ESSEX

ARCHAEOLOGY & HISTORY

THE ESSEX ARCHAEOLOGICAL SOCIETY

The Essex Archaeological Society was founded in 1852.

Its objects are:
(1)   To promote the study of the archaeology and history of the County of Essex.
(2)   To collect and publish the results of such studies in annual issues of *Transactions* and other publications.
(3)   To make researches, undertake excavations and field surveys, and assist in the preservation and recording of ancient monuments, earthworks, historic buildings, documents, and objects of archaeological interest and importance.
(4)   To provide library facilities for members and approved students.

Publications

The articles in its *Transactions* range over the whole field of local history. Back numbers and offprints are available; list and prices on application to the librarian. Libraries requiring complete runs can often be assisted.

Excavations

The Society is closely involved with excavations in the County. Details of current projects, on which help is usually welcome, are given in the Newsletter.

The Library

The library is housed at the Hollytrees, High Street, Colchester, and is extensive. It aims to include all books on local history, and has many runs of publications by kindred Societies. Full details of hours, etc., can be obtained from the Hon. Librarian.

Membership

Family and Affiliated Societies, £4. Institutional, £5.
Ordinary Members, £3.50.
Students, £2.
Application should be made to the Hon. Secretary.

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

A list of officers, with addresses, will be found on the inside back cover.

Cover by Barbara Wells, L.S.I.A.

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THE TRANSACTIONS OF
THE ESSEX ARCHAEOLOGICAL SOCIETY

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EDITORIAL

Much is written. Much has to be read. As an engineering student I was taught to use short sentences. A sentence was to be devoted to one fact. A paragraph was to be devoted to one topic. Thus each paragraph would contain several sentences. The first sentence introduced the topic.

The reader was of prime concern. It was pointed out that a writer should foresee the reader's questions. These questions were to be answered in a logical order. The *title* and the *summary* or *abstract* were to stand on their own and were to enable the reader to judge whether it was worth his while continuing. The *introduction* was to answer the readers basic questions such as how, when, where, why and what; in one recently submitted paper the most basic question was not considered until page 6. The reader had been forgotten, so why was the author writing?

It was considered extremely important to choose suitable section headings on which to build the report or paper. Headings were likened to signposts, hopefully to be encountered, on a journey from Dieppe to the Dardanelles. How difficult is a journey or text without helpful signposts, places to pause, consider and collect one's thoughts.

The mode of expression should not offend normal usage, although, since English is a living language, some idiosyncrasies may be acceptable. The style may be dull, jargon filled, of high fog index or interesting and inviting to read. The temptation at school was to pad, to use fine sounding phrases, to use obscure quotations and, in general, to fill up six pages in the shortest time. Such is not admissible today.

Some 19th century papers describing archaeological sites are of great value. Crouch and Pitt-Rivers are quoted in this journal. Some recent archaeological reports are, in contrast, of little value. For instance, the documentary survey may be of no relevance to the excavation. Sometimes the stratigraphy of the finds is ignored and they become a meaningless collection of rubbish. Often the readers task is a nightmare due to complicated referencing and uninformative drawings.

Decisions about publishing archaeological papers are relatively clear cut. The evidence is of paramount importance. In addition, parallels have to be sought and interpretations have to be discussed. But it is the evidence that is the vital part so that the reader can check the interpretation and, in years to come, can re-interpret in the light of new evidence. Also the principles of stratigraphy, association and typology are well understood so it is a simple matter to judge if the author has obeyed the rules.

It seems to me, with no expertise, that purely historical papers are much less easy to judge. Different readers raise different points. The national relevance of local matters may not have been stressed to the satisfaction of one reader but may be quite acceptable to another. The whole matter is so much more subjective.

It was the intention of the Publication Committee that there should be a balance of historical and archaeological papers in this issue. The distinction is artificial since the archaeologist is attempting to write the history of our people just as is the historian. Rescue archaeology receives a 75% publication grant from the Department of the Environment, so that a purely historical paper costs the Society four times as much as a rescue archaeological one of the same length. At today's prices, £1,500 of the society's money would buy less than 100 pages of history. One way out of the dilemma is for the historian to become more concerned with the historical researches needed by the medieval and post-medieval archaeologist; this way historical matter receives the 75% grant.

This issue is being edited from west Essex, it has a west Essex archaeological flavour mainly by coincidence. As Chairman of the Publication Committee I was asked by Council to take over this volume so that the overdue 1977 issue could be dealt with concurrently with this 1978 volume. It is the intention of the Committee that the 1979 volume should be well under way by Christmas 1979.

PETER HUGGINS
Editor *pro tem.*

TRANSACTIONS OF THE ESSEX ARCHAEOLOGICAL SOCIETY

VOLUME 10, 1978

CONTENTS

Excavations at Danbury Camp, Essex, 1974 & 1977

by S. MORRIS and D. G. BUCKLEY

Excavations in the southern interior of earthworks called Danbury Camp are reported. A small number of Iron Age, Romano-British and Saxon features and finds were excavated but no definite structures of any period were discovered. A discussion, with plans and details, of other Essex hill forts is included.

Introduction

Danbury Camp (TL 779 052) is an earthwork enclosing Danbury Church and graveyard, and occupying the western end of a promontory between the rivers Blackwater and Crouch, which flow eastwards to the Essex coast. It is situated at one of the highest points in Essex, being *c.* 111 m. (365 feet) above O.D. and is strategically placed on the first high ground (Fig. 1A) beyond the coastal plain which it dominates.

The present state of the earthworks is poor, though the remaining defences are seen to form an oval enclosure some 2.40 hectares (6 acres) in area (Fig. 1B, Pl. 1A). The circuit can be traced where existing boundaries follow the original line of the bank, though this is much eroded by natural and human agencies. To the north only a slope towards the main road, the A414, remains. The earthwork was recorded by Spurrell (1890) before much existing development had occurred. In addition to the surviving enclosure bank the ditch was traceable to the east, south and west, but not to the north. Only in the field to the west is there still a faint trace of this ditch (Fig. 1B, Z). Spurrell also identified two further banks to the west, the inner (Y) linking with the main enclosure at its NW corner and the outer (X) extending round to the north and down to meet the NE corner. It was suggested that these were "the remains, not so much of the original Camp as of pens or protections for cattle", and they were compared to the earthworks at Witham (Fig. 9). These additional banks were traced with difficulty by Spurrell and his published plan was the result of repeated observation at different times of year. At the time of the excavations in 1974 and 1977 the authors were unable to identify surviving remains of these banks. No mention was made by Spurrell of entrances and the position of the original entrance(s) is unknown. A mound adjacent to the rampart on the west side is recorded by Morant (1768, facing 30) as a former beacon site, and is probably later in date than the main earthwork.

History of the Site

The first reference to the 'camp' is in the place name 'Danbury' which is first encountered in the Domesday Book (1086) in the form *Danengeberiam.* Reaney (1935, 248) interprets this as 'the stronghold (burh) of the *Daenningas'.* The *Daenningas* are a group of people who have left traces in other place names in Essex (Dengie and Runsell Wood, formerly the forest of *Danegris*), and who might be interpreted as occupiers of an early Saxon *Regio.* More relevant to the 'camp' is the clear reference to it in the place-name and to its use in the Saxon period.

Based on an erroneous derivation from the place-name, Danbury Camp was long regarded to be Danish, as evidenced by the writings of Camden (1789) and Morant (1768, 27). No evidence exists to support such a firm association and an original function as an Iron Age hillfort is equally plausible. Morant's published plan, after Camden, gives an early impression of the earthwork. Along the south-west side and south corner, he writes that 'here the glacis is 30 feet or more'. This 30 feet (9 m.)
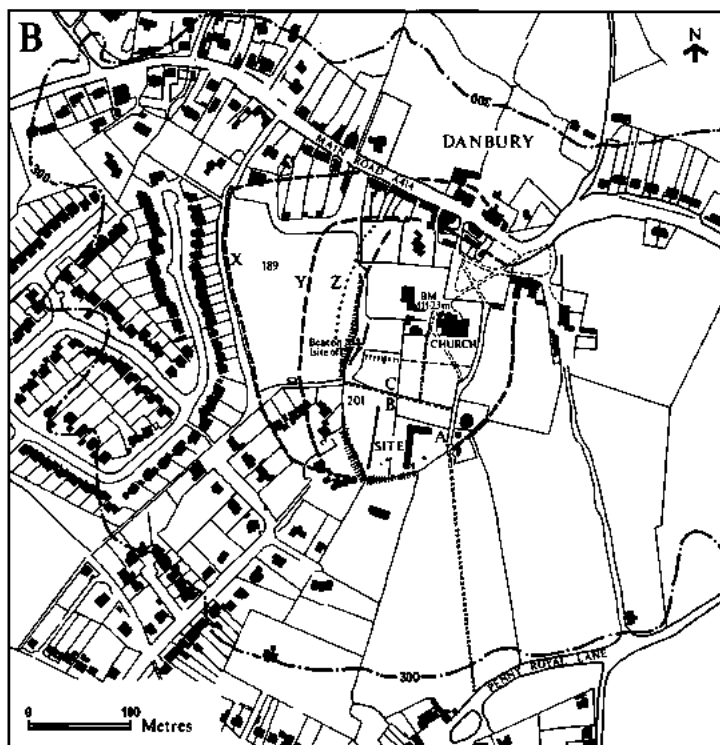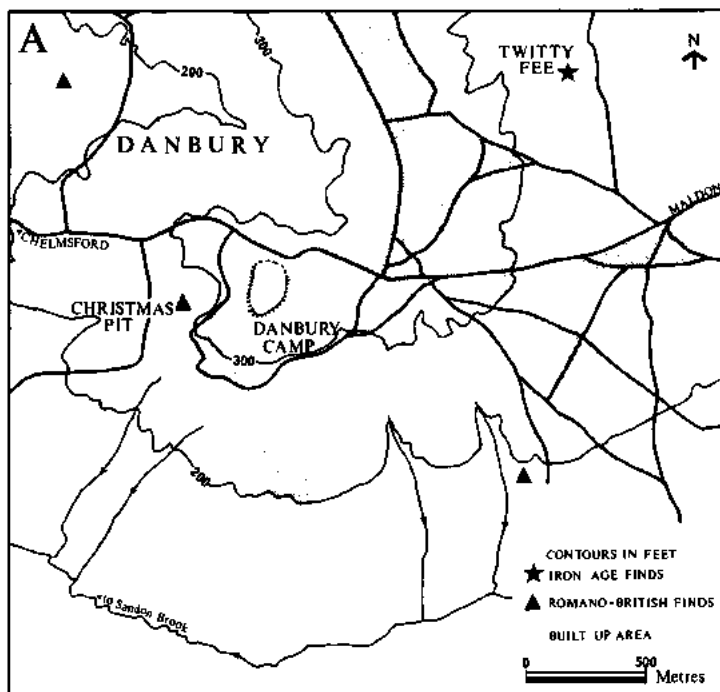
FIG 1 DANBURY CAMP, ESSEX; A. Location Plan; B. Earthwork Plan
(field 189 should be 198)

represents the greatest depth from the top of the rampart to the bottom of the ditch, a substantial increase on the present remaining height. The camp interior was little disturbed by buildings and the churchyard was smaller, much of the area being glebe land. According to the Tithe Map (ERO, 1834), its condition was unchanged in c. 1843, but additions to the churchyard of 1861 and 1893 (RCHM, 1923, 32-3), and again during this century, have extended the graveyard south to the enclosure boundary.

No previous archaeological excavation had taken place and although building has presumably destroyed the N rampart, and caused disturbance elsewhere, no record remains of its nature or of any finds. In 1935 a trench across the Camp was observed by J. N. Bull and a quantity of pottery was collected, largely of Iron Age date. P. Came, of Danbury, has observed recent ground disturbances in the area and recorded a number of finds, including medieval tile and pottery, and pottery has also been recorded from the new allotments. These finds are reported in Appendix 3.

Romano-British finds have been made at a number of locations around Danbury (Fig. 1A), notably much pottery of this date from the former Christmas' Pit, 250 m. west of Danbury Camp (TL 775051) (VCH, 1963, 124; CMR, 1944-7, 16). Gravel workings also revealed a small enclosure at Twitty Fee, 1.5 km. north-east of Danbury Camp (TL 792059) examined during 1932-35 (Bull, 1935-7). This produced substantial quantities of Iron Age pottery dated by Dunning (1933 and 1934) to two phases, "Hallstatt" and "La Tène III", also a sherd of Neolithic Peterborough ware and a Bronze Age stone bracer.

A large part of the Camp interior and line of the bank was scheduled as an Ancient Monument in October, 1975 (Essex No. 79). The excavations described in this report were undertaken from September to October, 1974, under the supervision of S. Morris and during June, 1977 under the supervision of D. G. Buckley.

Geology and Geomorphology

The geology of the Danbury area is shown on the Geological Survey map, Chelmsford Sheet 241, 1:50,000 series (Solid and Drift Ed.). The Danbury-Tiptree ridge is generally recognised as a pre-glacial structural feature which during periods of Pleistocene cold climate acted as a barrier containing the ice front. Lobes of ice extended down the valleys and outwash streams deposited extensive spreads of sand and gravel masking the London Clay. These deposits were exposed during the course of excavation, after removal of all archaeological levels, and showed considerable textural variation ranging from coarse gravels to fine gravels, pure sand and solid clay. These variations, arising from the nature of deposition, gave the appearance on occasion of archaeological features which required investigation.

The Excavations

The excavations were carried out in the southern interior of the Camp on three separate areas Sites A, B and C (Fig. 2) which together comprise much of the apparently undisturbed interior. Site A is the most recent addition to the churchyard where a number of rows of burials have taken place and future burials will destroy most of the remaining archaeological evidence. Site B was to be brought into cultivation as allotments in 1975, and again destruction of archaeological evidence was to be expected. Site C is a paddock which, during 1977, was to become an extension to the allotments. Here a low grass-covered bank and ditch was visible, trending west-east. The Tithe Map of c. 1843 showed this as the boundary between the south-east corner of field 198, now part of the paddock, and field 201, encompassing Sites A and B and the recent additions to the churchyard. Forming the southern boundary to the churchyard at that time, it was possibly a feature of some antiquity.

Prior to excavation the sites were surveyed and a contour plan made. This shows a fall in level of c. 3.0 m. between the north-east corner of Site C and the south-west corner of the enclosure; rising again slightly to the rear of the bank. A magnetometer survey was also carried out in advance of the
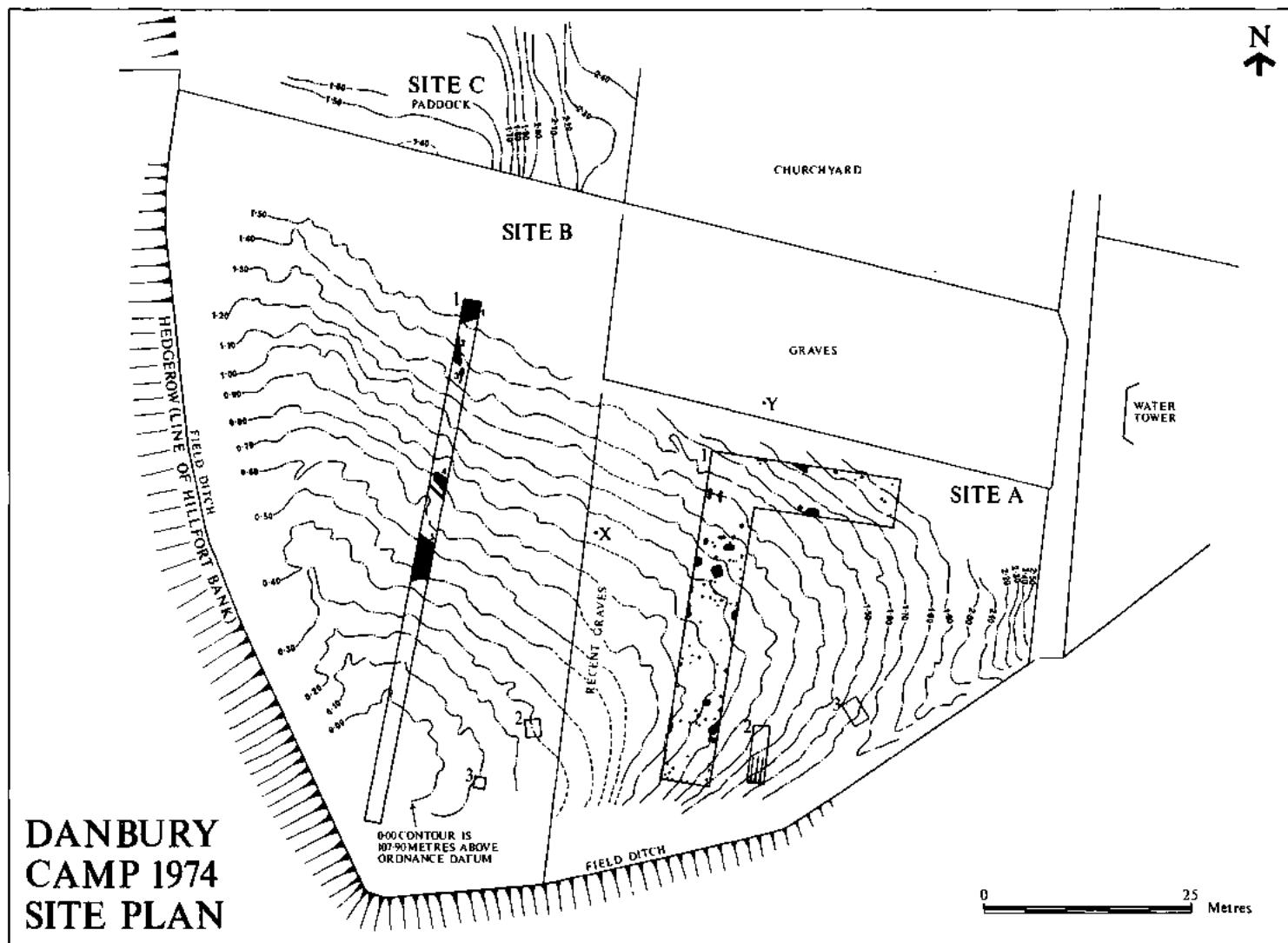
FIG 2 DANBURY CAMP, ESSEX; Plan showing Sites A, B and C

Site A and B excavations. This revealed little apart from a few weak anomalies in the northern area of Site A, possibly indicating a group of pits or hollows.

The field sections are deposited with the Essex Sites and Monuments Record in the Essex County Council Planning Department: Site Record Number 70/43.

SITE A: TRENCH 1

This was sited to examine the area in immediate danger of disturbance from grave-digging, while the eastern extension covered the area of anomaly recorded by the magnetometer survey. The trench was excavated by machine in successive spits, followed by hand cleaning, down to the top of Layer 4, at which level, features were distinguished. Details of the features are given in Tables 1 and 2.

THE STRATIGRAPHY: Representative lengths only of the full drawn field sections are illustrated (Fig. 4, A—A, B—B, C—C). The following stratigraphy was constant over the whole trench.
Layer 1: Turf and topsoil, relatively stone-free, reaching a depth of 20 to 30 cm.
Layer 2: Dark-brown loam with gravel. A fairly compact layer 30 to 40 cm. thick. No features were recognised at this level and the disturbed nature of the layer suggests a plough soil. Finds comprised tile and post-medieval pottery.
Layer 3: Black, humic soil with a maximum thickness of 40 cm. along the north face of the trench (Section B—B). It thinned south-eastwards disappearing beyond feature 98 (Section C—C), and at the southern end of the trench where it also became lighter in colour with proximity to the rampart. Feature 47, without finds, was the only feature which appeared to be cut from the top of this layer, all others being sealed by it. Despite the variable nature of this layer, finds were not found to be concentrated at any particular area or depth within it. These finds comprised tile, brick and pottery ranging from the late-sixteenth to the early-eighteenth century and an abraded Iron Age sherd.
Layer 4: Variable in colour and pebble content over the area of the trench, but predominantly a brown sand with pebbles, 25 to 30 cm thick. At this level a number of features appeared, the full pattern (Fig. 3) being revealed upon its removal, cut down into the sub-soil (Layer 5). Finds comprised small quantities of Iron Age, Romano-British and medieval sherds and tile. Also a number of pieces of metal, three flints and fragments of a Saxon loom weight.
Layer 5: The natural subsoil, comprising a wide range of gravels, sands and clays from which came a number of probable early Iron Age sherds.

INTERPRETATION: Interpretation of this stratigraphy is that Layers 1, 2 & 3 are late-medieval and post-medieval build-up overlying a former ground surface at the top of Layer 4. From this surface the features excavated were originally dug. A total of 107 features were excavated in Trench 1, designated 1 to 114. Numbers 13, 14, 56, 67, 70, 80 and 88 were not allocated.

POSTHOLES: 74 were recognised, there being two concentrations, one to the rear of the bank and another 20 metres to the north, but within these groupings, and elsewhere, the postholes formed no coherent structures. Table 2 gives the comparative posthole dimensions, depths given being from the bottom of Layer 4. The majority are small with undifferentiated fills of brown loam and gravel; rarely did significant sized packing stones occur. Only two postholes produced finds; 97, a fragment of tile; and 104, three abraded Iron Age or Romano-British sherds, one flint flake and two fragments of calcined bone. Charcoal fragments (oak) came from postholes 9 and 33.

OTHER FEATURES: 25 pit and/or ditch features were excavated, the details of which are summarised in Table 1.

NATURAL FEATURES: A number of features excavated were interpreted as natural but have been indicated on the excavation plan (Fig. 3) for completeness. Features 12, 26, 68, 81, 84, 85 and 91 are probably treeholes; the finding of a disc scraper in feature 91 being coincidental. Feature 54 appeared as a 3.0 m. wide band of apparently disturbed gravel. A metre wide cutting established it
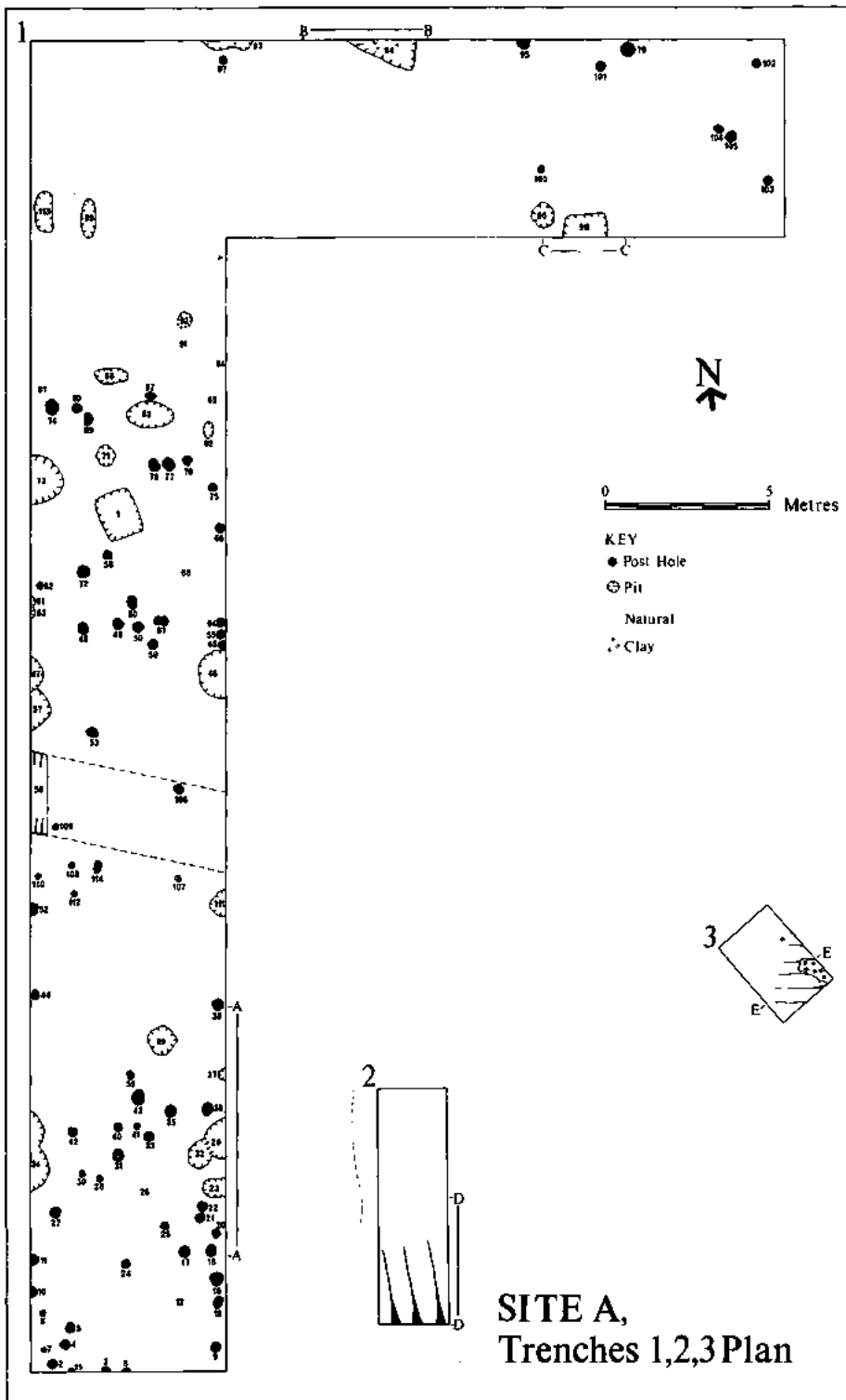
FIG 3 DANBURY CAMP, ESSEX; Site A, Trench Plan

TABLE 1. DETAILS OF EXCAVATED FEATURES: SITE A, TRENCH 1

Feature No.	Interpretation	Depth (cms)	Nature of fill	Finds	Additional information
1	Pit	20	Fine black fill; with high charcoal (oak) content concentrated at features edge	1A/RB Pot (1)	
23	Ditch terminal (width 60 cm.)	20	Stony brown loam	—	Fig. 4, A—A
29	Pit or Ditch terminal (width 1.0 m.)	63	Upper dark loam with coarse gravel; lower mixture of sand gravel and pebbles	—	Fig. 4, A—A
32	Pit	45	Dark brown stony loam	1A Pot (1)	Contiguous with Feature 29.
34	Pit (possibly double)	80	Sand and gravel	—	—
37	Pit	28	Sand and gravel	—	Fig. 4, A—A
39	Pit	28	Fine loam	—	—
46	Pit or ditch terminal (width 95 cm.)	25	Sand and gravel	1A Pot (10) Flint (2)	—
47	Pit	30	Dark loam	Tile (2)	Cut from top of Layer 3 into Feature 57.
57	Pit or ditch terminal (width 70 cm.)	80	Sand and gravel	—	—
61/63	Pit (double)	25	Brown loam with pebbles	—	—
71	Pit	50	Dark sand and pebbles	—	—
73	Pit	20	Dark sand and pebbles	—	—
82	Pit	20	Sand and pebbles	—	—
83	Pit	80	Pebbly core with an outer grey sand	—	—
86	Pit	25	Sand and pebbles	—	—
92	Pit	20	Brown sand	—	Disturbed by Feature 91 on its south side.
93	Pit	23	Dark sand	—	Possibly linked to Feature 94 north of the excavated area.
94	Pit	30	Dark loam with charcoal (oak)	1A Pot (5) Bone (75) Flint (4) Shell (2)	Fig. 4, B—B. A possible link exists between Feature 94 and the feature observed at Y (Fig. 2 and Appendix 3D)
96	Pit	16	Black sand with a piece of charcoal (oak) and associated metalwork	1A Pot (2) Metal (2) Bone (1)	
98	Pit	20	Dark brown loam	1A Pot (1)	Fig. 4, C—C
99	Pit	10	Fine red clayey sand	—	—
111	Pit	16	Dark brown sand and pebbles	—	—
113	Pit	less 10	Clay and gravel	—	—

TABLE 2: POSTHOLE DETAILS: SITE A, TRENCH 1

Feature Number	Dimensions (cm.)			Feature Number	Dimensions (cm.)		
	North-South	West-East	Depth		North-South	West-East	Depth
2	30	32	33	51	23	15	17
3	23	24	25	52	28	26	16
4	30	31	20	53	30	24	23
5	30	31	22	55	26	20	8
6	20	20	30	58	30	40	20
7	15	10	9	59	17	17	10
8	20	21	18	60	35	40	22
9	35	36	14	62	33	28	28
10	30	20	20	64	24	40	12
11	30	32	20	65	20	24	27
15	23	20	18	66	27	26	10
16	40	53	14	67	30	27	15
17	35	34	18	72	36	34	6
18	36	33	12	74	50	42	24
19	36	33	12	75	25	30	6
20	30	30	10	76	30	28	<10
21	32	30	18	77	43	40	30
22	30	26	20	78	34	34	20
24	20	30	32	79	40	43	27
25	46	43	17	87	23	23	43
27	30	33	20	89	20	20	17
28	15	16	16	90	32	30	<10
30	29	30	18	95	39	35	10
31	29	30	18	97	16	18	13
33	36	30	20	100	25	20	13
35	30	26	15	101	26	28	15
36	30	26	15	102	30	25	14
38	30	27	20	103	20	25	24
40	24	25	19	104	30	29	15
41	8	10	10	105	30	28	26
42	25	26	22	106	30	28	26
43	48	38	22	107	20	20	15
44	22	26	22	108	26	16	12
45	26	28	10	109	12	14	14
48	33	32	25	110	10	12	20
49	30	32	20	112	12	14	14
50	26	34	17	114	20	39	<10

as a geological feature some 60 cm. deep. It is possible that this links with the similar feature in Site B, Trench 1.

DATING: In the absence of finds from the majority of features, their dating is largely inferential. The small quantity of pottery from features is of Iron Age and Romano-British date. Although pottery and tile of later date comes generally from Layer 4, none came from any of the features dug from the top of this layer, suggesting that the majority of features without finds could also be of Iron Age and Romano-British date.
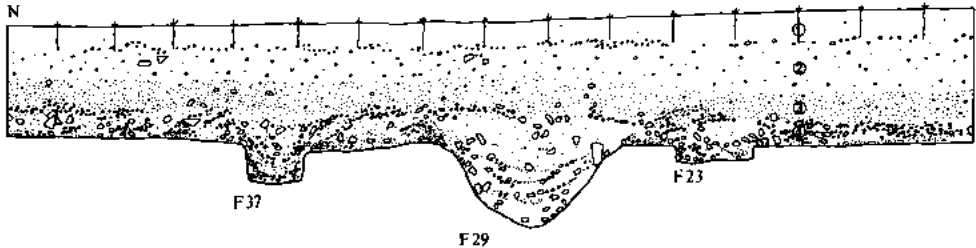
SITE A: TRENCH 2

This was a machine-excavated trench located to the north of the denuded enclosure bank to examine the increased depth of archaeological deposits expected in this area. Excavated to a depth of 2.0 m., it also enabled an examination of the natural deposits as a guide to the site as a whole.

