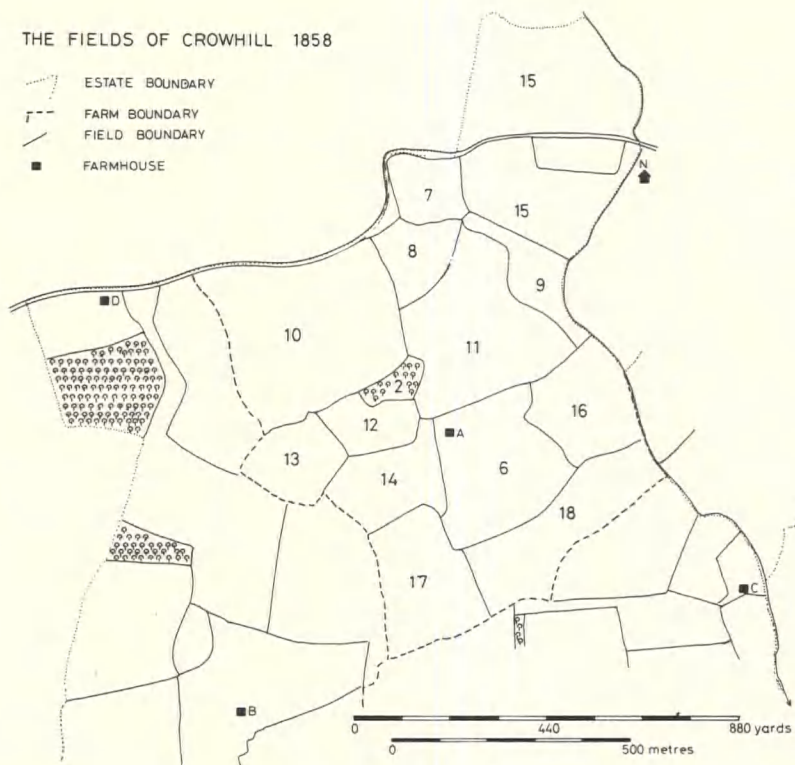


Fig 4 The Fields of Crowhill in 1858.

Re-drawn from the northern portion of estate map of the Francklin Estate in Bolnhurst, Ravensden and Thurleigh, B.C.R.O., map FN 1018.

Other Sources

Mortgage of Moore's Farm, 7 July 1679, B.C.R.O., FN 74.

Valuation of Francklin Estate at Bolnhurst, July 1821, B.C.R.O., FN 1002.

tised at St Dunstan's Church, Bolnhurst between 1611 and 1625.³⁸ He probably remained tenant until his death: John Gale, farmer, was buried on 15 January 1656/7. An undated document which must belong to the early 1650s notes a John Gale as tenant at an annual rent of £138. 12s Od.³⁹

The tenurial history of Moore's Farm in the second half of the century seems fairly clear, if not precisely documented. However, the position immediately after John Gale's tenancy is uncertain. But a number of documents of the late 1670s make it clear that the farm was then occupied by William Cobb, husbandman. He is definitely recorded in a mortgage of 7 July 1679 as late in the occupation⁴⁰ but had been resident on 10 March 1678/9.⁴¹ In a rental of before 1678⁴² his rent is noted as £82. 0s. Od. *per annum*, having once been £109. 1s. Od. In the Hearth Tax returns for 1671 a William Cobb is found occupying a house of three

hearths,⁴³ and if this were the house at Moore's Farm it suggests either that the collectors assessed the number of hearths by counting chimneys or that they examined only the ground-floor of the building, in either case missing the fireplace in the upstairs wing (*vide infra*).

A William Cobb was buried at Ravensden on 2 September 1682, and his widow, Ann Cobb, was buried in the same churchyard on 24 October 1700.⁷⁷ If this William Cobb had indeed been the tenant of Moore's Farm, then the will of the Cobb buried at Ravensden,⁴⁵ with its detailed bequests to his daughter, may be taken as evidence for the furnishings of the building at the end of the seventeenth century. To his daughter, Judith, William Cobb bequeathed £20, plus a joined bed, with trundle bed, a feather bolster, two feather pillows, a red and yellow coverlet, two white blankets, together with red curtains and valances, all of which

were noted by William Cobb to be "in the chamber where I now lie"; the same chamber also contained a hanging cupboard, a round folding table, "one great brass kettle holding about 24 gallons", a little brass pot, three pewter dishes marked "W J C" (for 'William and Judith Cobb'), two pairs of sheets (one linen and the other hemp), two pillow cases (one of Holland duck and the other of flaxen cloth), a flaxen tablecloth and a dozen flaxen napkins, a warming-pan, and three wrought joined shovels. In the hall of the house — a general room, not an entrance lobby — there stood a table with a new leaf. Another room, adjacent to the chamber where William Cobb wrote his will on 27 August 1682, contained a joined and carved chair, and his own room included a great wainscot covered chest.

The will was made a mere five days before the recorded funeral of William Cobb, and if the assumption be correct that all three documents — the rental in the Francklin muniments, the entry in the Ravensden parish register, and the will proved in the Archdeacon's Court at Bedford — refer to the same man, then his tenure of Moore's Farm may be suggested as having run from the 1660s until 1679.

William Cobb seems to have been followed as tenant of the farm by John King. A lease granted to the next tenant, John Marlin, by Sir John Francklin describes the farm as "late in the occupation of John King". A John King died in the winter of 1694, and it seems probable that the lease granted to John Marlin on 20 March 1694/95⁴⁶ was to replace a tenant who had died in the previous winter: John King's will was proved on 19 January 1694/5.⁴⁷ If the will be that of the Francklin tenant then it provides an interesting case of a man who owned property yet was only the tenant of the farm where he actually dwelled. Cottages at Little Staughton were bequeathed to his wife and one son, with another son receiving a farm at Renhold. The son, William King, who was left the property in Little Staughton was endowed also with 32 acres arable, 1½ acres meadow, and barns and stables, in addition to £40 to be paid when he reached the age of 21 and a further £10 as an apprenticeship premium. Another son, John King, received £60 and the great kettle; and a daughter, Mary King, was left the reversion rights to the cottage bequeathed to her mother, £30 with interest on reaching the age of 21 or on marriage, and a further 20s every half-year to the age of 41. These three children —

William, John, and Mary — shared the household goods at Bolnhurst except what their mother had brought with her on marriage; but the third son, Richard King, received only the stock, crops, utensils of husbandry, and household goods on the Renhold farm which he was bequeathed.

Unfortunately, it is not possible to ascertain the length of John King's tenure. A John King is mentioned as tenant of Hill Farm in the 1691 rental of William Francklin, but no Moore's Farm is mentioned in this document; it is possible that the name of the holding, held at a rent of £90 *per annum*, may have been changed temporarily.⁴⁸

The lease granted to John Marlin, however, was for six years at £90 *per annum* for Moore's Farm; a new tenant, John Maxey, paid the same rent both in a lease granted for nine years on 7 March 1700/01 and again for twenty-one years in 1710.⁴¹ This John Maxey may be presumed to be identical with John Maxey, farmer, buried 18 August 1723, whose will was proved on 7 October 1723.⁵⁰ His wife, Elizabeth Maxey, was left the household goods and two closes in Bletsoe, the reversion rights of which were endowed upon his son, John Maxey. Like his brothers, James Maxey and William Maxey, John Maxey was left 20s by his father; but their sister, Elizabeth Wyatt, was bequeathed £17. It seems as if the three sons mentioned had already been set up by their father and that the daughter — who has another connexion with Bolnhurst, at Brook End Farm⁵¹ — was left a final bequest. A fourth son, Neil Maxey, was left sheep and a sheep run, and the fifth son, Samuel Maxey, was bequeathed all his father's personal estate.

John Maxey had described himself as "husbandman", the same designation as the Francklins gave William Cobb. John Maxey's son Samuel may have taken over his father's tenancy. Moore's Farm is not mentioned in the 1731 marriage settlement of the Francklin family,⁵² but Samuel Maxey is noted in that of 1759.⁵³ In that year he was also farming Blacklands Farm,⁵⁴ another of the Francklin farms in Bolnhurst, and he presumably remained as tenant of both farms until his death in 1764; he was buried on 6 November 1764.

The precise history of Moore's Farm in the later eighteenth century is not clear. After Samuel Maxey's death the next recorded tenant is Richard Kilpin, mentioned in the Land Tax assessment of 1783:⁵⁵ he was also farming the adjacent Mavourn Farm. However, it seems likely that Kilpin became tenant of Moore's Farm on Maxey's death. Richard Kilpin and his wife Elizabeth had four

children baptised at Thurleigh between 1755 and 1759, and four children baptised at Bolnhurst between 1762 and 1768.⁵⁶ Certainly Richard Kilpin was tenant of Moore's Farm from 1783 until his death in 1805 at the age of 81; but he had relinquished the tenancy of Mavourn to his younger son, Thomas Kilpin, some time between 1783 and 1797, probably at Michaelmas (29 September) 1787, four days after Thomas Kilpin's first marriage, to Alice Dawes. In July 1803 Richard Kilpin was regarded as tenant: he promised to supply one cart, three horses, and a driver to the government if required for the defence of the realm.⁵⁷ If these were all the horses he owned, then the number is far short of Thomas Batchelor's seven for a farm of 150 acres.⁵⁸ Richard Kilpin was not a wealthy man when he died. His assets at probate were noted to be less than £300, of which £50 was bequeathed to each of his daughters, Mary Marshall and Elizabeth Markham, and £20 to the younger son, Thomas Kilpin. These, however, were not to be paid until after the death of Richard Kilpin's sister, Martha Kilpin, who received £12. 10s. 0d. *per annum* from her brother's will.⁵⁹

On his father's death, William Kilpin took over the tenancy of Moore's Farm.⁶⁰ He was the elder son, and residual legatee of his father, and might well have been associated in the running of the farm for some years previous. He remained tenant until 1822. Moore's Farm was the largest of the farms traditionally in use on the Francklin estate, when the estate was valued, this farm was let, to William Kilpin, for £117. 6s. 5d. *per annum*. He had 178 acres 1 rood 26 poles of land.⁶¹

In the Land Tax returns of 1823 John Green is recorded,⁶² and his family retained tenure of Moore's Farm throughout much of the nineteenth century. The map of the Francklin estate made in 1858⁶³ notes a Samuel Green as tenant, and this man is recorded in directories from 1847 to 1885,⁶⁴ which are probably the limits of his tenure. His father John Green is last recorded in the indictment of 1839-40⁶⁵ and his mother Ann Green is noted as the farmer and head of the household in the Census Enumerators' Book of 1841.⁶⁶ Samuel Green does not become head of the house until the 1851 census, wherein he is recorded as "a farmer occupying 177 acres, employing 4 labourers"; aged 30, he was then married with a two-month-old son.⁶⁷

In 1841 Ann Green, three adult sons, and a ten-year-old daughter lived in Crowhill, together with

Ann Maritt (probably Ann Green's mother), one female servant, two male servants, and two agricultural labourers. This total of eleven people was the maximum number of recorded inhabitants for the mid-nineteenth century. In 1851 Samuel Green, his wife and one child lived at Crowhill with his mother and unmarried brother, a farm servant, and a house servant. A decade later two farm servants and a house servant lived-in,⁶⁸ but in 1871 only four people lived in the house: Samuel Green and his wife, a general servant (female), and an agricultural labourer described as a "lodge".⁶⁹ The exact date of Green's death has not been traced, but the 1890 directory records William Waldock as tenant.⁷⁰

The directory of 1894 records a further change in the tenancy. Thomas Shepherd, bailiff to John Leill Francklin, is recorded at the farm, and he remains until 1906, when William Farrar is also recorded at Crowhill, suggesting that the tenancy-change was taking place as the directory was being compiled in November 1906.⁷¹ William Farrar is noted in directories until 1931; in 1936 and 1940, however, the tenant was Frank Thomas Holley. In 1944 he farmed 182.747 acres at an annual rent of £110. 10s. 0d. Like his predecessors he remained a Francklin tenant; but on 6 May 1944 the farm was purchased at auction by George Pell,⁷² in whose family it remains, though the house has long been unoccupied.

THE BUILDING: LOCATION AND SITE

Crowhill Farm (TL 076582) lies within the parish of Bolnhurst, Bedfordshire, half a mile (0.7km) south-west of the parish church, immediately south of the road from Thurleigh to St Neots, and three quarters of a mile (1.2km) west of the Kimbolton-Bedford turnpike road of 1795 (now the B660). It stands at 235ft (70.5m) O.D., on a slight eminence between the shallow valleys of two roughly parallel streams which later become confluent and form a minor tributary (South Brook) to the River Great Ouse. These streams help to drain the wettish soil of the area, of which the geological basis is Oxford Clay. It was probably to aid in drainage that the Crowhill site was provided with a series of ponds, connected by drainage ditches to the small streams (fig 5); similar considerations may explain the moats which occur at the neighbouring Greensbury Farm and Mavourn Farm (respectively [C and D] on fig 2). The disposition and form of the Crowhill features however, makes it unlikely that these ever formed

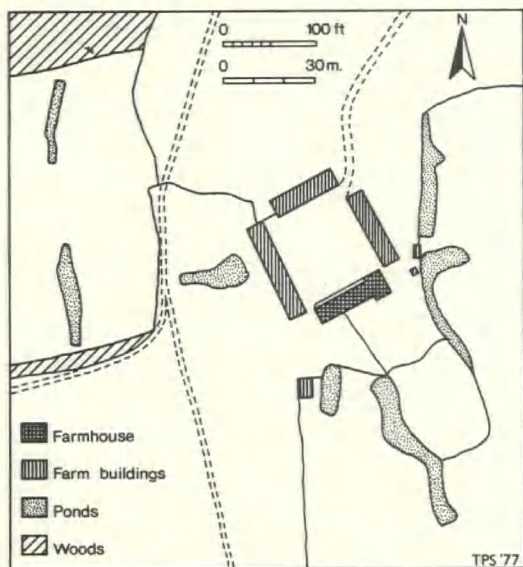


Fig 5 The immediate location of the farmhouse and farm buildings at Crowhill Farm, Bolnhurst.

a moated enclosure.

The area is — and was — one of mixed farming the conveyance of 1541 (*supra*) gives acreages in the following proportions: arable 64.1%; pasture 25.6% meadow 6.4%; woodland 3.8%; indicating a mixed farming economy with something of a concentration on arable. The quite high percentage of meadowland is a reflexion of the wettish nature of the area. The sparseness of woodland is as noticeable today as it would have been in the mid-sixteenth century.

Nevertheless, building timber was available not very far distant, and the Crowhill site is in an area in which timber-framed building was the norm at the vernacular level⁷³ until the wholesale introduction of brick during the nineteenth century, when a number of brickyards were opened on the superficial deposits overlying the Oxford Clay in some of the adjoining parishes.⁷⁴ Clay-walled buildings, however, are not unknown, one of the best examples being the now derelict Southfields (TL 087576). The situation is thus exactly similar to that in the parish of Thurleigh, next adjoining to the west. In the next parish westwards — Milton Ernest — the inferior oolite occurs and the predominant material for vernacular building changes, quite suddenly, to stone.⁷⁵

The farmhouse at Crowhill forms the south side of a more or less square farmyard with nineteenth-

and early twentieth-century farm buildings, of timber on brick footings, ranged along the other sides (fig 5). The farmhouse side is now raised somewhat above the level of the farmyard and the other buildings (fig 7). The yard contains at least three wells, no longer open.

THE BUILDING: PLAN AND DESIGN (pl. 1)

Crowhill is a T-shaped house with the long arm of the 'T' oriented roughly east-west and with the cross-wing at the east (figs 6 and 7). It is now of two storeys throughout, although the central portion of the long range is clearly an originally open hall into which a floor has subsequently been inserted (figs 6 and 8). Two bays of this hall remain, although the western half of the western bay is occupied by a large fireplace and its stack. The latter is built up within an earlier smoke-bay in the same position, the wattle-filled panels of which still remain. The smoke-bay and subsequent stack do not occupy the northernmost portion of the half-bay (see fig 6), where there is a short passage into which the main doorway from outside opens. It seems virtually certain that the main entry was always here and that this half-bay originally formed the screens passage (*cf.* fig 6). Insertion of a fireplace in an original screens passage is, of course, a common enough phenomenon, exemplified in north Bedfordshire at the now demolished Payne's, Eaton Socon (Alcock's E2).⁷⁶ This end of the hall would thus have been the lower end. The two chimney shafts at the head of the stack (*infra*) indicate that at the time when the stack was inserted there was a further fireplace (just as there is now a later fireplace) backing with that facing into the former hall, and this in its turn indicates that there was at least one further structural bay westwards of the smoke-bay (figs 6 and 9). Probably this arrangement is primary, for one would expect the normal service-rooms beyond the original screens passage. No traces of this have survived the nineteenth-century rebuilding of this end of the building, although it may be significant that this replacement contains a kitchen and a large larder, thus probably continuing the original function of this end of the building. Possibly the original bay here was two-storeyed, with buttery, pantry, and kitchen on the ground-floor and a chamber at first-floor level.

The existing hall-truss (fig 6, B-B, and fig 8) consists of well-jowled principal posts carrying a markedly cambered though virtually uniform-scantling tie-beam, part of which at the southern

end has been cut away when a later doorway was inserted. The original arch-brace has also been removed from this side of the building, although its mortise is still visible in the principal post and the peg-hole for a corresponding joint in the tie-beam has been traced. The doorway cut through the tie-beam has a recent plank surround, but must nevertheless be an early feature, contemporary with the insertion of the floor. Had it been cut subsequently it is difficult to see why the whole of the arch-brace, rather than just its top portion, should have been removed. And indeed, a doorway would have been necessary to provide access to this small part of the building — unapproachable from the west because of the smoke-bay. The northern arch-brace is preserved intact and has a smooth though not a great curvature.

Above the tie-beam is a series of six not especially straight studs forming fairly wide panels. All but the outermost ones, which engage the rafters, rise to a collar placed about two-thirds the way up the roof. Between the top face of the collar and the rafter soffits are in-pitch side-purlins notched into the collar. Centrally above the collar is a single king-stud rising to the ridge; there is no ridge-piece. The whole of this roof-structure, which is typical of Bedfordshire post-medieval roofs, is presumably a replacement. A roof of this structure is unlikely over an open hall of this size and status, where a crown-post roof would be expected;⁷⁷ and indeed what *appears* to be a long unchamfered crown-post, together with a down-brace to the tie-beam, exists in the westernmost (extant) truss — between the hall and the presumed services.⁷⁸

Such an open hall would have been heated by the normal open hearth, and soot marks on the southern wall-plate and the southern most portion of the tie-beam — at a point beyond the later smoke bay — suggest that the hearth may have been placed off-centre towards the lower (western) end of the hall — at 'H' on figure 6. The fact that there is no such blackening on the rafters at this point lends further support to the contention that the present roof is a replacement.

The insertion of the floor into the hall would have made it impossible, of course, to continue using an open hearth, and the creation of the smoke-bay must certainly be contemporaneous with the flooring-over of the hall. An extra, well-cambered cross-beam was placed at the eastern end of the intended smoke-bay (thus dividing the lower bay of the hall into two) and the smoke-bay structure itself built up on this beam (fig 6). This

sort of modification of a hall-house, in which the smoke-bay continued, of course, to be 'open', is the sort of development to which Eric Swain drew attention and which resulted in what he calls a 'divided hall house'.⁷⁹ At Crowhill there was not the short gallery of the type which is often, though by no means invariably, associated with this sort of development.