THE STRATIGRAPHY: Nine layers were determined (Fig. 4, D—D). These were examined by R. H. Allen, whose report may be consulted in the Essex Sites and Monuments Record. Layers 2 and 2A comprised post-medieval build-up, comparable with Layers 2 and 3 in Trench 1, material from the erosion of the bank adding to the build-up of these layers. Layers 3, 4 and 5 comprised

SITE A, TRENCH 1
Section A–A

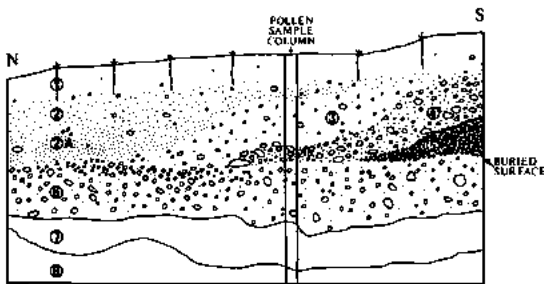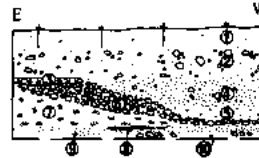Section B–B

Section C–C

SITE A, TRENCH 2
Section D–D

SITE A, TRENCH 3
Section E–E

0   2 Metres

SITE B, TRENCH 1
Section at North End, East Face

FIG 4 DANBURY CAMP, ESSEX; Sections Site A and Site B.
See Fig 3 for location of Site A sections. See text for details of layers and Table 1 for details of features.

slumped, possibly partially *in situ* bank material. The precise nature of these layers could only have been confirmed by a complete hand excavated section through the bank (which was beyond the scope of the 1974 excavations). They rested unconformably over Layer 6, a buried soil and subsoil, the junction representing the pre-bank ground surface. Layers 7 and 8 represent variations in the natural geological deposits.

There are no finds from Trench 2. Pollen samples were taken, but proved fairly negative (Appendix 2A).

SITE A: TRENCH 3

This was excavated entirely by hand examining a further small area to the rear of the enclosure bank. The entire trench was excavated to a depth of 40 cm. exposing layers 3 and 4, but owing to time limitations only the northern two-thirds was excavated below this depth in two steps to the depth of layer 10.

THE STRATIGRAPHY: Ten layers were determined (Fig. 4, E—E).

Layer 1: Turf and topsoil, relatively stone-free, no finds.

Layer 2: Dark-brown loam with gravel, with tile and abraded daub fragments.

Layer 3: An area of compact red-fired clay at a depth of 36 cm. confined to the south-east corner of the trench. It was extremely friable and only 2 to 4 cm. thick with an irregular surface, a burnt edge contrasting with the overall dark-red colour. There was an indication of a former straight edge to the south-east, but the southern and eastern limits extended beyond the baulk. Fragments of a possible annular loom weight were associated with this layer.

Layer 4: A dark-brown loam with an admixture of gravel and some charcoal appearing as indeterminate pieces or black patches. Finds comprised sixteenth to eighteenth century sherds and tile.

Layer 5: Orange sand and gravel, no finds.

Layer 6: Pebbles with light-brown soil, no finds.

Layer 7: Clean yellow clay. A small post or stake hole 40 cm. deep with a large packing stone was cut into Layer 7 (Fig. 3). No finds were present.

Layer 8: An area of charcoal sealed by Layer 7, of uneven thickness extending over much of the trench. No finds.

Layer 9: Dark-Brown stone-free loam. No finds.

Layer 10: Compact light-brown gravelly layer. An abraded rim sherd of Romano-British date and charcoal fragments (birch) came from this layer.

INTERPRETATION: Trench 3 proved fairly inconclusive, since in order to investigate the layers present more fully, it would have been necessary to open a much larger area. The section (Fig. 4, E—E) is comparable with that from Trench 2 (Fig. 4, D—D). Layers 6 and 7 appear to be slumped, or possibly *in situ*, bank material overlying a buried surface represented by Layers 8, 9 and 10, the last of these layers producing an abraded Romano-British sherd. Layers 4 and 5 subsequently built up against the rear of the eroded bank. The tile and pottery sherds ranging from the sixteenth to the early eighteenth century from Layer 4 indicates a relatively recent date for much of this build-up. Layer 3 resting upon a step cut into Layer 6, was associated with fragments of daub and a probable Saxon loom-weight of annular or intermediate form pointing to activity in this area during the early to middle Saxon period.

SITE B: TRENCH 1

In order to investigate a maximum area within the time available this was situated north-east to south-west across Site B. It was excavated by machine in successive spits, followed by hand-cleaning, to *c.* 40 cm. depth at which point a number of possible features were distinguished.

THE STRATIGRAPHY: A representative length only of the full field section, from the north end of the trench, is illustrated (Fig. 4).

Layer 1: Turf and topsoil, reaching a depth of 20 cm.

Layer 2: Dark brown loam with a fairly high gravel content. Its thickness varied considerably along the length of the trench reaching a maximum of 65 cm. at the extreme southern end where the enclosure bank formed a barrier to down slope soil movement. There were no features, and finds comprised tile and post-medieval pottery.

Layer 3: Dark brown/black humic loam of *c.* 30-40 cm. maximum thickness ending 14.0 m. south from the north end of the trench. It had a dense consistency and almost peaty nature, causing water retention. Finds comprised Romano-British and medieval pottery, post-medieval tile and brick.

Layer 3A: Brown sand and gravel, present only in the east section cut by feature 1, or possibly the upcast from this feature.

Layer 4: A variable layer of light brown to reddish sandy gravel of varying thickness overlying equally variable natural gravels, sand and clay (Layer 5). Layer 4A is distinguished only by greater pebble content. Finds comprised post-medieval tile. Natural manganese concretions had formed within this layer.

INTERPRETATION: Interpretation of this stratigraphy is comparable to Site A. Layers 1, 2, 3 and 3A comprise late medieval and post-medieval build-up overlying a former ground surface at the top of Layer 4. This surface was examined for a distance of 18.0 m. from the north end of the trench and a number of features excavated, 1 to 4 (Fig. 2). Features 1 and 2 were post-medieval pits or part of a more general disturbance, possibly for gravel digging. Their fills were similar to Layer 3 and they appear to have been open prior to and subsequently backfilled during the deposition of this layer. Feature 3 was a shallow oval depression containing a fine grey ash-like deposit producing no finds. Feature 4 appeared connected with the working of a natural clay deposit. Feature 5 was natural and comparable to feature 54 in Site A, Trench 1.

SITE B: TRENCHES 2 AND 3

These trenches were small, they produced no individual features of significant finds and only confirmed the overall stratigraphy established by Trench 1. They need not be detailed further.

SITE C

A single trench was excavated in this area to investigate the west-east trending low bank and ditch. Excavated entirely by hand down to the natural clay sub-soil, a section (Fig. 5) across the ditch and part of the bank was obtained.

THE STRATIGRAPHY: Ten layers were determined (Fig. 5, Section). Colour codes, e.g. 10 YR 4/2 are according to the Munsel soil colour charts.

Layer 1: Turf and topsoil; very shallow over the bank, increasing in depth to 10 cm. over the ditch. No finds.

FEATURE 1: THE DITCH

   Layer 4: A compact yellowish-red clay (5 YR 5/8) with an admixture of greyish brown loam (10 YR 5/2) and pebbles.

   Layer 5: Black (5 YR 2.5/1) sandy loam, pebble-free.

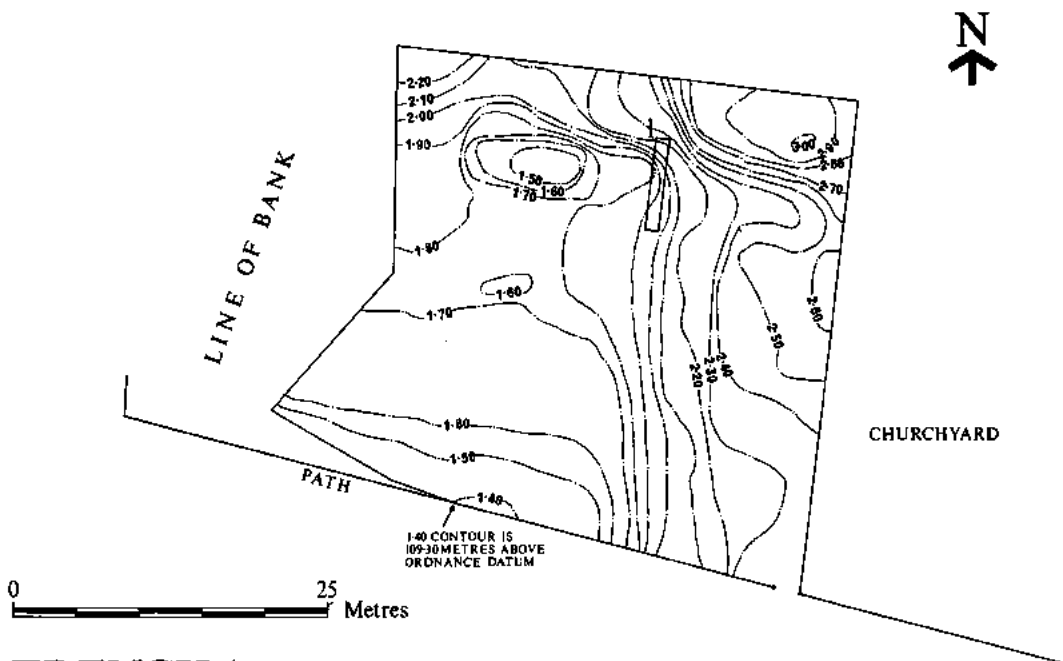   *Layer 6:* Grey (5 Y 6/1) loam with yellowish-red (5 YR 4/6) clay and pebbles. Finds from the ditch comprised a small quantity of Iron Age, medieval and post-medieval sherds, with post-medieval tile.

FEATURE 2: THE BANK

   Layer 2: Greyish-brown (2.5 Y 5/2) loam with pebbles.

   Layer 3: Yellowish-red (5 YR 5/6) clay with pebbles. Finds from layers 2 and 3 of the bank comprised medieval sherds and tile.

DANBURY CAMP
SITE C

N

LINE OF BANK

2·20
2·10
2·00
1·90

1·50
1·70 1·60

1·80

1·60

1·70

1·80

1·50

PATH

1·40

1·40 CONTOUR IS
109·30 METRES ABOVE
ORDNANCE DATUM

3·00
2·85
2·70

2·60

2·50

2·40
2·30
2·20

CHURCHYARD

0 _____ 25 Metres

TRENCH 1
PLAN

N

4

F1
DITCH

F2
BANK

3

0 _____ 2 Metres

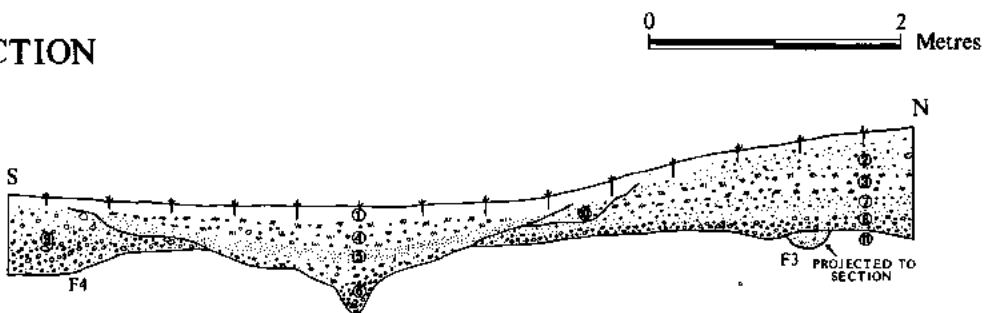## SECTION

N

S

F4

F3 PROJECTED TO
SECTION

FIG 5 DANBURY CAMP, ESSEX; Site C, Plans and Section.

Layer 7: Light yellowish brown (2.5 Y 6/4) loam with small pebbles.

Layer 10: Brown loam with pebbles.

Buried soil, Layer 8: Dark grey (5 YR 4/1) loam with small pebbles. It was only possible to distinguish Layers 7 and 8 after excavation and the finds are, therefore, combined. These comprised a quantity of Iron Age and medieval sherds, a single Saxon sherd and one flint.

The subsoil: This was a yellow/orange clay over the whole trench.

FEATURE 3: A small oval feature 15 cm. deep with a fine light-brown loam fill. It was too shallow to be a posthole and contained only a few crumbs of baked clay.

FEATURE 4

Layer 9: South of the ditch, the area had been disturbed, with the original soil and some subsoil removed prior to dumping of a mixture of very dark grey (7.5 YR 3/O) loam and clay, over which the final silting of the ditch encroached. This contained Romano-British, medieval and post-medieval sherds, tile and daub, and a flint scraper.

INTERPRETATION: On the basis of the finds from Layer 7, the dumped topsoil from the area of the ditch, and from Layer 8, the preserved buried soil, a fourteenth-fifteenth century date for the construction of the bank and ditch is suggested. The presence of later medieval and post-medieval material from Layers 2 and 3 of the bank points to later clearings of the ditch until it was deliberately backfilled during the eighteenth-nineteenth century. This occurred on two occasions with Layers 6 and 4 comprising dumped material between a period of natural silting represented by Layer 5. At some point prior to the silting of Layer 5, disturbance and dumping of material occurred to the south. This disturbance could have given rise to the initial filling of the ditch and is possibly related to the disturbance encountered in Site B, Trench 1. Feature 3 preserved beneath the bank could be of pre-medieval date.

Conclusions

The excavations at Danbury Camp, together with the evidence of the finds detailed in Appendix 3, confirmed activity within the area defined by the surviving enclosure bank during the early and late Iron Age, Romano-British, Saxon and medieval periods, but gave no firm evidence for a construction date for the Camp.

The Defences: In the absence of a complete section through the surviving enclosure bank and its ditch the question as to whether the Camp earthworks date to the Iron Age rather than the Saxon period, or to both, remains speculative. The 1974 excavations Site A, Trenches 2 and 3, impinged upon the inner tail of the bank revealing slumped, or possibly *in situ*, bank material overlying a buried soil. The only find from this soil was a single abraded Romano-British sherd. This could be taken to indicate a post-Roman construction of re-construction date for this bank, but taken alone is slender evidence. The cutting of a ledge into the rear of the bank Site A, Trench 3, associated with fragments of a probable Saxon annular loomweight indicates Saxon activity. Whether this interference was related to a bank still serving a defensive function or one by that time redundant can only be resolved by further excavation.

The Occupation: The excavations produced only limited occupation evidence and finds and in this respect Danbury Camp may be considered typical of Essex 'hillforts' for which excavations have been published (Appendix 4). However, the excavated evidence combined with the finds from rescue contexts (Appendix 3) permits some observations. Site A produced a number of small postholes, pits and possible ditch features. The majority of these had no finds and they present no really coherent pattern within the limited excavated area. Six features produced pottery, five of Iron Age and one of Iron Age or early Romano-British date. A further small quantity of sherds of these periods came from the soil into which these features were cut. On the basis of this meagre evidence it is possible to consider the majority of excavated features as being Iron Age or Roman. A more substantial quantity of pottery of these periods has been collected from the graveyard north of Site A suggestive

of more intensive occupation in that area, which is central to the Camp. It is tempting to see this as representing occupation within a defended enclosure at Danbury during the Iron Age, with subsequent Roman occupation. The two clusters of excavated postholes although not giving identifiable plans may form hut foundations related to the occupation, those to the rear of the rampart possibly forming part of a range of buildings running parallel with the bank. Unfortunately, until there is conclusive evidence for an Iron Age construction date for the earthworks open settlement must also be considered an alternative.

A number of Saxon finds comprising two bun-shaped and one probable annular loomweight, a single sherd and a piece from a possibly Saxon double-sided bone comb (Appendix 3E) are significant. Their presence indicates domestic occupation in the area and at least one sherd of hand-made Saxon pottery also came from Christmas' Pit some 400 m. to the west (CMR, 1944-7, 16). It might be suggested that the Site A features represent Saxon occupation of Danbury Camp, the sparsity of finds reflecting an essentially aceramic period, this of *c.* 700 to 900 AD. The disturbance observed at Y (Fig. 2), possibly linked with feature 94, containing bone and a Saxon loomweight (App. 3D), and the ledge cut into the rear of the enclosure bank mentioned above, together appear to indicate activity at this time. While the place name evidence supports the idea of Saxon occupation it is perhaps best to exercise caution in attributing a Saxon date to the majority of excavated features without more substantial evidence. Saxon re-occupation of Iron Age hillforts is a common phenomenon in south-western England; but in Essex, only at this site and Asheldham is there a suggestion of this possibility. At Chipping Hill, Witham, excavations in 1933-5, 1969 and 1971 have shown that the inner circuit of banks is Iron Age, whilst the outer are the burghal earthworks of Edward the Elder and are not completely concentric but utilise the hillfort defences on the western side. However, the excavations at Witham did not produce any evidence for interior occupation (Davison *et al*). This is of interest in respect of Danbury considering Spurrell's observation of additional earthworks to the west of the Camp which he compared to Witham. Again further excavation is required before any firm statement about the nature of these earthworks is made, but there does seem to be a possibility of Saxon fortification or re-occupation of Camps at Witham, Asheldham and Danbury. These with the burh at Maldon would collectively enable a tight control of the Chelmer-Blackwater gap and approaches to the central lowland drift plateau of Essex.

The medieval finds from the excavation were almost all from residual contexts and are probably to be associated with domestic occupation of the road frontage to the north of the church. The date range of the pottery found suggests uninterrupted occupation from at least the Saxo-Norman period. Throughout the medieval and post-medieval periods, the area south and west of the church was glebe land and subject to various activities responsible for the exceptional build-up of soil, up to 1.0 m., overlying the Iron Age ground level in the southern area of the camp. General manuring and spreading of rubbish almost certainly occurred, as also did the dumping and dispersion of excess soil from new graves. This process can still be seen, a significant amount of soil having been piled along the southern boundary of Site A from recently-dug graves. From Sites B and C came evidence of widespread disturbance, possibly diggings for clay and/or gravel, subsequently backfilled with a variety of soils incorporating tile and brick. In addition, erosion of the hillfort bank into the interior and soil creep into the south-west corner added to the build-up. The resulting depth of soil overlying the levels of archaeological significance within Site B is sufficient to protect them from activity in the new allotments, but in Site A a threat exists from the digging of new graves. The buried soil beneath the medieval bank in Site C is, perhaps, the best preserved area of the hillfort interior.

Future excavation: Larger scale excavation may well reveal some features as structures which appeared nebulous when viewed over a small area. Future work would probably be profitable to the east of Trench 1, Site A, particularly to the rear of the rampart, as also would further excavation of the buried soil in Site C and the area to the north of this. A section at some point across the rampart and ditch is an essential requirement of any future excavations, as is investigation of the additional earthworks observed by Spurrell.

Appendix 1: Finds catalogue

Finds from the excavation are deposited with the Chelmsford and Essex Museum, Accession Number 1977: 37.

Iron Age Pottery (by S. MORRIS)

The pottery of Iron Age date consisted mainly of small abraded sherds. A range of fabrics is represented.

A	fine-flint gritted	E	fine sandy wares
B	medium-flint gritted	F	with grog
C	coarse-flint gritted	G	with vegetable tempering
D	fine sand with grit	H	gritless with mica

SITE A, TRENCH 1 (FIG. 6/5, 6, 9)
Layer 3: 1 sherd: B/F.
Layer 4: Fig. 6/9: A/G, roughly finished, 1st century BC/AD date; 45 sherds: B/C (6 sherds), A(10), A/F (2), D(11), E (14) and red grogged ware (2).
Layer 5: Fig. 6/5: D; 21 early Iron Age sherds: B (4), A (11), E (6).
Feature 32: 1 sherd: A/B/F.
Feature 46: Fig. 6/6: E/F; 9 sherds: A/B (5), E/F (3), E (1).
Feature 94: 5 sherds: D (2), E (3).
Feature 96: 2 sherds: D/F, 1 burnt/refired.
Feature 98: 1 sherd: D.
Feature 104: 1 sherd with small bead rim: smooth finish, D, abraded, late Iron Age/early Romano-British; 2 sherds: D.

SITE C, TRENCH 1 (FIG. 6/3)
Layer 4: 1 sherd: C, very coarse, F.
Layer 6: 4 sherds: coarse ware with varying amounts of grit (3), H (1).
Layer 7/8: Fig. 6/3: bowl, fabric A and a suggestion of burnishing on external surface, 5th-3rd century BC (Cunliffe, 1974, 38-9, Figs. A8-A11). Also a shoulder sherd, shoulder very vague, and a plain base sherd possibly from the same pot, fabric A, smooth external surface. Six sherds: B/F (1), A (2), E with mica (1), H (1), abraded vesiculàr probably shell tempered (1).
Layer 9: 9 sherds: D/F (1), A/B (7), and a wheel thrown sherd with late Iron Age fabric, H (1).

B. Romano-British Pottery

A number of sherds of Romano-British pottery were found in the following contexts:—

SITE A, TRENCH 1 (FIG. 6/12, 13)
Layer 4: Fig. 6/13: fine sand fabric; 10 sherds: grey ware with fine sand (3), fine sand red ware (6), fine sand with some grit and grog coarse finish, possibly Romano-British (1).
Feature 1: Fig. 6/12: coarse ware, fine sand and grit fabric and uneven finish, possibly the broken rim of a large storage jar, of late-pre-Roman Iron Age or early Romano-British date.

SITE A, TRENCH 3 (FIG. 6/14)
Layer 10: Fig. 6/14: fine finish with fine sand fill, very abraded, 2nd century AD date.

SITE B, TRENCH 1 (FIG. 6/15)
Layer 3: Fig. 6/15: fine sand with grit fabric; 2 sherds fine grey ware, fine sand, smooth finish.

SITE C, TRENCH 1
Layer 6: Roman, or possibly medieval, 1 body sherd, wheel thrown, in grey sandy slightly micaceous fabric.
Layer 9: 3 sherds: coarse, sandy, buff-grey (2), very abraded, cream fabric—? amphora or mortarium.
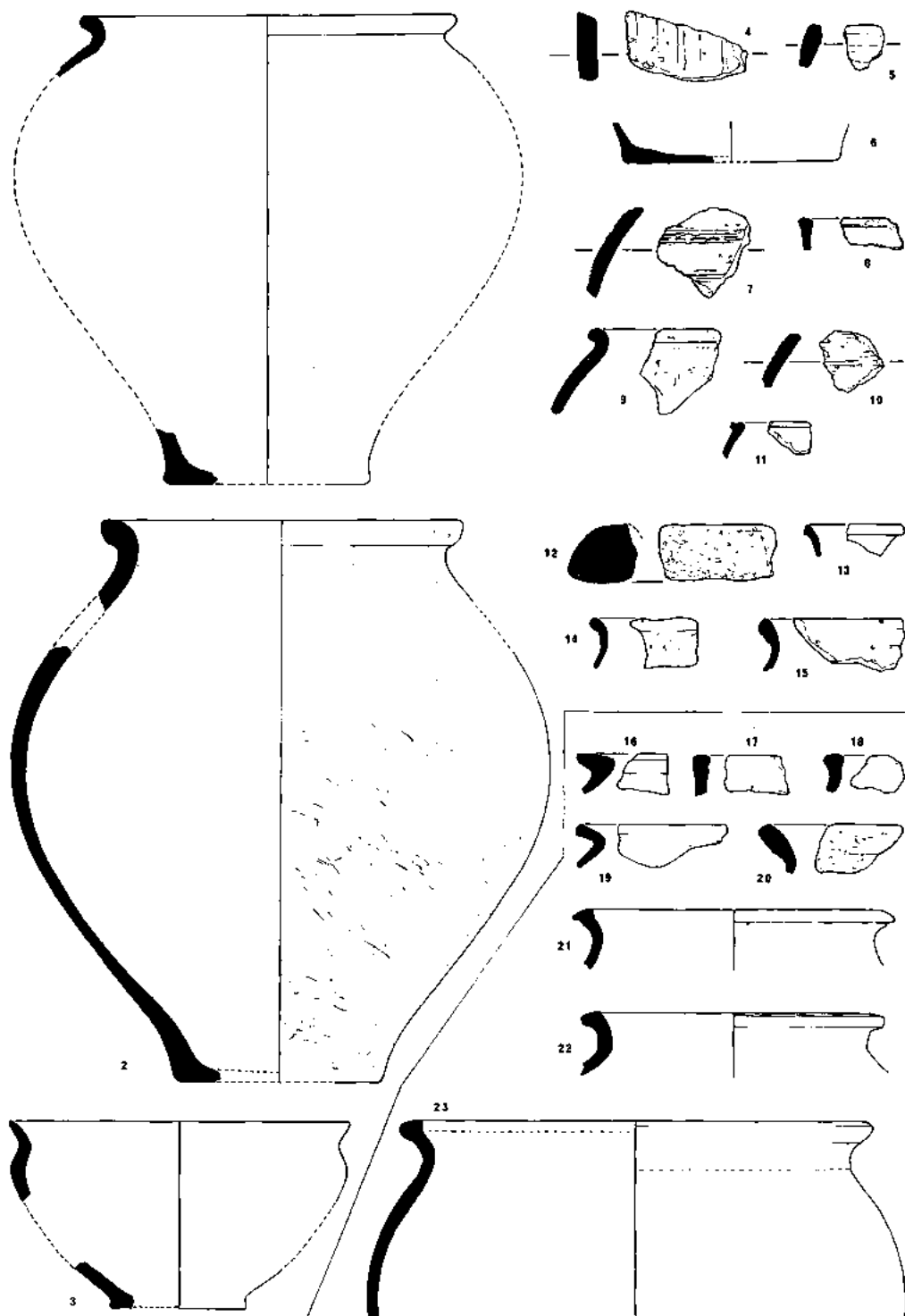
FIG 6 DANBURY CAMP, ESSEX; Pottery.

Iron Age: 3, 5, 6, 9, see App. 1A; 1, 2, 4, 7, 8, 10, 11, App. 3A. Romano-British: 12-15, App. 1B. Medieval: 16, 18, 19, App. 1C; 17, 20, App. 3A; 21-23, App. 3B).

C. Medieval and Post-Medieval Pottery (by M. PETCHEY)

The medieval and post-medieval pottery consisted in the main of small and, in the case of those of medieval date, abraded sherds.

SITE A, TRENCH 1 (FIG. 6/16, 18, 19)

Layer 4: Fig. 6/16: soft grey fabric with quartzite inclusions, 1275-1400 (Drury and Pratt, 1975, 128 and Fig. 57).

Fig. 6/18: buff sandy fabric with small grit inclusions, worn, black surface, the rim is everted and thickened, and seems to have been thumb-impressed, 1150-1250.

Fig. 6/19: grey sandy fabric, 1250-1350.

A quantity of medieval pottery of which the earliest are thirteenth to fourteenth century grey sandy fabrics with quartzite grits; the latest pottery is in the hard red wares typical of the sixteenth century in East Anglia.

Layer 3: A range of glazed wares, mostly with a thin brown glaze, but including the base of a tyg with a thick, black, exterior glaze; there is one stoneware handle in this small sample, and one piece of kiln waste with green glaze on the surface; the absence of the decorated slip-wares of the Metropolitan Ware type of the late-seventeenth century is not significant, and the date range is 1550 to 1700.

SITE A, TRENCH 3

Layer 4: Three sherds in a hard red ware, including a basal fragment of a bowl with a light-brown internal glaze. They may be attributed to the late-sixteenth and seventeenth centuries.

SITE B, TRENCH 1

Layer 3: Seven abraded body sherds of pottery in thirteenth and fourteenth century fabrics.

Feature 2: An abraded sherd of similar date came from this feature.

SITE C, TRENCH 1

Layer 2/3: A Twelfth century thumb-impressed rim in a red sandy fabric, and a number of medieval body sherds, mostly in quartzite gritted fabrics. Also, one green glazed sherd in a late-medieval red fabric.

Layer 4: Three body sherds in sandy late-medieval fabrics.

Layer 6: A rim of a cooking pot in a grey sandy quartzite gritted fabric dating 1200-1300, and a base of a bowl in hard red ware with light-brown internal glaze.

Layer 7/8: A number of small abraded medieval body sherds with a probable date range 1100-1300, with a base sherd in a reddish flint gritted fabric of similar date and a body sherd of a black hand-made grass tempered globular pot of Saxon date.

Layer 9: An abraded thirteenth or fourteenth century rim sherd, a few body sherds of similar date, and two hard red sherds of late-sixteenth-seventeenth century date at the earliest.

D. Brick and Tile (by M. WADHAMS)

Brick and tile came from the late medieval and post-medieval build-up, layers 2, 3, 4, over Sites A and B. Fabrics were variable and the pieces ranged in date from the fifteenth to nineteenth centuries. Features 47 and 97, Site A, Trench 1, produced 2 and 1 fragment of tile respectively. Feature 1, Site B, Trench 1, had a single fragment of brick of pre-1550 date. Site C, Trench 1, layers 2, 4, 5 and 6 contained tile fragments ranging in date from the sixteenth to late-eighteenth century, with one fragment of thirteenth-fourteenth century date from layer 9.

Two fragments of Roman *tegula* came from Site A, Trench 1, layer 4, and a single probable fragment from Site B, Trench 1, Feature 1.

E. Baked Clay

Fragments of daub came from Site A, Trench 1, Layers 4 and 5; Site A, Trench 3, Layers 2 and 3, and Site C, Layer 8 and Feature 3. The pieces were small in size and varied in colour from red/orange

to dark-brown. The daub was very friable, composed of clay with tempers of fine to coarse grit and some vegetable matter. Wattle impressions occurred on some pieces.

F.   Loomweights (FIG. 7/1-3) (by M. PETCHEY)

Fragments of a loomweight of Wheeler's bun-shaped type (1935; Dunning *et al.* 1959, Fig. 6) in a coarse soft red fabric came from Site A, Trench 1, Layer 4 (Fig. 7/1). A similar loomweight of approximately 3½ inch (90 mm.) diameter (Fig. 7/2) was found in the upcast from a re-opened grave in Danbury Churchyard, 1976 (Fig. 2, point Y; Appendix 3D). Wheeler holds these bun-shaped loomweights to be late-Saxon, but an example from West Tilbury is dated to the fifth to seventh centuries (Bingley, 1972-3; Drury & Rodwell, 1973, 87-9), in association with one of annular type. From Site A, Trench 3, Layer 3 were abraded fragments of a loomweight in a soft buff fabric with some sand and grit inclusions which may be another Saxon loomweight of annular or intermediate type (Fig. 7/3).

G.   Flint

There were a small number of worked flints all apparently from pebble flint.

SITE A, TRENCH 1 (FIG. 7/5, 6)

Feature 91: A disc scraper, bifacially worked 42 by 9 mm. Form is currently accepted as of Bronze Age date (Fig. 7/5).

Waste flakes came from Layer 4 (3), including a fresh core rejuvenation flake (Fig. 7/6), layer 5 (1) and features 46 (1) and 104 (1). Unworked pieces of burnt flint came from features 46 (1) and 94 (4).

SITE C, TRENCH 1 (FIG. 7/4)

Layer 7/8: 1 blade core from an elongated pebble, cortex remaining on two sides, 62 by 10 mm.
Layer 9: 1 long end scraper 50 by 31 by 9 mm. (Fig. 7/4), and 5 struck flakes.

H.   Metalwork

Finds of metalwork from the site were few; those found represented domestic metalworking of a simple and rather poor kind.

SITE A, TRENCH 1 (FIG. 7/7, 8)

Layer 4: 1.   Fragment of curved and flattened iron.
2.   Heavy metal object, lead/bronze (?) 'Y'-shaped depression on either side, rectangular shape.
3.   Fragment of thin bronze strip, slightly bent, length 7 cm.
4.   Fragment of iron knife straight, very corroded.
5.   Iron nail, 4.5 cm. long.

A medieval or later date for these objects is probable. Layer 4 also produced 6 pieces of iron slag.
Feature 96: Fig. 7/7, an L-shaped piece of iron.
Fig. 7/8, large-headed iron nail. These are illustrated in position as found. An Iron Age or Romano-British date for these two objects is acceptable.

SITE C, TRENCH 1

Layers 4, 5, 6 and 9 produced a number of iron nails.

J.   Animal Bone (by M. WADHAMS)

Bone came only from Site A, Trench 1, features 94, 96 and 104 comprising 75, 1 and 2 fragments respectively. That from Feature 94 included cattle, sheep, pig, dog and bird. The sample is too small and fragmentary to draw any conclusions about the site economy. Ten fragments show signs of being burnt, and the degree of weathering varies considerably, even between bones demonstrably from the same animal. There are no definite signs of butchering technique, but this is not unusual in a sample of this type.
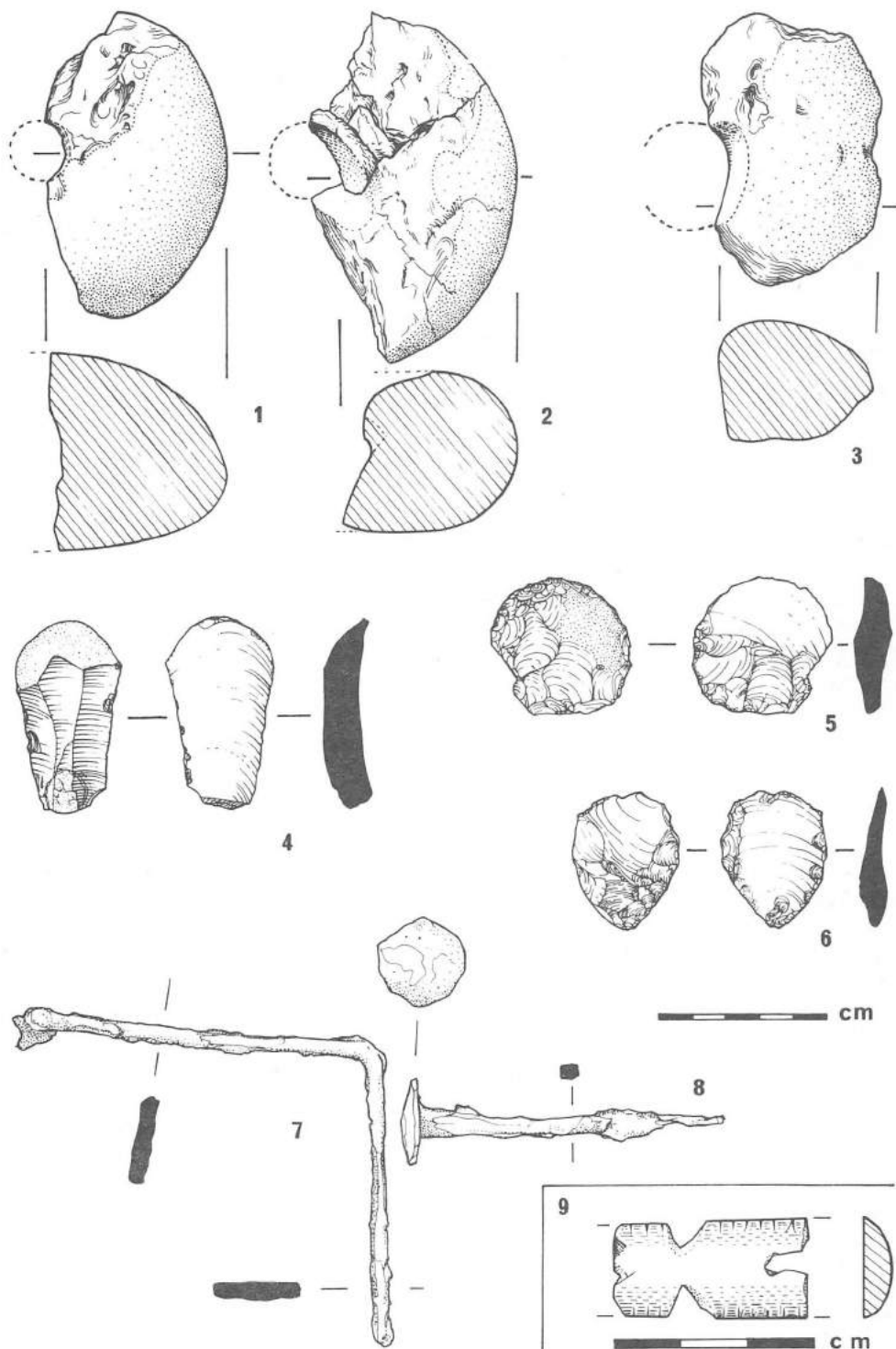
FIG 7 DANBURY CAMP, ESSEX;

Clay Loomweights (1-3, App. 1F), Flint (4-6, App. 1G), Iron (7-8, App. 1H) and Bone Comb (9, App. 3E).

Appendix 2: Environmental Reports

A. Pollen (by C. A. KEEPAX and J. BAYLEY)

Samples taken from Site A, Trench 1, feature 94 and from a column in Trench 2 (Fig. 4 D—D) proved largely negative. The sample from the buried soil (layer 6) had some pollen present, but insufficient for a reliable count. The only species noted were *graminae, cyperacas,* and some spores. Neither were any macroscopic remains present.

B. Charcoal (by C. CARTWRIGHT)

Oak charcoal *(Quercus sp.)* was identified from Site A, Trench 1, features 1, 33, 94, 96 and probably 9 (very fragmentary); birch charcoal *(Betula sp.)* came from Site A, Trench 3, Layer 10. Oak is still the dominant tree species in the Danbury area and Birch a common re-colonisation species.

Appendix 3: Other finds from Danbury Camp

A. Pottery from Danbury Camp, 1935 (BULL COLLECTION)

There exists in the Bull Collection, in Colchester Museum, pottery which was found during the excavation of a trench across the Camp in 1935 and accessioned to the museum in 1945. The south-west corner of the churchyard and 10 yards from the gate is a more specific reference for at least some of the finds (CMR, 1944-7, 14-6), which included the following:—

EARLY-IRON AGE POTTERY (Fig. 6)

4: roughly smoothed surface, fabric A—C, decoration of large vertical grooves, rather uneven.

Not illustrated: 17 sherds: A/B/F(6), A/B (II)

LATE-PRE-ROMAN IRON AGE POTTERY (Fig. 6)

1: smooth exterior, E with F.

2: fine wheelmade, fabric includes an admixture of quartz sand, grit, grog and vegetable matter. Some vegetable smoothing on exterior.

7: roughly smoothed finish, E. Also 4 undrawn sherds.

8: smooth finish, D.

10: D

11: A/F

Not illustrated: 28 sherds: fabrics include E with F light red ware (17), A/B with F(6), E(5), and 1 fragment of daub.

MEDIEVAL (Fig. 6)

17: hard grey-black fabric, of a Thetford-type ware. The internal bead on the rim argues against a pre-Conquest date, 1050—1150.

20: soft buff, heavily vesiculated fabric with reddish surfaces, 1050—1150. This is a fabric more to be expected in the south of the County.

B. Pottery from the new Rectory site, Danbury (Fig. 6) by P. J. DRURY

During the construction of the new rectory, 88 yards north north-west of Danbury Church, in January, 1968, P. Came recovered a small group of medieval pottery, together with a few oyster shells. The pottery, all unabraded, was as follows:—

21: coarse grey fabric with brown surfaces, tempered with sand and a little shell.

22: fabric similar to 6, 21, but wholly grey.

23: fabric similar to 6, 21, but containing more shell.

Not illustrated: Sherds of sagging bases in fabrics similar to 6, 23, and two smaller sherds in a heavily shell-tempered fabric containing very little sand.

A date in the late-12th century or the beginning of the 13th can be suggested for this collection, largely on the evidence of as yet unpublished material from Chelmsford (MA, 1973, 167; 1975, 244) and Rivenhall (Rodwell, 1973). Further discussion at this stage would be premature.

C. P. Came reported that when Mrs. Tuker's grave was dug in the new churchyard (Site A), a large

quantity of oyster shells were present in the spoil (Fig. 2, point X).

D. In December, 1976, D. G. Buckley observed a re-opened grave in the old churchyard north of Site A (Fig. 2, point Y). The sections of the grave showed it to be dug through disturbed ground for its total depth. Below 80 cm there was a uniform dark loam containing a considerable quantity of animal bone. This grave was clearly cut through a large feature, either a large rubbish pit or back-filled quarry area. It is possible that this could link with feature 94 in the excavated area (Site A, Trench 1) approximately 10.0 m to the south-west, which had a comparable fill and extended into the north baulk. The upcast from this grave also produced a loomweight of probable late Saxon date (Appendix 1F).

E. D. Saunders and B. Kettle between 1960 and 1962 kept a watch on newly-dug graves in the area to the north of Site A and collected a quantity of sherds. In July 1976 these were given to P. J. Drury and have been deposited with the other finds from the excavations. These include 54 sherds in Iron Age fabrics, both coarse and fine flint gritted, all body sherds; 24 Romano-British coarse ware sherds, including 2 rim and 2 base fragments; and 23 medieval sherds, including 2 rims and a base fragment. Also a flint flake and a piece from a connecting plate of a double-sided bone comb (Fig. 7/9). Combs of this type are common on Anglo-Saxon sites, but the type has a long life, and no identifiably Saxon example of a double-sided composite comb is known with a connecting plate so well rounded in section. In the absence of any really distinguishing characteristics it can only be said that the piece is not Roman, while it could have a lower date limit of about the 12th century. Two notches cut into the side of this comb piece appear to represent later reworking, possibly to produce a roughly fashioned toggle button (Dr. P. Galloway commented on this comb piece; combs are discussed by Addyman and Hill, 1969).

F. D. Gustard, while digging one of the new allotments on Site C, made a collection of tile, glass and sherds, these largely of post medieval date, but including a small quantity of medieval, Romano-British and flint-gritted Iron Age sherds.

Appendix 4: Essex Hill Forts

In the preparation of this report, much information was collated about other Essex earthworks considered to be certain, or probable, Iron Age 'hill forts'. The majority of these sites were included by Cotton (1961) in her list of south-eastern hill forts and a number were recently included in Rodwell's gazetteer (1976) as possible Belgic minor oppida. It is felt that the presentation of this collated information could be of value.

The information on the fifteen sites is presented in Table III and their distribution is shown in Fig. 8. The plans of eleven of the better preserved sites are produced to the same scale in Fig. 9. The table includes those extant earthworks in the County which have at some time been designated Iron Age in date. Included also is the recently totally excavated late Bronze Age 'mini-hillfort' or South Rings at the Mucking Cropmark site (Jones, forthcoming) and Uphall Camp, Ilford, a possible hillfort now totally destroyed and, unfortunately, poorly dated. Not included is the recently excavated late Bronze Age North Ring (Jones, forthcoming: Bond, forthcoming). Also excluded are the Camulodunum Dykes System and the uncertain minor oppida at Norsey Wood, Billericay, and Mount House, Braintree, although these are shown on the distribution map. There is no definite evidence for Mrs. Cotton's assertion that there was a hillfort at Skitt's Hill, Braintree (1961, 68; Rodwell, 1976, 326-8; Drury, 1976, 110-2), nor is it yet proven that the Saxon earthwork at Maldon had Iron Age antecedents, although the possibility has been suggested (S. R. Bassett pers. comm.). Although it is unlikely that many new hillforts will be discovered, continued survey, particularly aerial, may well reveal new sites. Pitchbury Ramparts, where over three-quarters of the circuit of defences had been levelled at the time of the 1974 excavations (Crummy, 1974, 7-8) illustrates the probability that total destruction of some sites could have taken place.

TABLE III   ESSEX IRON AGE HILL FORTS

SITE NAME (Map Key)	N.G.R. ESSEX SITE RECORD ESSEX SCHEDULED SITE NUMBER	AREA HEIGHT ABOVE SL LOCATION	NATURE OF THE EARTHWORK AND STATE OF SURVIVAL	DATING EVIDENCE	EXCAVATIONS	PUBLICATIONS
Ambresbury Banks, Epping Forest (AB)	TL 438003 TL 40/28 Essex No.13	5.0 ha. 12 ac. 115m Located on plateau gravel capping the London Clay ridge, with the ground sloping gently south-east.	Univallate, sub-rectangular plan. Preservation in woodland is good. The rampart survives 1.25 to 2.25 m high above the interior surface. Excavation showed the ditch to be V-shaped 6.75 m wide and 3.25 m deep. There is a slight counterscarp bank and a causewayed entrance with timbered and stone revetted gateway on the north-west side.	Excavation confirmed an Iron Age date. The 1881 excavation produced "La Tene" period pottery (compared to that from Loughton Camp). The 1959-60 excavations produced Iron Age 'A' and "Belgic" pottery. Two phases are suggested, but no evidence exists for intensive use of the interior.	Essex Field Club directed by Pitt Rivers, 1881. Essex Field Club S.Hazzledine Warren, 1933. London University Board of Extra Mural Studies, directed by M.A.Cotton & J.Alexander, 1959-60.	RCHM, II, 63-64 VCH, I, 278-279, 311; V,151 TEFC, II (1881), 55-58 See also EN, XXII (1926-29), 117-135. See EN, XXV (1935-37), 381. Report of meeting on the 27 February 1937 mentions talk about 1933 excavations. Unpublished. Interim Note EN, XXX (1957-60), 43-44 Also Notes in CBA Group 10 Bulletin (1959), 2; (1960), 2 and newsletter (1961).
Asheldham Camp (AC)	TL 976018 TL 90/1 Essex No.134	5.0 ha. 12 ac. 15m Located on low-lying gravel.	Univallate, sub-rectangular plan, but both bank and ditch are much obscured by gravel digging. A second ditch has been suggested on the north side.	Observation of the gravel digging produced finds of Bronze Age, Iron Age ('A', 'B' and 'C') and Saxon date.	Gravel workings observed by P.G.Laver, c.1920s.	RCHM, IV, 2-3 VCH, I, 284, 311; III, 45 TEAS n.s., XIX (1930), 180-185.
Danbury Camp (DC)	TL 779052 TL 70/43 Essex No.79	2.40 ha, 6 ac. 111m Located on plateau gravel capping the London Clay ridge overlooking lowland South Essex.	Univallate, oval plan. The earthwork is partially destroyed. Modern boundaries in part follow the original bank, but the ditch is infilled. Further lines of defence to the west are not substantiated. A mound on the west side is interpreted as a beacon station.	A quantity of early and late Iron Age pottery, a few Roman finds, and probable Saxon loom weights have come from the interior. An Iron Age date for construction of the hill fort is suggested.	S.Morris & D.G.Buckley, 1974 & 1977.	RCHM, IV, 32-33 VCH, I, 286, 312 EAH, X (1978) Also note in Col. Mus. Rep. (1966-67), 14-15 on the Butt Collection (Colchester Museum).
Grove Field Camp (GFC) Prittlewell Camp or Fossett's Farm Camp	TQ 868878 TQ 88/4 Essex No.117	- 15m Located on low-lying gravel not far from the head of the River Roach, the ground sloping to the north.	Univallate, roughly elliptical plan. The rampart and ditch are only well-defined in the south-west corner. There is a mound on the south-east side.	No conclusive dating evidence came from the excavations.	Southend-on-Sea and District Ant. and Hist. Soc. 1929	RCHM, IV, 114 VCH, I, 286, 313 TSAHS, II, I (1929), 29-48
Grimsditch Wood, Saffron Walden (GW)	TL 547405 TL 54/50 Not scheduled	- 91m Located on a clay-covered chalk spur.	Univallate, the earthworks of irregular shape have never been properly surveyed and their condition is poor.	No dating evidence.	No excavations have taken place.	RCHM, I, 260 VCH, I, 286, 313. See C.Fox The Archaeology of the Cambridge Region (1923), 136 See BAR S, 11, (1976), 331
Langdon Hills (LH)	TQ 677662 TQ 68/40 Not scheduled	- 76m Located on plateau gravel capping the London Clay ridge. This site has not been properly surveyed, although upstanding lengths of earthwork can be seen, obscured by piecemeal gravel working and trees.		Early Iron Age pottery.	Wickford Arch. Soc. and Thurrock Arch. Soc. directed by C.Barnard and R.E.Hoares.	Interim Note in JTLHS, XIV (1971), 57-58. *No final report. See also EAH, VIII (1976) 149 & 152.
Loughton Camp (LC)	TQ 418975 TQ 49/6 Essex No.20	2.60 ha, 6½ ac. 93m Located at the southern end of a gravel-capped plateau.	Univallate, sub-rectangular plan. Preservation in woodland is good, although partly destroyed by a road on the west side. Excavation showed the ditch to be V-shaped, 13.7 m wide by 2.4m deep below the rampart.	Excavation produced early "La Tene" period pottery (comparable to that from Ambresbury Banks).	Essex Field Club, Directed by Pitt Rivers, 1883. S.H.Warren, 1927 R.Robertson MacKay 1959	RCHM, II, 105-106 VCH, I, 277-278, 312 TEFC, III (1883-84), 212-230 EN, XXII, (1928), 117-138 No final report.
Muckling "mini-hill fort" (Mu)	TQ 673803 TQ 68/15 Essex No.137 (now excavated totally).	0.75 ha, 1¾ ac. 33m Located on the 100 ft. Thames gravel terrace.	Bivallate, circular plan. Part of the Muckling multi-period cropmark site. Excavation showed the ditches to have maximum dimensions 3.25 m wide x 1.90 m deep. There were entrances to the north-west and south-east.	Late Bronze Age Carbon 14 dates: (1) HAR - 1630 (Muckling I442935*) Hillfort Ditch I I 840 ± 90 bc. (2) HAR - 1634 (Muckling I6534512) Hillfort Ditch I III 820 ± 110 bc.	M.U. & W.T. Jones, 1965-78 (who kindly supplied the information given here).	Interim reports in JTLHS, II (1968), 41; KIII (1970), 33 EJ, V (1972), 67 EAH, V (1973), 10 AJ, XLVIII, I (1968), 212 See "The cropmark site at Muckling, England" in Recent Archaeological Excavations in Europe, (1975), Ed. Rupert Bruce - Mitford, 141 & Fig.48

Pitchbury Ramparts, Great Horkesley (PR)	TL 966290 TQ 92/10 Essex No.45	2.30 ha, 6 ac. 50m Located at the edge of a gravel plateau	Bivallate, outer ditch being absent to the south-west. Oval plan. The defences are ploughed away except for the north-west section and the interior is much disturbed. The outer bank and ditch was less substantial than the inner with evidence for a Fecamp style defence.	The 1973 excavation produced Iron Age pottery of 3rd-2nd century BC and Belgic date. There was little evidence for intensive occupation of the interior.	T.Cruso and Ward Perkins, 1934. P.Crummy, 1973	RCHM, III, 127-128 VCH, 1, 285, 312. Unpublished. Interim Note, P.Crummy, Colchester, recent Excavations and Research, 1974. See BAR SII (1976), 330 To appear in Excavations in Colchester II, Iron Age.
Ring Hill Camp, Littlebury. (RHC)	TL 515381 YL.53/6 Essex No.18	6.70 ha, 16½ ac. 90m. Located at the eastern end of a chalk ridge.	Univallate, elliptical plan. The ditch circuit is complete, but the bank largely levelled, and the interior ploughed. The original entrance is not known.	No dating evidence.	No excavations have taken place.	RCHM, I, 191 and 193 VCH, 1, 280-281, 312; III, 158
Shoebury Camp, South Shoebury. (SC)	TQ 939865 TQ 98/1 Essex No.140	- ?m Located on low-lying sand and gravels by the coast, incomplete due to erosion on the south-east side.	Univallate, plan incomplete. The remaining bank and ditch only fragmentary. Excavation showed the ditch to be 12.2 m wide by 2.7 m deep.	Finds from the Camp include Palaeolithic, Neolithic, Iron Age and Roman, while the earthworks have been attributed to Hasloin's Danish Camp.	Construction work in and around the earthwork has been observed by staff of the Southend Museum.	RCHM, IV, 145 - 146 VCH, 1, 286-287, 313 See also EN, IV (1890), 150-153.
Uphall Camp, Ilford (UC)	TQ 438851 - - (No longer within the Essex boundary)	19.90 ha, 48 ac. 30m Located on the gravel terrace east of the River Roding.	Univallate, sub-rectangular plan, now largely destroyed except on the W & NW side. A possible double line of bank existed on the west (see map by J.Noble c.1759 in Lethieullier, E.R.O, T/P 93/3).	The 1960 excavation produced hard black pottery of late Iron Age type from an apparent old land surface below the bank.	West Essex Archaeological Group directed by K.Marshall, 1960.	RCHM, II, 98-99 VCH, 1, 281-282, 313 See Note in CBA Group 10 Bulletin (1960), 3; and Newsletter (1961).
Wallbury Camp, Great Hallingbury. (Wa C)	TL 494178 TL 41/1 Essex No.16	12.40 ha, 31 ac. 60m Located on a gravel spur overlooking the River Stort.	Bivallate, oval plan. The earthworks are in good condition. Excavation failed to locate the original entrance.	The 1959/60 excavation produced Iron Age 'C' pottery from the silting of the ditch between the ramparts. Two periods of construction were indicated, with both early Iron Age and Belgic period occupation internally.	West Essex Archaeological Group directed by R.Robertson MacKay, 1959-60	RCHM, II, 93 and 95 VCH, 1, 282-283, 312, 314 See Note in CBA Group 10 Bulletin (1960), 2-3 No final report See BAR SII (1976), 330.
Weald Park Camp or South Weald Camp (WPC)	TQ 578947 TL 59/3 Essex No.106	2.80 ha, 7 ac. 100m Located on plateau gravel overlying the London Clay ridge.	Univallate, circular plan. Little of the original circuit of bank and ditch remains extant.	No dating evidence.	No excavations have taken place.	RCHM, II, 218 VCH, 1, 283, 314
Chipping Hill Earthwork, Witham. (CHE)	TL 823152 TL 81/13 Not scheduled.	Inner area 3.8 ha, 9½ ac. Outer area 10.5 ha, 26½ ac. 25m Located on a gravel spur overlooking the River Brain.	Bivallate on all but the western side. The outer defence is Saxon, the inner a Fecamp style 10.0 to 11.0 m wide and 2.5 to 3.3 m deep. On the west the bank had a surviving height of 2.0 m above ground level when excavated.	Phase I: MPRIA Phase II: 1st century BC Phase III: 913 AD	T.Cruso & F.Cottrill, 1933-35. B.K.Davison, 1969 & 1971	RCHM, II, 265-266 VCH, 1, 288-289, 314; III, 201 AJ, XIV (1934), 190-191 ER, XLIII (1934), 27-30 Interim Notes in MA, XIV (1970), 156; XVI (1972), 154 See BAR SII (1976), 331 Forthcoming, 'The earthworks at Witham', Davison, B.K., Petchey, M.R. and Rodwell, W. J.

Abbreviations used in the Table

AJ	-	The Antiquaries Journal (Society of Antiquaries of London).
BAR SII (1976)	-	British Archaeological Reports. (See footnote 26 for full reference).
CBA	-	Council for British Archaeology.
EA	-	Essex Archaeology and History Transactions of the Essex Archaeological Society (formerly TEAS).
EJ	-	Essex Journal (incorporating the Essex Review).
EN	-	The Essex Naturalist (formerly TEFC).
ER	-	The Essex Review.
MA	-	Medieval Archaeology.
TSAHS	-	Transactions of the Southend-on-Sea and District Antiquarian and Historical Society.
TEAS	-	Transactions of the Essex Archaeological Society (now EAH).
TEFC	-	Transactions of the Essex Field Club (now EN).
JTLHS	-	Journal of the Thurrock Local History Society (Panorama).
RCHM	-	Royal Commission on Historical Monuments (Essex).
VCH	-	The Victoria History of the County of Essex.

The dating terminology given in column six follows that of the excavators' published reports. It can be seen that the dating has been subject to the whole range of dating terminology recently summarised by Avery (1976, 28—36). In reality, little is known about those field monuments in Essex possibly falling into the category of Iron Age hillforts, and in the absence of final excavation reports, the precise stratigraphical context of the finds forming a basis for much of the dating is uncertain. Only the Mucking 'mini-hillfort' has been dated by C. 14 determinations and although the Bronze Age date for this is acceptable given the early dates now available for the foundation of some hillforts, its bivallate construction and small size raises complications yet to be resolved. The dating at other sites is based almost entirely on the pottery evidence and this, where accessible, requires re-examination and in some cases publication. Archaeological excavation of the bank and ditch has taken place at seven sites: Ambresbury Banks, Loughton Camp, Mucking 'mini-hillfort', Pitchbury Ramparts, Uphall Camp, Wallbury Camp and Chipping Hill, Witham. However, in a number of cases the finds have been largely from the enclosure interior and the possibility of pre-enclosure settlement must be kept in mind. Setting aside these limitations the following can be noted. There is evidence for an early-Iron Age presence at Ambresbury Banks, Asheldham Camp, Danbury Camp, Langdon Hills, Loughton Camp, Pitchbury Ramparts and Wallbury Camp; a middle Iron Age presence was demonstrated at Chipping Hill, Witham; and a late-Iron Age presence at Ambresbury Banks, Asheldham Camp, Danbury Camp, Wallbury Camp, Chipping Hill, Witham, and possibly at Uphall Camp, Ilford. The evidence is insufficient, however, to enable a great deal to be said about the nature, intensity and length of occupation at any of these sites within the broad dating categories. These problems and the dangers of inferring too much from limited excavation have been frequently discussed (Harding, 1976, 19—23; Cunliffe, 1976, 136—41) and in an Essex context only further field survey and excavation will broaden the picture. Furthermore, there is a need to examine Essex hillforts in their landscape and regional setting, especially in the light of recent aerial photographic evidence. Quite extensive areas of cropmarks are now known and boundaries, field systems, enclosures and associated features recognised. Although largely undated, some can be seen as comprising part of the wider pattern of Iron Age settlement of which the hillforts are only one aspect.

It is possible to speculate on the general distribution of hillforts in Essex, remembering also their relationship to similar sites in surrounding counties. The known distribution shown in Fig. 8 does not appear to reflect an individual territorial significance such as postulated for elsewhere in Southern England (Cunliffe, 1971, 59—62; Dyer, 1971, 39—43), rather there is a suggestion of a co-ordinated pattern related to a larger identifiable geographical area. The Lea-Stort-Cam Rivers form a linear valley complex from the Thames to the Fenland border, along the north-south line of which stands a number of substantial hillforts effectively dividing East Anglia and Essex from the rest of the country: Loughton Camp, Ambresbury Banks, Wallbury Camp, Westland Green Camp (TL 421215), Ring Hill Camp, and Wandlebury Camp (TL 493534). East of this line hillforts are a rare feature, with only a small group on the north Norfolk coast, Tasburgh Camp (TM 200960) to the south of Norwich, Clare Camp (TL 769459), and a number of small hillforts in south and east Essex. Here the Thames Valley and the North Sea, skirted by a long low-lying coastal plain and dissected by the estuaries of the Roding, Crouch, Blackwater, Colne and Stour, all navigable approaches to the hinterland, are commanded by a number of strategically placed forts which occupy the best possible vantage points in what is a lowland area. Loughton Camp and Ambresbury Banks on an upland plateau are well placed to view the Roding Valley, as well as that of the River Lea, and their close proximity could reflect the dual importance of this location. Weald Park Camp and Danbury Camp also occupy locations on the Mid-Essex Ridge overlooking the coastal plain, with the latter also covering the lower Chelmer-Blackwater Valley. Langdon Hills on an outlier of this ridge is similarly placed, and the absence of a site on the Tiptree ridge may only reflect a need for field work in this area. In less prominent positions, Chipping Hill, Witham and Pitchbury Ramparts continue
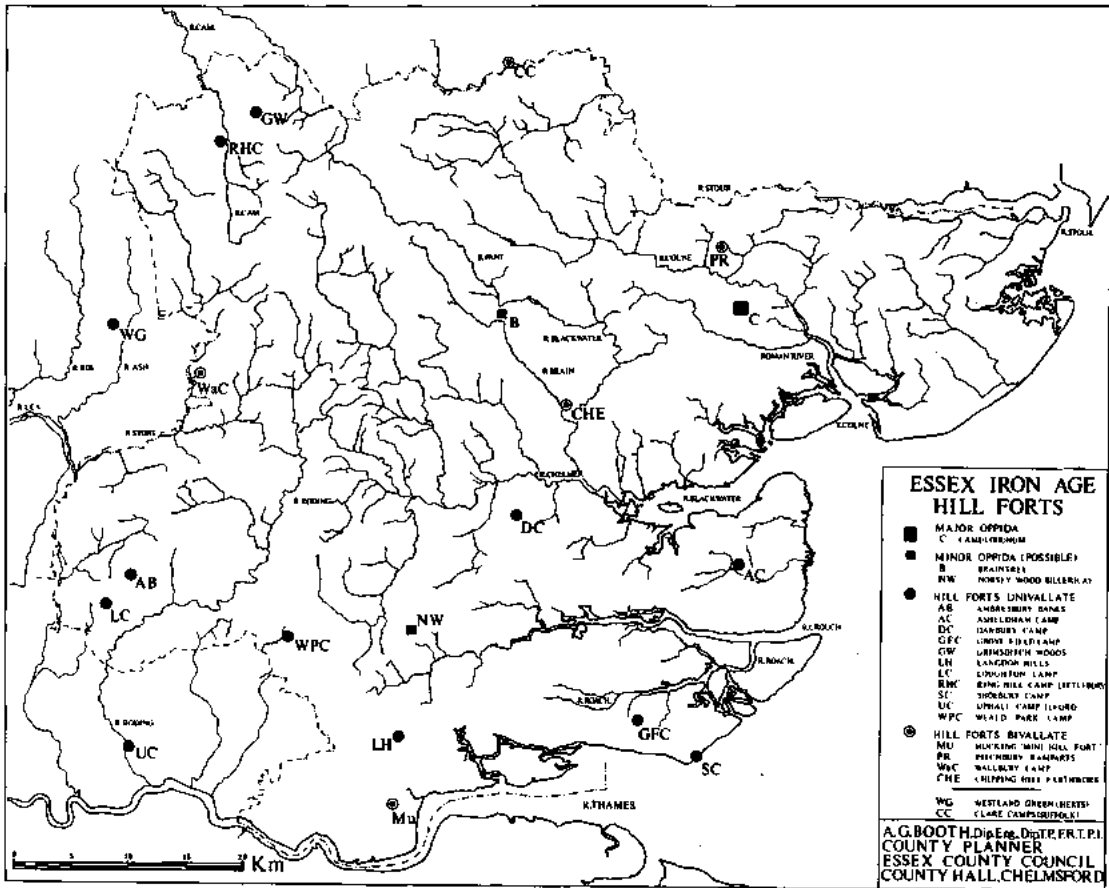
FIG 8 DISTRIBUTION MAP OF ESSEX HILL FORTS

this line and control the Brain and Colne valleys respectively. The vulnerability of the coastal region is reflected in the presence of Uphall Camp on the lower reaches of the River Roding, the enigmatic Mucking 'mini-hillfort' on the 100 ft. Thames terrace, Grove Field Camp and Shoebury Camp on the Foulness Plain and Asheldham on the Dengie Peninsula. The absence of a comparable site on the Tendring Plain is notable, but in an area which has suffered from coastal erosion, it is possible that a former site has been lost. The earthworks at Beacon Hill, Harwich, mentioned by Morant might even be a candidate (Morant, 1768, 499).