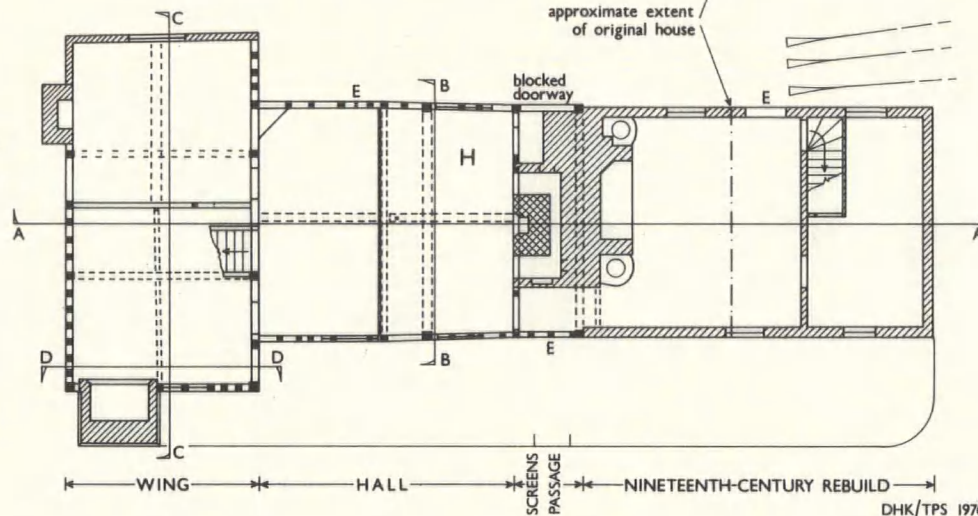
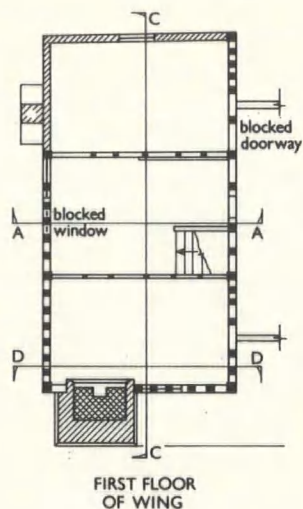
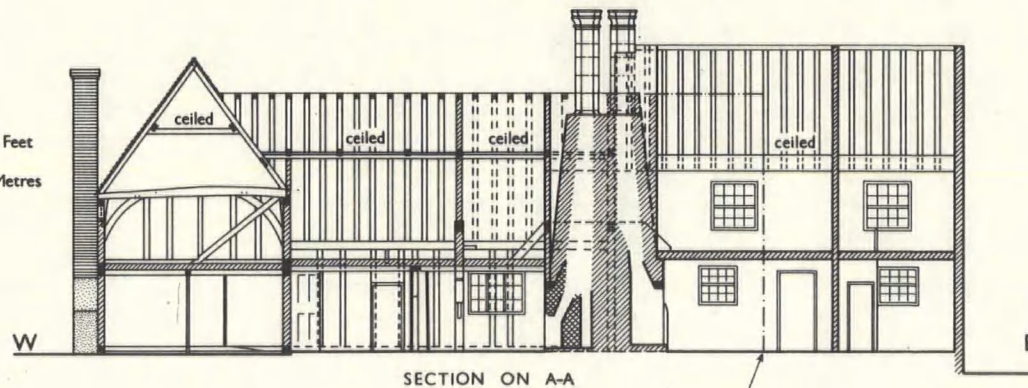
At a later stage a stone-built stack was built within the smoke-bay (fig 6), thus improving the building. The fireplace in the hall side of the stack has been much altered, whilst that on the other (west) side has been entirely rebuilt in much later brick. At its head the stack finishes in two fine octagonal chimney-shafts, linked at base and cap but otherwise separate; the caps are moulded (pl. 2).

There is no structural evidence, in the form of a tie-beam or mortises or peg-holes, that the eastern cross-wing was a later addition to the hall, and the two seem to be contemporary, as was the case at the demolished 115-117 Great North Road, Eaton Socon (Alcock's E1).⁸⁰ The wing still retains a great many of its original timbers, although the south wall was rebuilt in the late nineteenth century using standard-sized red brick (figs 6 and 7). The wing is of three structural bays, although the ground-floor has been modified in respect of its original lay-out. There are now two unequal-sized rooms, the larger, northern one containing a machine-cut staircase which runs up from west to east a little north of the centre of the wing. The original main joist between the northern and central bays remains, however; its underside shows no mortises for studs, so that presumably these two bays formed one large room. Whether the southern bay was separated off is not determinable since the original main joist, running between the principal posts which themselves remain, has been removed. The present room is larger than the original bay, and is almost square in plan. The wall separating the two (present) ground-floor rooms is of brick, possibly contemporary with the insertion of the present stair.

At first-floor level the original division into three bays is preserved, the central one now containing the staircase. Although many original floor-timbers remain throughout the wing they are insufficient to enable the original position of the stair to be deduced. The dividing walls are of fairly close-set studs, some of which are certainly late replacements although others appear to be fairly early though not necessarily primary. These walls have arch-braces, most of which show good

CROWHILL FARM BOLNHURST

0 20 Feet
0 6 Metres



DHK/TPS 1976

Fig 6 Plans and long section of the existing farmhouse at Crowhill Farm, Bolnhurst.
E Entrance
H Site of medieval hearth

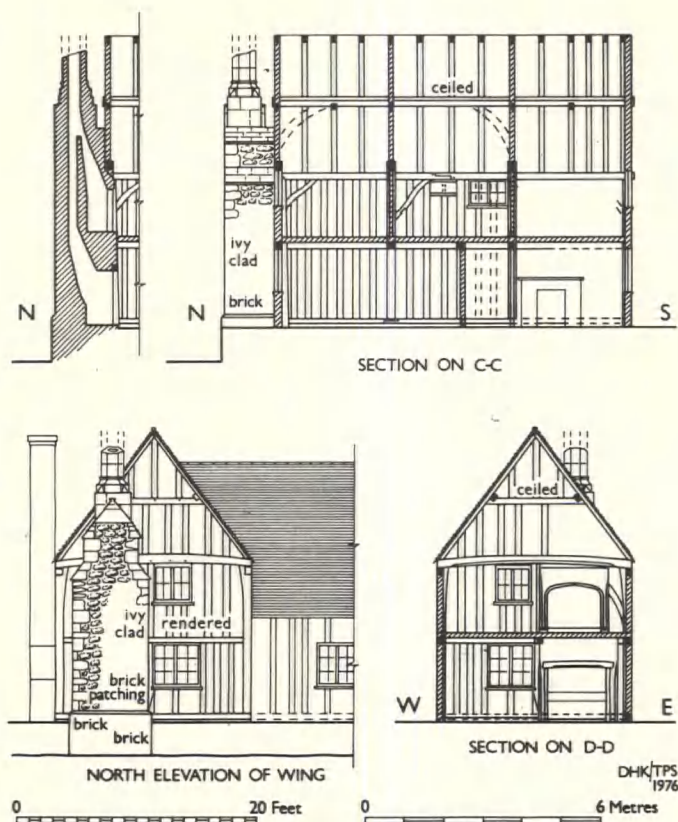


Fig 7 The wing of Crowhill Farm, Bolnhurst: sections and elevations; for location of the sections see plan, figure 6.

N.B. Windbraces (indicated by broken lines) are projected across from the opposite roof-slope.

curvatures; but most have been supplemented by more recent, functionally severe, straight tension-braces, added against rather than into the walls. Doorways in these walls may be in the positions of initial (not necessarily primary) doorways. A further doorway in the west side wall of the central bay is certainly later since its head cuts into the wall-plate scarf-joint. A now-blocked doorway in the same wall but within the southern bay also has its head cut from the underside of the wall-plate, but may be original; if so it may have formed the entry, *via* a ladder-like stair, from the hall to the wing. The central bay of the wing contains in its east wall, immediately beneath the wall-plate, a small, and now blocked, window.

The roof of the wing is of side-purlin construction, with the purlins set in-pitch and carried partly in notches cut from the upper faces of the collars which occur at all the principal trusses; the

southern bay has a further collar to the intermediate truss, and it is likely that this feature occurred within the other bays too, although the ceiling has prevented examination. There are two visible wind-braces running from principal rafters up to the side-purlin of the west roof-slope, and it seems likely that these occur (or occurred) in other bays of the roof too.⁸¹ They are well-curved and sturdy, and are obviously decorative as well as structural features, thus suggesting that the roof was originally open in each of the bays, although it is now ceiled at collar-level.

We have already noted that there is some evidence for an original crown-post roof over the hall; and we have also seen that wing and hall are probably contemporaneous. This implies that we have here within one and the same building programme the use of two very different roofing techniques — crown-post roof over the hall but side-purlin roof

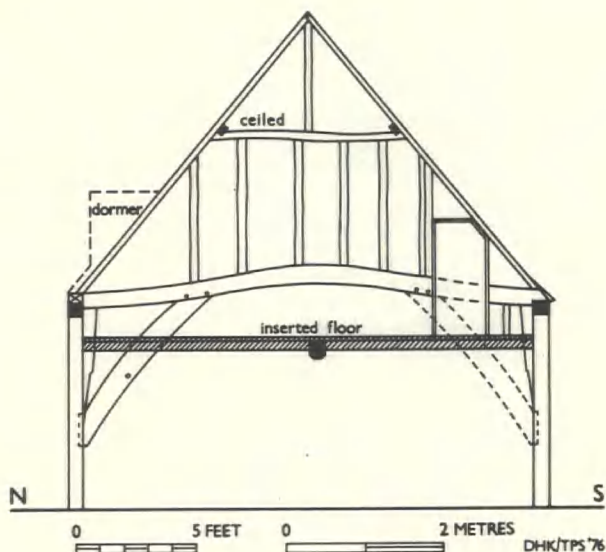


Fig 8 Section through hall of Crowhill Farm, Bolnhurst, on B-B showing open truss and inserted floor.

over the wing. This is perhaps uncommon, though not without parallel in north Bedfordshire.⁸²

The wing has two external chimney stacks. The larger is placed against the north side of the wing at the north-east angle and serves two fireplaces, one on each floor (figs 6 and 7). These fireplaces have stone jambs; the ground-floor fireplace has a timber lintel, though the first-floor fireplace has a four-centred arch-head of stone. The stonework of both fireplaces is somewhat crudely executed. The stack itself (pl. 1) is also stone-built, rises with one offset, and finishes with an octagonal stone chimney shaft; the topmost portion of this fell between two visits by the writers, but was similar to the shafts still preserved over the central stack of the main range. The fallen stones, though much disordered, permitted a paper reconstruction to be made (fig 10). The stack itself cuts the arch-brace at the east side of the wall against which it is built (fig 7, section on D-D), and so is clearly an addition, not a contemporary feature. The other external stack is against the east wall at the south-east angle and serves one fireplace in the ground-floor room. This stack is of both red and 'white' brick and much later than that just described.

At the west end of the main range the presumed original service bay has been entirely replaced and extended by a 'white' brick kitchen and larder. This has segmental arch-heads to the floorways

and windows. There is no independent access to the larder from outside, and no fenestration at all in the end wall. The south-east angle of the larder contains a stair, with a cupboard beneath it, the stair being entered through a doorway at the south-east angle of the adjoining kitchen. The rebuilt fireplace in the kitchen, which has two associated and contemporary brick-built coppers, is certainly contemporary with the rebuilding of this end of the range. At first-floor level there are two similarly-sized rooms; the eastern of these utilises the existing stack for an inserted fireplace. At this level the rebuilt block connects with the older hall block by means of a small passage along the southern side of the building and cut through the smoke-bay. In order to clear the stack the floor of this passage is raised considerably above the floors of the two blocks and is reached by steps up from each of these floors (fig 6, plan and section on A-A). The roof of the rebuilt block is ceiled; it is of standard nineteenth-century construction.

THE BUILDING: CONSTRUCTION

Apart from the rebuilt block at the western end, the rebuilt south wall of the wing, and the stacks, the building is, throughout its medieval and post-medieval phases, of timber-framed construction of box-frame type. Box-frame construction is hardly surprising in view of the loca-

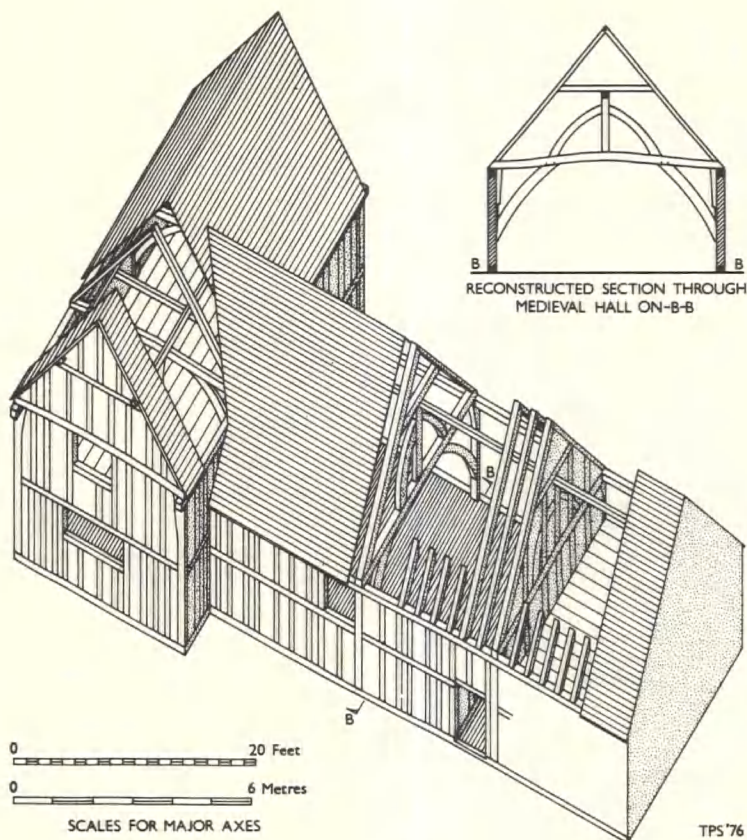


Fig 9 Suggested reconstruction (axonometric) of hall-house and wing (Phase I, late medieval) at Crowhill Farm, Bolnhurst.

N.B. Windows, shown as unfilled openings, are in conjectural positions.

The inset shows a reconstructed section through the medieval hall on B-B.

tion of Bolnhurst just beyond the eastern limit of cruck construction.⁸³ Construction throughout is in 'normal assembly', that is to say with the tie-beams fixed *over* the wall-plates; and the scantling of the timbers is good. All tie-beams are well-cambered and of more or less uniform scantling throughout their lengths. All principal posts have the usual jowls at their heads, to accommodate the necessary joints, although those of the open truss in the hall (fig 8) are rather more pronounced than those of the wing and have a marked 'step' at their feet. Within the hall it was not possible, because of internal plastering and external rendering or brick encasing, to examine the framing in any detail; but at one point in the south wall where a principal post and two consecutive studs could be seen the framing is of fairly close-studding, with panels about 18in wide,

and this feature of the building was confirmed by tracing a number of the peg-holes in the hall wall-plates; panels of such a width have already been recorded by Alcock and Addyman in two north Bedfordshire houses of late medieval date — Ford House and the demolished 115-117 Great North Road, Eaton Socon.⁸⁴ The studding between tie-beam and collar of the open truss is just a little wider in its spacing; and the studs of the east side of the inserted smoke-bay are similar. Within the wing the walls show 'classic' close-studding, with the panels only about 10in wide. This must have made the wing an impressive feature of the building. Such construction is not the norm anywhere in Bedfordshire, where wide-panel framing was the rule,⁸⁵ although some examples are known: Tyrrells End, Eversholt;⁸⁶ Lanctonbury, Totternhoe;⁸⁷ the timber-

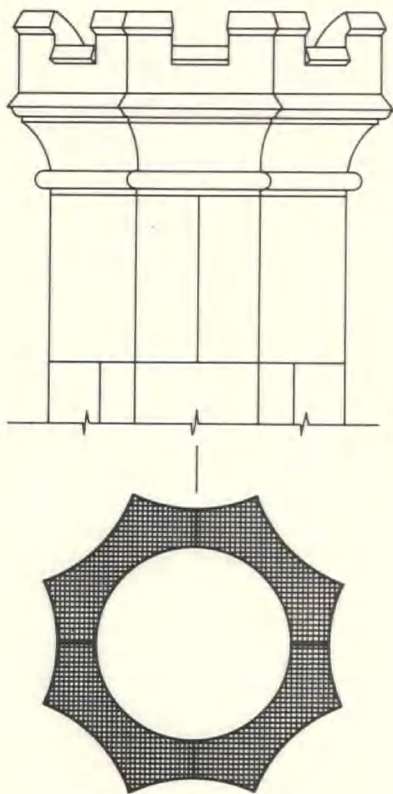


Fig 10 Exterior stack, chimney shaft: plan of shaft and elevation of cap. (scale $\frac{1}{16}$)
For elevation of full shaft of wing chimney see plate 2a.

framed porch of Flitwick church;⁸⁸ and formerly at the Chantry House, Tempsford,⁸⁹ and at Calcutt Farm, Houghton Regis.⁹⁰

Bracing is of arch-brace type, not only where the context demands it as in the open truss of the hall, but also in the walls of the wing in association with very close-studding; this represents a departure from the close association of close-studding with tension-bracing noted by J.T. Smith⁹¹ but has parallels: for example at Tyrrells End, Eversholt⁹² and at Church House, Husborne Crawley.⁹³ At least in the wing the arch-braces are recessed behind the outer wall-face, so that they are not visible externally, as at Tyrrells End.⁹⁴ as well as in a number of Hertfordshire buildings.⁹⁵ The arch-braces are generally smoothly curved, although some in the partition walls of the wing are 'wany'. Tension-braces occur only as secondary features within the wing, either replac-

ing or, more frequently, supplementing the original arch-braces. The tension-braces are straight, severely functional, decidedly decadent, and certainly late.

Wherever it is visible the original panel infilling is of wattles, not laths, though the latter form of infill is certainly known within the area — for example, in a barn in the grounds of Romp Hall, Thurleigh.⁹⁶ An especially good example of the Crowhill wattle has been viewed, through a small hole, in the inner face of the smoke-bay. The vertical wattles are held in holes in the undersides of the horizontal timbers, and presumably in the usual grooves in the upper faces of the horizontals; where the sides of the studs could be studied they showed no grooves for holding the ends of the wattles; with panels as narrow as those occurring at Crowhill these were not necessary since the horizontal wattles could simply be sprung against the stud sides (fig 11). In the wing the studs are so close that the horizontal wattles have even been dispensed with, and the infilling consists simply of verticals with the daub applied to them. In a number of places the original infilling has been replaced by brick nogging, as at the Moot Hall, Elstow;⁹⁷ in places, notably in the east wall of the wing at ground-floor level, the bricks are arranged in rat-trap bond, a feature already recorded elsewhere in the county.⁹⁸ At some time the principal north-facing walls of the building have been rendered, possibly as a weather protection, although the opportunity was taken to 'improve' the building's appearance by incising the rendering to resemble fine ashlar.⁹⁹ The walls of the western rebuilding and extension are of 'white' bricks of standard size, many of which show a mould-fault. Elsewhere on the building refacing in red brick of standard size has taken place on a number of walls.