Cunliffe points to the cultural unity of the early Iron Age settlements of East Anglia typified by the common ceramic tradition which he terms Darmsden-Linton (Cunliffe, 1974, 39). Early Iron Age activity has been claimed for a majority of East Anglian hillforts and it would seem reasonable to suggest that they encompass this cultural unity. In the later Iron Age, East Anglia was recognisably divided into the two territorial areas of the Iceni and Trinovantes. The latter territory covered roughly the area of historic Essex, along with part of Suffolk, having its major settlement at Camulodunum defended by an intricate system of earthworks. Evidence exists for the continued use or re-use at this time of a number of hillforts, notably those on the Lea-Stort-Cam line. There are no

WALLBURY

LOUGHTON

WITHAM

N
↑

AMBRESBURY

DANBURY

RING HILL

SOUTH WEALD

PITCHBURY

HECTARE

MUCKING

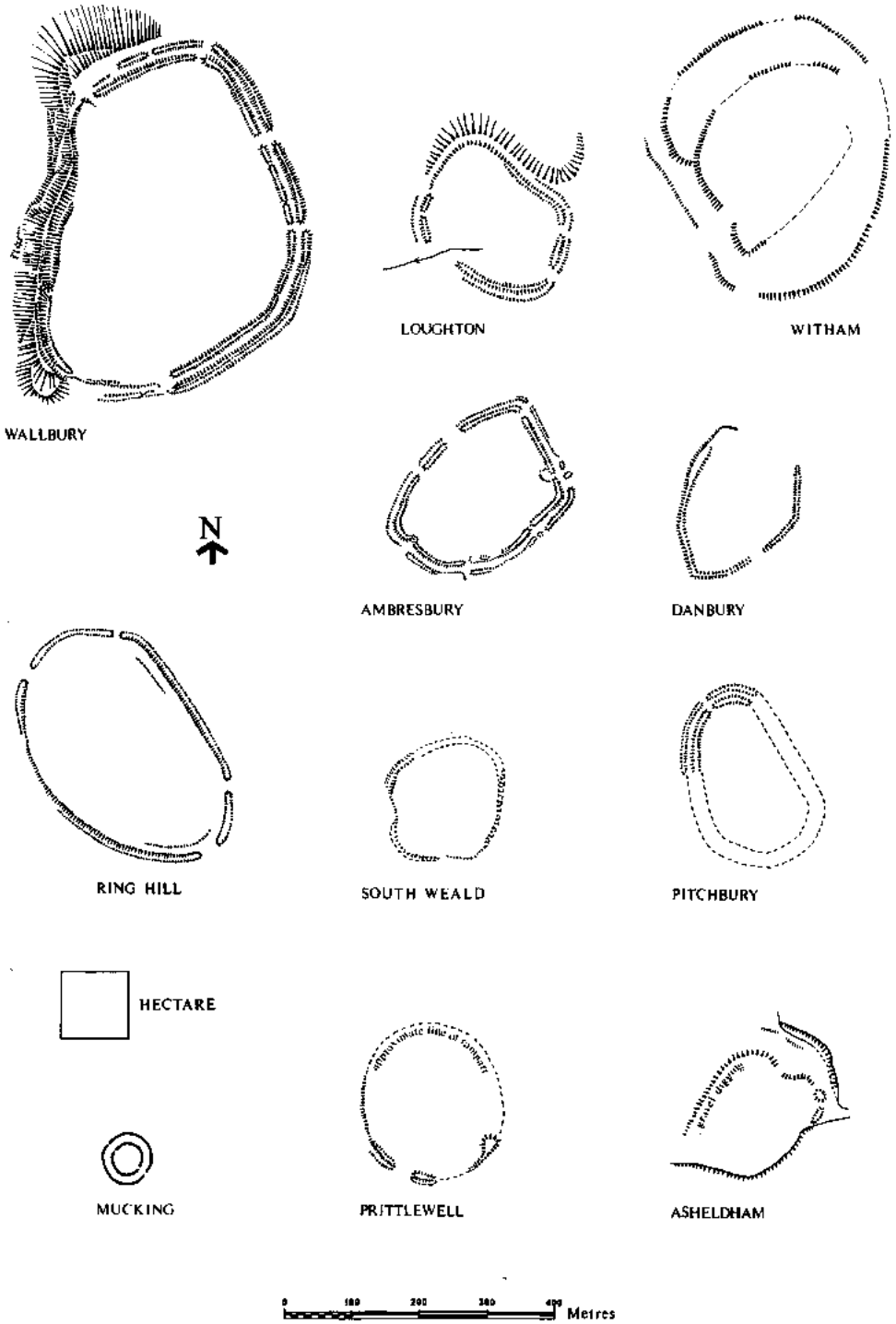PRITTLEWELL

ASHELDHAM

0   100   200   300   400 Metres

FIG 9 COMPARATIVE PLANS OF KNOWN, AND POTENTIAL IRON AGE HILL FORTS

known grounds for major conflict between north and south, although it has been suggested that Clare Camp was built at the time of a first century AD expansion of the Trinovantes northwards (Dunnett, 1975, 6), and it seems likely that conflict between the Trinovantes and the Catuvellauni was the principal reason for the maintenance of hillfort defences in the later Iron Age period.

Acknowledgements

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NOTE

Excavation of Belgic and Romano-British Farm with Middle Saxon Cemetery and Churches at Nazeingbury, Essex, 1975-6

by P. J. HUGGINS

with contributions by GLENYS PUTNAM, RHONA M. HUGGINS
and K. N. BASCOMBE

Rescue excavations during gravel extraction at Nazeingbury in the valley of the river Lea showed multi-period occupation. Belgic enclosures were for farmyard and farmhouse; there was one circular building and a presumed rectangular one. After the Conquest field ditches were straightened and the fields probably ploughed. Romano-British domestic occupation, in a sub-enclosure, followed. This lasted until about AD 160. Pits, ponds and wells, including a tent-like latrine shelter, were excavated. The corner of a Romano-British field was used as a Middle Saxon Christian inhumation cemetery; there were over 190 burials. Two posthole buildings are interpreted as churches. The use of the Saxon rod for setting out the churches is postulated. Literary references to early timber churches are discussed. Appendices are devoted to pottery, loomweights, bronze, iron, glass, stone and bone objects, animal bones and coins. Analysis of the skeletal material shows much interesting pathology. A preponderance of females suggests a hospice run by nuns.

3

A.   Introduction

A1.   Topography

The parish of Nazeing, in the Half Hundred of Waltham, lies on the western border of Essex some 29 km (18 miles) north of Greenwich, London. The river Lea (or Lee) at 23 m. (75 ft.) O.D., with Nazeing Mead and Nazeing Marsh, forms the western boundary (Fig. 1C). In the east, the land rises towards the forest of Waltham, now Epping Forest, and reaches 107 m. (350 ft.) at the boundary. To the north is Roydon parish and to the south is Waltham Holy Cross.

The straggling village of Nazeing consists of houses and farms spread out around lanes near the present church and along Nazeing Long Green, Middle Street and Hoe Lane. In the west, scattered buildings around the crossroads where the moated Nazeingbury manor house was sited, have been overwhelmed by modern residential development. A narrow strip of river terrace gravel follows the contours to the north and south of these crossroads; the land to the east is London clay.

At Nazeingbury alluvial gravel extraction has followed nursery gardening on each side of Nursery Road. This road was built between the two world wars along the line of field boundaries. In July 1975, John Payne, a mushroom grower whose premises are in the adjoining Natux Mead, remembering the pre-war finds on the site, noted that archaeological features were being destroyed by the gravel digging in fields called Blacklands (Fig. 1A). Rescue excavations by Waltham Abbey Historical Society, with the help of local people, followed immediately.

In Great Blacklands (TL 386066) the alluvial gravel (at one stage a 5 m. depth was being extracted) was covered by a layer of brickearth, 23 to 66 cm. thick; in places a thin layer of sand was noted between the gravel and the brickearth. Towards the east a loamy gravel also occurred under the brickearth but elsewhere this deposit was superficial. The whole site was finally covered by an alluvial loam with, here and there, a thin intermediate stony layer. All these deposits are taken to be alluvial; they are indicated in the various section drawings.

A2. The Excavations
Much of the excavation took place after the topsoil and brickearth had been removed by bulldozer and dragline (Pl. 3), so that only features penetrating the gravel were seen in these areas. The north west of the site was particularly heavily scraped so that any ditches there were completely lost. The field to the north had already been totally dug and was under water.

Most of the excavation of the ditches and pits was carried out at great speed, the object being to obtain the maximum amount of dating material in the time available; where there was no obvious stratigraphy, finds were separated by depth. In the exceptionally hot summers of '75 and '76 some lengths of ditch were baked too hard for excavation to be feasible. It was often possible to draw complete ditch sections at the boundaries of areas being worked by the gravel company. Some 7 acres, nearly 3 hectares, were investigated in this way.

The only area excavated prior to brickearth removal is shown by the dotted line on the cemetery plan (Fig. 6 and Pls. 3A, B); this represents about 600m.^{2} or 2% of the total area. This ground had been covered by a concrete nursery road and, by the time this was removed, the special importance of the area was recognised. A flexible approach to the gravel extraction programme made careful excavation hereabouts possible.

The excavations took place, mostly at weekends, from July 1975 to July 1976. Recording continued until December 1976. The report is intended to be written at different levels. The discussion of the Belgic and Romano-British farms is at Level IV (Dept. of the Environment, 1975, 3), synthesised descriptions with supporting data. The Saxon parts, C and D, are written at Level III, with greater detail of each feature so that the reader can better judge the validity of the arguments.

A3. Documentary by K. N. BASCOMBE
Nazeing is first mentioned in the foundation charter, dated c. 1060, of Harold's college of secular canons at Waltham, when *Nesingan* with all its appurtenances, fields, pastures, meadows, woods and waters (*campis, pascuis, pratis, silvis et aquis*) was granted to the college (Monasticon, 1830, vi, 61; Hart, 1971, considers this charter textually spurious but the details may well be authentic). Boundaries of the estate appended to the charter specify, in addition to the main area, a detached meadow by the Lea. In Domesday Book (VCH, I, 446) the canons' holding is described as a manor of 5 hides, with 13 acres of meadow and half a fishery. Two other estates in Nazeing are also mentioned, both held by one Ranulf. One of these consisted of one hide only and is listed under Harlow Hundred so presumably it lay in the north of the parish; the other, amounting in total to 5½ hides and one

A

NAZEING MEAD

FURTHER BLACKLANDS

MIDDLE BLACKLANDS

AMLANDS

GRAVEL PIT FIELD

UPPER WEST FIELD

SEE FIG 2

GREAT WEST FIELD

LITTLE WEST FIELD

GREAT BLACKLANDS

PIT IS SEEN 1974

GREAT WEST (1 FIRST) FIELD

NATUR MEAD

LITTLE WEST FIELD

FIVE ACRES

MARSH GATE FARM

NURSERY ROAD

PECKS HILL

MOAT

SITE OF MANOR HOUSE OF NAZEINGBURY

SITE OF LE BERY CROS IN 1404

NAZEING ROAD

0   500   1000 FEET
0   50 100   200   300 METRES

B

WHEATHAMPSTEAD

BRICKWALL HILL

CROOKHAMS

GRUBS FARM

MUCH HADHAM

PORTINGBURY RINGS

STANE ST

BRAINTREE

CAMULODUNUM

WALLBURY CAMP

R. STORT

R. CHELMER

KELVEDON

RIVENHALL

WITHAM

HARLOW

R. CAN

HEYBRIDGE

VERULAMIUM

ROUTE 213

ROUTE 212

+NAZEINGBURY

SEE C

GREENSTED CHURCH

DANBURY CAMP

ERMINE STREET

AMBERSBURY BANKS

LOUGHTON CAMP

R. RODING

R. CROUCH

HADLEY WOOD

BROCKLEY HILL

WEALD PARK CAMP

ROUTE 30

HIGHGATE WOOD

UPHALL CAMP

GUN HILL

ORSETT

MUCKING

GROVEFIELD CAMP

WATLING STREET

LONDON

R. THAMES

0 1 2   5   10 MILES
0   5   10   15 KM

C

HODDESDON

ROYDON

BROXBOURNE

R. LEA

NAZEING MEAD

NAZEING

WORMLEY

NAZEING MARSH

SEE A

NAZEINGBURY

BROOK

NAZEING WOOD

NAZEING COMMON

CHESHUNT

EPPING

WALTHAM HOLY CROSS
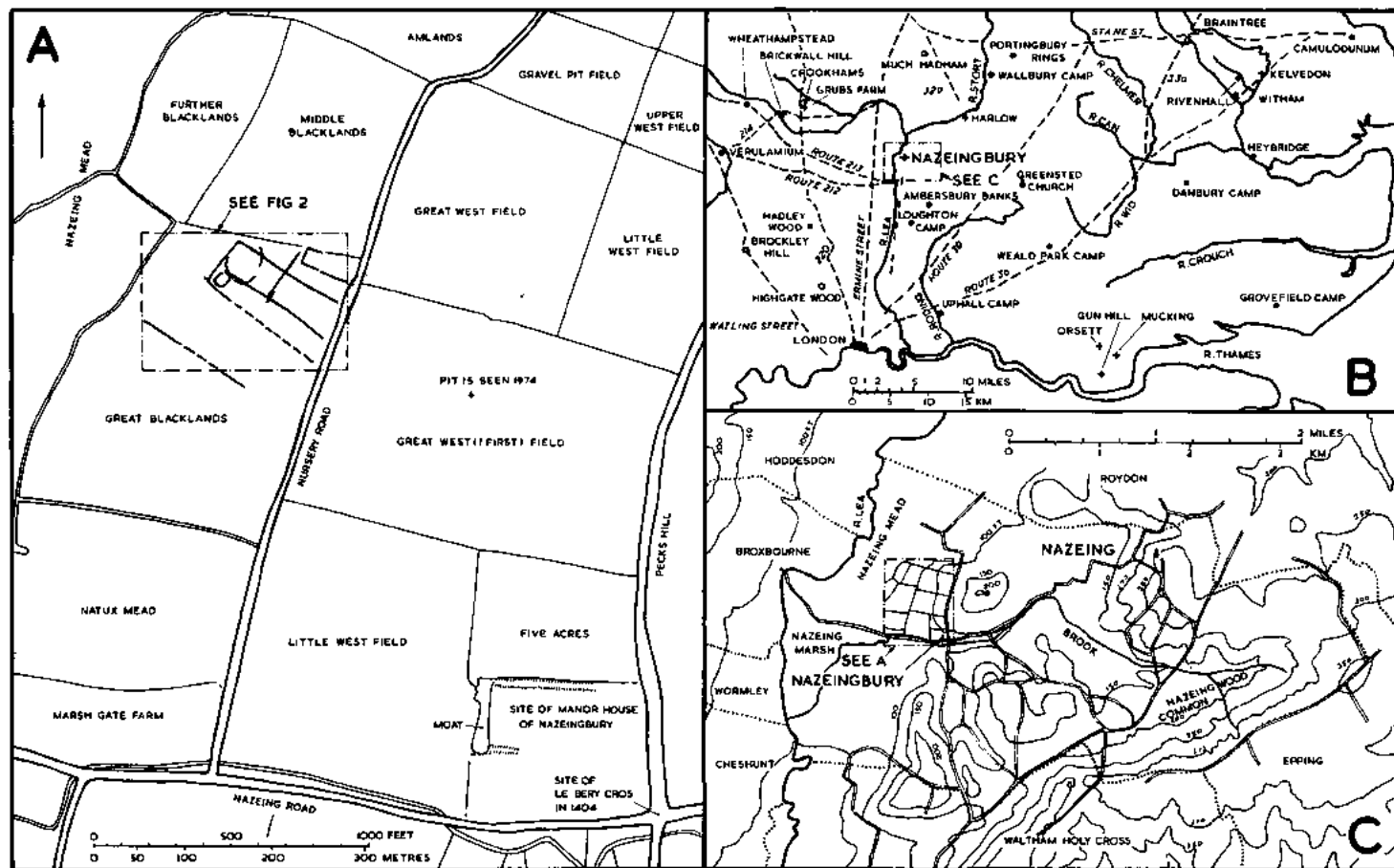
0   1   2 MILES
0   1   2   KM

FIG. 1 NAZEINGBURY, ESSEX, 1975-6
A. Site of excavations
B. Relation to other sites: filled circles denote iron age camps, open circles denote Roman kiln sites, crosses denote other references, route numbers denote Roman roads (Margary, 1973)
C. The parish of Nazeing.

virgate less 15 acres, lay mostly in Nazeing but partly in Epping, it included 54 acres of meadow and a mill (in 1066). A document (Northants R.O. X2756/39) of 1765, describing the boundary between the Upper Town and Lower Town of Nazeing, indicates that this boundary lay along the brook which 'rises at the Top of the Common' (and virtually bisects the parish) see Fig. 1C, and adds that the 'Lands in Upper Town descend to the Youngest Son; the Lands in Lower Town to the Eldest Son.' This strongly suggests an early manorial boundary, and that this brook may be *óare burnan* mentioned as a boundary of the canons' Nazeing estate in Harold's charter. Further, the disposition of Ranulf's larger estate suggests that the canons' estate lay north of the brook. It is in this latter area that the present church of Nazeing (All Saints) stands, for which an early 12th-century date is indicated on architectural evidence (VCH, **V**, 149; RCHM, **II**, 193-4). The charter (Monasticon, 1830, vi, 63) of the refoundation of Waltham by Henry II as an Augustinian priory, later Abbey, mentions a church at Nazeing. Subsequently the Abbey's manor of Nazeing was enlarged to include almost all the present parish. After the Dissolution the manor passed successively to the families of Denny and Wake (VCH, **V**, 142).

The site of the excavation seems to have been, for some centuries at least, part of the demesne lands of the manor; like the manor house (Nazeingbury) it lies on the north side of the brook. On the tithe redemption map (Essex R.O. D/CT 249, 249a) of 1848 the site can be located in a field called Blacklands (plot no. 193; 21 ac. 0 r. 19 p.; arable and meadow); this field and adjacent fields are all part of Nazeingbury Farm. In 1770 a lease (N.R.O. X2757/45) of Nazeingbury mentions Great Blacklands, Middle Blacklands and Further Blacklands. A map (E.R.O. D/DHt P12) of 1767 gives the names as shown in Fig. 1A, the site being then in Great Blacklands. Black Lands (12 acres) and Great Black Lands (20 acres) appear in a particular of 1674 (N.R.O. Acc. 1965/129, p. 17); the former was then held with sundry marsh lands totalling 82 acres and cow leazes; the latter was probably the same as plot no. 193 in the tithe award and was parcel of the Nazeingbury estate, which was held on a 21-year lease dated 1660. This lease was declared tithe-free (as were many other lands in Nazeing detailed in the same particular) but at the time of the award all this area paid tithe (E.R.O. D/CT 249, 249a). Former leases of the Nazeingbury estate are mentioned in the 1674 document.

The cemetery on the site was discovered in 1934 during construction work at Lapwoods Nursery (later Hainault Nursery). A typescript (in Waltham Abbey Historical Society collection) by Miss M. L. Tildesley of the Royal College of Surgeons, indicated that some 20-30 skeletons were found, apparently in two levels; a Christian cemetery dating from between the late 3rd and early 9th centuries AD was suggested. Hazzledine Warren (1937, 50-1) dug trial trenches at the site, finding sherds dating from AD 50 to 150 (and including decorated Samian ware) in a level of 'humus and made earth' at the same general level as the graves. It is believed (J. Payne, private communication) that the 1st-century vessels described by Hull (1945, 151-2) and stated to have been found at Nazeing in 1936 also came from this site.

Hainault Nursery ceased to function early in 1975 and the site was acquired by Redland Gravel Ltd. for gravel extraction. Fields to the east of the site have now been dug out and the land re-instated. The excavation site, also completely dug out, will be left as a leisure lake.

B.   The Belgic and Romano-British Farms

B1.   General (Figs. 2-5)

The ditches and pits were excavated from various levels, some lengths were seen only as discolorations in the baked ground or as depressions where vehicle wheels had sunk into them. Other lengths are postulated, these being indicated by dash lines. Figs. 2 and 4 show the centre lines of the ditches and give no idea of the width either as excavated or original. Two near complete 'enclosures' are labelled A and B. A sub-enclosure, C, has only three sides.

Details of the ditches, given in Table 1, include the estimated original dimensions, the depth into the gravel, the amount of soil actually excavated and the amount and intensity, i.e. amount per
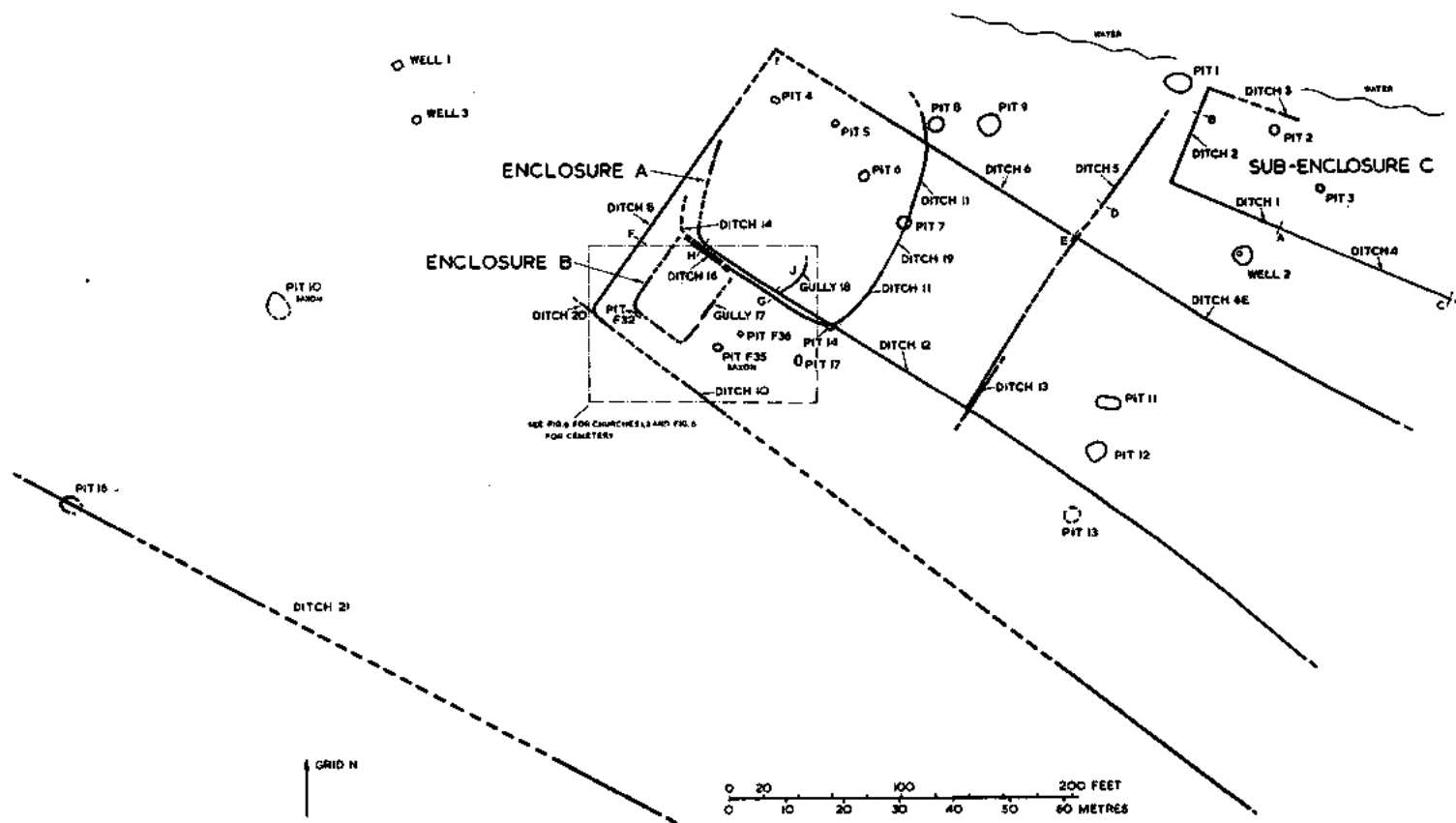
FIG. 2. NAZEINGBURY, ESSEX, 1975-6
Site plan showing ditches, pits and wells. Dashed lines are conjectural. Letters C etc. indicate where ditch sections of Fig. 3 were drawn.

bucket of soil excavated, of the material therein; the latter was calculated to see if it was possible to judge proximity to domestic buildings and to distinguish between casual accumulation and intentional deposition of rubbish. Similar information for the pits and wells is given in Table 2. Further details of the finds are given in the appendices.

B2. Belgic Iron Age features
Ditches 8, 10, 11, 14, 16 and 19 and gullies 17 and 18 are thought to be late pre-Roman Iron Age, called 'Belgic' for convenience, and are apparently of two phases (Figs. 2 and 3; Pl. 3C, D). Besides these features, pit F36, shown on the cemetery plan (Fig. 6), and described in the cemetery area feature list, is also assigned to the Belgic period, on the evidence of two pottery sherds.

Enclosure A, whatever its precise shape, probably had an area of about a third of an acre or about an eighth of a hectare. It is defined on the south and east by ditch 11 with a 12.5 m. (41 ft.) wide gap spanned by the shallower ditch 19. Ditch 11 as seen had a deep butt end (Pl. 3D) at the NE corner of enclosure B as if re-cut to drain the enclosure B ditches. The continuation of the circuit is labelled ditch 16 (Pl. 3C), this was much shallower than the re-cut ditch 11 and contained little pottery. Within enclosure A, a fragment remained of a presumed circular gully 18 (section, Fig. 3/J) which would have drained into ditch 11, not, as might appear on the plan, into ditch 12 which cut through it. This gully could have surrounded a circular building up to 7.5 m. (25 ft.) diameter.

The rectangular enclosure B (Figs. 2 and 6) measured about 10×14 m. (33×46 ft.) internally. It was formed on three sides by gully 17 with an interrupted entrance in the SE arm. It appears to be an addition to enclosure A. The gully 17 was dug only into the brickearth and would have drained into the slightly deeper ditches 16 and 14 and the still deeper re-cut ditch 11; the relative depths can be gauged from Table 1.

The size and shape of the ditches (Table 1 and Fig. 3) indicates that they are for drainage of the enclosed areas. Thus, unless the spoil from the ditches was dispersed, external banks would be expected. The profile of ditch 11 (Fig. 3/G), with more primary silt to the south west, supports the likelihood of an external bank to enclosure A. The clean, usually sterile, primary silt (labelled 'silt' on the sections) on the outside of ditch 11 was even more pronounced where ditch 11 joined enclosure B, indicating, perhaps, a higher external bank where the spoil from ditches 11 and 17 was concentrated. No primary silt was seen in ditch 14 suggesting that no bank was retained there.

B3. The ditches—problems of interpretation
Ditches fill up naturally to a position of equilibrium, the actual level depending on the nature of the vegetation growth in the ditch itself, in the adjacent fields and on any bank which may exist. Such an equilibrium ditch profile may remain essentially unchanged over centuries. This has been shown at Mucking (Jones, 1975-6, 34) where a turf line formed and there was relatively little accumulation over four centuries; the final return there to a pebbly fill is judged to indicate a change of land use which destroyed the turf edges to the ditch.

At Nazeingbury no part of the sections can be interpreted as an equilibrium turf line. The fill labelled 'loam' on the sections (Fig. 3) is a sandy loam judged to result from natural silting. This fill was generally indistinguishable from the sandy loam which remained in a few places above the brickearth. The section of ditch 4 (Fig. 3/C) at the far east of the site shows a line of small stones right across the top of the ditch. This deposit and the sandy loam above is thought to have resulted from flooding after the Romano-British occupation. In fact the whole sequence of natural deposits is thought to be alluvial.

Ditches usually need cleaning out to maintain their efficiency. However, experience may show that some ditches need not be as deep as when first dug; for instance, gully 17 may not have needed cleaning out so long as it could lead water away into ditch 11. Thus an equilibrium position need not mean the ditch has ceased to function. Small fragments of third and fourth century AD pottery in upper ditch levels at Nazeingbury are assumed to have accumulated at such an equilibrium level and to be derived from occupation which, by then, had moved some distance away from the site;
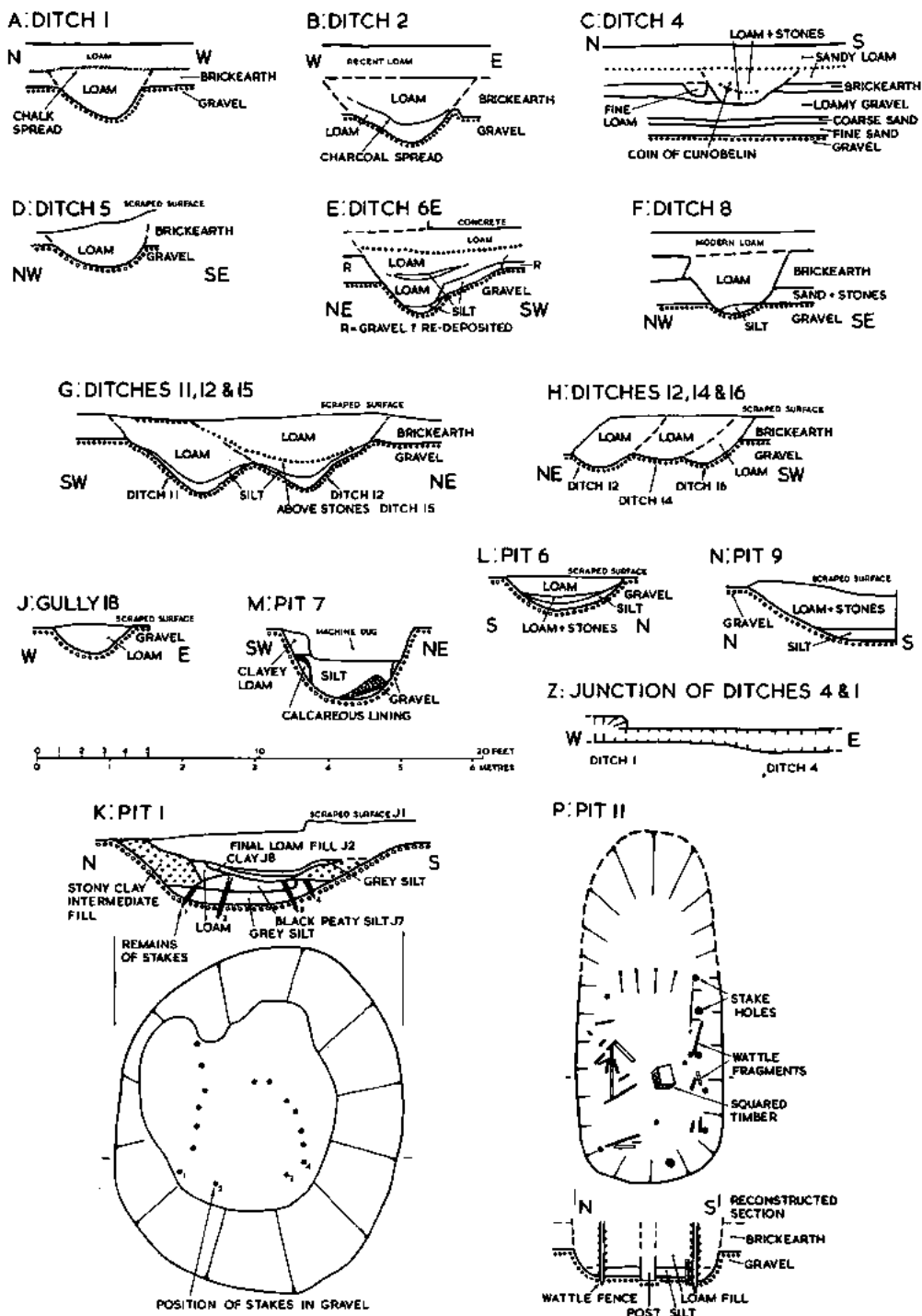
FIG. 3. NAZEINGBURY, ESSEX, 1975-6
Details of ditches and pits

possibly, too, the land had by then been given over to pasture.

Evidence of clearing out or re-cutting a ditch may be difficult to detect unless it cuts into the original profile or into primary silt or through storm lenses; this is particularly so at Nazeingbury with such undistinguished ditch fills. If a ditch is drastically re-cut on the same line the original profile may be completely lost and the finds removed from their primary context to re-appear as derived material elsewhere, such as in the fill of the re-cut ditch. At Nazeingbury some ditches intersect longitudinally, thus, for instance, material from ditch 16 could re-appear in ditch 14 and again in ditch 12.

Histograms have been drawn (Appendix 1) to demonstrate the relative proportions of pottery fabrics in the ditches. The difference between the diagrams for ditches 12 and 6 is probably due to the derived pottery in the former.

B4. The ditch system: assumptions

The discussion of the development of the ditch system is designed to enable the reader to re-assess the sequence if the assumptions made appear unreasonable, or if future parallels require such re-assessment. The assumptions basic to the argument are these:

1) That gully 18 represents the eaves drip gully around a circular building.
2) That enclosure A, with at least one circular building, which can be matched by other Iron Age farmstead enclosures, is the original element in the design.
3) That enclosure B is for a ground standing *rectangular* building and is thus not likely to be primary in this ditch complex.
4) That the ditches 8 and 10 around the south-west of enclosure B are so parallel to the enclosure ditches as to show an association, even to being dug at the same time; ditch 10 was certainly re-cut later.
5) That the straight ditches 6 and 12, being 1 *actus* (120 Roman feet) apart, were dug at the same time. They both show that enclosure A was superseded and imply that the land was to be ploughed and that Roman influence was thus present when they were dug.
6) That domestic occupation began in the circular building in enclosure A. The rectangular building postulated in enclosure B would have been additional to, or the successor to, the circular building.

B5. The ditch system: stratigraphic statements

As a result of stratigraphy a few clear statements can be made. From Fig. 3/G, it is seen that ditch 12 is later than ditch 11; this supports assumption 5. Also ditch 15 is later than ditch 12; in fact ditch 15 can be considered as the upper part of ditch 12. From Fig. 3/H, ditch 14 is seen to be later than ditch 16 and ditch 12 is later than ditch 14. A few ditches crossed at right angles but it was not possible to say which were dug first.

B6. The Belgic Farm: *Phases 1 and 2*

The two postulated Belgic phases are shown in Fig. 4. The pottery finds from the ditches are discussed in Appendix 1 where it is stated that there are enough earlier sherds to suggest a pre-Belgic date for the original Phase 1 enclosure A.

Whatever the period involved, there was time for ditch 16 to become completely silted up and to be replaced by ditch 14, and for ditch 14 in turn to have become completely silted up before the first Romano-British phase began with ditch 12 (Pl. 3C). Ditch 11 as excavated is also taken to be a re-cut, in Phase 2 when enclosure B had been established, since ditch 11 'began' with a deep butt end (Pl. 3D) at the NE corner of enclosure B as if re-dug specially from that point to drain this enclosure. If this is so then there was little left of the original ditch 11 except possibly the length called ditch 19, which was a shallower ditch across the sometime eastern entrance to enclosure A. The similarity of line of the south side of ditches 16 and 11 (plan, Fig. 6) may indicate that ditch 16 is a surviving length of the original ditch 11.

The presumed eavesdrip gullies 17 and 18 were only represented by the lowest few centimetres of their undistinguished loamy silting. Gully 17 was dug only into the brickearth. Pit F36 is possibly a fire pit associated with occupation inside enclosure B (see cemetery area feature list, C2).

Ditches 8 and 10 are included in Phase 2 because of assumption 4 above and because only Iron Age pottery was found low down at the junction of the two ditches, presumably having survived the re-cutting of ditch 10, clearly seen in Fig. 7. The junction of ditch 8 with the curved continuation of ditch 16 is problematical. This continuation was seen only when evening light caught vehicle ruts.

Some features in the cemetery area (Fig. 6) could be of the Belgic period, but mostly there was no dating evidence, and there was no symmetrical arrangement of features likely to be associated with gully 17. Details of the finds, such as they are, are given in the cemetery area feature list (C2). Only pit F32 at the SW corner of gully 17, and cut by it, is clearly earlier than the gully (Fig. 6).

TABLE 1. NAZEINGBURY, ESSEX, 1975-6. DITCH DATA

Ditch or Gully	Estimated original size Width (m)	Depth (m)	Depth into gravel (m)	Amount of soil excavated (buckets)	Amount of animal bone (kg)	Amount of pottery (kg)	Intensity of rubbish bone (g/bkt)	pottery (g/bkt)	Period	Section illustrated in Figure	'Belgic clay objects' of Types 1-5	Daub
11	2.65	1.15	0.75	1200	26.8	11.6	22	10	Belgic	3/G	39	14
14	2.10	0.70	0.25	180	0.5	3.9	2.8	22	Belgic	3/H	16	26
16	1.55	0.75	0.30	90	5.6	4 sherds	62	—	Belgic	3/H	5	1
17	1.35	0.50	—	140	1.6	0.2	11	1.4	Belgic	7/3-4	1	0
18	1.65	0.80	0.40	90	0	0.1	0	1.1	Belgic	3/J	0	0
19	0.80	0.25	—	8	0	0	0	0	Belgic	—	0	0
1	1.40	0.70	0.40	490	2.7	6.6	5.5	14	R-B	3/A	0	0
2	2.15	0.85	0.40	290	0.7	10.3	2.4	35	R-B	3/B	0	0
4	1.20	0.80	0.50	290	1.8	5.4	6.2	19	R-B	3/C	0	3
5	1.90	0.90	0.30	500	6.8	1.2	14	2.4	R-B	3/D	0	0
6	2.30	0.90	0.30	470	5.9	4.8	13	10	R-B	—	2	0
6E	2.30	1.10	0.50	690	10.2	8.6	15	12	R-B	3/E	0	0
8	1.50	1.00	0.15	390	13.8	0.9	35	2.3	R-B	3/F	0	0
10	2.10	1.30	0.40	190	2.4	0.6	13	3.2	R-B	7/1-2	0	0
12	3.00	1.10	0.60	990	27.2	2.6	27	2.6	R-B	3/G	6	2
13	?	?	0.20	15	0	5 sherds	0	—	R-B	—	0	0
15	3.05	0.75	0.25	570	2.0	1.0	3.5	1.8	R-B	3/G	0	0
20	1.1	0.50	—	50	0	0	0	0	R-B	—	0	0
21	2.3	0.90	0.40	370	2.3	0.2	6.2	0.54	R-B	7/X	0	0

Sizes estimated and measured are given to the nearest 5 cm. The amount of soil excavated is given in bucketfuls; the plastic buckets used held about half a cu. ft., thus 70 buckets contain 1 cu. metre. In an attempt to measure the concentration of rubbish, the amount of dry material, pottery and animal bone, has been expressed in grams per bucket (g/bkt).

B7.   The Belgic ditches: significance of contents

It has been postulated that ditch 16 is a surviving fragment of the original enclosure A ditch. There were only 4 sherds in its fill. There was, however, a dense deposit of animal bone (under grave 83, Fig. 6) suggesting a purposeful dumping from a nearby midden, perhaps within enclosure B.

The succeeding ditch 14 and the re-cut ditch 11, in contrast, contained a considerable quantity of pottery and animal bone (see Table 1). Ditch 14 had the higher density of pottery, perhaps supporting the contention that there was domestic occupation within the rectangular enclosure. There was little pottery in gully 17, but only the lowest fill was seen which must have been mostly primary silting. Very little pottery was found too in gully 18 but again only the bottom silt was seen. Only ditches 14 and 11 contained sufficient pottery to justify a histogram (Appendix 1); the resulting pictures are very similar. The small amount of greyware in ditch 11 presages Roman influence in the
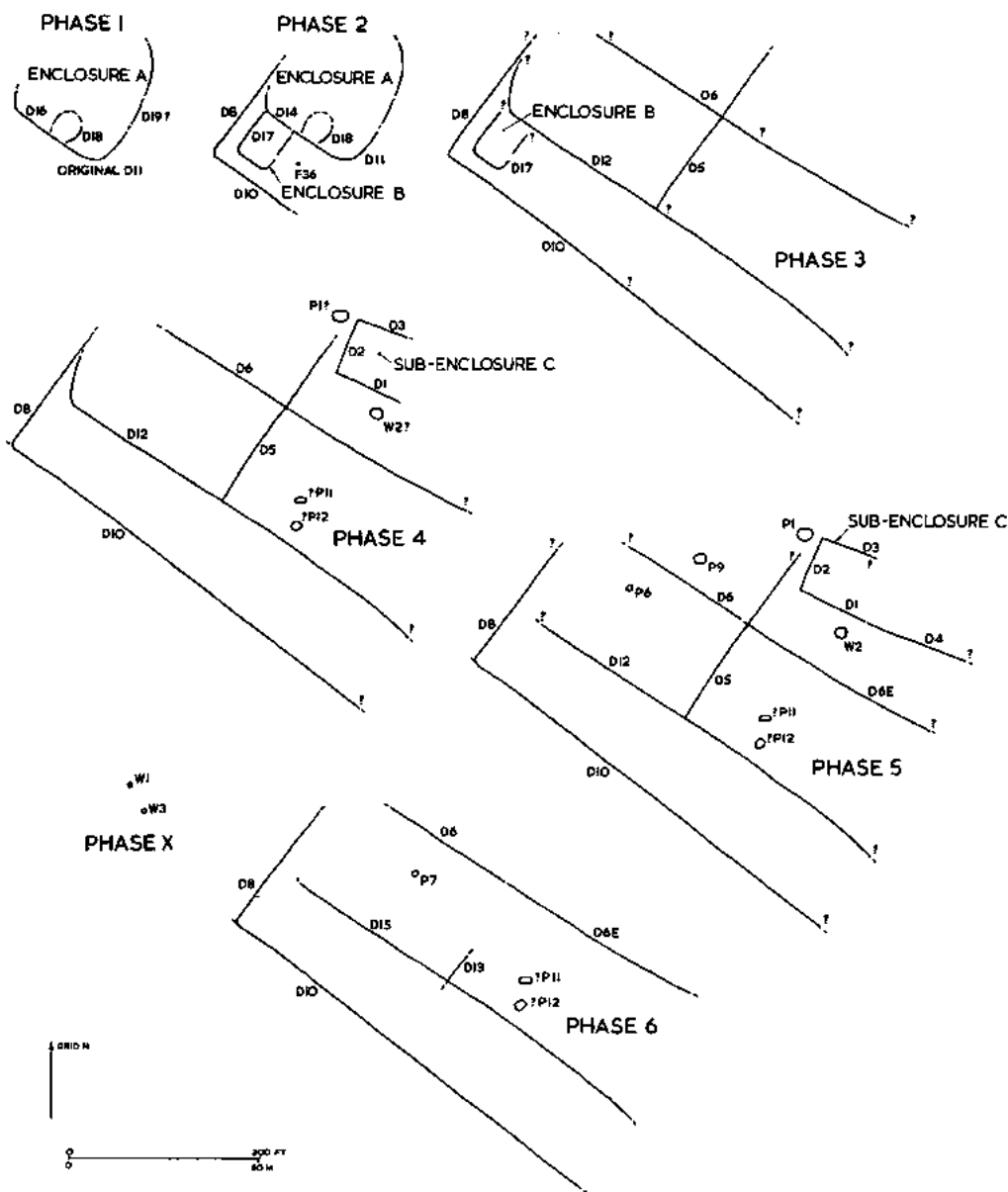
FIG. 4. NAZEINGBURY, ESSEX, 1975-6
Phases of development of the Belgic and Romano-British farms: D, ditch; P, pit; W, well

next phase, and probably shows that ditch 14 was silted up before ditch 11 was re-cut as deep as the butt end. The sherds and bones in ditch 11 could have derived from domestic occupation to the north or south.

Burnt clay objects and daub are significant finds in the Belgic ditches. Of the former, some at least are loom weights, and attest domestic activity. The latter are evidence of a building destroyed or damaged by fire. The clay objects (Table 1 and Appendix 2) support the pottery and bones as evidence of domestic occupation close to ditch 14 and near to the S and SE part of ditch 11.

Discussion of the daub (Appendix 8A) suggests that in ditch 14 it could have derived from either side of the ditch. However, daub in ditch 11 was found in the SE corner of the enclosure A ditch and could more reasonably have derived from the circular building or even from another building within the corner of the enclosure. The curved shape of enclosure A at the south-east may indicate that another building, without an encircling gully, had been located there.

The only hiatus noticed in the Belgic ditch silting was the presence of a fired area in ditch 11, 50 cm. above the bottom of the ditch, and below the head of grave 104 (Fig. 6). This position is about central with the postulated circular building inside gully 18 and suggests the continued use of this building into Phase 2.

B8.   Development of the Romano-British Farm
Phase 3
The Belgic enclosure A was superseded by the setting out of a rectilinear ditch system (Fig. 4). Ditches were attested, sometimes only as a stain in the gravel, for a total length of 755 m. (2480 ft.). About a third of this, some 240 m. (790 ft.), was excavated but mostly after the upper part had been destroyed; details of the ditches and their contents are given in Table 1. A few full sections were drawn (Figs. 3 and 7) at interfaces between scraped and unscraped areas. In general these ditches again showed little stratigraphy other than a clean rapid primary silting typical of a newly cut ditch in gravel. A few storm or flood lines or lenses were detected and there was some evidence of re-cutting. In particular ditch 6 had been deepened near the junction with ditch 5. This re-cut length is called ditch 6E; its section (Fig. 3/E) suggests it may have been re-cut twice. To the Romano-British period also belong 13 pits, 2 of which may be ponds, and 3 wells.

Continuity with the Belgic phase is suggested by the alignment of ditch 12 on the straight south side of enclosure A, after ditch 11 had silted up completely (section, Fig. 3/G, Pls. 3C, D). To the west, ditch 12 still continued around northwards in line with the Belgic ditch 16/14, perhaps because of the presence of trees or other obstacles. The digging of ditch 12 implies that enclosure A had gone out of use. The parallel ditch 6 appears to be part of the new arrangement, and this also implies the end of enclosure A. Significant, perhaps, is the fact that ditches 12 and 6 are almost exactly 120 Roman feet or 1 *actus* or furrow length apart. This is taken as further support that these two ditches were contemporary and suggests that the land was ploughed. Sherds from these two ditches are of comparable pottery fabrics (Fig. 10) and both, in their greyware (f) content, contrast with the Belgic ditches. The high proportion of Belgic fabrics in ditch 12 can be explained in terms of material derived from ditch 11, and this also applies to ditch 15. Ditch 6 however has a much higher proportion of Belgic (a) than Phase 4 ditches 1 & 2 and contains also two pieces of Samian ware of Claudian date. It is possible that enclosure B continued in use for the first years of Roman occupation with the new ditch system. The cross ditch 5 may be of Phase 3; there was little pottery in this ditch; the animal bone content consisted largely of part of a, possibly drowned, ox.

Phase 4
The next detectable major change, defining Phase 4, is the movement of domestic occupation to the north-east of the site. Ditches 1, 2 and 3 form the three-sided sub-enclosure C which, it is suggested, served to drain the site of a rectangular building. However there were no postholes or convincing marks in the gravel to indicate a building. The internal size of sub-enclosure C, based on the length of ditch 1, was 21 × 18 m. (69 × 59 ft.).

Ditches 1 and 2 (ditch 3 was not excavated extensively) contained a high intensity of pottery, see Table 1; this supports the idea of domestic activity. The histograms of pottery fabrics (Fig. 10) for ditches 1 and 2 show that while the Roman greyware (f) accounts for over 50% of the total, the figures being strikingly similar in each ditch, native wares continue to be made but with changes of form. The Samian ware gives a date range between Flavian to mid-2nd century, and this is borne out by the other pottery. The personal bronze objects in ditches 1 and 2 (Appendix 4) further support the idea of domestic activity within sub-enclosure C.

A slight difference in orientation of the sub-enclosure C and the rest of the rectilinear ditch system is evident (Figs. 2 and 4). This may be seen as a continued reflection of the slightly radial setting of ditches 12 and 6, the latter re-dug as 6E.

Phase 5

Features associated with sub-enclosure C, but which contain very little or no 1st-century pottery, are included in Phase 5. Ditch 4 is an extension to ditch 1. Seen in plan (detail, Fig. 3) it appears that an entrance some 4 m. (13 ft.) wide, represented by the narrowed ditch, was retained around the end of ditch 1. Ditch 6E is the re-cut version of the E end of ditch 6. The postulated latrine pit 1 and the nearby pit 9 are also included in this phase. All these features contain, almost exclusively, Rcman pottery dating to the 1st half of the 2nd century AD. The absence of native ware here supports the theory that such pottery was not derived in ditches 1 and 2.

Pit 1 appeared to have been purposely backfilled from a midden or surface concentration of domestic rubbish as it contained many fragments of a large number of vessels (Figs. 18 and 19). Ditch 6E also contained much domestic rubbish presumably as a result of its proximity to the domestic sub-enclosure C; from near its junction with ditch 5 to near well 2 there was a concentration of pottery and large animal bones with a layer of compacted stones above, suggesting that this length may have been filled to provide a causeway across it. This seemed the only example of the deliberate filling of ditches. Elsewhere they apparently filled over a period by haphazard rubbish disposal, which even included whole pots in ditches 1 and 2.

All the pottery and finds in the ditches and pits of this phase can be dated to before AD 160 and while the digging of these features can only be dated approximately, the date of their final filling seems in little doubt. The situation of well 2 suggests it served sub-enclosure C.

Phase 6

A very few sherds, from the upper parts of several ditches, date to the 3rd and 4th centuries. This is taken as evidence that by now domestic occupation had moved some distance away, the ditches had become stabilised at an equilibrium profile, and the area may have become pasture. Only ditch 13, of which a fragment was seen, contained pottery at the bottom suggesting it was dug presumably to replace ditch 5 at this late date. Pit 7 (see para B9) is included in this phase; pits 11 and 12 may have been ponds for watering stock.

Phase X

An indeterminate development took place to the west and is represented only by wells 1 and 3 (para B10), and material unstratified in a soil dump Q between the wells (para B11). The significance of fragments of flue tile and Roman brick and roof tile is discussed in Appendix 8B. In essence the evidence seems to point to a substantial building thereabouts which had been quarried away before excavation began.

B9. The Pits

Twenty pits were found, numbered 1-17, F32, F35 and F36; the latter three are detailed in the cemetery area feature list (C2). The dimension and amounts excavated are detailed in Table 2 together with the amount of pottery and bone found.

Four of the pits were Iron Age. Pit 16 (Fig. 2), cut by ditch 21, was a simple shallow hole with fragments of two pots (Fig. 11/1 and 2) and bones in the bottom silt. Pit 14 was a simple shallow hole cut by ditch 11 and with loam fill. Pit F 32 was more trench like and was cut by gully 17. Pit F36 was possibly a fire pit associated with enclosure B.

Three pits were of Saxon date. Pit F35 is detailed in the cemetery area feature list. Pit 15, in Great West Field (Fig. 1A), contained traces of timber (Fig. 7/Y) vaguely suggesting it had been roughly lined as a water hole; it contained three sherds: 1 grit-tempered Iron Age, 1 Much Hadham redware sherd ground to form a small disc, and 1 grass-tempered sherd. Pit 10, in the far west outside

TABLE 2. NAZEINGBURY, ESSEX, 1975-6. DETAILS OF PITS AND WELLS

Pit/Well	Period	Estimated original Size (m)	Depth (m)	Depth into gravel (m)	Deposit	Amount of soil excavated (buckets)	Amount of animal bone (kg)	Amount of Pottery (kg)	Intensity of Rubbish Bone (g/bkt)	Pottery (g/bkt)	Section illustrated in figure
Pit 1	R-B	5.4 × 6.3 oval	1.6	0.86	final fill	260	2.5	16.2	9.7	62	3/K
					cess layers	66	0.45	1.9	6.8	29	
Pit 2	no finds	2.5 dia	1.2	0.60	loam	40	0	0	—	—	—
Pit 3	no finds	2.4 × 2.6 oval	0.9	0.30	loam	15	0	0	—	—	—
Pit 4	R-B	1.1 × 1.7 oval	1.4	0.75	loam	33	0.23	1 sherd	7.0	—	—
Pit 5	no finds	2.1 dia	0.8	0.15	loam	6	0	0	0	—	—
Pit 6	R-B	2.6 dia	1.0	0.35	loam + silt	25	0.11	0.2	4.4	8.0	3/L
Pit 7	R-B	2.3 dia	1.6	1.00	various	21	0	2 sherds	—	—	3/M
Pit 8	no finds	4.3 dia	1.3	0.60	not seen	—	—	—	—	—	—
Pit 9	R-B	5.2 dia	1.4	0.70	loam + silt	75	0.68	0.49	9.1	6.5	3/N
Pit 10	late Sax.	5.5 irreg	1.0	0.35	loam + lime + peat	320	5.9	2 sherds	18	—	—
Pit 11	R-B	2.1 × 5.2	1.0	0.35	silt	140	1.6	1 sherd	11	—	3/P
Pit 12	R-B	3.4 dia	1.1	0.45	silt	140	12.2	1 sherd	87	—	—
Pit 13	no finds	3.0 dia	—	—	not excavated	—	—	—	—	—	—
Pit 14	pre-Belgic	2.3 dia	1.0	0.30	loam	20	0.57	0	28	0	—
Pit 15	mid Sax.	2.3 dia	0.9	0.40	clay + silt	10	0	3 sherds	0	—	—
Pit 16	pre-Belgic	4.1 dia	1.4	0.80	loam + silt	180	0	3 sherds	0	—	—
Pit 17	no finds	2.3 × 3.2 oval	0.8	0.20	loam + brickearth	60	0	0	0	0	—
Pit F32	pre-Belgic	part seen	—	—	loam	18	0	6 sherds	0	—	—
Pit F35	mid Sax.	1.5 × 1.7 oval	1.0	0.65	loam	70	0.68	10 sherds	9.7	—	—
Pit F36	Belgic	0.8 × 1.1 rect	0.4	0.25	loam + charcoal	16	0	2 sherds	0	—	—
Well 1	R-B	2.6 sq	1.6+	0.65+	silt	55	0.45	0	8.2	0	5/R
					fill	50	0	0	0	0	"
Well 2	R-B	3.9 dia	1.8	1.2	silt	36	1.4	0	39	0	5/S
					fill	95	0	2 sherds	0	—	"
					mud + gravel	130	0.90	0	6.9	0	"
Well 3	R-B	1.3 dia	2.0+	1.25+	silt	45	6.8	0	150	0	5/T

the cemetery area, contained a calcareous deposit over a peaty silt with loam plus charcoal and much animal bone above, it contained a single shelly-ware sherd (Fig. 20/297) of 9th or 10th century date; this feature may have been a lime pit, but the peaty silt is of indeterminate origin.

Little can be said about six other pits. Pits 2, 3, 5 and 17 were simple holes in the ground with no finds. Pit 8 was dug by machine before excavation began. Pit 13 was not excavated but was probably a pond like its neighbour pit 12.

This leaves seven pits with varying amounts of Romano-British material. Three of these, pits 4, 6 and 9, were simple holes in the ground; pit 9 (Fig. 3) was the only one with any quantity of pottery (Fig. 17) and was apparently filled at the end of Phase 5 when pit 1 and several ditches were also filled. Pits 4 and 6 (Fig. 3/L), like pits 2, 3, 5 and 17 were filled with an undifferentiated loam above a few centimetres of silt. A mica-dusted bowl stratified above a Roman shelly-ware base in pit 6 suggests a closing date for the pit in the mid 2nd century. Pit 4 was oval shaped, 75cm deep into the gravel with steep sides, the only find was a fragment of Roman brick. Possibly these pits were waterholes. Pit 7 (Fig. 3/M) contained the remains of a calcareous lining like well 1, with patches of gravel in silt and may have been a well also; a few sherds of 3rd or 4th century date in its fill suggest it should be included in Phase 6. Pit 12 contained silt in which were rough hewn pieces of timber, animal bone and one Roman greyware sherd; it was probably a pond.

Pit 11, near pits 12 and 13 which may both be ponds, is shown in Fig. 3/P with a conjectural reconstructed section. A heavy squared timber stood upright within the remains of a wattle-fenced structure. A shallow lead-in from the east suggests that either men or animals were meant to enter the feature. There was some 8 cm of black stony silt in the bottom with remains of the fencing therein suggesting it had contained water perhaps to a depth of about 30cm, this being the height of the remains of the timber post. The pit may have been dedicated to Neptune, to sheep dipping, to bathing or to some other unknown use! A single greyware sherd, like that in pit 7, suggests a Roman or later date.

Pit 1, at the NW corner of the sub-enclosure C is shown in plan and section in Fig. 3/K. Sixteen stakeholes were seen as voids or part voids, 4 to 5 cm. diameter, in the silts and gravel. Six-foot (1.8 m.) ranging rods placed in holes 1 and 4 just touched at their top ends and indicate that a ridged structure had been built within the pit. From the plan it can be seen that this was a structure to be entered from the east, nearest the sub enclosure C. The south stake wall was curved and, on the N side, a straight wall projected perhaps to keep out the NE winds. This pit is interpreted as a latrine. There may have been some form of flooring, and possibly a seat, but no evidence could be detected. At some stage, after latrine deposit had accumulated, stony clay was dumped in from the sides and had penetrated between the stakes of the structure. The pit was finally filled with rubbish possibly from a midden; this was the highest concentration of pottery in loam on the whole site. Some 36 pieces of fired daub were found in the pit, 14 in the cess and the remainder in the final fill. The likelihood is that these derived from the structure which was thus of wattle and daub, a form of construction easily adapted to the rather irregular shape (for discussion of the daub see Appendix 8A). The structure was presumably burnt down. From the great amount of pottery found, mainly in the fill, but also from the silt, a mid-2nd century date is suggested for its end and it is therefore placed in Phase 5, but it could have been in use for some time.

B10. The Wells

Three wells, numbered in the order found, were detected in the machine scraped gravel. Well 2 was to the south of sub-enclosure C, wells 1 and 3 were close together far to the west of the site. Wells 2 and 3 had a lining constructed from hollowed-out tree trunks which had been cut into sections. Branches had been lopped off but the bark was left on, the bottom had been axe-tapered from the outside presumably so that on assembly the bottom would be forced together.

Well 1 was dug roughly square (Fig. 5/R). Wattle fragments in the silt indicated a light wickerwork lining which had disintegrated, after which vegetable rubbish accumulated. The well

was then crudely refurbished by stabilising at least two sides with planks and logs; suggested reconstructions are included in Fig. 5/R. A lime mud was used to seal the sides of the well, a feature also noticed in pit 7 (Fig. 3/M). After the well had gone out of use miscellaneous timber fragments and Roman roof tile and brick debris (Appendix 8A) had fallen into the mud. One piece of shaped timber (Fig. 5) is possibly from a well superstructure, one side post seen in *situ* may have been stout enough to have supported this. In the upper fill some 60 fragments of Roman tile and brick were counted. The full depth of the well is difficult to estimate in this heavily scraped area, but probably did not exceed 2 m.

Well 2 apparently had three main phases. First it was a simple 'waterhole' filled with successive layers of mud and clean gravel. Then, at a stage indicated in Fig. 5/S, some part of the deposits were cleaned out and a wickerwork lining or fence with a diameter of about 3.4 m. seems to have been erected. No stakeholes were seen in the limited area excavated, but a few fragments of wattle were judged to be *in situ* and many more displaced fragments were seen. Finally a five-section hollowed-out elm tree trunk was inserted off-centre through the previous deposits. The well then silted up as shown, (note that the section in Fig. 5/S is a composite one). The feature certainly ended up as a well, from which water had to be raised; part of an iron 'bucket' handle (Appendix 3/2) may be evidence of this. The deposition of layers of clean gravel may be interpreted as attempts
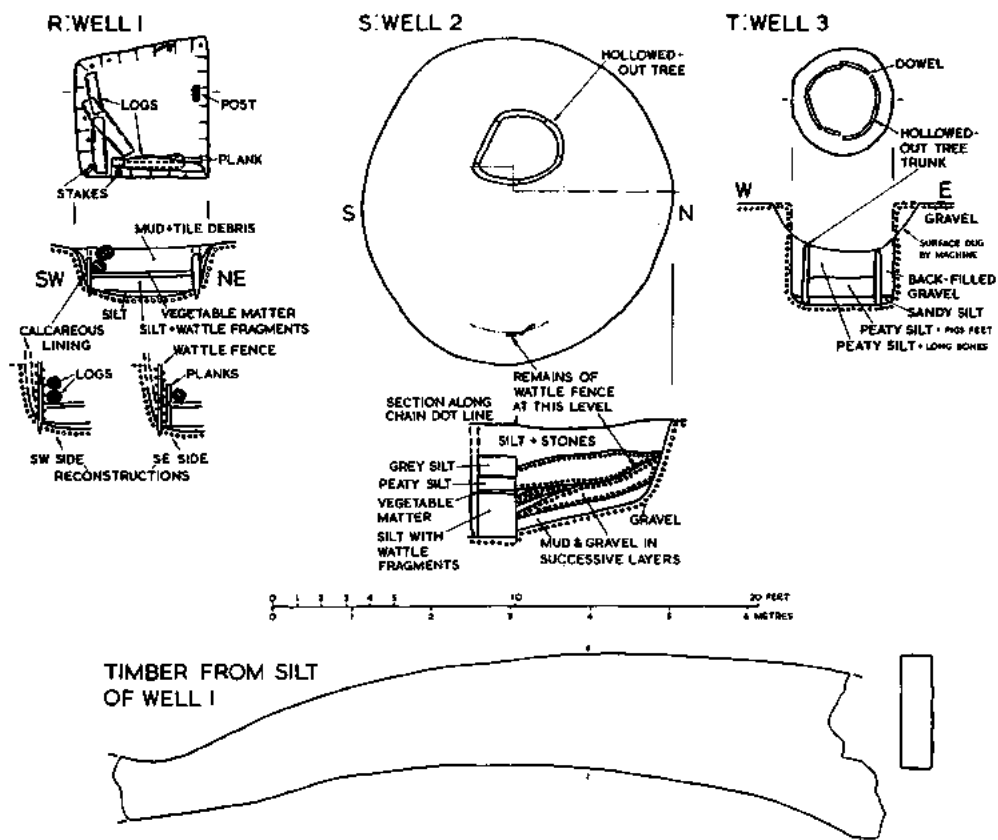

FIG. 5. NAZEINGBURY, ESSEX, 1975-6
Plans and sections of the Romano-British Wells. At bottom, timber from silt of well 1, 80 cm. long

to filter the water so as to purify it. If so, in its earlier life, the feature may be seen as a simple waterhole.

Well 3, close to well 1, was another construction using a hollowed-out tree trunk (Pl. 4D); it was unlike well 2 in having the trunk set in a purpose dug hole in the gravel. The trunk was probably originally cut in five sections, one joint being dowelled; the bottom was axe-tapered as in well 2. In the silts of well 3 were found over a thousand pig bones, mainly feet, representing 57 animals (Appendix 9).

The dating material for the wells was very meagre. The Roman brick and tile in the silt and fill only indicates that the wells are of Phase 3 or later; well 2 has been included in Phases 4 and 5 because of its position close to the presumed domestic sub-enclosure C, and because it contained 2 R-B sherds in the fill. Wells 1 and 3 are called Phase X at this stage, but a date for well 1 may be obtained by dendrochonology at a later time.