Windows are invariably replacements, although the outline of an original window is preserved in the centre of the east wall of the wing. This is small and horizontal, placed immediately beneath the wall-plate, which indeed forms the window head; such windows are recorded in a late medieval context at the demolished 115-117 Great North Road, Eaton Socon,¹⁰⁰ and in a sixteenth-century context at Tyrrells End, Eversholt,¹⁰¹ and at Gannock's House, Tempsford.¹⁰² The inserted/replacement windows, including those in the dormers of the former hall range, are mostly of horizontally sliding-sash type, though there are a few side-hung casements; in the rebuilt western end the principal windows are vertical sashes,

though the minor windows, in the larder, are side-hung casements. Doorways too are mostly replacements, although, as noted above, there is reason to think that the north doorway is in the place of the original screens passage entry; a single timber in the opposite, south, wall probably represents one side of the doorway to be expected at the other end of the screens passage. It has already been mentioned that the blocked doorway towards the southern end of the west wall of the wing, with its simple square head cut from the underside of the wall-plate, may be original. It has been suggested too that the doorway cut through the tie-beam of the open truss must date from the insertion of the floor and the smoke-bay; cutting this doorway would seriously have weakened the structure, though this effect has been compensated for to some extent by the addition of a cross-beam, 7ft (2.1m) from the first, as part of the smoke-bay structure. (Original and probably original entrances are marked with an 'E' in figure 6).

The smoke-bay is of stud and wattle construction, although the inner faces of its walls are not plastered. The fireplaces within the stack which was later inserted into the smoke-bay have been much altered (on the east) or completely rebuilt (on the west), so that constructional details are not available. The fireplaces in the wing are of stone, although the ground-floor fireplace has a timber lintel. The stack itself is of roughly coursed inferior oolitic limestone, easily available further west, along the Great Ouse valley; the quoins, offsets, and the chimney shafts themselves, however, are of better quality dressed stone which must have been brought from further afield.¹⁰³ The shafts themselves show not inconsiderable stereotomic skill and are fully appropriate to architecture proper.

The roof structures have already been described. With their purlins set in-pitch and partly notched into the collars, the roofs are of a form which was well nigh universal in post-medieval timber-framed buildings within the county.¹⁰⁴ Wind-braces are by no means a universal feature of the Bedfordshire roofs, but occur in the wing at Crowhill, and also at the Moot Hall, Elstow;¹⁰⁵ Tyrrells End, Eversholt;¹⁰⁶ a derelict building at the southern end of Harlington;¹⁰⁷ 10, Park Street, Luton,¹⁰⁸ and formerly at Calcutt Farm, Houghton Regis.¹⁰⁹ They were probably in vogue in Bedfordshire for some decades either side of 1500. Both hall and wing roofs are ceiled at collar-level;

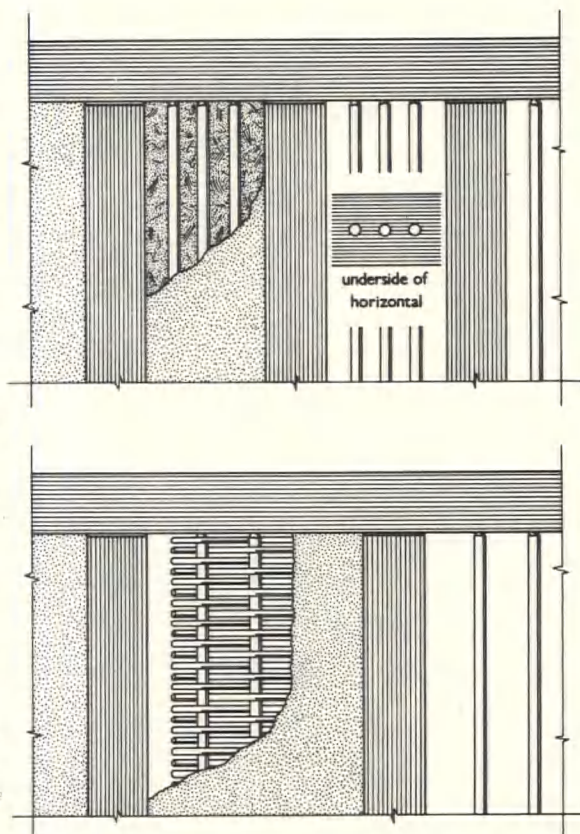


Fig 11 Sketches showing methods of panel infilling at Crowhill Farm, Bolnhurst; locations as indicated in the text.

the rafters' ends of both roofs have the expected sprockets.

Where joints in the frame could be studied they were mostly of familiar patterns; mortise-and-tenon joints are used for fixing arch-braces into posts and studs into plates; in the wing the studs are also pegged through the tenons; the rafters are halved at their heads. Because of the state of the structure not all long timbers (e.g. purlins) could be examined for scarf joints. But scarf joints were observed in the hall wall-plates and in the wing wall-plates and eastern sill. The former could only be examined in part (fig 12) but is of an unusual type not included within Hewett's classification;¹¹⁰ *edge-halved scarf with clasped negative-bridles* is a suggested nomenclature; assuming symmetry, there are two edge-pegs and two face-pegs. The wing scarfs are *edge-halved scarfs*

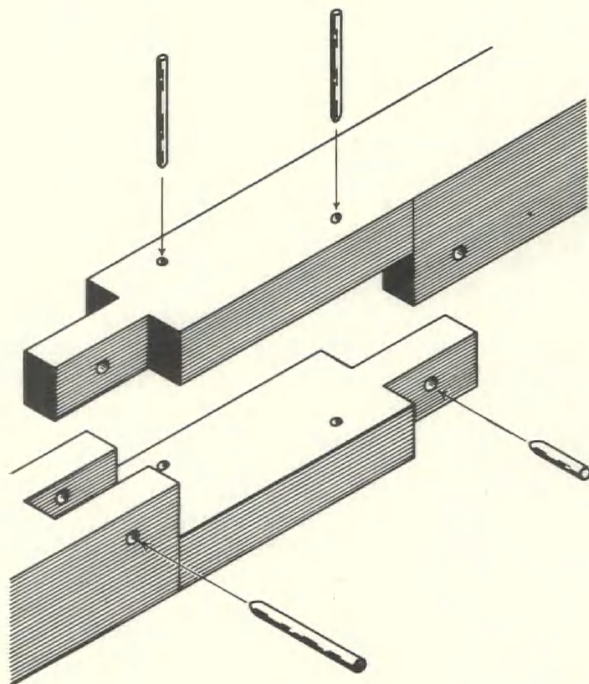
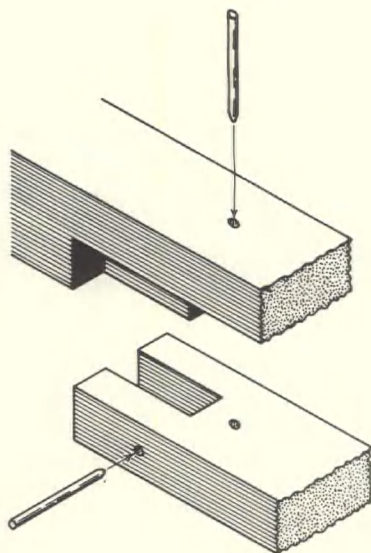
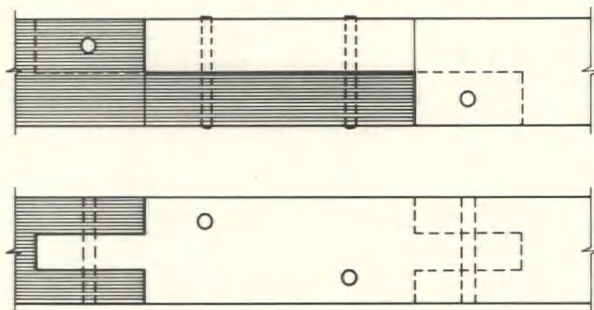
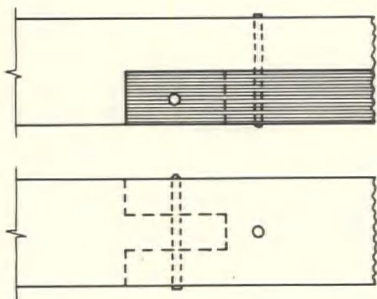


Fig 12 (left) Examenable portion of the scarf joint in the wall-plates of the hall of Crowhill Farm, Bolnhurst. (scale $\frac{3}{16}$).

Fig 13 (right) Scarf joint in wall-plates of the wing of Crowhill Farm, Bolnhurst. (scale $\frac{3}{16}$).

with bridled butts,¹¹¹ a well-represented type,¹¹² including an interesting elaborate variation formerly at Calcutt Farm, Houghton Regis.¹¹³ In the Crowhill example there are two face pegs on the halving's diagonals and two edge-pegs on the bridling's diagonals. An interesting feature of the wall-plate examples is that the carpenter's scribing marks were clearly visible, and are indicated in figure 13.

THE BUILDING: DECORATION

There is little in the way of decorative treatment within the building, except insofar as close-studding is as much decorative as structural, especially in the wing, where the strong vertical emphasis imparted by the use of very close-set studs and by masking the braces gives, or rather gave, an overall appearance comparable to the 'Perpendicular' effect differently achieved in con-

temporary architecture proper. The prodigal use of structurally unnecessary timber involved in such work is a mark of the expense lavished upon this part of the building.¹¹⁴

It must be remembered, however, that within the hall most of the evidence for decorative treatment is unavailable. The presumed crown-post roof to the originally open hall would have given a measure of decoration.¹¹⁵ The dais-beam too may have been given special treatment, although the one surviving tie-beam to an open truss is a plain unchamfered timber and the surviving arch-brace is similarly unchamfered.

The later, inserted transverse joist in the former hall has broad plain chamfers with stops of Jones and Smith Type A2, of which the 'type-site' is Upper Wern-hir, Llanbadoc, Mon. (Gwent),¹¹⁶ and which has also been recognised in other post-medieval buildings in Bedfordshire (Alcock's Type C).¹¹⁷ Within the wing the longitudinal principal joist has plain chamfers with stops which are a stepped variant of Jones and Smith Type C1 (Alcock's Type D).¹¹⁸ The ground-floor fireplace lintel has a plain chamfer with A2 stops, but smaller than those on the inserted joist in the hall (fig. 14). Within the wing the wind-braces to the roof would, in their original condition, have provided a measure of decorative relief.

The most notable decorative features are the chimney shafts, which with their careful stereo-tomy, their neatly concave facets, and their well-balanced projecting caps, achieve a level of sophistication which would be fully acceptable within a building of real architectural status. All three of the shafts are octagonal with concave sides, each course comprising four separate carefully cut stones. The central shafts (pl. 2) have moulded bases whilst the wing shaft (fig. 10) has an octagonal base with small broaches on the diagonals above which is a casement and then a small roll-moulding. The heads of all three shafts show a roll-moulding separated by a casement from an ogee with a sloping offset immediately above. The fallen fragments of the wing shaft show that originally the very top of the shaft was finished with crenellations (fig. 10); the heads of the other two shafts are damaged but there is some suggestion that they too finished in crenellations.

THE BUILDING: DIMENSIONS

The original house at Crowhill was of open-hall type with the screens passage, hence the 'lower' end of the hall, at the western end.

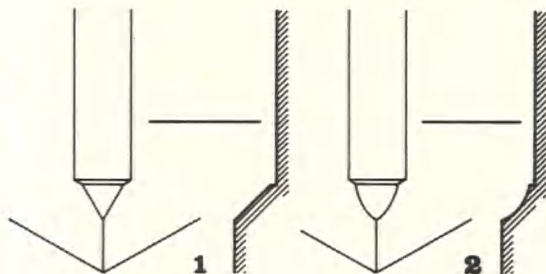


Fig 14 Chamfer-stops used at Crowhill Farm, Bolnhurst:

- 1 Ground floor fireplace bressummer in wing.
- 2 Longitudinal ceiling-beam in north room of wing and inserted transverse ceiling-beam in hall.

Reasons have already been given for thinking that there were the usual services — buttery, pantry, kitchen — beyond the screens passage, and that the cross-wing at the eastern end of the hall is a primary feature. By north Bedfordshire standards the hall is large: of the medieval buildings studied by Alcock and Addyman only Ford House, Eaton Socon (Alcock's E3) is as large; indeed, there is an interesting similarity of dimensions: the hall + screens passage at Ford House measures internally 28 by 18½ ft (8.5 by 5.6 m); at Crowhill the hall + screens passage measures internally c. 28 by 18½-19 ft (8.5 by 5.6-5.7 m). The hall at Crowhill is thus even larger than that at the impressive Basmead Manor, Eaton Socon (E4). Assuming that the services bay was equal to each of the hall bays the overall internal length of the building would have been some 55 ft (17 m), about equal to Basmead before the addition of the crosswing.¹¹⁹

DATING AND BUILDING SEQUENCE

The primary building at Crowhill was, as we have noted, an open-hall house with, most probably, the cross-wing already present. There is some evidence that the hall was originally covered by a crown-post roof; and that the present roof is a later, post-medieval replacement is further suggested by the fact that its apex rises above, and so obscures, the moulded bases of the chimney shafts, which must surely have been intended to be seen. The wing had a different — side-purlin — form of roof; perhaps the roofing of this part of the building in a more up-to-date manner sim-

ply reflects the superior status of this part of the building, an aspect which is also reflected in the very close-studding of the wing. It would have formed a solar block appropriately placed against the 'upper' end of the hall — private apartments for the owner of the house and his wife, where they might even eat separately from the rest of the household, a practice already beginning in the later fourteenth century, according to Langland.¹²⁰

A hall-house of this type is likely to belong to the medieval period, though the 'classic' close-studding and the presence of a side-purlin roof in the wing would suggest a date late in the Middle Ages.¹²¹ On the other hand, the well curved wind-braces perhaps suggest a date not later than the mid-sixteenth century; thereafter wind-braces tend to become much straighter.¹²² The very end of the fifteenth century seems the earliest possibility, and a date c. 1500 or a little later seems most likely.¹²³ The scarf joints both in the wing and in the hall do not prove, though they are consistent with, such a dating.¹²⁴

It is unfortunate that no documents have survived earlier than the Dissolution. The size of the building and its proximity to other large late medieval buildings, both of which are moated, suggest that Moore's Farm (Crowhill) was not among the lands of the chantry at Pleshey, Essex, which included Greensbury to the north and Mavourn to the south-west.¹²⁵

At a later date substantial alterations were made to the hall: the screens passage was converted into a smoke-bay — leaving only a narrow passage immediately within the main entrance as a vestige of the screens passage — and the rest of the hall was floored over. The open hall was obsolescent by the mid-sixteenth century and in a building of the size of Crowhill one would expect the conversion to have taken place by that time.¹²⁶ Allowing some decades for the blackening of some of the timbers by the open-hearth fire, we may suggest that the conversion was made by the first Richard Moore, who purchased the farm in 1541 and whose will was proved in 1547.¹²⁷ The series of rapid sales between 1537 and 1541¹²⁸ makes unlikely any structural alterations during those years. Richard Moore was a man of some substance who would have wanted his newly purchased property to reflect his status by being as up-to-date as he could afford to make it.

Subsequently, the building was improved even further by the insertion of the stone stack into the

smoke-bay and by the building of the stack against the north-east angle of the wing, both with carefully designed and executed chimney-shafts. The similarity between the two shafts proves contemporaneity, and the mouldings suggest a sixteenth-century date. These features were clearly meant to be *seen*, to suggest the status of the man who had them built; and indeed they do indicate some expenditure to improve the house: the dressed stone blocks would have to be transported some distance — probably by water along the River Great Ouse from one of the quarries on the 'Limestone Belt' west and north-west of Bolnhurst — and the chimney-shafts in particular testify to the employment of a skilled mason. The tenorial history makes such work unlikely after Robert Moore's ownership — *sc.* after 1584. And indeed, Robert Moore — whose will¹²⁹ shows him to have been a yeoman of some prosperity¹³⁰ — is the most likely candidate for the patron of these new improvements; the location of the probate at Canterbury rather than at Bedford marks him out as a man whose surviving family regarded him as rising in the world; two of his sons, Richard Moore of Cambridge and William Moore of London, were both styled "gentleman".¹³¹ The interior of the smoke-bay at Crowhill is well-sooted, suggesting its continued use over a fairly long period, so that the stone stacks are likely to date from after, possibly as much as a couple of decades after, the mid-century. This fits well with the tenorial history: Robert Moore did not become owner of Moore's Farm (Crowhill) until 3 August 1557.¹³² The 1560s and 1570s were generally years of good harvests; the inflation rate declined in the first of these decades and was not steep in the second.¹³³ Prosperity for yeomen such as Robert Moore was common in these decades. Embellishment of the house may therefore fairly safely be dated to the period 1557-1584.

The present roof over the former hall perhaps dates from the early Francklin ownership, at the very end of the sixteenth century (after 1592) or early in the succeeding century.¹³⁴ No subsequent major alterations appear to have been made in the seventeenth century or in the eighteenth century, although the dormers may have been inserted and the upper floor of the wing divided into separate rooms in this period.

The long period of decay might seem unusual but there was little affluence in north-east Bedfordshire in the eighteenth century. Appendix I



Plate 1a Crowhill Farm, Bolnhurst: the medieval building from the north, 1973.

1b Crowhill Farm, Bolnhurst: the medieval building from the north, 1976.

CROWHILL FARM, BOLNHURST



Plate 2a Crowhill Farm, Bolnhurst: general view from the south, 1973.
Note the wing chimney shaft appearing over the hall roof.

2b Crowhill Farm, Bolnhurst: the central chimneys, 1976.

CROWHILL FARM, BOLNHURST



Plate 3a Crowhill Farm, Bolnhurst: the east wing and chimney shaft, 1973.

3b Crowhill Farm, Bolnhurst: east wing stack, 1976.

3c Crowhill Farm, Bolnhurst: general view of medieval and nineteenth-century building from the north, 1976.

CROWHILL FARM, BOLNHURST

APPENDIX I

BOLNHURST HEARTH TAX, 1671

Entries, total	31	
Taxpayers	23	
Discharged	8	) 51.6%
Paid on 1 hearth	8	)
Paid on 2 hearths	6	19.4%
Paid on 3 hearths	3	9.7%
Paid on 4 hearths	3	9.7%
Paid on 5 hearths	1	)
Paid on 7 hearths	1	) 9.7%
Paid on 11 hearths	1	)

For an area of general poverty, the low percentage of houses with one hearth, whether paying tax or not, is unusual: most north Bedfordshire parishes have 60% or over with one hearth. The number and percentage of houses with four or more hearths is also unusual, probably reflecting the medieval settlement of a non-nucleated parish.

APPENDIX 2

THE FRANCKLIN ESTATE IN 1858

Key to Farmhouses:

<i>Number and Name, 1858</i>	<i>Tenant, 1858</i>	<i>Tenant, Acreage, Rent, 1821</i>	
A Crowhill Farm	Samuel Green	William Kilpin	178ac 1r 26p £117. 6s. 5d.
B Mavourn Farm	Samuel Hartop	Thomas Kilpin	117ac 2r 34p £86. 5s. 6d.
C Brook End Farm	George Tillock	Not part of Francklin Estate until 1852; Edward Maddock, tenant, in 1826	155ac 3r 17p £66. 0s 0d.
D Spencers Farm	Samuel Hartop	William Jefferies Amalgamated into Mavourn Farm in 1829; farmhouse used as cottage until after 1944.	71ac 1r 27p £54.13s. 2d.
E Blacklands Farm	Joseph Daniels	Thomas Jefferies.	120ac 2r 31p £85. 7s. 6d.
F. Tilwick Farm (Ravensden)	Thomas Hartop	Joseph Dawson	134ac Or 25p £107. 8s.8d.

Note: Blacklands Farm and Tilwick Farm lie south of this map.

Key to Fields

<i>Number and Name, 1858</i>	<i>Acreage, 1858</i>	<i>Acreage, 1821</i>	<i>Notes</i>
2 Moore's Wood	not given		2,269ac in 1944
6 Hovel Close	17ac Or 3p		
Dovehouse Pightle and Hovel Close Farmhouse		16ac 1r 36p 1ac 2r 7p 4ac 3r 20p	
7 Sheep Close	4ac 3r 20p		
8 Crabtree Field (part)	5ac 2r 3p		
9 Church Meadow*	6ac 1r 21p	6ac 1r 21p	
10 Hyam's Field*	28ac 3r 14p	28ac 3r 14p	
11 Crabtree Field (part)	21ac 2r 7p		
Crabtree Field		27ac Or 10p	Includes 8 and 11 of 1858 map.
12 Hyam's Close (part)	4ac 3r 32p		
13 Hyam's Close (part)	7ac Or 23p		
Hyam's Close		12ac Or 15p	Includes 12 and 13 of 1858 map.
14 Sparrow's Close*	9ac Or 38p	9ac Or 38p	
15 Church Field*	33ac Or 24p	33ac Or 24p	
16 Molehill Close	10ac 2r 23p		
Molehill Close*		8ac 1r 20p 1ac 1r 5p	
Molehill Pightle*			
17 Sparrow's Field	11ac 3r 14p	11ac 3r 14p	
18 Thoroughfare Close*	14ac Or 32p	15ac 1r 30p	

* Field name in 1679

notes the hearth tax return for Bolnhurst, wherein over half the population lived in single hearth houses.¹³⁵ There are houses without framing in this and adjacent parishes.¹³⁶ In 1803, the returns of horse availability — perhaps not coincident with ownership — shows a number far lower than that recommended by Thomas Batchelor.¹³⁷ Returns of agricultural statistics in 1835 (not extant for Bolnhurst)¹³⁸ show elsewhere in north Bedfordshire conflicting evidence of the 1803 figures being those horses which could be spared as opposed to those which were all that a farm had. There is a feel that the latter is the case with Richard Kilpin at Moore's Farm.

There is another factor in the long period of decay in the farmhouse. Between 1701 and 1823 there were only four tenants, in each case a father followed by his son: Samuel Maxey gave way to Richard Kilpin about 1760. A lack of attention seems not unlikely in the late eighteenth and early nineteenth centuries: Elizabeth Kilpin was buried on 20 December 1782.¹³⁹ Her husband survived for twenty-two years; her eldest son, William, who took over the tenancy on his father's death and remained there until 1822 as far as is known never married. Forty years of an active farm without a farmer's wife is a classic situation for the deterioration of a property.

The services bay at the western end probably survived until the rebuilding of this end of the house, no earlier than the mid-nineteenth century. The kitchen fireplace was rebuilt and the fireplace to the former hall was altered. The south wall of the wing was rebuilt and the small stack added at its south-east angle for an inserted fireplace in the south room of the ground-floor of the wing. This room was made into a comfortable sitting-room, probably as late as 1896-1914, either for Thomas Shepherd or for William Farrar, successive tenants of John Liell Francklin.

J.L. Francklin's forebears had bought a farmhouse already a century old in 1592 when George Francklin purchased Moore's Farm. Documentation in depth is available only from 1537. This paper, the authors hope, has shown the need for studies of vernacular buildings at the yeoman level to be cross-referenced to the documentary record, particularly when it is so fully available as with the Francklin estate in south-west Bolnhurst.¹⁴⁰

ACKNOWLEDGEMENTS

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ABBREVIATIONS

The following abbreviations are used in the notes:

- B.C.R.O. Bedfordshire County Record Office, Bedford.
 B.H.R.S., *Publications of the Bedfordshire Historical Record Society*.
 BPR *Bedfordshire Parish Registers*, Bedford, 1931 to date.
 Kennett, 'Francklins', D.H. Kennett, 'The Francklins and Bolnhurst: the tenurial history of a Bedfordshire estate', typescript, 1975; available Bedfordshire County Library, Local History Collection, County Hall, Bedford; Bedfordshire County Record Office, Bedford; Luton Museum, Luton; Luton Central Library, Local History Collection, Luton.
 P.R.O., Public Record Office, London.

NOTES

- 1 A typescript copy of this survey, by D.H.K., has been placed with the Senior Conservation Officer, Planning Department, Bedfordshire County Council.
- 2 Preliminary results appear in Kennett, 'Francklins'; this covers the farms now known as Mavourn, Crowhill, Brook End, and Blacklands, with the lands of Brays Farm (now the 'Old Plough Inn'). Several additional points can be made to these, especially in the early seventeenth century.
- 3 B.C.R.O., FN *passim*; Bolnhurst and Ravensden deeds are *ibid.*, FN 1-197.
- 4 B.C.R.O., AD 1147/29; *Bedfordshire Times*, 10 May 1944.
- 5 B.C.R.O., map FN 1018.
- 6 Reprint issued 1970.
- 7 B.C.R.O., WG 2985.
- 8 P.R.O. available B.C.R.O., microfilm MIC 109 HO 107/6.
- 9 B.C.R.O., map FN 1018; *ibid.*, map MAT 7.
- 10 B.C.R.O., FN 47-79 is the basic series, but the range is much wider: see below *passim*.
- 11 Kelly's *Post Office Directory* was issued for Bedfordshire in 1847, 1854, 1864, 1869, 1877, 1885, 1890, 1894, 1898, 1903, 1906, 1910, 1914, 1920, 1924, 1928, 1931, 1936, and 1940; other firms issued directories (usually of comparable accuracy) in 1853, 1862, 1871, and 1876.
- 12 P.R.O., HO 107/6; HO 107/1750; R.G 9988; RG 10 1540; available B.C.R.O., microfilms, MIC 109; MIC 65; MIC 89; MIC 144.

- 13 B.C.R.O., QDL, indexed under parishes.
- 14 B.C.R.O., HA 14/5/1.
- 15 B.C.R.O., FN 58-60.
- 16 B.C.R.O., FN 61.
- 17 B.C.R.O., FN 47-57.
- 18 B.C.R.O., FN 47-48.
- 19 B.C.R.O., FN 46.
- 20 B.C.R.O., FN 43-45.
- 21 The authors are grateful to Mr A.F. Cirket for guidance on this point.
- 22 B.C.R.O., FN 58-72.
- 23 B.C.R.O., will ABP/R 12f. 5 *et seqq.*
- 24 B.C.R.O., FN 64.
- 25 B.C.R.O., will ABP/W 1559/300, probate 9 January 1558/59.
- 26 Kennett, 'Franklins', 1-9 supplements (and to a certain extent corrects) the introduction to the calendar of Franklin muniments in B.C.R.O.
- 27 P.C.C. will 31 Watson, available B.C.R.O. on xerox copy; D.H.K. had already transcribed an eighteenth-century transcript of this in B.C.R.O., FN 1248, pp. 792-796. This transcript made by Luke Franklin (1707-1774) is accurate to the wording but does not always follow the sixteenth-century spellings; quotations from the document are from a complete transcript of B.C.R.O., FN 1248, pp. 792-796 but with the spellings modernised. Despite these minor inaccuracies, it should be stated that Luke Franklin possessed palaeographic skill of a rare order, which would have brought compliments from the late K.B. McFarlane, and in some cases the only record of certain document is his transcript. The respect in which one of the two present authors hold Luke Franklin may be judged from the dedication of D.H. Kennett, *A Rural Society: North Bedfordshire in the eighteenth century*, forthcoming, c 1990.
- 28 *Bedfordshire Parish Registers*, 11C (Bolnhurst) and 48 (Colmworth) for transcripts to 1812. The transcripts of all parish registers cited have been used rather than the originals; those of Bolnhurst, in fact, remain with the incumbent.
- 29 A quitclaim made by Alice Moore, widow of Richard Moore in favour of her son, Robert Moore would seem to provide proof of this. B.C.R.O., FN 61, dated 10 May 1548.
- 30 The earliest reference so far traced is the Heralds' Visitation of 1556, when a grant of arms was confirmed: F.A. Blaydes (ed.), *Visitations of Bedfordshire, A.D. 1566, 1582, 1634 . . .*, [Harleian Society, 19, 1884]; in 1550 John Franklin paid subsidy at Thurleigh as a yeoman, B.C.R.O., TW 875. By 1597 George Franklin had achieved the status of "Esquire", B.C.R.O., CRT 100, listing P.R.O., E 179/72/224 without the values.
- 31 B.C.R.O., FN 65-66; it is possible that Robert Moore had previously owned this portion of land.
- 32 B.C.R.O., FN 104-107.
- 33 B.C.R.O., transcript, FN 1248, p. 801.
- 34 B.C.R.O., FN 69.
- 35 B.C.R.O. FN 68, FN 70, FN 71.
- 36 B.C.R.O., FN 67, FN 72.
- 37 B.C.R.O., FN 911.
- 38 Bolnhurst Parish Register, transcript by F.G. Emmison, *Bedfordshire Parish Registers*, 11C, 1935.
- 39 Citations to this source are not individually noticed. B.C.R.O., transcript, FN 1248, pp. 733-739; the dating depends on 'Issue of the Estate' which includes "sister, Elizabeth Dyer of Colmworth", to whom payments were not liable after a Decree in Chancery, 26 February 1656/7, B.C.R.O., FN 1084, following mediation before 13 January 1654/5, B.C.R.O., FN 1083.
- 40 B.C.R.O., FN 74.
- 41 B.C.R.O., FN 73.
- 42 B.C.R.O., FN 1000, transcript *ibid.*, FN 1248, pp. 740-747.
- 43 P.R.O., E 179, 72/301, section 331; L.M. Marshall, *The Rural Population of Bedfordshire, 1671 to 1921* [B.H.R.S., 16, 1934], 134; William Cobb is the fourth entry on the list for Bolnhurst.
- 44 Ravensden Parish Register, *BPR*, 47.
- 45 B.C.R.O., will ABP/W 1682/90; William Cobb is presumed to be twice married on the evidence of the pewter in his will.
- 46 B.C.R.O., FN 76; *ibid.*, FN 77, dated 7 March 1700/01 also refers to the farm as "late in the occupation of John King".
- 47 B.C.R.O., will ABP/W 1694-95/96.
- 48 B.C.R.O., FN 996, transcript FN 1248, pp. 748-751.
- 49 B.C.R.O., FN 77, FN 78-79; *ibid.*, FN 940-941 for document of 29, 30 October 1703 also noting John Maxey as tenant.
- 50 B.C.R.O., will ABP/W 1723/29.
- 51 Kennett, 'Franklins', 36 interprets the mid-eighteenth-century tenure of Brook End Farm as going from Ralph Wyatt (attested in 1727 by B.C.R.O., BS 466) who was buried 21 October 1728 via his widow, Eleanor Wyatt, buried 23 November 1755, to his son, Robert Wyatt, who died in 1759 (B.C.R.O., will ABP/W 1759/31, proved 26 May 1759); Elizabeth Wyatt, therein mentioned, is presumed to be the wife of the last-named.
- 52 B.C.R.O., FN 942-943;
- 53 B.C.R.O., FN 946-949.
- 54 The date of Samuel Maxey's initial tenure of Blacklands is not recorded.
- 55 B.C.R.O., HA 14/5/1; B.C.R.O., QDL, Bolnhurst, 1797-1804.
- 56 Bolnhurst Parish Register, *BPR* 11C, 1935; Thurleigh Parish Register, *BPR*, 28B, 1943. It may be that the change of location of his children's baptisms indicates an earlier occupation of Moore's Farm by Richard Kilpin.
- 57 B.C.R.O., HA 15/1: William Kilpin is *not* listed in this document, although he appears in the constable's list of the men of the parish aged 17 to 55, B.C.R.O., HA 15/2 (original list) and HA 15/4 (fair copy).
- 58 T. Batchelor, *General view of the agriculture of the county of Bedford*, 1808, 31-32, 103.
- 59 B.C.R.O., will ABP/W 1805/9.
- 60 B.C.R.O., QDL, Bolnhurst, 1805-1822.
- 61 B.C.R.O., FN 1002.
- 62 B.C.R.O., QDL, Bolnhurst, 1823, and 1824-1832.
- 63 B.C.R.O., map FN 1018.
- 64 Principally those issued by W. Kelly and Co., but others were issued, the dates of which are given in n. 11 *supra*.

- 65 B.C.R.O., WG 2985.
- 66 P.R.O., HO 107/6; available B.C.R.O., microfilm, MIC 109.
- 67 P.R.O. HO 107/1750; available B.C.R.O., microfilm, MIC 65.
- 68 P.R.O., RG 9 988; available B.C.R.O., microfilm, MIC 89.
- 69 P.R.O., RG 10 1540; available B.C.R.O., microfilm, MIC 144.
- 70 The remaining tenancies have been traced from W. Kelly and Co., *Post Office Directory of Bedfordshire*, issues of 1890, 1894, 1898, 1903, 1906, 1910, 1914, 1920, 1928, 1931, 1936, and 1940.
- 71 The preface to W. Kelly, *Post Office Directory of Bedfordshire*, 1906, is dated to November 1906.
- 72 B.C.R.O., AD 1147/29; *Bedfordshire Times*, 10 May 1944.
- 73 Cf. N.W. Alcock, 'Timber-Framed Buildings in North Bedfordshire', *Beds Arch J*, 4, 1969, 46-7.
- 74 In 1869, for example, there were brickyards at Upper Dean, Bletsoe, Milton Ernest, Ravensden, Goldington, Renhold, and Great Barford, as well as at Bedford itself: E.R. Kelly (ed.), *The Post Office Directory of Bedfordshire*, 1869, s.v. individual place-names.
- 75 Cf. Alcock, 1969, 47; for the distribution of building materials as indicated by seventeenth-century parsonage terriers see M.W. Barley, *The English Farmhouse and Cottage*, 1961, 257, fig 37.
- 76 Alcock, 1969, 43-4 and fig 1; historically Eaton Socon belongs to north Bedfordshire, although the village is now a part of Huntingdonshire; the rural area of the parish remains within Bedfordshire as Staploe.
- 77 Cf. Alcock, 1969, 43-6.
- 78 This could only be observed through a hole in the wall of the smoke-bay. All the medieval houses examined by Alcock and Addyman in Eaton Socon had long crown-posts with down-braces: Alcock, 43; there is some reason, as Alcock suggests, to think that the type was disseminated along the Great Ouse valley; for examples in King's Lynn, at the northern end of the Great Ouse, see V. Parker, *The Making of King's Lynn*, 1971, 71-3 and illustrations *passim*.
- 79 E.R. Swain, 'Divided and Galleried Hall-Houses', *Med Arch*, 12, 1968, 127-45.
- 80 Alcock, 1969, 44-6.
- 81 In fig 6 these wind-braces have been projected across onto the roof-slope shown in the section of the wing.
- 82 Alcock, 1969, 44-6.
- 83 For the latest distribution maps of crucks see N.W. Alcock, *A Catalogue of Cruck Buildings*, 1973, 16, fig 2; and J.T. Smith, 'Cruck Distributions: an Interpretation of Some Recent Maps', *Vernacular Architecture*, 6, 1975, 4, Fig 1; so far four cruck buildings, and one raised-cruck building, have been recognised in Bedfordshire: N.W. Alcock and P. Woodward, 'Cruck-Frame Buildings in Bedfordshire', *Beds. Arch. J.*, 11, 1976, 51-68.
- 84 Alcock, 1969, 43, 44-6, and figs. 1 and 2.
- 85 For published examples see Alcock, 1969, 50 *sqq.*; T.P. Smith, 'A Demolished Timber-Framed Building at Luton', *Beds Arch J*, 7, 1972, 73-7; T.P. Smith, 'A Timber-Framed Building in Cumberland Street, Luton', *Beds Arch J*, 8, 1973a, 127-30; S.E. Rigold, 'Elstow Moot Hall', in S.E. Rigold, J. Godber, and T.W. Bagshawe, *The Moot Hall, Elstow*, 1969, 5-8; E. Mercer, *English Vernacular Houses*, 1975, 137; for some useful published photographs see Bedfordshire County Council, *Bedfordshire Heritage*, 1961, 4-5.
- 86 N. Wood, 'Fifteenth-Century Prefab', *Architectural Review*, 144, 1968, 138-40; though a sixteenth-century date is to be preferred to that author's fifteenth-century date; good photograph in D. Baker, A. Cox and E. Marten, *Bedfordshire Historic Buildings: the Heritage and its Problems Today*, 1975, 5.
- 87 Personal observation by TPS.
- 88 Personal observation by TPS, publication intended.
- 89 T.P. Smith, 'The Chantry House, Tempsford' *Beds Arch J*, 8, 1973b, 123-6.
- 90 J.M. Bailey, 'Calcutt Farm, Houghton Regis, Bedfordshire: a Measured Survey of a Moated Farmstead', *Beds Arch J*, 10, 1975, 53-63.
- 91 J.T. Smith, 'Timber-Framed Building in England', *Arch J*, 122, 1965, 133-58; reprinted in M.J. Swanton (ed.), *Studies in Medieval Domestic Architecture*, Royal Archaeological Institute Monograph, 1975, 1-26; this ref. 11-16 (of Swanton).
- 92 Wood, 1968, 139-40.
- 93 Personal observation by TPS; photograph as cover illustration to *Beds Magazine*, 9, no 70, 1964.
- 94 Wood, 1968, 140 figs.
- 95 See A. Gibson, 'Some Timber Framed Buildings in East Herts and their Dating', *Herts Past and Present*, 11, 1971, 5; in East Anglia generally this feature is not uncommon; cf. S. Pearson in Mercer, 1975, 118.
- 96 Personal observation by D.H.K. and T.P.S.
- 97 Rigold, 1969, 5-8.
- 98 Smith, 1973a, 129; in rat-trap (sometimes called 'Chinese') bond the bricks are laid on their stretcher faces.
- 99 For this type of 'false-front' see A. Arschavir, 'False Fronts in Minor Domestic Architecture', *Trans Ancient Monuments Soc*, new series, 4, 1956, 118.
- 100 Alcock, 1969, 44-6.
- 101 Wood, 1968, 140.
- 102 Personal observation by D.H.K.
- 103 On the availability and use of local materials as illustrated by seventeenth-century parsonage terriers see Barley, 1961, 256 and fig 37.
- 104 They are normally detectable in gable walls, where the purlins project slightly beyond the wall-plates. For published examples see: Alcock, 1969, 47 and *passim*; Rigold, 1969, 7; Smith, 1972, 77; Smith, 1973b, 123.
- 105 Rigold, 1969, 7.
- 106 Wood, 1968, 140 figs.
- 107 Personal observation by D.H.K. and T.P.S.
- 108 [A.J. Hales], 'Architectural Comment: Description of Buildings in Draft Conservation Area No. 1', in D.H. White, 'Draft Conservation Area No. 1, Preliminary Report ...', Borough of Luton, Planning Committee, 7 October 1974.