B11. Dump Q and significance of building debris

Dump Q is the designation given to a pile of machine-scraped soil found between wells 1 and 3. It was thought by the operator to have come from the north and some, at least, could have been the top fill of well 1. From a considerable amount of Roman brick and tile debris a small selection was made (Appendix 8, Table 6); this included 4 fragments of flue tile. Further debris was later machine scraped from well 3 and some was excavated from well 1.

The significance of this building debris, most being apparently un-mortared, in this area is difficult to judge. However, taken together with the presence of flue tiles, it points to the possibility of a substantial Romano-British building hereabouts. Local observers remembered similar building debris further to the north of the wells.

B12. Farmstead parallels

Many cropmarks of individual farms and of densely settled areas have been discovered, particularly from the air, in recent years in both major and minor river valleys of lowland England. These discoveries and a few excavations have shown that valleys as well as downlands were extensively occupied in the Iron Age. Both Cunliffe (1974, Ch. 11) and Harding (1974, Ch. 2) have examined recent evidence in detail.

Excavations at Little Woodbury in 1938 exemplified the mixed farming economy of the British Iron Age of the fourth and third centuries BC (Bersu, 1940). Little Woodbury, at first palisaded, was later enclosed by a ditch and presumed bank; at 4 acres it was larger than many sites where the area enclosed is of less than an acre. Characteristic Little Woodbury features include: one or more circular buildings, represented by postholes and/or an eavesdrip gully; working hollows; grain storage and other pits; sets of four postholes thought to represent granaries; groups of two post holes presumed to represent drying racks; and a single entrance, often represented only by an interruption in the encircling ditch and which is frequently on the east side.

The relation between the encircling ditch and the associated bank is not always clear. At Draughton, Northants, the ditch of the Iron Age A site is outside the bank and, as a result, interior drainage was a problem as shown by the need for sumps for the eavesdrip gullies (Frere, 1960, 21-23). It has been postulated for Enclosure A at Nazeingbury that the bank was outside ditch 11.

At Nazeingbury it has been noted that there is little evidence left of the original encircling enclosure A ditch. At Orton Longueville, on the Nene river gravels, the 'large yard' had four phases (Dallas, 1975, 26-7). The Belgic ditch, in Phase 2, was totally re-cut except for an entrance; it was then re-cut a further twice on almost identical lines. The large yard there must have lasted something less than 240 years, so that each of the four phases of ditch silting lasted, on average, just over 50 years. The Romano-British ditches 6E and 10 were re-cut at least once at Nazeingbury in a period of about 100 years.

Attempts have been made to classify the farming enclosures under review here. Riley (1943-4, 78-81) divided 'ditched enclosures' into: *small*, 30 to 70 ft. (9 to 21 m.) across, the typical shape being

roughly circular, but variants are D-shaped, sub-rectangular or irregular; *larger*, 70 to 200 ft. (21 to 61 m.) across, the shapes again vary very much, round, oval, rectangular or just irregular; *large D-shaped*, two examples about 200 ft. (61 m.) long. Riley concluded that 'the rectangular enclosures probably belong largely to the Romano-British period . . . those with curved sides may perhaps be more characteristic of the Iron Age'; although not true in every instance, these remarks still seem a fair guide to distinguishing Iron Age from Romanised enclosures. Riley was not able to distinguish any difference in function between his different sized ditched enclosures. The smaller ones, where there is a single circular building (or successive single buildings) and the maximum dimension of the enclosure is about twice that of the building, should probably be seen as *homestead enclosures* akin to the moated house sites of more recent times. The larger sites where the maximum internal dimension is four or more times the size of the building (Smith in Collis, 1977, 52, illustrates five such enclosures, which he terms homestead enclosures) are perhaps better termed *farm enclosures* akin to the farmhouse, the farmyard and home close or field of recent farms. A single circular building probably implies the presence of a nuclear family, while two or more may imply that farming was carried on by extended family units or that separate storage buildings or animal shelters were provided.

Rodwell (1976, 325-37) has classified Belgic-period sites in SE Britain, his five types being: *farmstead*, presumably the commonest class of site; *minor settlement* area of one or more hectares involved; *religious centre* or settlement, perhaps coin hoards are diagnostic; *minor oppida; major oppida*. Nazeingbury enclosure A is clearly in Rodwell's Type 1 *farmstead* class.

In Essex there have been several recent excavations of Iron Age sites. At Mucking there was a succession of rectangular and curved enclosures and sub-enclosures and in the Belgic phase a rectangular house type seems to have been introduced (Jones, 1975, 190); the full account of this investigation is awaited with interest. At Gun Hill, West Tilbury, a group of curved and rectangular enclosures was superseded in the mid 1st century AD by a massive sub-rectangular enclosure (Drury & Rodwell, 1973, 59-62); the unexcavated enclosure E (ibid, Pl. II) just north of Gun Hill is a little larger than Nazeingbury A but the shapes could be comparable. Pottery of Belgic forms has been found at these Essex sites. Recent excavations at Colchester and Wendens Ambo have added to our knowledge of Iron Age enclosures at these Essex sites (*Britannia*, 6, 1975, 263-5). Landscape features of the Iron Age in Essex have been discussed by Crook (1977).

One of the problems of Iron Age Britain concerns the rectangular building, which from Continental parallels ought to be present. Harding assesses the meagre evidence for such buildings and reminds us that we should not assume a house cannot exist without postholes (Harding, 1974, 52). The rectangular-plan building can be constructed free standing on sleeper beams; later timber-framed buildings show how such structures can be stabilised without postholes. Such a ground standing building might leave little or no evidence. At Camulodunum circular huts left equally ephemeral remains (Hawkes & Hull, 1974 46); a basal wall of earth or sods was built above ground and wattle and daub walls were constructed on top, little evidence of this arrangement would remain unless the walls were burnt down thereby firing the daub.

In Hertfordshire the oppidum of Wheathampstead (Wheeler, 1936, Pl. V—IX) guards a ford across the upper Lea and nearby Belgic Verulamium (*ibid*, 10 *et seq*.) is just above the valley of the Ver. To the west of Wheathampstead several ditched occupation sites, presumably small farms, have been investigated around Welwyn, namely Crookhams (Rook, 1968), Brickwall Hill (Rook, 1970 (1)), Grubs Barn (Rook, 1970 (2)) and Welches Farm (*Herts. Arch. Review*, no. 9, 1974, 170-4). The publication of important recent work by the East Herts. Excavation Group at Skeleton Green, Puckeridge and Foxholes Farm, Hertford, is eagerly awaited.

There are too many sites of the Roman period for detailed consideration of parallels. However the position has been clearly stated (RCHM, 1960, 13) 'the transition from independence to Roman rule took place fairly peacefully . . . the long established settlements continued to flourish . . . when

their farmyard enclosures and paddock boundaries were re-cut, the opportunity seems to have been taken to dig straighter ditches enclosing more rectangular areas'.

The economy throughout remained of the Little Woodbury type. At Nazeingbury and at other valley sites grain storage pits are not found, presumably because of the high water table; absence of storage pits was noted in the Welland valley at Tallington, here it was concluded that the Woodbury-type mixed farming economy extended into the Roman period (Simpson, 1966, 18).

At the recently published site of Ashville, Oxfordshire, the domestic settlement of Period 2 was superseded by a system of linear ditches of the late Iron Age, Period 3 (Parrington, 1978, Fig. 3). The author seems not to have considered the possibility that the widest and deepest ditches, 134 and 103, formed part of a sub-rectangular enclosure (ibid, Fig. 4). The 11 m. gap between the ditches was later joined by a shallow ditch 27 and the whole arrangement could compare with enclosure A at Nazeingbury.

B13. The farms: Final comments

Most of the excavated features were of the late Belgic and early Romano-British periods. Dating the beginning of the domestic occupation of the site is difficult. The Phase 2 re-cut ditch 11 was silted up by about the time of the Claudian invasion of AD 43. This re-cutting occurred after ditch 16 had already silted up, the original cutting of ditch 16 and, therefore, the setting out of the Phase 1 enclosure A, could be a generation or two earlier, say AD 0—20.

Roman influence in the straightening of the ditch system appears soon after the conquest and domestic occupation, within sub-enclosure C, soon follows. No evidence attributable to the Boudiccan rebellion of AD 60—1 was detected so whether Phase 4 of the Romanisation was occasioned by this event, must remain in doubt. Likewise the reason for the ending of domestic occupation within the sub-enclosure C *c.* AD 160 is not known, but adverse climatic change would have been of special significance in this valley bottom site.

Some pre-Belgic Iron Age pottery may be evidence of an undefined earlier occupation. A little pottery of the 3rd and 4th century AD shows the land was still being used, mainly with shallower ditches, probably as pasture.

C. The Saxon cemetery

C1. General

After a gap of several centuries the corner of a Romano-British field, formed by ditches 8 and 10 (Fig. 2) was chosen as the site of a Saxon Christian inhumation cemetery.

The cemetery was discovered in 1934 (see A3 above) when over 20 skeletons were found 'at two levels', the lowest being 60 to 75 cm. (2 to 2½ ft.) below the surface. It is likely that these were found during the construction of the stokehole (Fig. 6 and Pl. 3A). Six more burials were remembered to have been found *c.* 1948 during the construction of nursery latrines to the south of the stokehole.

Before the concrete road between the stokehole and the latrines was removed, trench A was excavated by hand, in an unobstructed position to the south of the latrines; 7 burials were found. Trench B was a cleaned-up Redlands' dragline cut showing 4 more burials and the Romano-British ditch 10. Brickearth was removed commercially from the southern area around these two trenches with the loss of perhaps 15 graves. This left a strip some 2 m. wide between a nursery wall and the concrete road. This area was excavated carefully to yield burials nos. 12 to 48. Burials 16 and 28 on the north side indicated the remaining extent of the cemetery, and it was decided, under pressure of time, to count the remaining burials by dragline trenching across the site at intervals; expediencies have been adopted elsewhere in dealing with a cemetery (Kjolbye-Biddle, 1975, 89). Trench C was the first such cut showing 13 more burials and a grave-free area in the centre, the cleaned sections showed no evidence of a building, and a second cut, Trench D, was made to the west. This cut revealed four more burials as well as the Belgic gully 17 and, most important, it showed the two deep doorposts of Church 1. The importance of this latter discovery, combined with the interest

and co-operation of the gravel diggers, meant that the remaining area could be excavated by hand.

C2. Cemetery area feature list

Here are described features shown on Figs. 6, 7 and 8 in the area of the Middle Saxon cemetery. Those without pottery could be of any date. In particular those in enclosure B could be of Belgic origin.

F1 Five postholes set in a staggered row for the west wall of Church 1, 13—20 cm. deep, rounded bottoms; loam fill.

F2 Posthole, 23 cm. deep, at SW corner of Church 1 for circular post up to 30 cm. dia., rounded bottom, loam fill. *Pottery:* 3 black sandy, 1 Belgic black 'grog' specks.

F3 Eight postholes set in staggered row for S wall of Church 1, 10—14 cm. deep, rounded bottoms; loam fill.

F4 Two holes, A, 75 × 28 cm. and B, 66 × 23 cm., both 53 cm. deep for heavy door posts, loam fill. Cut by machine dug trench but flat bottoms remained.

F5 Erection pit for eastern post F4B, re-deposited brickearth fill, not seen for the other post (section, Fig. 7/U).

F6 One remaining posthole of S wall to east of doorway, loam fill, other holes destroyed by graves 53 and 64 and machine excavation. *Pottery:* 1 grass-tempered sherd.

F7 Four remaining post positions, a to d, 5—13 cm. deep, round bottoms, loam fill, presumed to support rafter ends of Church 1. Also possible timber position at east F7e.

F8 Posthole, loam fill, 30 cm. deep, inside Church 1.

F9 Slot, loam fill, 5 cm. deep, presumably for timber division within Church 1. Associated posthole to west, 5 cm. deep, and stake holes to east, 13—38 cm. deep. These features, with F8 and F10 could represent a screen position or result from positioning of an altar.

F10 Posthole, loam fill, at end of F9, 15 cm. deep. Either associated with F9 or for marker at end of grave 55. *Pottery:* 1 grass-tempered sherd.

F11 Posthole, loam fill, bottom remained only.

F12 Posthole, loam fill, bottom remained only. This and F11 represent quite deep holes and, being opposite doorposts F4 may be associated with position of altar table, see F13 also.

F13 Posthole, loam fill, 10 cm. deep, with many associated stakeholes, 4—8 cm. deep. Possibly, with F11 and 12 forming an E—W division within Church 1.

F14 Squared posthole, loam fill, 13 cm. deep, shape unlike any others so may not be associated with Church 1.

F15 Remains of timber slot, loam fill, 15 cm. deep, to N of F4A. Possibly part of internal division.

F16 Slot, loam fill, 5 to 13 cm. deep, purpose unclear.

F17 Stakeholes, loam fill, mostly 2 to 10 cm. deep, one 28 cm. deep. Some occur in pairs about 13 cm. apart as if they might represent firedogs.

F18 Depression, 10 cm. deep, filled with disturbed burnt clay fragments, may represent hearth position, but there was no ash.

F19 Three post pits, a to c, 20—43 cm. deep, suggestion of posts, 15—30 cm. dia. *Pottery:* (in F19b) 1 grass-tempered, 2 black sandy sherds. Distinctive loam filled post positions and packing of clay with chalk fragments shows these posts form a group with F21 and F29. F19c is for two posts, one supporting the other.

F20 Single post position, 13 cm. deep, out of line with F19 a to c, loam fill, brickearth packing. Probably a repair post position.

F21 Posthole, 33 cm. deep, for post, probably quartered trunk max. dimension c. 20 cm., same packing as F19 and F29 (section, Fig. 7/W). This post is the only one recognised of a probable narthex.

F22 Stakeholes to S of Church 1 at W end, some form linear groups possibly windbreaks. Date unknown.

F23 Shallow depression with fragments of burnt bones in loam, inside Church 2.

F24 Post positions, c. 25 cm. deep, flat bottomed, loam fill. Under grave 89.

F25 Three possible postholes, a to c, 10—15 cm. deep, near F24, flat bottoms, loam fill.

F26 Hole for two round bottomed posts, 56 cm. deep, partly below grave 88, brickearth packing between loam-filled post position. Possibly position of cross or marker outside east end of Church 1 (section, Fig. 7/V).

F27 Hole, 40 cm. deep, filled with sandy loam and loam plus stones. Possibly a foundation for a cross or a repair post at east end of Church 2 or a pit.

F28 Hole, loam fill, round bottom, 11 cm. deep. Probably represents part of screen dividing nave and chancel of Church 2.

F29 Two post pits, a and b, 30 and 35 cm. deep, loam in centre, packing like F19 and F21, hence all part of same group of Church 2 posts.

F30 Hole, loam fill, 50 cm. deep in SW corner of Belgic gully 17. Purpose unknown but could represent post for doorcase of Church 2.

F31 Disturbance, loam fill, by F30. Possibly to lead water into gully 17.

F32 Remains of pit or trench, loam fill, cut by Belgic gully 17. *Pottery:* 4 Iron Age grit-tempered; 2 type (b) Belgic sherds.

F33 Position, loam fill, seen in bottom of Belgic gully 17 for rectangular post 25 × 43 cm., post pit cut side of gully.

F34 Possibly similar to F33 to the east, but only side of post pit seen in side of gully 17.

F35 Pit, loam fill, oval c. 1.5 × 1.7 m., c. 1 m. deep. Horn core of goat on irregular bottom, probably used by rodents; overlaid by several burials. *Pottery:* 2 grass-tempered, 1 grass + sand-tempered, 4 sand-tempered, 1 fine gritty, 1 Belgic (b3), 1 RB grey (f). *Bone:* see App. 9; *Stone:* Lava see App. 7; *Loom weight:* see App. 2.

F36 Rectangular section pit 0.8 × 1.1 m., 43 cm. deep, clay + loam fill with 5 cm thick band of charcoal. *Pottery:* 2 Belgic (b3). Possibly fire pit associated with occupation within gully 17. Cut by grave 164.

F37 Group of loam-filled and gravel features with timber slot and postholes at SE corner of cemetery. Date and purpose not known; one feature cut by grave 112.

C3. The burials

A total of 186 burials were recorded in the excavations, but no skeletal remains were recovered from 39 of these; 15 were not excavated because of pressure of time, 6 were only seen in machine trenches, and in 18 the remains had mostly decayed or been vandalised. Detailed study of the skeletal remains disclosed fragments of six other burials so that a total of at least 192 must have been present.

The undisturbed remains seen were all of inhumation burials, extended on the back, with head to the west in Christian fashion. The arms were generally straight down the sides but in a few cases one or both hands lay on the pelvis. The bones were not well preserved, the heads were usually squashed and many upper burials had been damaged in laying the concrete road over the cemetery. The bones were soft and easily marked by trowel. The soil was slightly alkaline; 50 grams of soil in 100 ml of distilled or ionised water produced an alkaline effect of 1.6 to 1.9 points on the pH scale.

The burials occurred at two levels, as noted in 1934. Some burials can be classified as belonging to an original layout, while others suggest the cemetery was being used 'a second time round'. Those considered to be part of the original layout are here termed primary, they were buried in graves dug about 10 to 60 cm. into the brickearth. The primary graves were always visible in plan and section because of the distinctive loam or mixed loam and brickearth fill; these graves are shown in full outline in Fig. 6. Other graves, called secondary, were considered not to be part of the original plan; these are shown dotted in Fig. 6, and are seen to congregate mainly on the east and south sides of Church 2. Several of the secondary graves were dug only into the topsoil or slightly into the brickearth (Pl. 3B) and they were often interspersed between or slightly overlapping primary graves. On this latter criterion one group of quite deep graves is classed secondary, this is at the east end of Church 1 where graves 52, 100 and 64 overlay earlier graves (see Cemetery section 3—4, Fig. 7 and Pl. 4A); in this same position, grave 53 (with a child 53A above) (Pl. 4C) is considered secondary because it overlay part of the wall of Church 1. For some of the high secondary burials no grave shape could be detected in the surrounding soil so conjectural outlines, based on the skeletal remains, have been drawn in on Fig. 6. Any high secondary burials which had completely decayed would not have been recognised at all.

Of the total of 192 burials recorded, 122 or 64% are classified primary and 53 or 28% are classified secondary. This leaves 11 or 6% which are probably secondary because they consisted of misplaced bones so that the grave position is uncertain. A further 6 or 3% were the extra remains noted in detailed analysis of the bones. The 15 graves undug, from their depth and position are all likely to be primary, namely nos. 16, 51, 63, 118—123, 158, 159, 161, 162, 164-5; these have been taken into account in the figure of 64% above.

There is some doubt about the full extent of the cemetery as the areas to the north and east were heavily machine scraped before investigation began. However, the W and S limits were established within the corner of the Romano-British field, which presumably survived as a mature hedge or line of trees close to the silted ditches. Towards the east the burials thin out as if to suggest the limit of interment had been reached. To the north however, the number of burials lost is unknown, but an estimate has been made below.

A minimum estimate of the total number of graves in the cemetery can be made. At least 20 were seen in 1934 presumably from the stokehole area (the stokehole is seen in Pls. 3A, C, D). Supposedly about 3 were lost in the latrine area and perhaps 15 in the machined area to the south. Thus the minimum estimate is about 230.
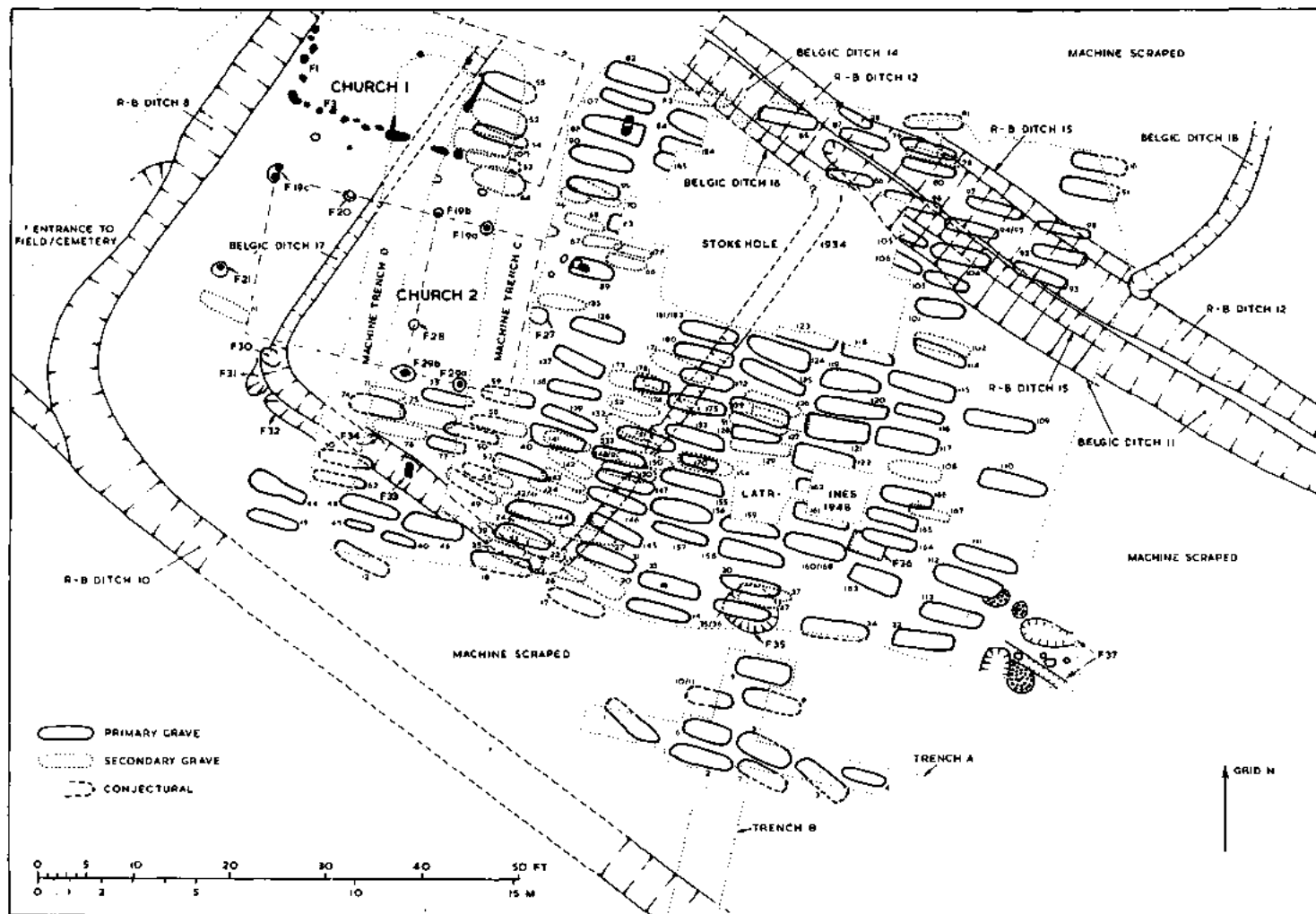
FIG. 6. NAZEINGBURY, ESSEX, 1975-6
Plan of Christian Middle Saxon cemetery superimposed on earlier features.

The two postulated churches are discussed later, but brief mention must be made here in considering the layout of the cemetery; it is assumed that Church 2 superseded Church 1 which went out of use before grave 53 was dug. The area to the south of Church 1 was kept free of graves, perhaps for the gathering of the funeral congregation. The later, secondary, graves tend to cluster around the E and S sides of Church 2.

The primary graves, in general, are grouped in well ordered rows quite closely set. However some spaces can be seen which suggest the existence of paths. At the north there is a gap between graves 85, 87, 80, 51 and 86, 96, 97, 98. To the south this is mirrored by a gap, less clear, between 157, 158, 163 and 33, 34, 32. The east end of these two areas is connected by a fairly clear gap between the last two eastern rows of graves. These areas may form the basis of a path system around the cemetery, confused towards the west by graves dug across. If this path system is valid, and if it was symmetrical within the cemetery, then only some 7 rows of up to 4 graves each might be expected in the northern scraped area. The entrance to the cemetery may be at the west, this would give immediate access to the churches and would coincide with the presumed entrance to the Romano-British field across the narrowed part of ditch 8.

C4. Material in the graves

Pottery sherds were found in the fill of the graves as follows (see C7, Table 3): 66 grass-tempered Saxon sherds, 48 Belgic with 17 blackware of doubtful date, and 16 Romano-British. There were 2 gritty Iron Age sherds and 2 probably Saxon gritty ware. The details are given in Table 3, the Belgic sherds were widespread with a slight concentration near gully 17, and R-B sherds were concentrated over ditch 15. The Saxon sherds were scarce towards the north east but fairly evenly scattered elsewhere with a slight concentration close to and within Church 1.

Thirteen fragments of Saxon loomweights were found in graves 91, 121, 122 and 155 (Appendix 2(c)). This supports the evidence of the pottery that Saxon material was in the topsoil before some of the graves were dug. Again, 6 Saxon sherds and one piece of loomweight were found in pit F35 which was overlain by graves 30, 35, 36, 37 and 47. Thus the graves could have been dug at the time of occupation represented by the Saxon finds or thereafter. However the absence of shelly ware pottery which would be expected after c. AD 850 suggests a closing date before then.

A few animal bones and teeth were found in the graves. There is no justification for claiming that these entered the graves other than accidentally with the pottery and loomweights.

The group of graves at the east end of Church 1 may be of special significance (Pls. 4A, B). This group, 52-55, 64 and 100 were separated by about 1.5 m. (5 ft.) from the group 82, 88, 90, 99 and 107; this space leaves room for the postulated E end of Church 1. Graves 54 and 55 (both female) are then primary graves within the E end; 52 (female) and 100 (male) are secondary graves within; 53 (male), with a child 53A above, was dug after the S wall was demolished, and 64 (female) followed. This group is the most intensively concentrated row of any in the cemetery. Four of the burials could have taken place inside the church and two after it had gone out of use. It is suggested that it remained an area of special sanctity even after Church 1 was demolished. Four of these graves contained skeletons with the greatest pathology (see C7 below).

Only three objects of intrinsic interest were found in the graves, and these were all within the special group above. A coin of Constans (Appendix 6/3), in good condition, was found in the upper fill of grave 53 (or 53A above). A simple-headed bone pin was found in the open mouth of the skull of 53 and is presumably a shroud pin (Appendix 5/9). An ornament, possibly a pendant, made from a horse tooth (Appendix 5/10) was found in the chest area of grave 64.

There was no evidence of coffins, neither nails or timber traces being found. However, the grave sides of the child burial 45, at the south east, were particularly straight and square. A few graves showed the head to be resting on a slightly raised area. The head of burial 55, inside Church 1, was propped up against the end of the trench and probably indicates the grave was too short, perhaps because of internal church features.
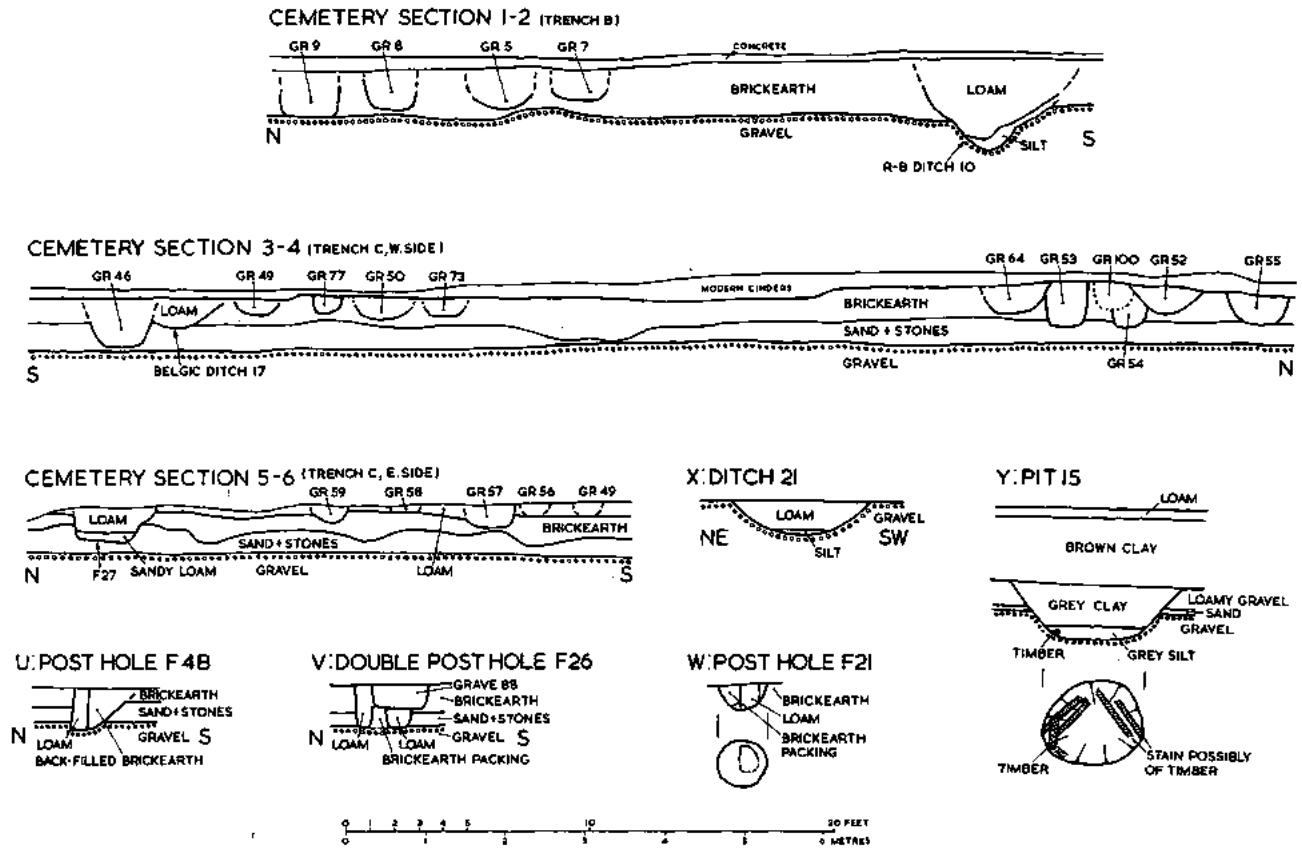
CEMETERY SECTION 1-2 (TRENCH B)

GR 9   GR 8   GR 5   GR 7   CONCRETE

BRICKEARTH   LOAM

N

GRAVEL

SILT   S

R-B DITCH 10

CEMETERY SECTION 3-4 (TRENCH C, W. SIDE)

GR 46   GR 49   GR 77 GR 50   GR 73   GR 64 GR 53 GR 100 GR 52   GR 55

LOAM   MODERN CINDERS   BRICKEARTH

SAND + STONES

S   BELGIC DITCH 17   GRAVEL   GR 54   N

CEMETERY SECTION 5-6 (TRENCH C, E. SIDE)

GR 59   GR 58   GR 57 GR 56   GR 49

LOAM   BRICKEARTH

SAND + STONES

N   F27 SANDY LOAM   GRAVEL   LOAM   S

X: DITCH 21

LOAM   GRAVEL

NE   SILT   SW

Y: PIT 15

LOAM

BROWN CLAY

GREY CLAY   LOAMY GRAVEL
SAND
GRAVEL

TIMBER   GREY SILT

TIMBER   STAIN POSSIBLY
OF TIMBER

U: POST HOLE F 48

BRICKEARTH
SAND + STONES

N   LOAM   GRAVEL   S
BACK-FILLED BRICKEARTH

V: DOUBLE POST HOLE F 26

GRAVE 88
BRICKEARTH
SAND + STONES

N   LOAM   LOAM   GRAVEL   S
BRICKEARTH PACKING

W: POST HOLE F 21

BRICKEARTH
LOAM
BRICKEARTH
PACKING

0 1 2 3 4 5   10   20 FEET
0   1   2   3   4   5   6 METRES

FIG. 7. NAZEINGBURY, ESSEX, 1975-6
Sections through Saxon cemetery and other Saxon features

A number of iron stains over and under the chest area of burial 44 were noted, but showed no clear pattern. Grave 44 was the only one shaped to the body. More tantalising were iron concretions under grave 26 (female) which took the outline of a deformed shield 137 cm. long (Fig. 22/8); they also occurred within the outline including four in a circular arch where a boss might be expected. The lumps were X-rayed without conclusive result but some iron remained and at least one could be a shield stud. It is suggested therefore that female 26 may have been carried to her grave on a shield. Burial 26 was noted to have a fragment of ox or horse long bone sticking up vertically from the stomach area, it would have been unlikely to have become so positioned naturally; for C-14 date of this burial see C6.