- 109 Bailey, 1975, 57 and figs 3 and 4.
- 110 C.A. Hewett, *The Development of Carpentry 1200-1700: an Essex Study*, 1969, 171-88.
- 111 Hewett, 1969, 183.
- 112 Cf. Royal Commission on Historical Monuments (England), *An Inventory of . . . North-East Cambridgeshire*, 1972, xlvii; and for examples in Kentish barns S.E. Rigold, 'Some Major Kentish Timber Barns', *Arch Cant*, 81, 1966, 5; and F.E. Brown, 'Aisled Timber Barns in East Kent', *Vernacular Architecture*, 7, 1976, 36, 37.
- 113 Bailey, 1975, 59, and fig. 5c.
- 114 Cf. Pearson in Mercer, 1975, 118.
- 115 This effect would have been enhanced if the crown-posts themselves were moulded; though those in the late medieval buildings studied by Alcock and Addyman were not moulded: Alcock, 1969, 43-6.
- 116 S.R. Jones and J.T. Smith, 'Chamfer-Stops: a Provisional Mode of Reference', *Vernacular Architecture*, 2, 1971, 14.
- 117 Alcock, 1969, 47, fig 3.
- 118 Jones and Smith, 1971, 14; Alcock, 1969, 47, fig 3.
- 119 Alcock, 1969, 43-6; Alcock does not note the western wing at Basmead as an addition, but there is clear evidence for this in the form of the projecting and pared ends of the wall-plates of the main range: personal observation by T.P.S., D.H.K., J.T. Smith, and N.W. Alcock himself (1974). Another building of similar size to Crowhill is Romp Hall, Thurleigh: personal observation by D.H.K. and T.P.S.
- 120 "Now hath vche riche a reule ' to eten bi hym-selue In a pryue pa[r] loure ' for pore mennes sake, Or in a chambre with a chymneye ' and leue be chief halle, bat was made for meles ' men to eten Inne; . . ."; W. Langland, *The Vision of William concerning Piers the Plowman . . .* (B Text), ed. W.W. Skeat, *E.E.T.S.*, 1869, Passus X, 96-99 (p 148).
- 121 For a brief note on the side-purlin roof in Bedfordshire see Smith, 1972, 77, n.10.
- 122 For a fairly closely dated example of straight wind-braces (c. 1562) see T.P. Smith, 'A Sixteenth-Century Schoolhouse at Alleyne's Grammar School, Stevenage', *Herts Arch.* 3, 1973, 110-119.
- 123 Cf. the suggested early sixteenth-century date for 115-117 Great North Road, Eaton Socon (E1): Alcock, 1969, 46.
- 124 For some cautionary remarks on the use of joint-types as dating criteria see J.T. Smith, 'The Dating of Buildings: Problems and Fallacies', *Vernacular Architecture*, 3, 1972, 16-20.
- 125 B.C.R.O., FN 84; *ibid.*, transcript FN 1248, p 892. Glyntils Manor, which was intermixed with the fields of Mavourn, was part of the lands of the Priory of Canons Ashby, Northants: B.C.R.O., FN 80-81 and H.S.F. Lea, *V.C.H. Beds.*, III 1912, 126.
- 126 Cf. Mercer, 1975, 20.
- 127 B.C.R.O., FN 58-60; *ibid.*, will ABP/R 12 f. 5 et seqq.
- 128 B.C.R.O., FN 47-60.
- 129 P.C.C. will 31 Watson
- 130 B.C.R.O., transcript FN 1248, pp 792-796.
- 131 For a comparable contemporary see J. Beckwith, 'Captain John Smith: the Yeoman Background', *History Today*, 26, 7, July 1976, 444-451. J. Godber, *History of Bedfordshire 1086-1888*, 1969, 209-213 provides some local examples.
- 132 Respectively B.C.R.O., FN 69 and FN 67-68; in *ibid.*, FN 67 William Moore is called "clerk".
- 133 B.C.R.O., FN 64.
- 134 R.B. Outhwaite, *Inflation in Tudor and Early Stuart England*, 1969; the essays collected in P.H. Ramsey, *The Price Revolution in Sixteenth-Century England*, 1971; and P. Bowden, 'Agricultural Prices, Farm Profits and Rents', in J. Thirsk (ed.), *The Agrarian History of England and Wales, volume IV, 1500-1640*, 1967; all these provide a guide to the course of prices and harvests in the sixteenth century.
- 135 B.C.R.O., FN 67-72; the effect of the weather on the roof of an unoccupied building can be judged from comparison of our 1973 and 1976 photographs.
- 136 Appendix I is derived from the listing of hearth tax returns found in D.H. Kennett, 'The Dimension of Poverty in late-seventeenth-century Bedfordshire', typescript, 1976; available as Kennett 'Franklins'; the county's hearth tax returns for 1671 are printed *B.H.R.S.*, 16, 1934.
- 137 e.g. Southfields Farm, Bolnhurst; cottages at Scald End, Thurleigh. Alcock, 1969, 57 notes poverty as displayed by housing in north Bedfordshire. Further comments appear D.H. Kennett, 'The Social Context of Eighteenth-Century Bedfordshire', typescript, 1975, and D.H. Kennett, *Portrait of Bedfordshire*, 1978, *passim*.
- 138 Batchelor, 1808, 97-104; B.C.R.O., HA 15/1.
- 139 'Extracts relating to agricultural returns, county of Bedford', *J. Statistical Society*, 1, 1838, 89-96.
- 140 Bolnhurst Parish Register; BPR 11C.
- 141 Paper completed February 1977.

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'Rowe's Cottage': a 'Wealden' House at Little Barford, Bedfordshire

J.M. BAILEY

INTRODUCTION

The building described in this paper, traditionally known as "Rowe's Cottage", was scheduled for demolition in 1976 as the cost to effect repairs would have been out of all proportion to the value of the property. Permission was therefore sought of and most kindly granted by the estate owner, Mr E.H. Alington, to record the building prior to demolition. At the eleventh hour a business man purchased the property with the object of reconstructing it in Cambridgeshire. Here again, the writer received exemplary co-operation from the new owner,¹ who allowed the remaining details to be recorded during the dismantling of the frame. The writer's survey and analysis of the building was drawn upon by the new owner's professional team to ensure that the reconstructed building was faithfully restored, within practical limits.

Historical Background

The building was sited at the southern end of the village of Little Barford, isolated over the years by the destruction of surrounding buildings and the Victorian rebuilding which took place at the northern end of the village. In the nineteenth century the building had been the southern part of a longer row of cottages, most of which were demolished in the 1880's or 1890's. It is traditionally reputed to be the birthplace of the Poet-Laureate and dramatist Nicholas Rowe (1674-1718) although it is unlikely that this was the actual house in which he lived.

An initial measured survey by the writer, when the fate of the building was not established, showed that the building was a fairly complete timber-framed structure. The general impression then was of a continuous jettied building. The full importance was not suspected as much of the timber was covered by external pebbledash and internal plaster. When permission was given for areas of covering material to be stripped, the writer immediately found evidence that the building was of a more significant and structurally more complex form. By coincidence the first action taken in the in-

vestigation was to remove the boarding from the bressummer and here it was apparent from the carpentry that the jetty of the central bay was inserted. The exposure of the top of the mid-plate gave confirmatory evidence, from the empty mortices, that this was indeed a recessed hall with jettied wings on either side, in what can loosely be called the "Wealden" tradition. As the estate workers began their careful stripping of the pebbledash and infill between the timbers the exact form of the building became evident.

THE BUILDING

General

The building is in three almost equal bays, the central bay forming the recessed hall with jettied wings to either side. The building was on a north-south alignment with overall ground plan dimensions of approximately 13 metres by 5.5 metres. The northern elevation was refaced in Victorian times destroying most of the original infill other than the main members. At the southern end decay had much damaged the timbers and the majority are later replacements although the tie beam and collar survive in a condition such that the position of original studs can be recognised. Later windows have been inserted in the front elevation including the first floor above the false jetty but these have not destroyed the very complete evidence of the original windows. To the rear, a late outshot and store had been added; later windows and doors had caused the most damage to the original structure on this elevation.

The illustrations in figures 2 and 3 show the building in its original condition at the commencement of the survey with the pebbledash on front, rear and south elevations. In figure 3 are also shown the front and rear elevations stripped of pebbledash, with later doors and windows removed and infill panels knocked out just prior to the dismantling of the building. The seventeenth-century inserted windows are shown on these elevations



Fig 1 The distribution of the 'Wealden House' outside of the primary areas. For schedule see Appendix I.



Plate 1 'Rowe's Cottage', Little Barford, before stripping.
Photograph: Bedfordshire County Council.

DESCRIPTION OF THE BUILDING

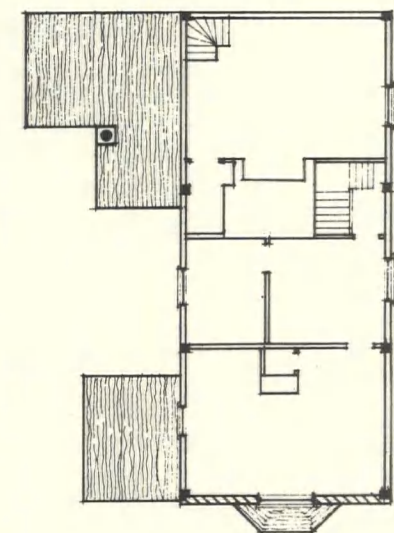
A detailed description of the building just prior to demolition now follows. As previously discussed, a false jetty had been added when an upper floor was inserted in the hall. This was most probably carried out in conjunction with the insertion of the chimney which was positioned on the line of the truss, half in the southern end of the hall and half in the south wing. In order that the structural stability of the building was maintained this original truss was repositioned intact to the south side of the stack and a new truss inserted against the north side of the stack. With a truss now on either side of the chimney the wall plates were positively tied together again and the roof structure not weakened, as would have been the case if the original truss had been cut away and not moved when the stack was built. The primary joist in the south wing had been replaced at

some time, possibly when the chimney was inserted, as the chamfer stops on this joist and the fireplace lintels are similar. It was most probably at this stage that the original front doorway was moved from the north end of the south wing to the very south end of the hall. All of these alterations probably occurred in the seventeenth century.

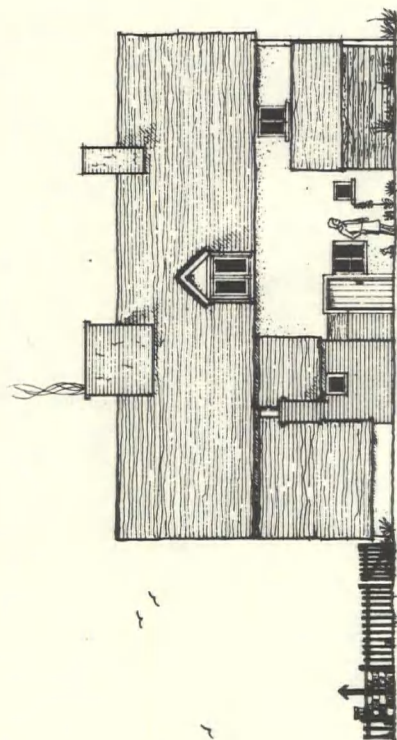
A modern chimney at the south end of the north wing hid an original partition running across the wing approximately one metre from its south end.

At first floor level, little internal damage had been done other than the repositioning of a truss.

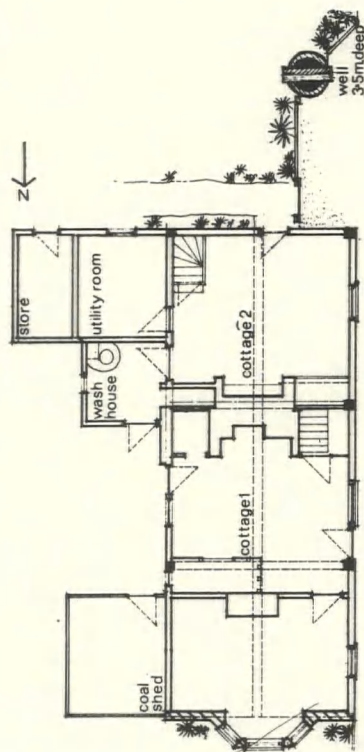
There remain *in situ* the windows from a later phase, probably dating from when the hall was divided into two storeys. These windows are simple frames with wooden diamond mullions, designed to receive leaded glazing. Lead ties were still affixed to some of the diamond mullions.



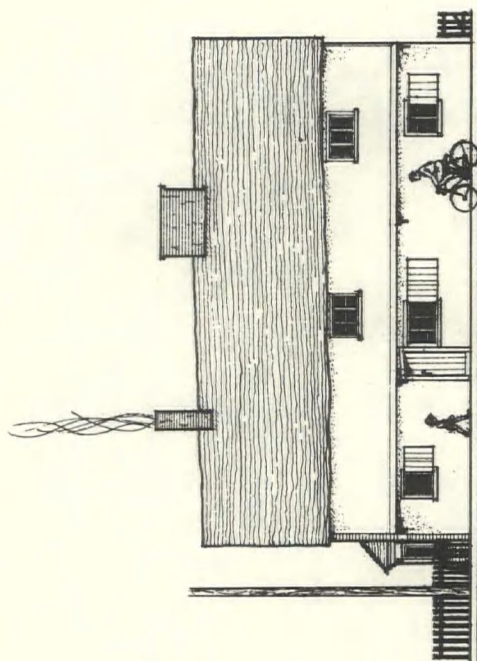
FIRST FLOOR



EAST ELEVATION



GROUND FLOOR



WEST ELEVATION

Fig 2 Rowe's Cottage, Little Barford: plans and elevations before stripping.



Plate 2 'Rowe's Cottage', Little Barford, during dismantling.
Photographs: D.B. Baker

These windows survived because of the common practice of plastering over existing windows when new ones were inserted. The location of these windows, probably of seventeenth century date, is shown in figure 3 on the front and rear elevations, from which modern windows have been omitted.

FORM OF THE ORIGINAL BUILDING

This was a fairly substantial hall house with jettied chambers at either end and a roof with continuous eaves, the projection of the eaves over the hall being supported by curved braces from the wings. This form is more common in Kent where it generally had a hipped roof and is referred to as "Wealden".

Shown in figure 4 are reconstructions of the original floor plans, elevations and sections as far as can be established from the remaining evidence.

The south wing had the screens passage running across its northern end and is approximately one metre longer than the north wing. The original front doorway to the screens passage survives complete, although it had been moved from its original position at a later date. This can be seen from surviving mortices in the complete front mid-plate.

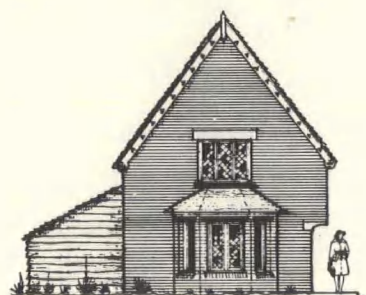
Shown on the ground floor plan is a partition running across the north wing one metre from its south end. This partition had a single door at its extreme west end (see section BB). As there was not a partition at ground floor level running along the line of the south end of this wing, the northern end of the hall was in effect extended under the upstairs chamber. This would, no doubt, form the location for the high table. It would seem to have been necessary to increase the limited floor space of the small plan area of the single bay hall.

The south end of the north wing (section CC) has more studs than the corresponding end of the south wing (section DD). It should also be noted that there are additional tension braces at the northern end of the building. It may be assumed that this additional strengthening was to compensate for the absence of support at ground level of the southern end of the north wing. Evidence of the stair in the north wing can be seen from the trimming of the floor joists in the north-west corner of the building.

In the north wing the primary joist and common joists are, in the main, original. In the south wing, the primary joist, some common joists and both bearers have been renewed. The evidence for the line of the partition forming the south side of the screens passage can be seen on the underside of a common joist.

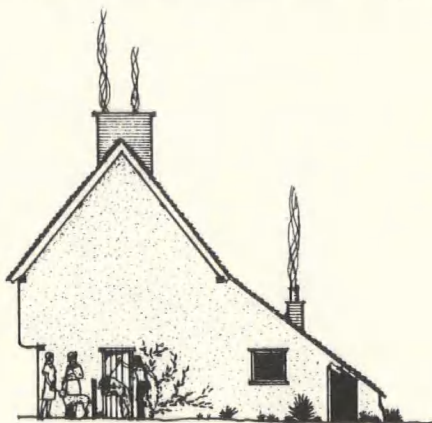
The front elevation had three oriel windows at ground floor level only; one in each wing and one in the hall. At the first floor on this elevation each wing had a window with a single mullion. The flush window at the upper level of the hall extended the full height between midplate and the eaves and had five mullions. From the evidence of the joints in the plates these mullions thinned in section at the top, and this would seem to indicate some form of decorative window heads. It should be noted that the front top-plate of the recessed hall had been reused as a bressummer for the inserted jetty in the hall, thus preserving the evidence of mortices.

The wings at their rear elevation had small windows at both ground and first floor level. A large rear window lit and ventilated the hall. It extended almost full height and was divided by the mid-

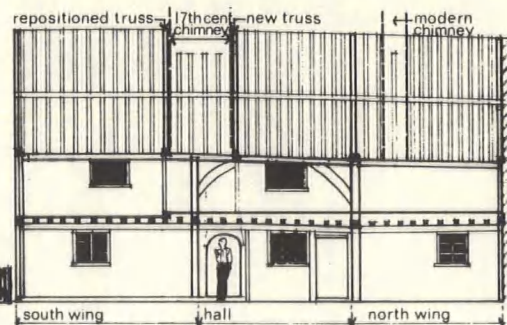


NORTH ELEVATION
Victorian facade

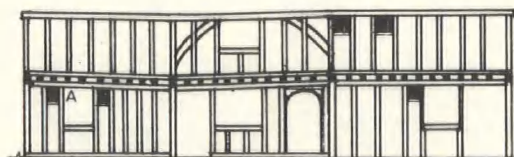
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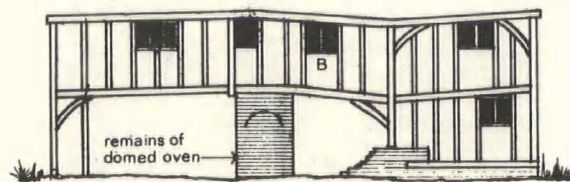
SOUTH ELEVATION



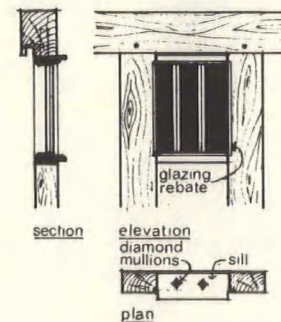
STAGGERED SECTION TO WEST.



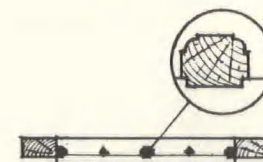
WEST ELEVATION showing inserted jetty in hall.
Stripped of pebbledash and modern windows removed.



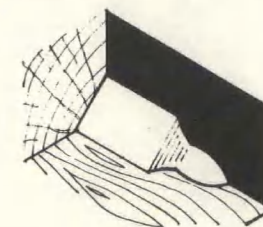
EAST ELEVATION stripped as west elevation.
17th century windows in position.



17th CENTURY INSERTED WINDOW 'A'

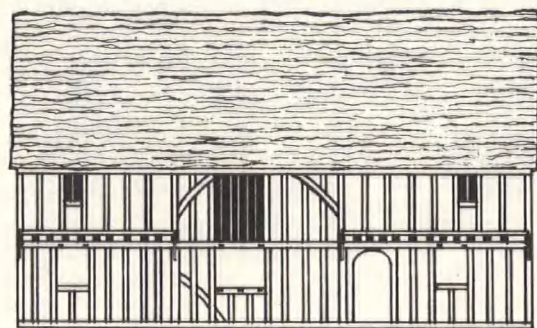


PLAN, INSERTED WINDOW 'B'



CHAMFER STOP to inserted primary joist and fireplace lintel.

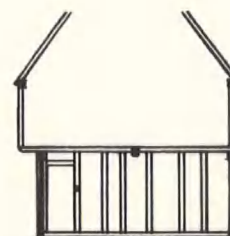
Fig 3 Rowe's Cottage, Little Barford: elevations, sections and details.



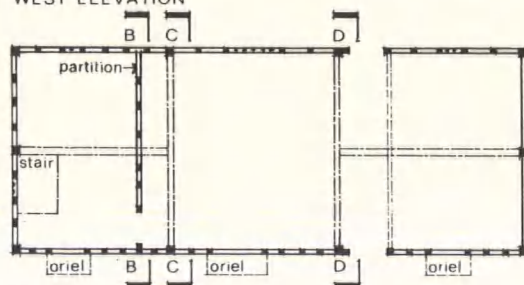
WEST ELEVATION



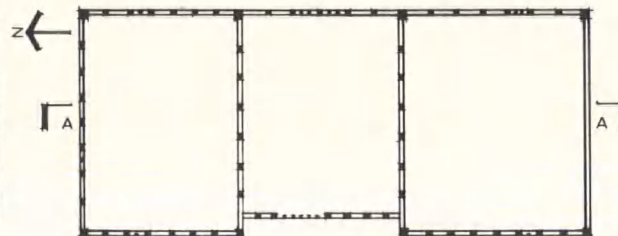
EAST ELEVATION



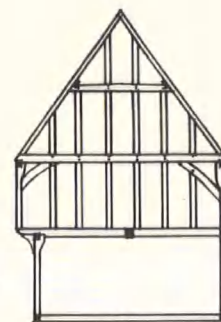
SECTION B B



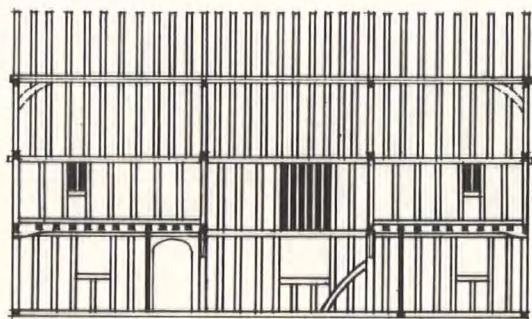
GROUND FLOOR



FIRST FLOOR



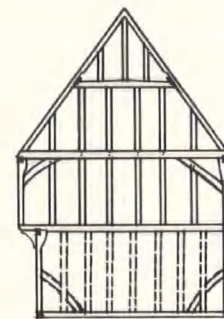
SECTION D D



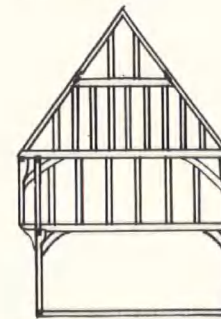
SECTION A A looking to front



NORTH ELEVATION

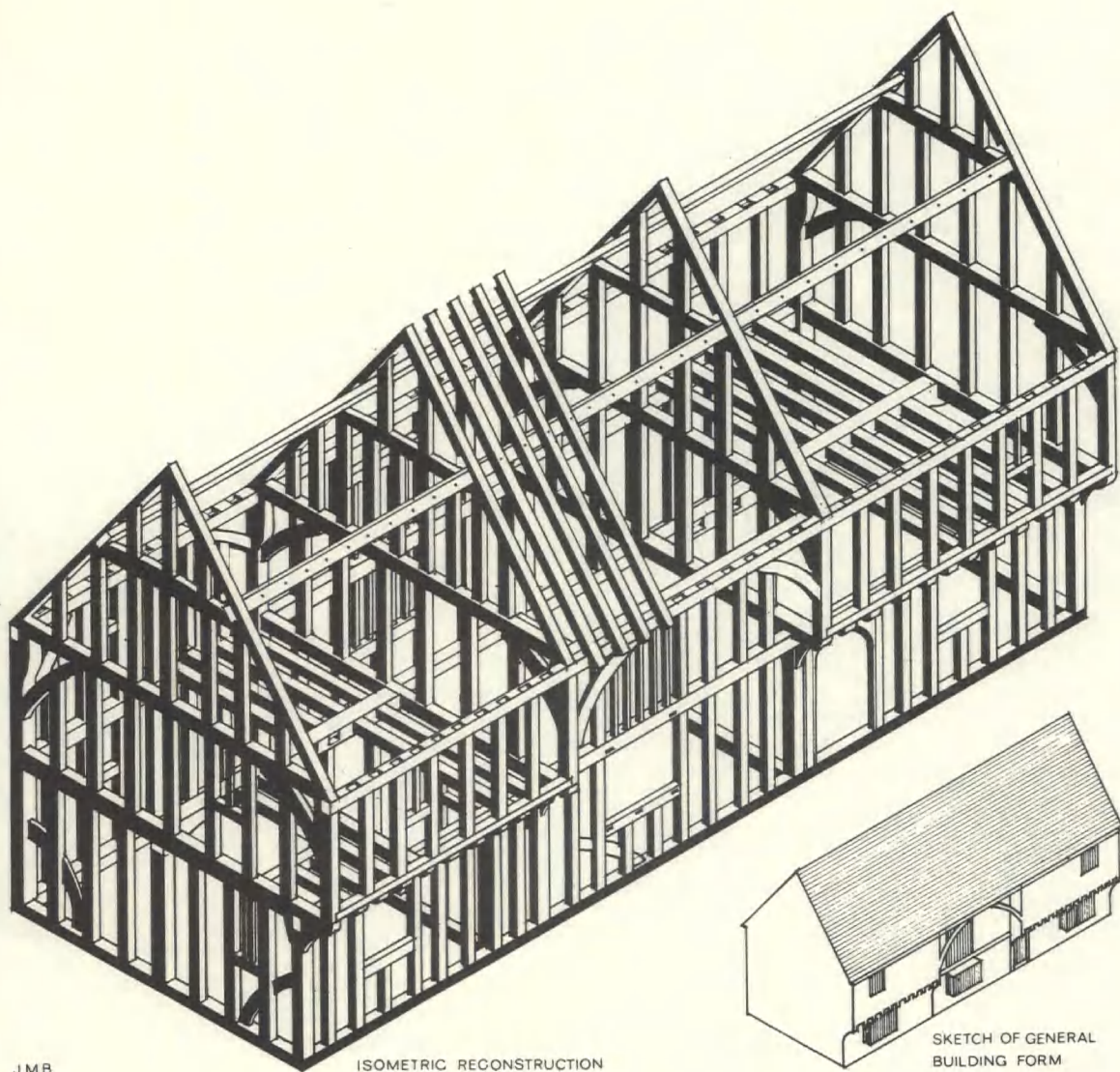


SOUTH ELEVATION



SECTION C C

Fig 4 Rowe's Cottage, Little Barford: plans of original timber-framing, elevations and sections.



JMB

ISOMETRIC RECONSTRUCTION

SKETCH OF GENERAL
BUILDING FORM

Fig 5 Rowe's Cottage, Little Barford: isometric reconstruction of the original 'Wealden House'.

plate into two halves and subdivided again at the upper level by a central stud.

At the northern end of the building the entire elevation can be reconstructed in almost every detail. Most of the studs were destroyed by the added Victorian elevation, but mortices in collar, tie beam and bearer show the position of studs, windows and braces.

On this north elevation there is evidence of windows at both ground and first floor levels. These are of an early form with shutter grooves

internally. From this we can deduce that a building did not abut to the north elevation during the early stages of its existence.

Later rebuilding of the southern elevation has destroyed all of the studs, and, unfortunately, the end bearer. It is therefore only possible to reconstruct the upper half of the elevation.

An uncommon constructional detail is the way that studs are tenoned directly into the underside of many of the tension braces in the main frame, both in the hall and wings. Other braces at end and

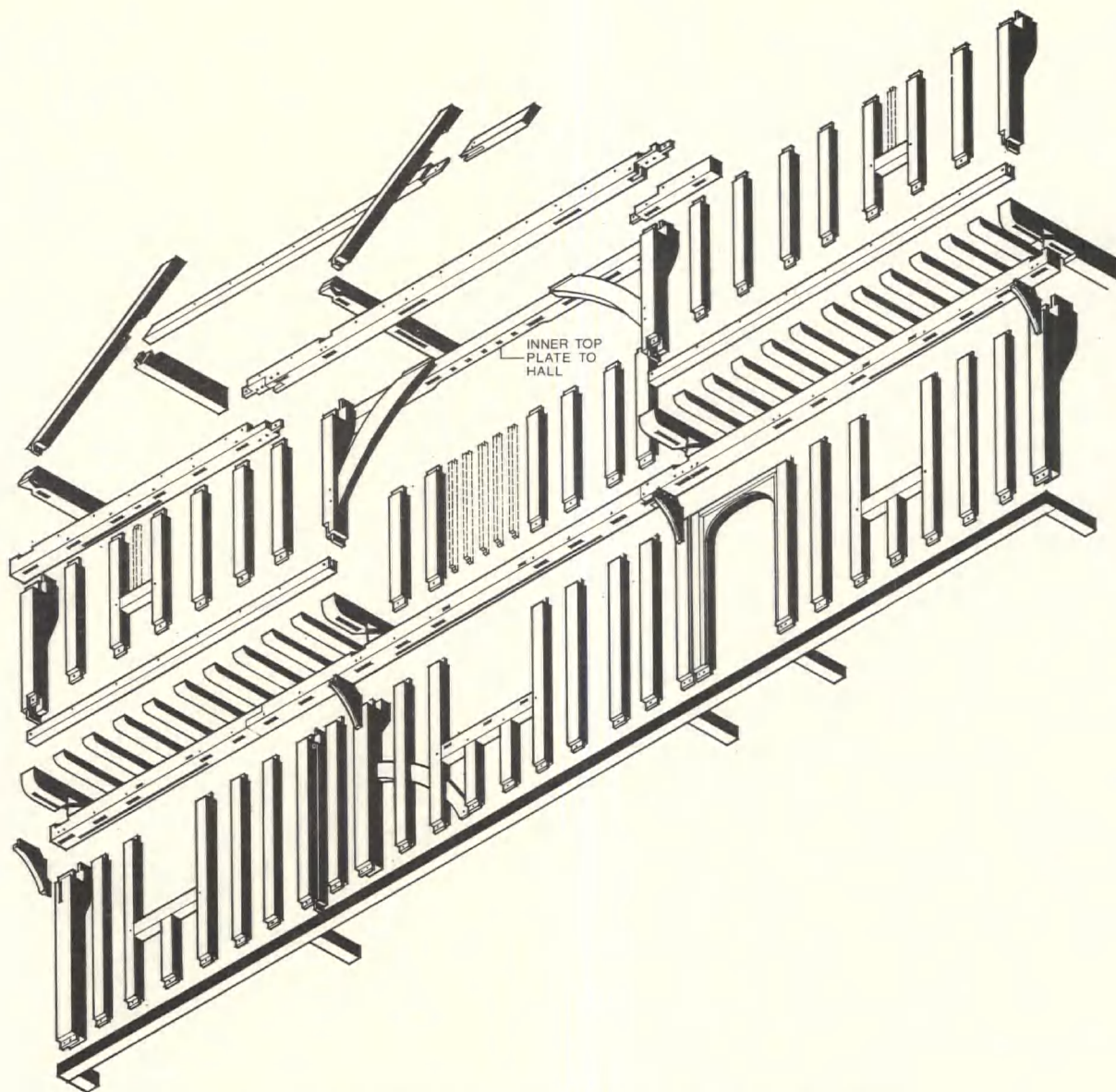
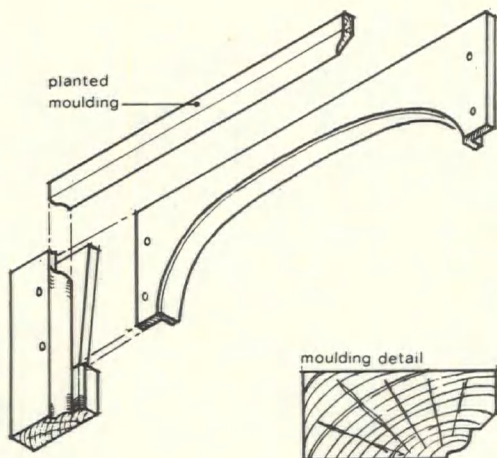


Fig 6 Rowe's Cottage, Little Barford: exploded isometric of the original west front.

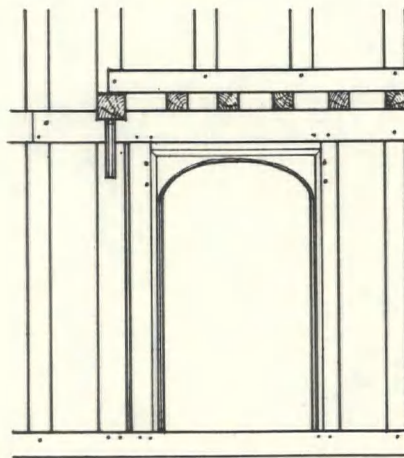
front elevations are halved on the inner face of the studs.

The roof is of clasped purlin construction with evidence of wind braces at the ends of the building only, positioned in the traditional manner between principal rafter and purlin. There is evidence of a single brace at the front and rear of the centre bay, running in both cases diagonally from the northern end of the wall plates across to the southern end of the purlins, thus stiffening the northernmost

rafters in this bay. These braces are unlikely to be original. The principal rafters are of continuous section throughout their length except for an extended cut out for the insertion of purlins. The original first floor wall plates survive above the north wing and hall bay, but a substantial length has been replaced at both front and rear over the southern wing. The position of the rafters can be established for the entire building from pegs in the purlins and are shown in section AA. Also

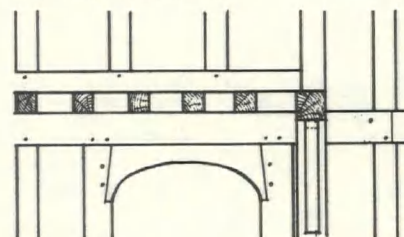
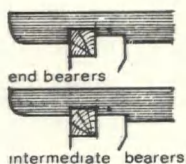
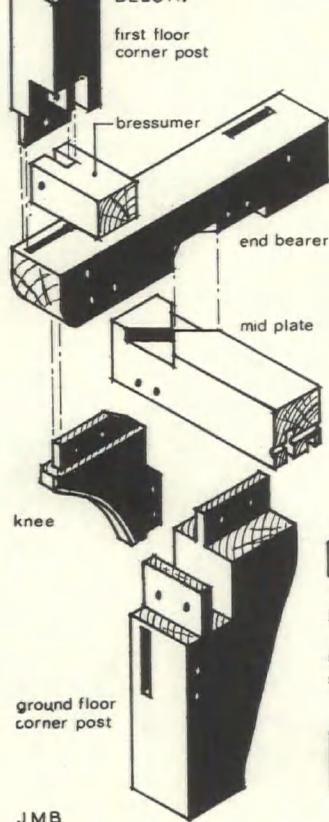


DOORWAY DETAILS



EXTERNAL ELEVATION OF DOORWAY
shown in its original position

JETTY CONSTRUCTION AT
N.W. CORNER DETAILED
BELOW.



INTERNAL ELEVATION OF DOORWAY

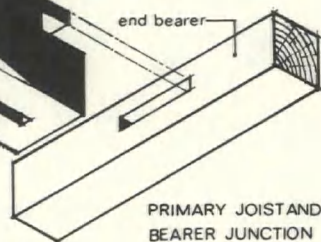
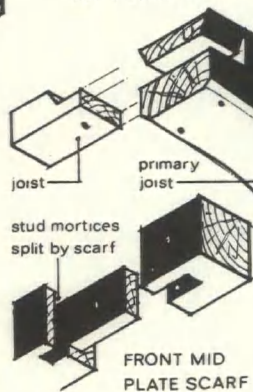
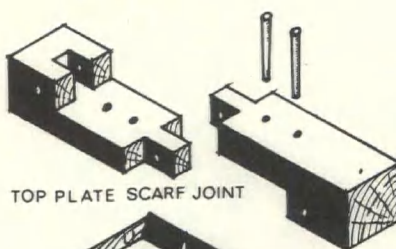


Fig 7 Rowe's Cottage, Little Barford: carpentry details.

on this section are indicated in chain dot the position of the wind braces.

CARPENTRY DETAILS

The Doorway

Fortunately all of the elements of the main doorway had survived, having been plastered over during one of the rebuilding phases. Full details of the construction of the doorway are shown in figure 7. The door head is cut from a single piece of timber and is let into the door jambs at either side. It is not, however, tenoned into the underside of the mid-plate. The intrados of the door head is chamfered to match the corresponding element of the moulding running up the inside face of the door jambs. A planted moulding runs along the top of the door head.

Scarf, Tying and Floor-joist Joints (see figure 7)

All of the scarf joints used in the construction of the building survive other than those which may have been used in the ground cill. There are four scarf joints in the top plates, two in the front and two in the rear of the building. They are all edge-halved scarf with bridled-butts, two face pegs and two edge pegs. This joint occurs in one instance at the junction of the tie beam to the top plate. At the front mid-plate on the hall bay there is a simple vertical butted scarf with secret bridle and single edge peg. The tie beams are all secured to the top plates by lap-dovetails with entrant shoulders. The common joists in the north wing, where they join the original bridging joist are secured by a bare-faced soffit tenon with diminished haunch and peg. The common joists are secured to the replacement bridging joist in the south wing in a similar manner. The north wing bridging joist tenons simply into the bearer at the south end. Its junction at the northern end is detailed in figure 7.

DISTRIBUTION OF THE 'WEALDEN-HOUSE'

An isometric reconstruction of the building in its original form as far as can be established from the surviving evidence is shown in figure 5. As previously discussed, this form of building with jettied wings at either end of a recessed hall and continuous overall roof structure is known under the general heading of 'Wealden'. The 'Wealden' house is to be found in the greatest numbers in the south eastern extremity of England, with the main concentration in Kent.