C5. Orientation of the graves

The graves are orientated within a range of 35°. The actual angles of the graves relative to true north are between 85° and 120°; the direction of the head is obtained by adding 180°. The two churches lay within this range, Church 1 being orientated at 111° and Church 2 at 105°. Elsewhere it has been suggested that burials are orientated on the position of sunrise at the time the grave was dug. At the latitude of Nazeingbury the earliest summer sunrise is in mid-June and bears 54°, the latest winter sunrise is towards the end of December when it bears 122°; this is a range of 68°; there would be a delay of a few degrees before the sun was visible over the high land to the east.

From a study of the cemetery plan it appears that the graves close to or in line from Church 1 are orientated on it. Many of those in the centre are orientated slightly less carefully, the few to the south of Church 2 follow its line closely. Several further to the south, however, follow the boundary line of the cemetery. Many graves therefore appear to follow pre-existing features and no other theory seems necessary as elsewhere has been propounded (Wells & Green, 1973 and Hawkes, 1976). The churches themselves, however, may have been orientated on the position of sunrise; in which case Church 1 may have been built in January or November and Church 2 in February or October. A telling parallel for the alignment of burials on successive church buildings is at Church Island, Co. Kerry (O'Kelly, 1958, Fig. 2) where there is a difference of about 25° between such burials.

C6. Dating of the burials

Cedd was made bishop of the East Saxons in AD 654 and, according to Bede, built churches and ordained priests (Bede, 1968, 179). However, it may not have been until Earconwald was made bishop of the East Saxons, c. 675, with his see at London that the conversion was effective in SW Essex. Before he became bishop, Earconwald had built two monasteries, of which one, at Barking, was for his sister Ethelburga c. 666. Barking is 24 km. (15 miles) SSE from Nazeingbury. It was a double monastery and was endowed by the East Saxon princes (VCH, II, 115). The preponderance of female burials at Nazeingbury together with pathological observations (see C7 below) have led to the suggestion that at Nazeingbury we have a nunnery or hospice caring for the sick. Barking is in the valley of the Roding, called Barking Creek at its mouth, while Nazeingbury is therefore sufficiently far from Barking so as not to have precluded its establishment at a similar time, i.e. in the latter half of the 7th century.

Some of the grass-tempered pottery can be paralleled at Mucking (Jones, 1969, 150) situated on the Thames estuary into which both the Roding and Lea rivers flow (Fig. 1B). Grass tempered pottery has also been found at Wicken Bonhunt (Bradley and Hooper, 1974, 44-8) on the Suffolk border, at Waltham Abbey (Huggins, 1976, App. 1) to the south, as well as elsewhere in Essex in Early and Middle Saxon contexts. The lack of shelly ware in the cemetery area at Nazeingbury could indicate a terminal date of c. 850.

A historical terminus for a Christian cemetery in riverine areas of Essex might be the serious pagan Danish incursions leading to the treaty between Alfred and Guthrum in c. 886. At Barking, these incursions apparently caused the desertion of the monastery there for a century (VCH, II, 116). In 870, after killing St.Edmund, the Danes 'overran the entire kingdom, and destroyed all the

monasteries to which they came' (Garmonsway, 1954, 71). A hiatus at the end of the Middle Saxon occupation in Waltham Abbey has been postulated (*London Archaeol.*, 1, no. 7, 1971, 244). At Wicken Bonhunt, 30 km. to the NNE, occupation of the site excavated ceased at the end of the Middle Saxon period (Lecture by Keith Wade, 1978). Most of Essex may have been deserted by the Christian Middle Saxons at this time; the impetus for re-occupation possibly being the unification of the country under the newly-converted king Cnut in the early 11th century.

It is within this historical framework of *c.* 660 to *c.* 870 that two carbon-14 dates must be considered. Burial 54, one of the primary burials in the east end of Church 1 is dated ad 670±80 (HAR-1666). Burial 26, interpreted as a secondary grave, is dated ad 830±80 (HAR-1681). If the most recent value of half life 5730±40 years is adopted and if the MASCA correction (all data is from the Carbon-14 Tritium Measurement Laboratory at Harwell, Oxfordshire) is applied, the mean results are altered only a little, 670 to 640 and 830 to 840, thus the 68% confidence limits become AD 560-720 and 760-920 respectively. Since these dates are in the anticipated sequence it is likely that consideration of one standard deviation is adequate. Fitting the dates into the historical framework yields *c.* 660-720 for primary grave 54 and *c.* 760-870 for the secondary grave 26. The date range for grave 8 at nearby Waltham Abbey is *c.* 750-870.

C7.   Analysis of the skeletal material by GLENYS PUTNAM B.A.(Cantab), Dept. of Archaeology, Cambridge University

The excavation of the Saxon cemetery at Nazeingbury has yielded 153 skeletons with assessable bones out of a total of 192 burials. Previously, in 1934, 20 skeletons had been found and examined by Miss Tildesley of the Royal College of Surgeons. None of the skeletons from the current excavations was well preserved, many being fragile and chalky. Most of the skulls were too distorted or broken and with pieces missing for much cranial assessment to be possible. However, the bones were examined minutely and well repaid the labour involved on what could well have been dismissed as unusable anthropological material. A summary of the main findings is illustrated in Fig. 8. Selected details of the burials are listed in Table 3 and illustrated in Plates 4C and 5. A glossary of terms is included after the Table.

Age

The age balance shown in the cemetery was very unusual indeed for a middle Saxon community. There is no published skeletal material to refer to, but it has always been assumed by demographers that a near model would be that of a Third World country with high mortality in early infancy, at weaning, and, for females, at the age of childbirth. An upper age of 45 would be considered very old and unusual in such a community. This is the usual model for a non-urban, pastoral community, but it could well be discarded in the light of more modern work (G. Putnam, 'Anglo-Saxon Demography in East Anglia'; thesis in preparation).

Only 17 children were buried in the cemetery, with an age range of 18 months to 15 years, while there were 10 adolescents and 71 fully mature adults, 29 of whom were aged 45+ (Fig. 8A); there were also 54 of mature status but with insufficient remains to age precisely. Even the huge figure for the oldest members of the community hides the real age range, as any ageing after 45 is unreliable, so the 45+ group contains the putative 60, 70 and-possible 80 year olds, as Figs. 8A and 8E imply.

The age/sex distribution (Fig. 8E) for the males in the population appears normal, but that for the females is high in the 25-35 age group. This would be normal in a population where women die in childbirth, but there is no skeletal evidence to uphold the child-bearing capacity of these women. The notching of the pre-auricular sulcus normally occurs in childbirth, but only one female in this cemetery shows this feature (Derry, 1909).

Life expectancy cannot be calculated with any meaning for a population with no infants. From the Figs. 8A and 8E it may be seen that the frequency of the higher age groups is extremely high, and it is suggested that we rethink our model of this early Saxon society. As well as living to great

A: FREQUENCY - AGE AT DEATH

AGE RANGE	0−2	2−5	6−9	9−13	13−16	17−25	25−35	35−45	45+	MATURE
FREQUENCY	2	2	7	1	2	10	30	12	29	54

MATURE MEANS ADDITIONAL PEOPLE OVER 25.   AGED USING VALLOIS AND BROTHWELL

B: FREQUENCY v SEX

SEXED USING KROGMAN, KEEN AND BROTHWELL
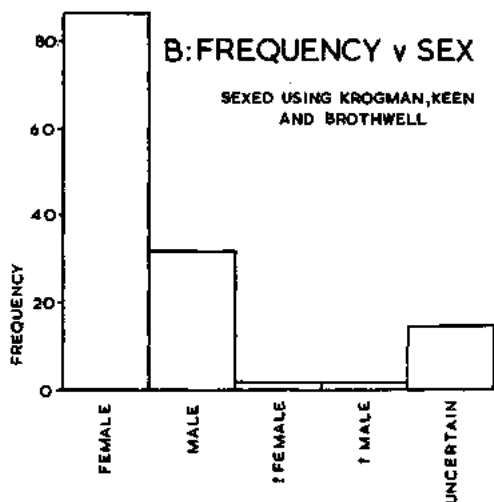
C: STATURE

FEMALE		MALE	
MEAN	RANGE	MEAN	RANGE
168·2 cm	158·5 - 174 cm	175·3 cm	170 - 181 cm
5′ 6″	5′ 2½″ - 5′ 8½″	5′ 9″	5′ 7″ - 5′ 11″

USING REGRESSION EQUATION OF TROTTER AND GLESER

D: CRANIAL INDEX

DOLICHOCEPHALIC	3
MESOCEPHALIC	3
BRACHYCEPHALIC	−

E: FREQUENCY v AGE RANGE
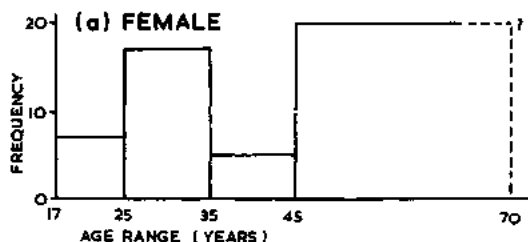
F: FREQUENCY PER YEAR v AGE
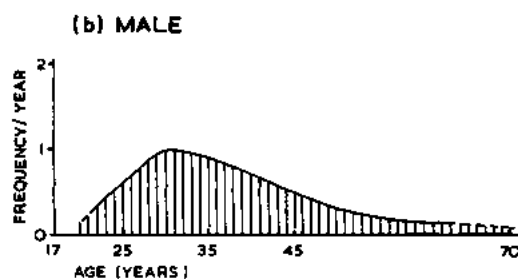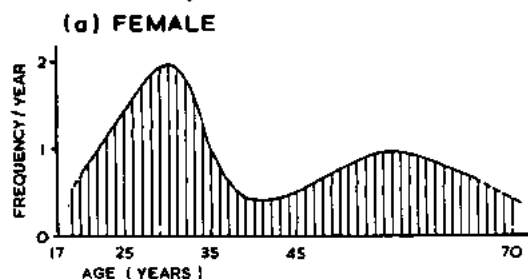
FIG. 8. NAZEINGBURY, ESSEX, 1975-6
The Saxon burials; summary of skeletal data. The graphs F, derived from the histograms E, show the number of people dying at a particular age, the area under the graphs gives the number dying within a particular age range

ages they are clearly not suffering from the great variety of deficiency diseases found at Caistor on Sea (Wells, 1964), which are referred to below under Pathology and Nutrition, and a high standard of nutrition and health may be assumed.

Sex

The sex balance in the cemetery is equally unexpected (Fig. 8B) showing 86 females, 32 males, 2 query females, 2 query males, and 15 unsexable. Although the cemetery does have 39 graves with no bones (see C3), it is stretching coincidence too far to assume all these to have been males, especially as the distribution of graves in the cemetery shows no sign of being dictated by sex. There is possibly a slight grouping of the children, but this is not very obvious.

The sexual imbalance must be assumed to be due to a selectivity in the population itself and this special population must be explained in demographic terms. It is possible that the males were away fighting, but this seems unlikely, and there is no specific historical evidence for it. The females must be assumed to be performing some special function and, in view of the pathology involved and its distribution, it is a fair assumption that we are dealing with a religious community taking in the sick. The divergence in build of most of the females and males is spectacular, and more than is explicable by normal sexual dimorphism. The males show every sign of extreme hard work, and have the highly developed muscle attachments and ligament insertions indicative of heavy work. A few (6) of the females are of heavier build and seem to have been working hard, possibly lay workers in the community.

Teeth and Nutrition

The teeth of the adult population show little sign of enamel hypoplasia, but those of all the children show it. It is a developmental fault normally caused by a nutritional crisis, and in the case of the children this must be assumed to be due to disease rather than starvation, as the adults show no such sign. Unfortunately, none of the relevant areas of the long bones have survived to be X-rayed for Harris's lines of arrested growth which would have clarified this point a little.

Tooth attrition with periodontal disease in this population is very marked, and typical of people who grind their grain with stone querns (Moore and Corbett, 1971; also Appendix 7 below). Tooth wear is also spectacular in the males, again dividing the population, in that their incisors are frequently worn down to the pulp while this never happens in the female part of the population. Clearly they have a different diet and are possibly tearing at food with their front teeth, or they are using them for some special activity, e.g. chewing leather, whilst the females seem not to be eating anything which needs such hard work or are not involved in such activity.

Caries (see Moore and Corbett, 1971) are at a minimum in the population, with only 9 cases. This fits in with the known pattern for dental caries, which is high in the Roman and Medieval periods, but low in the Anglo-Saxon. Presumably diet is the factor here. Both Roman and Medieval populations used a great deal of sweetening, and the usual assumption is that the Saxons did not. An analysis of the food remains of the Saxon period would be welcome, and could clarify points such as the degree of cereal and meat eating, about which we know little. By 1060, at nearby Waltham, the diet prescribed for the canons was bread, brown and white, various meats and ale with the addition, for festivals, of blackbirds, magpies, pheasant, geese, chickens, wine and mead (Stubbs, 1861, 16). The basic requirements of bread, ale and meat are recorded for Peterborough (Garmonsway, 1953, 65).

A summary of tooth defects would be incomplete without mention of the dentition of burial 96, which has retention of deciduous teeth, peg canines, and eruption of other teeth in the wrong places (see Pl. 5A); although difficult to age, approximately 25 years old is suggested.

Pathology

This cemetery shows a large collection of bone pathology which is, again, unlike the usual picture of the Saxons as arthritic sons of the soil. Arthritic conditions are surprisingly rare with only 27 cases in the whole cemetery.

Four of the five burials at the east end of the Church 1, nos. 52, 53, 54, 55 and 100 show the greatest pathology:—

Burial no. 53 This is a male, age 50. He is shown on excavation (Pl. 4C) with widely bowed legs. On examination of the skeleton he was seen to have sustained two possibly broken femur heads and a broken left radius. The acetabula have expanded to accommodate the femur heads, and it is possible that this is the first recorded case of congenital dislocation of the hips. The radius had healed well, but the fracture remained unreduced, and this would have made the arm difficult to use. Possibly this trauma was sustained because of the unreliability of his walk. When the femur necks were damaged they seem to have stopped growing so that there is virtually no neck to the femur (Pl. 5D) and one head is joined to the trochanter. These traumas could well have been sustained by a fall in childhood or by congenital dislocation, but as age progressed, arthritis set in and the whole skeleton shows typical arthritic lipping and eburnation of the joints. A large osteoma or osteosarcoma has developed on the left femur (Pl. 5D) but there is no other evidence to show whether this is malignant or a result of the other traumas to the legs. On one hand a finger is totally ankylosed.

There is no way in which this man could have reached the age of 50 without a great deal of help. He would have found walking very difficult, and the use of one arm only would have curtailed the use of sticks for walking. His clavicular ligaments have very large insertions, so he presumably moved with the use of his shoulders.

Burial no. 54 A female aged over fifty years, with very bad osteo-arthritis in the sacro-iliac area of the pelvis and both distal ends of the femurs. She has a very large osteoma on the skull which could have been malignant, especially as it was surrounded by a large area of osteoporosis.

Burial no. 55 A female of 50 with osteo-arthritis in the mandible, clavicle, sacro-iliac and phalanges. The spine has the last lumbar and first sacral vertebrae fused, and also the fifth and sixth cervical vertebrae, and shows infective cavities typical of tuberculosis.

Burial no. 100 A male aged between 35 and 45 with a large robust skeleton. His pathology is very interesting as he has fatigue fractures of both feet. The second, third and fourth metatarsals on the left foot, and the second metatarsal on the right foot are affected. This trauma is caused by repeated stress on a bone and leads eventually to hair-line fractures which callous over (Pl. 5B). Fatigue fractures are frequently found in athletes, soldiers (marching fractures), and in long distance walkers, and it is quite possible that this man was a pilgrim (see Wells, 1964; Brothwell, 1971; Brothwell and Sandison, 1967).

As well as the group within the church there is a second case of a fused spine (no. 168), this time at a right angle, again probably tubercular (Pl. 5C). A case of hydrocephalus was found (no. 179). The capacity of this skull is about 2600 cm.[3] and is comparable with the Romano-British skull from Norton, East Riding, in the Duckworth Laboratory, Cambridge. The skeleton is that of a male aged between 25 and 30, a considerable age considering his disability. No spine exists to check whether he had spina bifida as well which would be quite typical. Recent medical work has shown a surprising regeneration of brain tissue in some hydrocephalics and one must assume that he was kept alive by care, and that this happened. A case of Down's syndrome (no. 96) which shows the typical erratic eruption of teeth with deciduous and permanent teeth being present together (Pl. 5A), and five cases of cribra orbitalis (often considered symptomatic of blindness or anaemia) were found. Four skulls of gross thickness (10-20 mm.) are considered abnormal, and their owners were probably sufferers from anaemia.

The expected diseases of malnutrition, scurvy and rickets, were not found at all, again indicating the generally high level of nutrition. Two of the females showed no tooth wear at all, although aged at over 40 by suture closure, and certainly over 30 by epiphysial union. This could be taken to indicate a special diet and possible invalidism, and, together with the other evidence above from the teeth, shows there was no equality of diet.

TABLE 3. NAZEINGBURY, ESSEX, 1975-6. SKELETAL DATA

Grave number	Female	Male	Uncertain sex (X) or Child (CH)	Age or Mature (M)	Osteo-arthritis	Other pathology etc.	Cranial index	Stature (cm)	Primary or secondary	Pottery in grave fill			
										Belgic	Roman	Blackware	Saxon
1	X			30	X	Hypoplasia, osteoporosis of palate, sagittal and lambdoid supernumary bones, humeri bowed			P			1	2
2		X		45	X	Caries, abscess, periodontal disease		175	P	1		1	2
3	X			M					P				
5	X			17-25					P	1			
6	X			50				169.5	P				
9		X		17-25		Hypoplasia, bregmatic supernumary bone	70		P	1	1		
12	X			30			70.3	169.3	P				
13	X			M				172	P				
14		X		M					P				
·15			X	M					P				
17	X			25-30					P				1
18	X			25	X			173	P	2			1
19	X			35	X			158.5	P				
20	X			35	X				S	1			5
21		X		35					S				
22		X		25-35		Incisor wear		170	S	2	1		1
24	X			50+	X	All sutures closed totally, teeth extremely worn			S	1			1
25	X			M					S				
26	X			40	X		77.4		S	2	1		1
27	X			50+		Osteoporosis of femur and humerus heads			S			3	
28			CH	6					P	2			
29	X			M					S				
30	X			50			64.2		P	1			1
31	X			50+	X	Osteoarthritis particularly of spine, odontoid peg and zygapophysis			P		1		1
32	X			M					P				1
33		X		45		Vertebral arthritis, large humerus + torsion, caries			P	2			
35	X			35+		Caries, bones slight		164	P				2
36	X			50+		Cranial abnormality, totally obliterated sutures			P				
37	X			40-45					S				
39			CH	?					S				
40			CH	6					P				
42	X			17-25					S	2	1		
43	X			17-25	X	·Hypoplasia, acute disease of acetabulum, teeth uneven—?invalid			P			1	1
44	X			50		Osteoporotic pitting of l. femur, and sutures obliterated, edentulous			P	2	1		1

Grave				Age		Notes							
45			CH	5					P				
46	X			35-40	X	Strong boned—work, hypoplasia		171	P	8			2
47			CH	10					S				1
48	X			25-35		l. parietal has large eroded area, either ulcerous or osteoma, osteoporitic too	76		P	1			3
49			X	?					S				
50			CH	13-15		Teeth badly worn, very hypoplasic			P				
52	X			50		Caries, metopism, hole in humerus			S	2		3	11
53		X		50	X	Caries, metopism, (see Pathology para. in text)		170	S	1			3
53A			CH	0-2		Buried above 53			S				
54	X			50+	X	Very old, exostosis on skull (see Pathology para. in text)			P			1	1
55	X			40-50	X	(see Pathology para. in text)		163	P				
57		X		25-35		Orbital osteoporosis, very heavy large bones			P				
58	X			M		Small bones			S				
60	?			M					P				
61	X			25					S				
62			X	?					P				
64	X			30					S	3		1	2
66		X		60					S				
67	X			M					S	1			
68	X			M					S				
69			CH	1½					S				
70	X			M					S				
71	X			14-17		Adolescent			S		1	1	4
72		X		17?		Adolescent			S				
73	X			M					P?				
73A			CH	?		Bones in grave 73			?				
74			X	M	X			179	P				
75			X	17+				179	S				1
76	X			50+					S				
77			CH	?		Fragments only			P				
78	X			45-50	X	Metopism, edentulous		167	S		2		
79	X			M					P		1		
81	X			M				169	P	1	2		1
82		X		25-35		Enormous bones, pulp exposed on incisors			P		1		3
83	X			M					S				
84	X			30					P	2	1		
85		X		M		Massive bones			P	1			
87			CH	6-7					P		1		
88	X			50+	X	Large ante-mortem toothloss		168	P				
89			CH	6					P				
90		X		50+	X	Very arthritic, 1-2 lumbar vertebrae ankylosed	76.6	177	P	1			1
91	X			M					S				
92	X			50+	X	Hole in humerus			P				
92A	X			M					?				
93		X		50	X	Impacted wisdom, arthritis, abscess, metopism, periodontal disease	71		P				

TABLE 3. NAZEINGBURY, ESSEX, 1975-6. SKELETAL DATA (cont.)

Grave number	Female	Male	Uncertain sex (X) or Child (CH)	Age or Mature (M)	Osteo-arthritis?	Other pathology etc.	Cranial index	Stature (cm)	Primary or secondary	Pottery in grave fill			
										Belgic	Roman	Blackware	Saxon
94	X			25-35					P				
95	X			M	X				P				
96			X	25		Teeth 'impossible' (Down's syndrome), osteoporosis in l. periotal, peg canines			P				
96A	X			M	X				?				
97		X		M	X			176	P				
98	X			M	X				P				
99			CH	6					P				2
100		X		40		Fatigue fractures of metatarsals, caries, (See Pathology para. in text)		181	S				
101	X			M					P	2			1
102	X			M					S				
103	X			M					P				
104	X			25-35		Button osteoma + osteoporosis, metopism, abnormal suture pattern	82.9		P				
105		X		M					P				
106		X		M					P				
107			CH	12-15					P				3
108			X	M					S				
109	X			25-35		Very thick skull			P				
110		X		30					P	1		4	
111	X			M					P			1	
111A			CH	2		Teeth with 111			P				1
113	?			30		Cribra orbitalis, osteoporosis behind coronal suture, gracile bones			P				1
114	X			M		Tibia and fibula very bowed—work and pathological		168	P				
115			X	M					P				
116		X		50		Cribra orbitalis and osteoporosis			P				
117		X		50	X	Cribra orbitalis + very thick skull, button osteoma on l. frontal, possible Paget's disease, healed fracture of pelvis, endentulous, enormous muscle attachments		117	P				
124	X			35-45		Caries			P				
125	X			M		Incisors worn			P				
126	X			50+					P				

127	X		25+		Cranial abnormality, metopism, caries, tooth ages anomolous ?diet		S	
128	X		M				P	
131	X		M				S	
134	X		18+		Periodontal disease		S	
136			X	50+			P	1
137	X		25-30				P	
137A		X	M		Old, cranial abnormality, periodontal disease		?	
139		X	40				P	
140	X		M				P	
141	X		M		Skull grossly thickened		S	3
143			X	M			S	
144		X	25-35			173	P	
145	X		M		Tripartite inca bones		P	
146		X	M				P	
147		?	25-35		Caries, abcess, periodontal disease		P?	
148		X	M				P	1
150	X		M				S	
151		?	M				P	
152	X		45-50				S	1
153	X		M		Gracile, very bowed long bones, osteomalacia		P	
154			X	50+	Very thick skull		S	
155	X		50+				P	
156	X		25	X			P	
156A		X	35		Peg shaped canines		?	
157	X		50				P	
160	X		17-25				P	
163		X	25-35				P	2
164		X	40		Lambdoid and Lambda supernumary bones		P	
165			X	M	Very thick skull		P	
167	X		M				S	
168	X		M		Totally right-angled spine—TB	174	P	
169	X		45+		Periodontal disease, root exposure pathological, extra cusp on molars, teeth superb—?invalid	172	P	
170			CH	6			P	
171	X		M				S	
172	X		M				P	
174		X	50+		Huge bones and clavicle		S	
175		X	35-45				P	
176			CH	6-7	Hypoplasia, carious and pitted teeth, osteoporosis of palate, very undernourished or ill		P	
179		X	25		Enormously thickened skull, hydrocephalic		P	1
180	X		25-35		Osteomalacia		P	
181	X		17-25				P	
182		X	M				S	
183	X		M		Osteomalacia		P	
A	X		M		Perforated humerus		--	
B	X		25-45		Normal thin skull		—	
C	X		50+	X	Incisor wear		—	
D		X	25-30				—	

Pathology: Totals

Ankylosing spondylitis or TB of spine	2
Osteoporosis: orbit	3
skull	6
long bones	2
Exostosis of skull	2
Pagets disease (?)	1
Very thick skull	4
Hydrocephalus	1
Possible Downs' syndrome	1
Fractures (same skeleton)	3
Invalids (little tooth wear suggests odd diet)	2
Osteomalacia	3
Enamel hypoplasia	6
Caries	10
Abscesses	3
Periodontal disease	6
Metopism	6
Osteo-arthritis	27

Glossary of pathological terms

Ankylosing spondylitis: a condition in which the ligaments of the spinal column become ossified and the vertebrae are fused together so that the backbone is bent, rigid and immobile.

Cribra orbitalis: pitting of the bone around the orbit.

Down's syndrome: a pathological condition, caused by the occurrence of an extra chromosome, which has a wide variety of effects on the physical and mental development of those affected. Popularly called "Mongolism".

Eburnation: ivory-like hardening of bone which occurs at the joint surfaces in osteo-arthritis.

Edentulous: without teeth.

Exostosis: a bony tumour growing outwards from a bone.

Hydrocephalus: a condition in the developing human embryo, caused by an abnormal accumulation of cerebrospinal fluid in the ventricles (cavities) of the brain, thus distending the brain and enlarging the developing skull.

Hypoplasia: underdevelopment.

Metopism: persistence of the medio-frontal suture of the skull into adult life (rather than its usual obliteration by ossification).

Osteo-arthritis: a form of chronic arthritis in which the cartilages of a joint and the bone adjacent to them are gradually worn away.

Osteoma: a tumour composed of bone.

Osteomalacia: a condition in which softening of the bones occurs, as a result of the absorption of calcium salts from them.

Osteomyelitis: inflamation of the bone marrow and of the bone.

Osteoporosis: a decrease in the density and mass of bone which often occurs in old age.

Osteo sarcoma: a malignant bone tumour.

Paget's disease: a chronic disease with progressive enlargement and softening of bones, especially those of the skull and lower limbs.

Periodontal disease: inflammation of the membrane surrounding that part of a tooth seated in the jaw.

Conclusions

The population of the cemetery at Nazeingbury must thus be considered unusual. Demographically the age balance (in the assumed absence of infant burials) would conform to a pattern such as that of Lupton, Cumbria (Macfarlane, 1977) which is a rural parish clearly with little communicable disease. The population does not die at any of the known danger points, i.e. early infancy, weaning and childbirth, but lives on, indicating freedom from acute communicable disease (or immunity) to a ripe old age.

A possible misjudgement in the known work on early populations occurs here. If an individual survives the communicable diseases of childhood and early adulthood his chances of survival to great old age are equivalent, possibly better, to our own. In the past it has been the custom to assume that the medieval pattern of plague and disease probably applied equally to earlier populations. This comparison is only valid when dealing with large dense populations and we should not be surprised

to see such great old age in an Anglo-Saxon population. Even the highly pathological individuals appear to have been well looked after if judged by their age at death.

The superabundance of females must be explained. It is most likely that the core of the community was female, and well nourished. The small proportion of men present all show signs of hard work, and may be assumed to be the labourers of a community burying its dead here. Child mortality is low, but the few children buried all show strong evidence of disease in their tooth formation and may be assumed to be weaklings.

The age balance, sex balance and pathology, together with the known Christian site, strongly suggest that we have a special population at Nazeingbury. There is no comparable published bone material for the period, so caution must be exercised, but the extreme old age and degree of caring for the sick suggests a hospice possibly run by a religious order. The bimodal distribution of female deaths shown on Fig. 8 could be taken to indicate the presence of two discrete populations, one of which could be indigenous, with the other representing the nuns. If this were so, further work on the blood groups and tissue types of the skeletal material (now under way) should indicate a degree of familial relationship in the indigenous population, and none or very little in the nunnery, since these women would have come from aristocratic families at the age of seven to be educated. Bede says that he was placed under the care of Abbot Benedict in the abbey at Wearmouth when aged seven, this seeming to be the usual age for admitting children to monasteries. The small number of children under the age of seven in the cemetery is remarkable, as is the sudden rise of deaths at this age, which surely points to this as the age of admission.

Cases of biased female numbers in cemeteries are known from the pagan period (G. Putnam, 'Spong Hill, Norfolk, England', unpublished; J. Brandt, 1952-5, 87 at Preetz, N. Germany), and these are so far unexplained. In neither of these cases, however, is there the spectacular bias of age, sex and disease, nor the lack of infant and child burial, shown at Nazeingbury. It is thus concluded that Nazeingbury is a demographically special population, and that the explanation of this cemetery as the burial ground of a nunnery, and thus containing the nuns, invalids dying in their care, and an indigenous population, is the correct one.

C8 The Cemetery: Archaeological discussion

Glenys Putnam's arguments to support her thesis that we have the cemetery of a hospice are most impressive. There is the sexual imbalance, the survival into old age of many of the women, the lack of evidence of child bearing, the divergence in build of most of the females and males, the presence of only a few hard-working women, and there are well cared-for highly pathological cases. All these points together give powerful support for the idea of a hospice run by nuns. Alternative suggestions are that the men were killed fighting and buried elsewhere; the Anglo Saxon Chronicle relates frequent minor battles. It could be postulated that women accepted Christianity more readily than men and were buried apart from their pagan husbands. These suggestions would account for a sexual imbalance but do not seem to fit the evidence as a whole.

Before the hospice idea was proposed calculations had been undertaken on the Domesday figures for Nazeing when there were 28 men recorded; assuming that the land would have supported a similar population earlier, with an equal number of women, this might indicate that 150 to 200 adults were dying per century. However in 1066 there were two manors so two lay cemeteries might be in use, with at least 200 adult burials, a minimum of two centuries was likely to be covered. The bone analysis does not support the likelihood that we are dealing with the normal peasant population of Nazeing.