The majority of known Wealden-type houses have been mapped by Stuart Rigold.² His map shows that, although most of the buildings are concentrated in Kent, Surrey and Sussex, there are isolated buildings spread over a large area; ie. York; Weobley, Hertfordshire; Yeovil, Somerset; Warwickshire. To the best of the author's knowledge, only one previous example had been published from Bedfordshire, at Kempston (plate 2). In addition to the Little Barford example, the author has, however, recently identified another Bedfordshire example at Elstow³ which has a single bay hall and gable ends to the wings. An attempt to provide a revised map for the area, the Midlands and north of the Thames, is given at figure 1; the accompanying schedule is printed as appendix 1 to this paper. The author would be pleased to hear of additional examples.

Little Barford may be of an unique form with respect to the arrangement of windows on the front elevation. The carpentry evidence conclusively shows that there were oriel windows at ground floor in both wings and at low level in the hall. The unusual feature is that the oriel window in the hall does not extend full height, as is more usual, but terminates below the mid-plate.

In this instance a flush, five-mullioned window is positioned above the low level oriel and extends from the mid-plate to the underside of the top-plate of the recessed hall.

The relationship between the three ground floor oriel windows and the windows at first floor level can be seen in figure 4, west elevation and the isometric drawing in figure 5. Details of the mortices in the front faces of the timbers relating to the oriel window construction can be seen in figure 6. The sill and head of the window openings at ground floor front elevation were completely free from any mullion mortices. Unlike the traditional 'Wealden' house, Little Barford has a gabled, not hipped roof. This gabled roof form is more common away from the traditional south-eastern areas of the primary 'Wealden' buildings. These isolated buildings north of the Thames, like Little Barford and Elstow, are more usually of clasped purlin construction whereas the south eastern buildings have predominantly crown post roofs.

From the carpentry evidence the building would appear to be of sixteenth-century date, particularly in view of the use of bare-faced soffit tenons for the floor joists. This is probably one of the later forms of a traditional building which had its



Plate 3 Box End Farmhouse, Kempston, (now demolished);
From a drawing by Francis Stevens, 1815; courtesy Bedford Museum.

origins in the fourteenth century. It would be unwise to draw any wide conclusions regarding the distribution of the Wealden house in Bedfordshire and adjacent counties based on present knowledge. Future field work will doubtless bring to light further examples in the villages which have not yet been subject to intensive investigation and which may contain many early buildings concealed behind later facades.⁴

APPENDIX I

SCHEDULE OF 'WEALDEN' HOUSES IN BEDFORDSHIRE AND COUNTIES OUTSIDE THE PRIMARY AREAS

ABBREVIATIONS

Gibson, 1973: A.V.B. Gibson, 'A "Half-Wealden" House in Bishop's Stortford', *Herts. Arch.*, 3, 1973, 127-130.
Munby, 1977: L. Munby, *The Making of the Hertfordshire Landscape*

R.C.H.M.: Royal Commission on Historical Monuments.
Jones and Smith, 1961: S.R. Jones and J.T. Smith, 'The Wealden Houses of Warwickshire and their significance' *Trans. Birm. Arch. Soc.*, 79, 1960-61, 24-35.

LITTLE BARFORD

Rowe's Cottage, now re-erected at Glatton, Cambridgeshire
Literature this paper.

BEDFORD, BEDFORDSHIRE

Cardington Road; possible 'Wealden' house on north side, demolished in the 1890's. Shown on nineteenth-century photograph.

Literature R. Wildman, *Bygone Bedford*, 1974, no 85.

CADDINGTON

Pipers Farm, Aley Green

Literature Luton Museum records photo 32/64.

ELSTOW, BEDFORDSHIRE

High Street,

Literature J.M. Bailey 'The Timber-Framed Buildings of Elstow'. Paper in course of preparation, for a future issue of *Bedfordshire Archaeological Journal*.

KEMPSTON, BEDFORDSHIRE

Demolished example

Literature W.G. Hoskins, *Midland England*, 1949, 72.

WALTHAM ST. LAWRENCE, BERKSHIRE

Literature drawing, Buckler Collection, B.M. Add. MS. 36436, f. 176.

AYLESBURY, BUCKINGHAMSHIRE

Source personal observation, J.T. Smith and S.R. Jones.

AMERSHAM, BUCKINGHAMSHIRE

Literature R.C.H.M. *Bucks I*, mon 22 and perhaps 51, cited by Jones and Smith, 1961.

BEACONSFIELD, BUCKINGHAMSHIRE

Wycombe End, the Rectory

Literature N.B.R., AA/4554

Shepherds Lane, "range of stabling and end of nos. 12-18".

Literature N.B.R., AA/4642

unknown building

Literature B.M. Add. MS. 36436 f. 183, cf. also R.C.H.M. *Bucks I*, sub Beaconsfield.

EDDLESBOROUGH, BUCKINGHAMSHIRE

Charity Farm

Literature R.C.H.M. *Bucks II*, North, 110, with good description.

ETON, BUCKINGHAMSHIRE

Cockpit

Literature N.M.R. R. Whinstone photo.

HADDENHAM, BUCKINGHAMSHIRE

Church Farm House

Literature R.C.H.M. *Bucks I*, 179

LONG CRENDON, BUCKINGHAMSHIRE

Court House

Literature R.C.H.M. *Bucks I*, Illus. opp. 240.

CHALFONT ST. GILES, BUCKINGHAMSHIRE

Austins Farm

Source S.E. Rigold and J.T. Smith

BARRINGTON, CAMBRIDGESHIRE

"The Royal Oak"

Literature R.C.H.M., *West Cambs*, 1968, 10-11

SWAFFHAM BULBECK, CAMBRIDGESHIRE

Burgh Hall

Literature R.C.H.M., *North-East Cambs*, 1972, 102-105 mon. 4

FOBBING, ESSEX

Whealers House

Literature R.C.H.M., *Essex IV*, xl-i.

GREAT WALTHAM, ESSEX

unknown building

Literature R.C.H.M., *Essex II*, 104-12.

LITTLE WALTHAM, ESSEX

near Winckford Bridge

Literature R.C.H.M., *Essex II*, 96.

NAVESTOCK, ESSEX

Navestock Hall

Source S.E. Rigold and J.T. Smith

NEWPORT, ESSEX

Monks Barn

Literature R.C.H.M., *Essex I*, 204.

ONGAR, ESSEX

unknown building

Source S.E. Rigold and J.T. Smith

SAFFRON WALDEN, ESSEX

Five examples—

24/26 Bridge Street

house opposite 24/26 Bridge Street

43 Castle Street

49 Castle Street

51 Castle Street

Literature R.C.H.M., *Essex I*, 228-60

SOUTH WEALD, ESSEX

Moat House

Source S.E. Rigold and J.T. Smith

STANSTEAD MOUNTFITCHET, ESSEX

At Benfield Green

Literature R.C.H.M., *Essex I*, xxvi, mon. 23.

THEYDON BOIS, ESSEX

unknown building

Literature R.C.H.M., *Essex II*, 230-1

THEYDON GARNON,

Bridge Farm

Literature R.C.H.M. *Essex II*, 231-232.

WEOBLEY,

unknown building

Literature R.C.H.M. *Herefordshire III*, mons. 37 and 38.

ANSTEY, HERTFORDSHIRE

The Old Vicarage

Source J.T. Smith

BARKWAY, HERTFORDSHIRE

93/95/97 High Street

Source J.T. Smith

BARLEY, HERTFORDSHIRE

'Fox and Hounds' public house

Source J.T. Smith

BISHOPS STORTFORD, HERTFORDSHIRE

8 High Street

Literature Gibson 1973

CALDECOTE, HERTFORDSHIRE

Manor Farm

Source J.T. Smith

HERTFORD, HERTFORDSHIRE

19/21 St. Andrew Street

20-22 West Street

Source J.T. Smith, *Med. Arch.*, 19, 1975, 255

HITCHIN, HERTFORDSHIRE

32/33 Bancroft

Source J.T. Smith

MUCH HADHAM, HERTFORDSHIRE

Yew Tree Cottage

Morris Cottage

Source J.T. Smith

ST. ALBANS, HERTFORDSHIRE

137 (?) Fishpool Street

Source J.T. Smith, *Med. Arch.*, 19, 1975, 255.

STANDON, HERTFORDSHIRE

Brecknock, Puckeridge

Source J.T. Smith

STEVENAGE, HERTFORDSHIRE

131 Trinity Street,
Source J.T. Smith

THUNDRIDGE, HERTFORDSHIRE

"Fabdens"

Literature cited Gibson, 1973, Munby, 1977, pl.31

WALKERN, HERTFORDSHIRE

"Oak Beams"

Literature cited Gibson, 1973, Munby, 1977, 177.

WESTON, HERTFORDSHIRE

Source J.T. Smith

NEW BUCKENHAM, NORFOLK

Literature N.B.R. photo AA48/949

WEST ACRE, NORFOLK

Literature N.B.R. photo, Ian Nairn

HEMINGSTONE, SUFFOLK

Stonewall Farm

Literature N.B.R. photo.

HUNDON, SUFFOLK

Thatchers Hall

Literature E. Mercer, *English Vernacular House, a study of traditional farmhouses and cottages*, 1975, 203.

KERSEY, SUFFOLK

Post Office

Literature N.B.R. photo.

LAVENHAM, SUFFOLK

87 Church Street

Literature N.B.R. photo.

OXFORD

Literature B.M. Add. MS36160; J. Munby, 'A Fifteenth Century Wealden House in Oxford' *Oxon* 39, 1974.73-76.

WALLINGFORD, OXFORDSHIRE

Source Personal observation S.R. Jones and J.T. Smith.

YEOVIL, SOMERSET

Literature N.B.R., B42/3887-9.

ALCESTER, WARWICKSHIRE

Literature Jones and Smith, 1961

HENLEY-IN-ARDEN, WARWICKSHIRE

Literature V.C.H. *Warwicks III*, 270. para 2.

STRATFORD-UPON-AVON, WARWICKSHIRE

Masons' Court

11-12 Rother Street

Literature V.C.H. *Warwicks III*, 230.

WARWICK, WARWICKSHIRE

3 examples

Literature Jones and Smith, 1961, 29

COVENTRY

28 examples

Literature Jones and Smith, 1961, *passim*

YORK,

Literature R.C.H.M. survey by T.W. French.

ACKNOWLEDGEMENTS

My thanks are due to Eric Mercer for reading through my draft text and making many useful comments.

The schedule of Hertfordshire buildings was compiled mainly from examples taken from a list drawn up for the Royal Commission on Historic Monuments by J.T. Smith, and published by kind permission of the Secretary, R.W. McDowall.

The schedules of examples in Buckinghamshire and Essex have in part been compiled from lists prepared by S.E. Rigold and J.T. Smith and are published with their permission.

I am grateful to Mr. J.T. Smith, who kindly forwarded the above schedules to me and also gave other advice which assisted in the preparation of the distribution map of Wealden Houses.

Finally my sincere thanks to Miss M.L. Miller who assisted me in the many days of survey work at Little Barford.

REFERENCES

- 1 The building has been moved to Glatton, Cambridgeshire by the new owner, Michael West Esq.
- 2 S.E. Rigold, 'The Distribution of the 'Wealden House' in I.L.I. Foster and Alcock (Eds.) *Culture and the Environment: Essays in Honour of Sir Cyril Fox*, 1973, 351-354.
- 3 Paper in course of preparation by the author covering the timber-framed buildings in Elstow, Bedfordshire.
- 4 Paper received 10 September 1977.

The Bedfordshire Archaeological Council is indebted to the Bedfordshire County Council for a grant towards the costs of the publication of this paper.

Lower Roxhill Farm, Marston Moretaine: a measured survey of a timber-framed building

J.M. BAILEY

INTRODUCTION

Lower Roxhill Farm, Marston Moretaine, was in danger of being partly demolished during 1976 and a preliminary survey was carried out, during which the full significance of the building was observed by the writer. Fortunately the purchaser of the property was prepared to repair the building and preserve the considerable amount of original work which remained. He kindly consented to a full measured survey being made, with the result that most of the building details were observed and recorded.

Lower Roxhill is in the parish of Marston Moretaine and is a small hamlet, of widely dispersed buildings mostly of modern construction. The other main building of note is Lower Roxhill Manor. Lower Roxhill Farm itself is located at the crossroads, set back from the road and remote from any other remaining early buildings. Apart from the house itself there are no vernacular buildings of significant importance on the farm; the remainder of the complex is Victorian barns and modern structures.

DESCRIPTION OF BUILDING

GENERAL

The original part of the building is of timber-framed construction, most probably sixteenth-century in date. To this has been added a Victorian wing and various outbuildings. Although modification has been carried out most of the timber-framing survives.

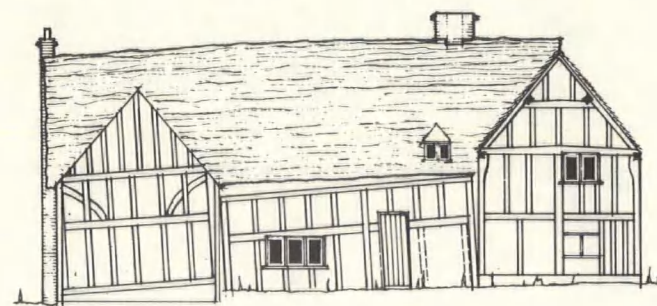
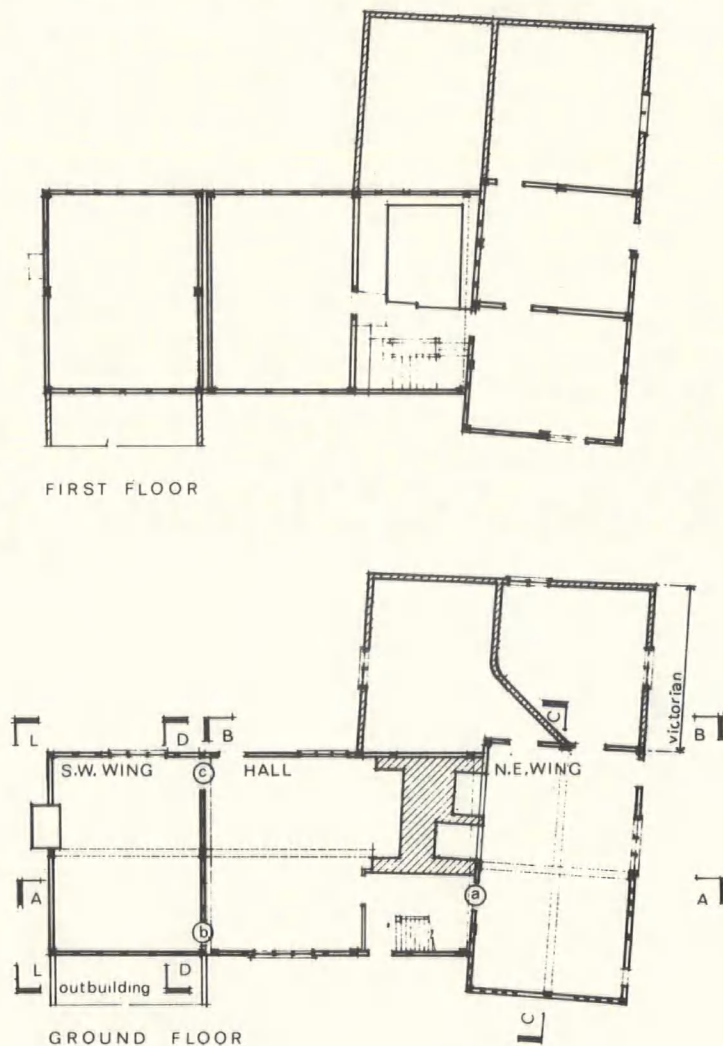
The basic form of the original building was a hall with a two storey cross wing at either end. None of the three parts of the building is jettied and all seem to have been built, if not together, within a short period of time. Figure 1 shows the ground and first floor plans of the buildings as they now are. Running from south-west to north-east are the original south-west wing, hall and north-east wing. Extending to the north-west is a Victorian brick extension in two parts; the south-west part is of double storey height but

without an intermediate floor. It contained a brick oven backing on to the chimney. The north-east part is two storey and served as a utility room at ground floor and as bedroom at first floor level.

To the south-east is a range of late brick and timber-built outbuildings and stabling. Also shown on figure 1 are the north-west and south-east elevations together with a longitudinal section to the south-east. Both elevations have been drawn at an intermediate stage during the restoration when the pebble-dash had been stripped, but before new windows were added and doors repositioned. The south-east elevation is taken partly through the building. The longitudinal section has been simplified to show as much of the original work as possible and is a staggered view to miss the chimney and stair. Figure 2 shows the north-east and south-west elevations. Part of the outbuilding has been shown on the south-west elevation. The remaining sections and details in figure 2 are discussed in the body of this report. All of these sections have been much simplified to indicate the original work more clearly.

THE HALL

The hall is in two major bays with the north-east bay divided into two by an additional truss to form a screens passage at the north-east end, and what presumably must have been a smoke bay. The screens passage was at the extreme north-east end of the hall. A later fireplace and chimney has been inserted in the hall, filling the major part of the north-eastern bay and destroying much of the evidence of the screens passage other than the detail of the door frames at either end. Positive evidence of original doors leading through from the hall into the wings can be seen, and these are indicated in figure 1 as doors (a) and (b). A later opening was made into the south-west wing (door c). Possible evidence of a second door into the north-east wing has been destroyed by the inserted fireplace. The entire north-east end of the hall has been destroyed except the corner posts and part of the roof truss. However, a large por-



SOUTH EAST ELEVATION

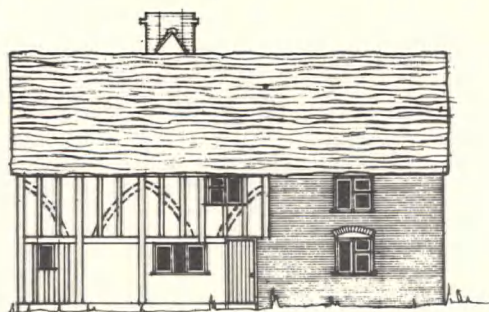


NORTH WEST ELEVATION

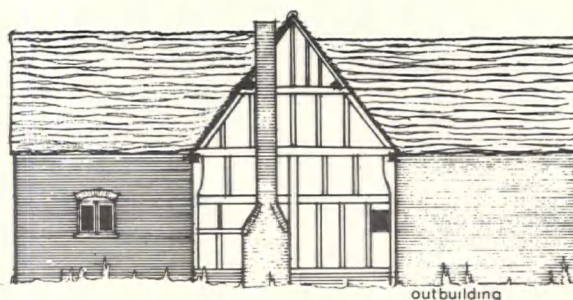


SECTION A A SIMPLIFIED

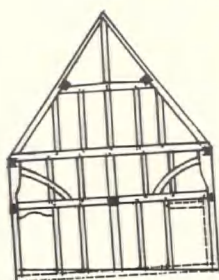
Fig 1 Plans, elevations and longitudinal sections.



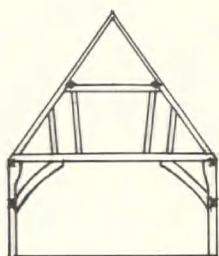
NORTH EAST ELEVATION



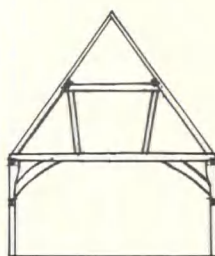
SOUTH WEST ELEVATION



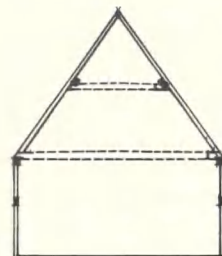
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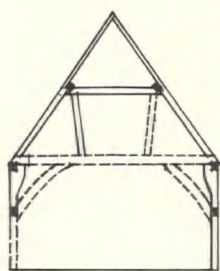
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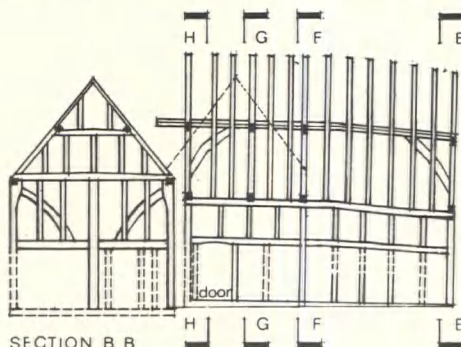
SECTION F F



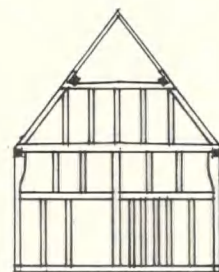
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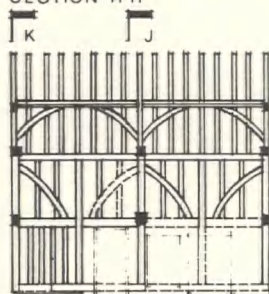
SECTION H H



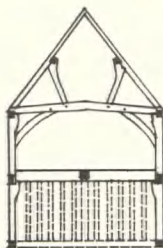
SECTION B B



ELEVATION L L



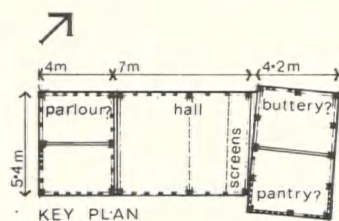
SECTION C C



SECTION J J



ELEVATION K K



KEY PLAN

J.M.B.

Fig 2 Elevations and Sections.

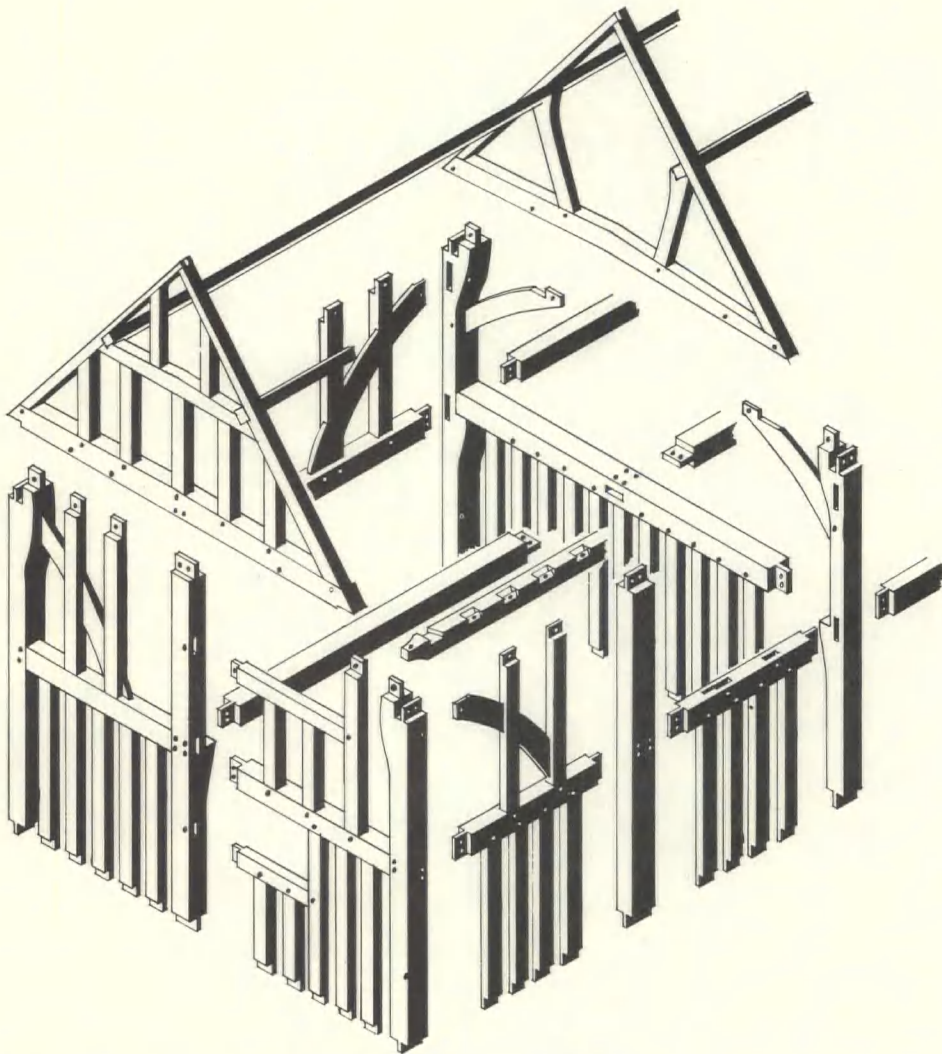


Fig 3 Exploded isometric view of north-east wing, looking from east.

tion of the south-west end does remain, and details can be firmly established.

It would seem that the entire hall is of light open construction and did not have any infilling studs between the underside of the tie beams and the ground cills, the only stiffening being tension braces below the tie beams. This is important as it shows that the hall must have been constructed at the same time or later than the wings. This is discussed later in the paper.

Windows were located at both sides of the south-west bay of the hall. Unfortunately, details of these were lost when the undersides of the horizontal mid-plates were cut away for later win-

dows. Shutter grooves remain running the length of the bay on both sides.

The roof has been much cut away and replaced but the location of the rafters can be seen and it is of clasped purlin construction. A simplified section through each truss of the hall is shown in figure 2. Section EE shows the south-west end of the hall from the inside. This was of very light construction with a queen post truss without studs above the collar. Below the tie beam the only structural members are the two braces from the underside of the tie beam to the corner posts. The remaining evidence of the north-east end of the hall, section HH, shows that this end was identical to the south-

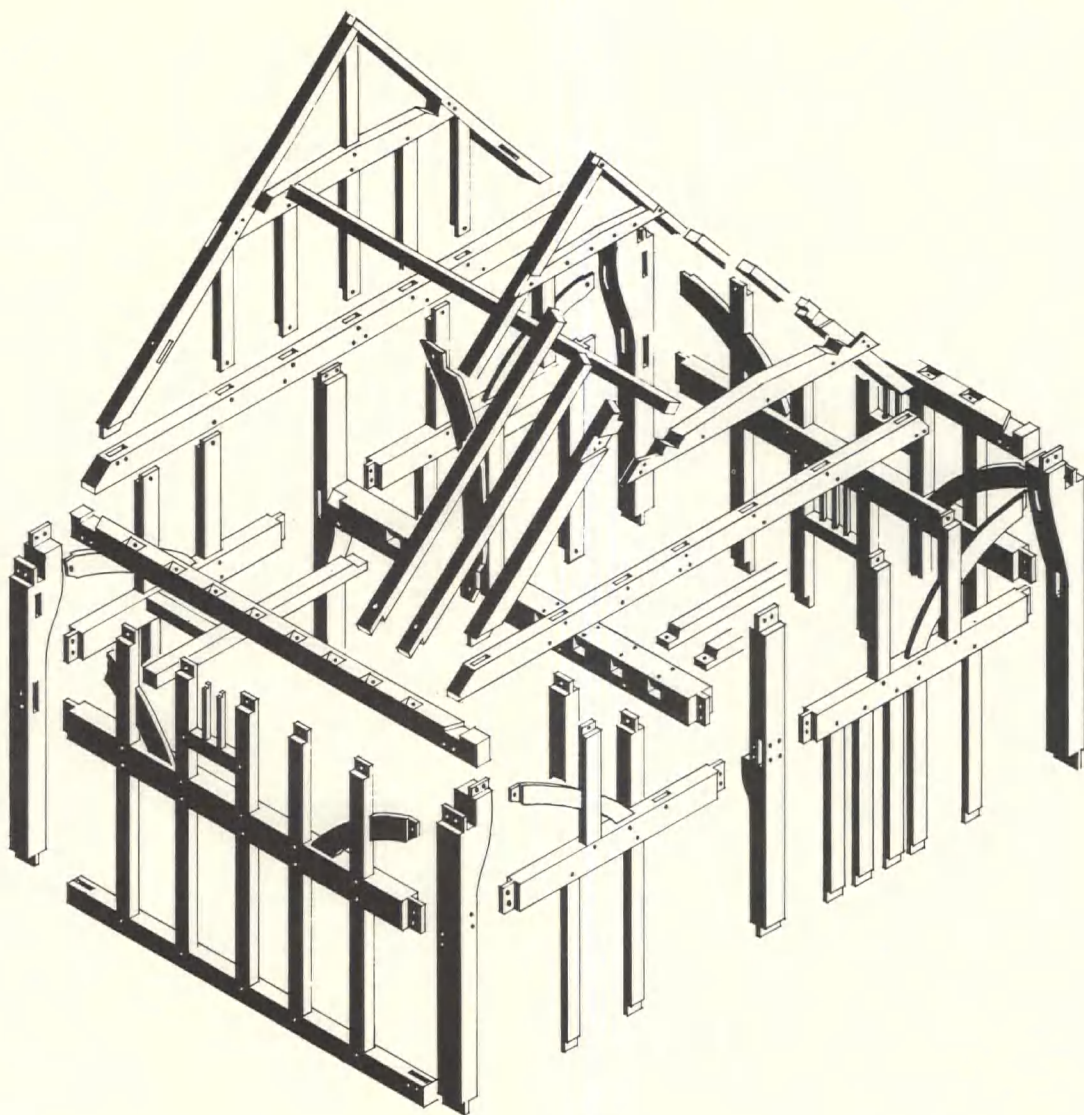


Fig 4 Exploded isometric view of south-west wing looking from west.

west end. The central truss, section FF, is similar to the ends except that the braces strike the posts at a higher level. Section GG shows the additional truss forming what must have been the smoke bay. Only a small section of the collar and tie beam remain, as they were cut away by the inserted chimney. The trusses are of clasped purlin construction and, with the exception of the smoke bay truss, the principal rafters reduce in section above the collar.

THE NORTH-EAST WING

This wing is the most substantially built section of the building with the somewhat uncommon feature of close studding at ground floor level and wide panels at first floor. The first floor elevations are stiffened by curved braces spanning across between their respective corner or mid-posts and mid-plates. These braces are halved onto the inside of the studs and are not visible on the external elevation. This wing is on a north-west to south-



Plate 1 Lower Roxhill Farm, Marston Moretaine: from east.

Photograph: J.M. Bailey.

east alignment, while the hall and west wing are on an axis running south-west to north-east.

Most of this wing can be analysed except for the north-east face which at the time of writing had not been stripped of its pebbledash coating and could only be surveyed from inside. The wing is in two equal bays and from remaining evidence was originally divided at ground floor level into two rooms by a partition running across the centre of the building. There are four full height prick posts, one on the centre of each elevation. These perform the dual function of receipt of the tenons of the eight mid-plates running around the building and the carriage of the beams supporting the floor joists. The primary joist runs the length of the building and is in two halves: the outer ends are supported on the ledge of the prick posts and the inner ends are tenoned into the bearer, which in turn spans between the other two prick posts.

The positions of windows cannot be clearly seen but there is some evidence in the south-east end. This would seem to show that there were two windows, one at ground floor and one at first floor level, both on the north-east side of the centre post.

The only door opening still visible is that in

the south-west side of the south-east bay (door (a) on fig 1). As the wing was originally divided into two by what appears to have been an unbroken partition, there would logically have been a door in the south-west side of the north-west bay, also leading into the screens passage.

An almost complete clasped purlin roof caps the building, with rafters and wind braces intact. In figure 2 there are sections through this wing, giving details of all evidence of original construction that can be seen so far. Section JJ looking to the north-west through the central truss indicates the two sloping queen posts that exist between the tie beam and purlins. The two curved braces at first floor level have also been indicated. A row of mortices along the underside of the horizontal beam would seem to indicate that there was an unbroken partition running across the wing at ground level and the studs have been indicated in chain dot.

THE SOUTH-WEST WING

This wing is of single-bay construction and was divided into two rooms on the ground floor by a partition running from south-west to north-east along the centre line of the building. This partition

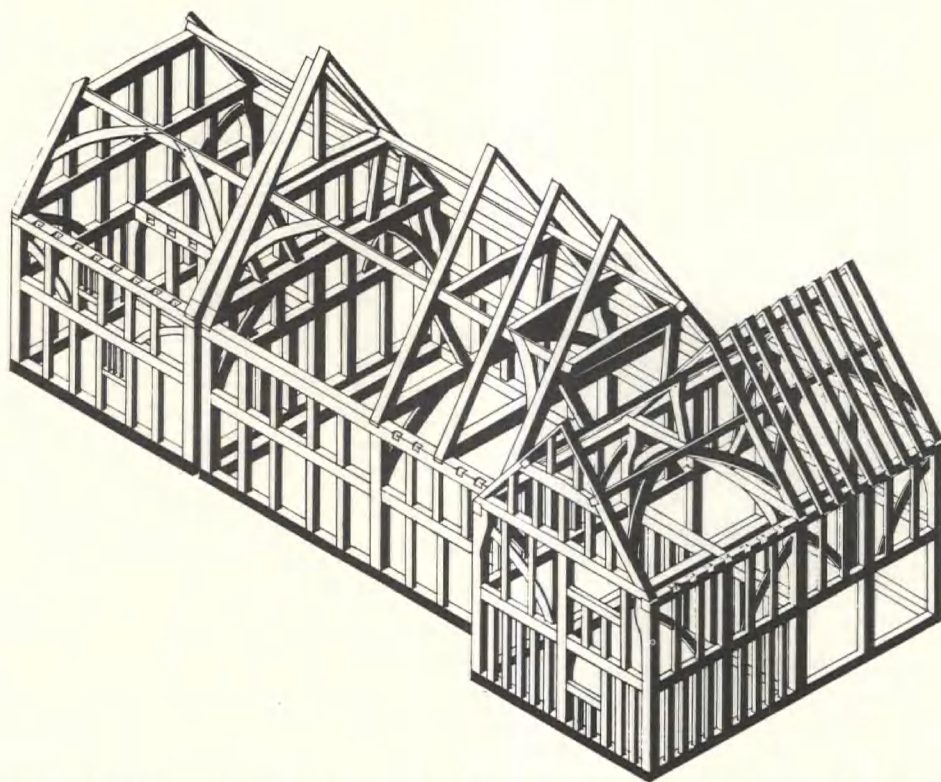


Fig 5 Composite isometric view of the timber-framed building at Lower Roxhill Farm, Marston Moretaine, looking from east.

may have been added later as door c (see fig 1), giving access to the northern room, is certainly an insertion. The primary joist is supported at either end by prick posts which extend from the ground cills to underside of the tie beams.

The elevations are infilled with widely spaced studs and the frame is stiffened at first floor level on all of the elevations by curved braces set between the corner posts and the mid-plates. These braces are halved on the inside of the studs. There is an exception to the symmetry of stud spacing at the west end of the building where, at ground floor level, the studs are at close centres. Judging by the arrangements of studs, there was most probably either a door or window in this elevation at ground floor. Evidence of original windows could be seen in both south-east and north-west elevations. On the south-east side windows with diamond mullions had been located at both first and ground floor levels. The evidence on the underside of plates included the shutter grooves in addition to the diamond-shaped holes. It was also possible to obtain the original cill position at both levels from evidence of joints in the studs. Windows on the

north-west side were of different form. At first floor level there are 50mm by 25mm mortices to receive the mullions which could have therefore been moulded. The window at ground floor had iron bars, the remains of which are cut off level with the underside of the plate.

This wing also has a clasped purlin roof with curved wind braces. The south-west end of this roof would appear to have been hipped, as the principal rafters and three adjacent common rafters have been cut back at an angle and then at a later date extended to the full height of the ridge. This hip would seem to have been original as there is no evidence of studs originally being on top of the collar.

In addition to the elevation on the south-west end of this wing a reconstructed detail (section LL) has been shown on figure 2. All of the existing evidence has been summarised on this section, with the studs shown in their original position. It has been assumed that all of the close studding at ground floor level was full height between mid-plate and ground cill. Section DD through the north east wall of the wing can be completely re-



Plate 2 Lower Roxhill Farm, Marston Moretaine:
north-east wing.
Photograph: J.M. Bailey.

constructed. The door at the south-east end of this elevation (door b) can be seen to have been adjacent to the corner post. A tenon for the door head can be seen on the inner face of the remaining side of the door frame; and there is a mortice in the underside of the mid-plate, tight to the corner post, which would have received the tenon of the other side of the door frame. The inserted door at the other end of the elevation (door c) had been located between the existing studs and a crude door head added.

ORIGINAL FORM OF BUILDING

The trapezoidal shape of the hall gives the impression that it was a later infill between the two wings. This however cannot be proved and there may be other reasons for the asymmetrical form of the general ground plan. Certainly the hall could not have been in position without the two wings (or earlier wings) as the ends of the hall were not infilled and the north-eastern ends of the hall purlins extend 750 mm beyond the end of the building.

The final form would have been a central hall with a screens passage at its north eastern end.

There would be two doors at either end of the hall. The two doors at the north-east end would have led from the screens passage into the two rooms in the wing. These rooms would most probably have been the buttery and pantry with a chamber at first floor level. At the south-west end the two doors led into two other rooms possibly a parlour and perhaps another private room. Above would have been the solar.

THE CARPENTRY

There are not, unfortunately, any scarf joints in any timbers other than the purlins, all the main timbers being in one piece. By carpentry analysis alone there is nothing to prove or disprove that all three sections of the building were built together.

The only slight difference in the roof construction was that the collars for the south-west wing were halved to the principal rafter whereas all other collars were tenoned into the principal rafters. This point cannot really be used as dating evidence as it is not unknown for both forms of jointing to be used in one building. In all three buildings bare-faced lap-dovetail joints were used to connect the tie beams to the wall plates.

The floor joist joints in the south-west wing were bare-faced soffit-tenon joints with diminished haunch and peg. The floor joist joints in the north-east wing are not visible and could not be inspected.

Exploded isometric views of the north-east and south-west wings respectively appear in figures 3 and 4. The former (fig 3) is shown looking from the east and gives details of the carpentry for half of the wing. The window locations visible are shown on the south east elevation at ground and first floor levels. The partition across the centre of the wing has also been reconstructed. Further details such as rafter locations and wind braces are shown on the composite isometric drawing (fig 5). Figure 4 is an exploded view of the south west wing looking from the west. The original stair position is shown at the north east end of the wing. Also shown is the detail of the hipped end with the supplementary collar across the common rafters.

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