The special nature of the burials at the E end of Church 1 has been stressed. Thomas (1971, 93) reminds us of the desirability of being buried close to those of religious status so as to partake of the benefits of the prayers of pilgrims. The two female primary burials in the church could well have this status lying, as they do, in the traditional position of founders. It is tempting to suggest that the

male no. 100 with fatigue-fractured metatarsals was a holy pilgrim, or possibly a bishop.

Another feature of the skeletal report is the considerable age and degree of disability of a proportion of the population. Bede's record shows that this is not surprising in a monastic community even if it were among a secular population. At Barking, Hildilid 'ruled the convent . . . until extreme old age' (Bede, 1968, 222); a nun of noble family 'had been so crippled . . . that she could not move a single limb' (ibid, 221); and Tortgyth 'was so wasted away by the disease . . . that her bones scarcely held together', this disease had 'caused her great distress for nine years' (ibid, 221). These examples show that in a caring monastic community the infirm could survive for many years.

D: The Churches

D1. Mathematics and planning of timber buildings

A number of postholes are taken to belong to two Saxon buildings which are interpreted as churches; reconstructed plans are suggested in Fig. 9. Although the E ends were destroyed in the machine trench C, the buildings cannot be longer, otherwise other postholes would surely have been recognised further to the east, the actual lengths postulated depend heavily on mathematic considerations.

Petrie (1934, 5) gave the name 'Northern' to the foot (here abbreviated to N. ft.) in use in Saxon England. The Northern system being:

>1 palm = 3 thumbs
>1 N.ft. = 4 palms
>1 rod   = 15 N.ft.

In 1305 this land rod or perch was re-defined in terms of units which are within 1% of modern measures, then:

>1 foot = 12 inches
>1 ulna = 3 feet (later yard)
>1 rod   = 5 ulne or 16½ feet (5.03 m.)

thus

>1 N.ft. = 13.2 inches
>1 palm = 3.3 inches

Societies can be very conservative with regard to measuring systems. At the Norman Conquest, measures and weights were to be used 'just exactly as the good predecessors have appointed'. Magna Carta confirmed the system already in use. The question that arises is how far back can the Northern system be extrapolated. The earliest reference to the perch is in the Assize of Measures in 1196 (information from A. E. Nash, University of Sheffield). Petrie saw its antecedents in the Indus valley civilisation. For a general discussion see Skinner (1967, 35—45 and 90—96).

The Northern rod of 15 Northern feet could conveniently be subdivided into lengths of 5 or 3 N. ft., i.e. thirds or fifths of a rod. As a result of recent work at Rivenhall (private communication from Warwick and Kirsty Rodwell, who were considering the problem of building measurement at the same time, and who detected the use of the ⅓ rod sub-division) and Nazeingbury and of consideration of many other Saxon buildings, it has been concluded that the standard rod of 16 ft. 6 in. (or 5.03 m.) was in use in much of England throughout most of the Saxon period, and further it was sub-divided into thirds and sixths rather than fifths. For instance West Stow Hall 1 (West, 1969, Fig. 6) measured to post centres, is clearly a 2:1 building length:width; also, equally clearly, its length was 1⅔ N. rod so that the width was designed as 5/6th N. rod. The sixth sub-division appears an awkward dimension, but when expressed as 10 palms, it becomes a 'round number'. The further division of the third into the sixth could have been accomplished by the use of a hinged measure, 10 palms long, as such it would have been a practical sized 'yardstick' to carry around; when opened out into ⅓ N. rod it would have been about the height of a man.

There are other examples where the use of the N. rod can be checked. For instance, Building A20 at Chalton, Hants. (Addyman and Leigh, 1973, Fig. 8) measures 2⅓ × 1⅓ N. rod or 35 × 25 N. ft. During the study of building measurements it was those at Cheddar (Rahtz, 1962-3) which, to the present author's mind, leaves no doubt that the N. rod was used for building measurement there at least, from before the 10th century into the 12th; measurements of the length of East Hall I, of the Long Hall, of West Hall I, of Building N, the width of Building N, and the bay pitch of East Hall I yielded measurements of 6⅔, 4⅔, 3⅓, 1⅔, 1⅓ and ⅔ N. rod respectively which, when expressed in terms of Northern feet, viz 100, 70, 50, 25, 20 and 10, are such round numbers that they leave any other explanation untenable.

The plans of some posthole buildings are quite regular and leave no doubt that walls were meant to be straight and corners square. Other building plans suggest that little care in setting out was exercised. The best plans indicate that the line of the walls was marked out on the ground. Consideration of many plans further suggests that the centre lines of the walls, i.e. through the post centres, were the design lines rather than internal or external building dimensions. The actual process could have involved marking the lines in the soil with a stick and possibly a string, or it may only have involved the setting out of corner stakes with the postholes then being positioned by eye; a combination of methods is possible.

When trying to establish design lines of walls the best straight line through the postholes can be drawn, this has the effect of negating random error in the digging of the holes, in their excavation and subsequent recording on paper. Sometimes individual measurments between posts can be made but these will include the above random errors. With this introduction, which is applicable only to buildings with posts in individual holes, the Nazeingbury church plans can be considered.

D2. Church 2

This building is considered first because several measurements are possible. Church 2 is represented by 7 postholes. Its E end was destroyed by machine trench C. If the best straight parallel lines are drawn for the sides of Church 2, as on Fig. 9, then the width of the building is 5.05 m. (16 ft. 7 in.), this is very close indeed to the standard Northern rod. Also the measurements between postholes F19a to F19b and from F29a to F29b, if accepted as ⅓ rod dimensions, yield a mean rod of 4.99 m. (16 ft. 4½ in.) also very close to the standard. The 'nave' length between posts F19b and F19c, as indicated on Fig. 9, is 5.13 m. (16 ft. 10 in.) or just 2% greater than the standard rod. All the postholes so far alluded to were of the same form with the same characteristic packing (details in Feature List C2); thus they may be expected to form elements of a single structure. The shallower hole F20 in the centre of the north wall of the nave is of different form and may indicate the position of a repair post in the centre of a 1 rod long wall plate.

The single shallower hole F28 may indicate the position of a screen dividing Church 2 into nave and chancel or sanctuary. If so, the nave is taken to be designed 1 rod square. Further postholes for the chancel should have been seen if they existed amongst the graves to the east, so, on mathematical grounds, the east end is taken to have been in the position indicated in Fig. 9 giving a chancel ⅔ rod or 10 N. ft. long. This gives a building 1 rod wide by 1⅔ rod long or 15 × 25 N. ft. (5.03 × 8.38 m.).

Two postholes which must have existed were not recognised. The most important of these is for the SW corner post. The second is the other posthole for the porch or narthex at the W end. If these two posts had been extracted and the holes backfilled with brickearth they might have been missed. Another possible feature of the building is a doorcase on the south side (suggested by Dr. W. J. Rodwell), a hole F30 could be a posthole of such a structure, but as it was dug into a loam-filled Belgic gully no post position was recognisable. The likelihood of a door here is perhaps supported by the fact that the burials did not extend further to the west.

No secondary post or stake holes were seen, the walls must presumably have been either wattle and daub with the stake holes not penetrating the brickearth, or the building could have been boarded

with planks, horizontal or vertical, again without leaving evidence in the brickearth. The close-set chancel side-wall posts may indicate that this part of the church was built higher than the nave, even to a second storey or tower. For the chancel or sanctuary to be more imposing than the nave is surely conceivable.

D3. Church 1

This post built structure (Figs. 6 and 9), at the NW corner of the cemetery, was discovered as a result of the machine cutting of trench D, its E end had already been lost in trench C. The whole N side had been scraped away before excavations began.

The remaining walls are represented at the E and on the S (Pls. 4A, B) by staggered oval round-bottomed postholes dug into the brickearth. The large circular posthole at the corner was slightly deeper. Two much larger holes on the S side were cut by the machine trench D but extended below it into the gravel; one of these showed evidence of a sloping erection pit F5 (Fig. 7/U). These two posts define the only doorway seen, the width between the postholes being 74 cm. (2 ft. 5 in.).

For Church 1 there is no physical evidence of either the length or the width. However, in Saxon buildings, the doorway in the long side is generally central. If the half length is doubled the length becomes 8.43 m. (27 ft. 8 in.) which is 25 N. ft. or 1⅔ rod to within 1%. Thus the E end so postulated provides room for the primary graves 54 and 55 inside the church and relates well with the row of primary graves outside the end. This length is the same as that postulated for Church 2.

The width too can be postulated. If the two primary graves 54 and 55 are roughly symmetrical with regard to the width of the building, then two preferred possibilities arise. Either the width was ⅔ rod (3.35 m. or 11 ft.) or it was 5/6th rod (4.19 m. or 13 ft. 9 in.). From the plan, Fig. 9, it can be seen that a small patch of excavated ground, although sloping away to the north, should have shown some evidence of the narrower building, hence a width of 5/6 rod is here favoured, anything wider would have put the primary graves well off centre. Thus the design size of the building is postulated to be 1⅔ × 5/6 rod (8.38 × 4.19 m. or 27 ft. 6 in. × 13 ft. 9 in.); this would make it a 2:1 building.

It may be thought reasonable, although the building is not timber framed, to consider it as divided into bays, the bay lengths being ⅔, ⅓ and ⅔ N. rods. The western bay could be said to be defined by the western doorpost and the posthole F12, this latter hole with F13 and F14 may represent a narrow internal division. The complex of holes and slots F8 to F11 may represent some further division of the building but not quite at the suggested eastern bay position. However some of these latter features particularly F10 may represent grave markers or they may indicate the position of an altar behind which the burials were consecrated. As a second approach the divisions of the building could be into a nave, including the entrance, roughly 1 rod long and a chancel or porticus about ⅔ rod long; the word porticus may be appropriate if this bay was intended as a burial chapel. Elsewhere such buildings as the postulated Church 1 have been described as double square (Addyman and Leigh, 1973, 11—14; Jones, 1977-8, 54).

At the W end a central patch of disturbed burnt clay in a shallow pit F18 may represent the position of a hearth. There were many small holes roundabout, F17, and enough appeared in pairs about 13 cm. (5 in.) apart to consider them made by the twin-pointed feet of fire dogs. Other possible stake holes occurred within the building, some with a degree of linearity, but they and the 'hearth' could be of any period. Outside the building to the south were five shallow holes F7 which are taken to represent the position of supporting posts under the end of the rafters; if so they show that the rafters were not mathematically arranged.

The staggered, often oval, postholes of the walls are taken to have accommodated upright split circular timbers. Horizontal boards set edge upon edge are assumed to have been held between these posts. Three pieces of lightly burnt daub (Appendix 8A(c)) with clear wattle impressions were found in grave 54 and one each was found in graves 90 and 100; this is taken to be derived Belgic material.
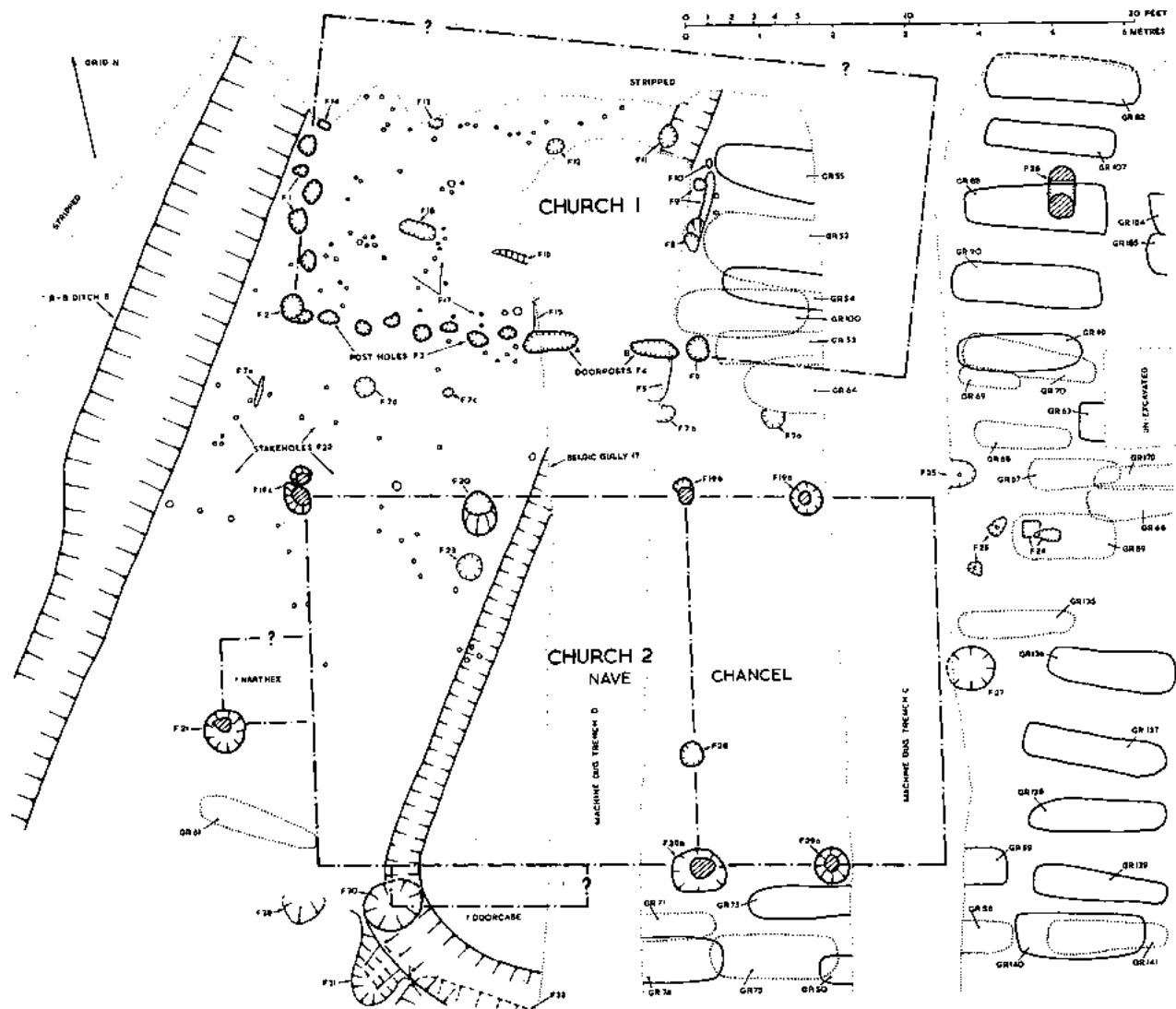
FIG. 9. NAZEINGBURY, ESSEX, 1975-6
Plan of Saxon churches 1 and 2

D4. Church 1: Discussion

The earliest churches in Saxon England may not be very different from contemporary secular buildings. Hence parallels must be sought from the whole corpus of excavated and standing buildings.

No Saxon building with staggered postholes, other than Church 1, is known. However, fences of enclosures or compounds with staggered posts have been found in excavations at Chalton, Hants. (Addyman, Leigh and Hughes, 1972, Figs. 9 and 13) and at Thirlings, Northumberland (note in *Med. Archaeol.*, XX, 1976, 168). At Chalton these fences were presumed to be of 6th or 7th century date and to pre-date buildings with posts set in trenches; they are taken to be constructed of planks laid edge upon edge between halved circular posts with full circular posts at intervals; an illustration there is given of the arrangement. Such plank walls can also be suggested for Church 1 with circular corner posts into which the planks may have slotted. The Church 1 planks could have overlapped, then to be called 'weather boarding'.

Evidence of Hall 1 at West Stow has already been mentioned as a reason for suggesting a central doorway on the S side of Church 1; Hall 1 was almost certainly intended to be 2:1 in length:width, and was surely designed 1⅔ × 5/6th rod and is thus the same size as postulated for Church 1. The date range for West Stow is early 5th to mid 7th century AD.

Several published plans show opposed small holes where one large hole might be expected from the rest of the plan. In building A20 at Chalton (Addyman and Leigh, 1973, Fig. 8) several of the postholes are shown double centred, this is consistent with there being two opposed posts close together so that they tend to merge into a single hole and, indeed, they may have been dug as one. Structure A at Maxey, Northants. (Addyman 1964, Fig. 3) has triple-post door jambs which from their arrangement could have been designed to hold the ends of boards; other postholes of this structure are oval with the long axis across the line of the wall as if designed to hold split circular timbers with boards between. Hall 2 at West Stow (West, 1969, Fig. 7) also shows double postholes as does Hall 1 to a lesser extent; the excavators note a lack of strength at the corners; this should be borne in mind when the blockhouse technique is considered below (D8).

A continental example, albeit earlier, of opposed posts is from Wijster, Holland (Van Es, 1967, 55). In a category 'longhouses with supports and double posts', the postholes occur in pairs in the long walls. These are 'real double holes or the two holes may have fused into a single long and narrow one', both are of the same depth. The author concluded that the double posts partly took over the function of supports and shared in carrying the weight of the roof. However they may also have held horizontal planks.

Thus several examples of Saxon buildings may need interpreting as horizontally boarded buildings, but with the boards held between opposed posts rather than between staggered posts as in the case of Church 1. Advocates of cruck construction might not agree with such a simplistic explanation of opposed double posts.

No part of the basic plan of Church 1 can be taken to distinguish it from a secular building. There is nothing to show that it was built as a church rather than for domestic occupation. There is no evidence to support the idea that it was converted from a pagan Saxon temple.

Little is known about how a Middle Saxon cemetery church would be used. For instance, it is not known whether the congregation would enter the building or perhaps only have a view of the altar from outside; in this respect it is interesting to note that a large space, later to be used for Church 2, was kept free of graves to the south. Only grave 59 was, in fact, disturbed by Church 2. It might be argued that both buildings stood at the same time or even that they were built in the reverse order to that suggested. However grave 59 shows that burials had spread some distance from Church 1 before Church 2 was built. This, coupled with the fact that graves 64 and 100 were dug after Church 1 had gone out of use and that secondary graves cluster around Church 2 suggests that the churches were built in the order assumed here; they could, of course, have stood together for an

unknown period, the fact that they do not overlap implies this, but the fact that they have a slightly different orientation seems to suggest that Church 1 was already demolished when Church 2 was built. It is not possible to say whether the posts of Church 1 were extracted or were left to rot.

A discussion, to be continued below (D7 and D8), bears on the meaning of the phrase *ligneis tabulis*. Horizontal boarding between opposed posts or between staggered posts, as in Church 1, is a strong contender for this description.

D5. Church 2: Preliminary discussion
Church 2 is clearly of a different form to Church 1 with its probable horizontal boarding. Church 2 seems less likely to have been horizontally boarded; the possibilities of interpretation of single or discrete postholes, as opposed to double or staggered holes, is considered below.

D6. Discrete-posthole buildings: The range of possibilities
For buildings like Church 2, which show a series of discrete postholes in a roughly rectangular plan, the least substantial wall possible is of infilling between the posts of wattle and daub or of unfired blocks of turf, mud, clay or cob. Such infilling would leave little trace unless burnt. There is also the possibility of the complete envelopment of the perimeter posts in wattle and daub by the use of large panels of continuously woven wickerwork; a recent illustrated example of daubed wickerwork walls is from W Scotland (Beresford and Hurst, 1971, Pl. 25).

More substantial wooden walls might have been of circular or split circular section or of hewn timbers or planks. Such members, if vertical, can be set just into the ground or on timber sill beams which are themselves on the ground surface or set just therein. A common factor in this category is that there would be little archaeological evidence of such walling unless preserved by waterlogging of the site such as at Haithabu, near Schleswig, where vertical timbers remain from a 9th and 10th century site (illustration in Dixon, 1976, 131).

Some of the possibilities of using vertical wall timbers are demonstrated in the reconstructions at West Stow. The reconstructed hall there is an example of between-post vertical timbers '. . . with the weight of the building supported by earth-fast posts spaced around the perimeter . . . Between the posts, vertical adzed planks will be used to fill the gaps with various jointing techniques to avoid the use of daub' ('West Stow: The Anglo-Saxon village', a leaflet available on site in 1978, published by the Saxon Village Trust, Bury St. Edmunds). The hall reconstruction with adjacent edges of the roughly rectangular vertical timbers grooved to take a wind proofing fillet is an example of stave construction. The archaeological record, at its most complete, would consist of a rectangular plan of regularly spaced holes joined by narrow trenches for the wall-infilling timbers, but the latter might not be detectable. This arrangement could have applied to Church 2. If the archaeological record were to show only the intermittent earth fast postholes, a stave reconstruction would be unpopular in England yet might be assumed in Christian Scandinavia as at Hørning and Oslo (plans illustrated in Foote and Wilson, 1970, Fig. 58).

In contrast, at Greensted, Essex, the staves are stout halved tree trunks set in a continuous line and mortised into a sill beam set on or into the ground (Smart Lethieullier described this arrangement and had elevations drawn in 1748; VCH, Essex, IV, 61) thus the staves themselves, through a wall plate, would take the roof load. The church at Greensted was possibly built *c.* 1013 (RCHM, II, 112) although the church leaflet recently on sale gives a dendrochronological date of AD 845.

Another of the West Stow reconstructions, a stately sunken-feature building or *grubenhaus*, shows that a stave wall can be separated by an aisle from the structural roof support posts. Excavated stave churches at Land and Lund (Foote and Wilson, 1970, Fig. 58) show such an arrangement. Staves which are non load-bearing can of course be relatively flimsy, leaving, if anything, only a narrow shallow trench in the ground; such staves can show various forms of tongued-and-grooved connections (some of the possibilities are illustrated by Foote and Wilson, 1970, Fig. 59; by Bugge, 1935, Fig. 2; and by Herrnbrodt, 1958, Fig. 78). An aisled reconstruction for Church 2 is not likely, as the walls would then have overlain graves to the south and to the north.

Posthole buildings could also be horizontally boarded, the overlapping feather-edged weatherboarding is a recent example. Church 1 at Nazeingbury demonstrates one method of holding horizontal boards between posts, and it has been suggested above that other excavated buildings could also be so interpreted. An example of between-post infilling has been excavated at Trondheim (Long, 1975, Pl. II), the ends of the horizontal boards were chamfered on one side to form wedge shaped ends which slotted into vertical grooves in the upright posts; in Norway this is called the *slepvegg* technique. This could have applied to Church 2 and to Church 1 at the corners.

D7. Literary references to boarded churches by K. N. BASCOMBE
The discovery of a building whose walls were evidently made of horizontal boards retained in position by staggered posts, and which is interpreted as a church, prompts an enquiry into what is known about other such churches.

Lists of wooden churches *(ecclesia lignea)* and churches built with wooden boards *(ecclesia ligneis tabulis fabricata)* have been compiled (Zimmermann, 1958, 426-443) and it is suggested (ibid, 417) that while references in the former class might include some which would be appropriate to the latter category, the reverse would not be the case, since the solid wall of a boarded church could not be confused with a wall filling of less substantial materials. It would therefore seem that the literary evidence may underestimate the proportion of boarded churches to those of other types of timber construction. On the other hand, guidelines have been laid down (Thomas, 1971, 204-5) for the interpretation of literary sources of the early Christian period—in general, the writings of Bede and 'Lives' of Saints written before *c.* 800 must be regarded as more reliable than any 'Lives' of pre-ninth century saints written at a later date, and, in such early writings, the settings of most incidents and miracles may be taken to represent familiar settings. Following this approach, the large timber church described in the life of St. Brigit of Kildare, written by Cogitosus *c.* 650-75, is considered (*ibid*, 206-8) to be authentic, and the situation in which a plank might have been placed at the top of an old door to make it fit a new door-frame, *tabulam facere junctam in vetere valva, ut postea sufficere posset* (Bollandus and Henschenius, 1863, 141), can be taken as an accurate reflection of a practical problem.

The life of St. Malachy (d. 1148) by St. Bernard of Clairvaux describes (Lawlor, 1920, 32-3) the construction by the former at Bangor, co. Down, of an oratory 'made of smoothed planks *(de lignis laevigatis)* indeed, but closely and strongly fastened together—a Scotic work, not devoid of beauty'. Lawlor *(ibid)* also quotes the following relating to the construction of another Irish oratory:

> "O my Lord! what shall I do
> About these great materials?
> When will these ten hundred planks
> Be a structure of compact beauty?
> A mu Coimdiu, cid dogén-sa frisin adbur már sa?
> Cuin bus aicdi fo scéim dlúta [in] na *deich cét* clár sa?

(*Otia Merseiana,* 2, 1900—1,78; I am indebted to Bernard Meehan, Manuscripts Assistant, Trinity College Library, Dublin, for this Irish reference). This was probably the type of building referred to in Irish literature as *dairtech* ('oak house').

A less durable alternative was the use of clay-covered wickerwork infilling the spaces between the posts (Ryan, 1931, 287-8). Evidently the use of boards was common for the construction at least of oratories in Ireland down to the 12th century, and it has been suggested (Harbison, 1970, 49) that the custom of building churches in stone rather than wood began to spread in Ireland only during the 9th century. Cases where the documentary evidence might be (on Thomas' criterion) considered valid include Clonbroney, Co. Longford, (Zimmermann, 1958, 441) where St. Samthanna (d. 739) built an oratory of planed timber *(de lignis levigatis)* and Killeany, Co. Armagh, where a church (*ibid,* 440) was constructed *c.* 600 of hewn boards *(tabulis dedolatis).* Kenney considers that the reference to St. Samthanna may derive from an early text (Kenney, 1966, 495), while that to Killeany

was probably written in the first quarter of the 7th century (*ibid*, 368). Irish expertise in building is reflected in the mention of an Irish master builder in the life of the 6th century Welsh saint Cadog (Wade-Evans, 1944, 67); this life is late (*ibid*, xi) but the Irish element must surely have come from an earlier text.

The reference to Killeany (Zimmermann 1958, 440) adds that the method of construction used was similar to the style of the Scotti *(iuxta morem Scotticarium gentium)* because the Scotti (i.e. the inhabitants of NE Ireland) were not familiar with building in stone. Although documentary evidence seems to be lacking, it seems highly plausible that St. Columba (d. 597) took this building style from Ireland (where he had founded monasteries at Derry and at Durrow) to Iona, where timbers were brought at one stage for repairs to the *monasterium* (Anderson and Anderson, 1961, 454-5). From Iona the style could have been transmitted to Northumbria by St. Aidan. However the church at *ad Gefrin* leaning against a buttress of which *(extrinsecus ecclesiae pro munimine . . . adposita)* St. Aidan breathed his last (Bede, 1969, 264-5) in 651, seems much more likely to have been analogous in construction to the great hall at Yeavering (now identified with *ad Gefrin* by Hope Taylor; Colvin, 1963, 2-3)—the walls of squared timbers being set upright in a foundation trench, with the roof supported by external buttresses. This looks to be in a different building tradition from the boarded construction in the style of the Scotti attested at Killeany. The latter seems to surface in Northumbria *c.* 652 when Bishop Finan built a church on Lindisfarne in the manner of the Scotti, not of stone but of hewn oak *(more Scottorum non de lapide sed de robore secto)* (Bede, 1969, 294-5).

The oratory built by St. Cuthbert on the Great Farne in 676 was certainly of planked construction. Bede relates how the building was finished (Colgrave, 1940, 216-7) by digging and cutting away the soil inside and outside and roofing with rough-hewn timber *(lignis informibus)* and straw. When the 'planks, not too carefully joined together, had been loosened due to age and the planks had come apart' Cuthbert used to stuff the cracks with straw or clay to keep out the wind (*ibid*, 303). Following Cuthbert's death in 687, his successor Aethilwald nailed a calf-skin over the corner where his predecessor spent most of his time. In view of the makeshift character of such repairs, it is not surprising that when Felgild succeeded Aethilwald at the hermitage in 699 the oratory was falling to pieces and had to be completely rebuilt.

The evangelisation of Essex also is described by Bede. The first attempt by Mellitus who was consecrated (Bede, 1969, 142-3) bishop of London in 604 by St. Augustine, was unsuccessful (*ibid*, 152-3) and the area remained pagan until the arrival in 653 of St. Cedd, a Northumbrian who had previously evangelised the Middle Angles (*ibid*, 282-5). St. Cedd is said to have built churches in several places, in addition to establishing communities at *Ythancestir* (the Roman *Othona* at Bradwell-juxta-Mare) and *Tileberg* (West Tilbury). At the former, Roman building materials were available for re-use in the church which is still standing in a mutilated form, but St. Cedd's churches in general must have been built of timber. If Nazeingbury Church 1 is one of these, it therefore seems possible to trace its method of construction back to Irish prototypes via Northumbria and Iona. Even if Nazeingbury 1 is, in fact, of slightly later date, for example of the time of St. Earconwald (bishop of London 675-693) who founded the monasteries at *Ceorteseig* (Chertsey) and *Berecingum* (Barking) before he became bishop (*ibid*, 354-7), the introduction of a boarded building technique into Essex may well have been due to St. Cedd.

This thesis cannot of course be regarded as proven and a great deal of excavation of further early church sites would be needed to test it adequately. The limitations of the documentary evidence are such that it is impossible to deduce, even in the case of the Farne oratory, whether the boards were mounted horizontally or vertically (though vertical members would perhaps more probably be left as posts rather than smoothed down).

The alternative derivation is presumably from continental examples; the list of churches built of boards *(ligneis tabulis)* (Zimmermann, 1958, 439-40) in the 6th century includes examples at Arras, Brioude, Thiers, Limoges, Rouen and Maastricht. The first of these is particularly interesting as it

is claimed to have been built *c.* 540 by St. Vedast, to whom a church dedication survives at Foster Lane in London. These buildings appear, however, rather too early to be prototypes for churches at Nazeingbury, and, apart from one church built in *opus Scoticum* by the Irish missioner Columbanus (d. 615), Zimmermann *(ibid,* 441) cites no further Continental examples until the 11th century; nor apparently are any early examples known in Kent.

The technique of building with boards was evidently in widespread use in late Anglo-Saxon England even for quite large monasteries, such as Ramsey, Croyland and Bury St. Edmunds *(ibid,* 442). An old chapel built of wooden planks *(ecclesiam ligneo tabulatu compactam)* is mentioned at Colchester *c.* 1095 (Astley, 1901/2, 124 and 131), while an instance of the use of the technique after the Norman Conquest is St. Mary Bredin (boarded), Canterbury, founded apparently *c.* 1100 (Urry, 1967, 211; Rigold, 1960, 175) and rebuilt in stone *c.* 1180—1200 (Urry, 1967, 213 and 340).

D8. Ligneis Tabulis: Other possibilities

It is here assumed reasonable that all the arrangements of vertical or horizontal wall timbers discussed previously could have come in the *ligneis tabulis* category. All except the Greensted-type of stave wall, involved intermittent earthfast posts, as did Church 2.

An example not involving postholes, but relevant to the discussion, is the blockhouse or log-cabin type of construction. In Scandinavia, dwelling houses and larger buildings in historic times (Shetelig and Falk, 1937, 327) were constructed of horizontal logs, unshaped or rough hewn, the projecting ends of which crossed over each other. Lighter outhouses were made of boards standing upright, their lower ends resting on a ground sill. The timbers of these buildings can be of circular, square or rectangular section. Standing examples can be seen in the folk museums from Helsinki to Bucharest. An 18th century example from Moiseni Village, Bulgaria (Focsa, 1959, Fig. on p. 21) shows that quite wide boards or planks could be used in this type of construction with projecting interlocking ends. If the blockhouse type of construction was set free-standing on the ground, or only slightly into it in a sleeper trench, it might be impossible to detect it in most archaeological situations. The point of relevance of the blockhouse to the present discussion is the inherent strength of the corners of interlocking timbers, this contrasts with the lack of strength noted in the corners at West Stow.

A waterlogged blockhouse excavated from Ujście, Great Poland, is of the 8th century (Leciejewicz, 1976, Pl. IVB). This shows how repair posts might be added both inside and outside the walls so that the only deep archaeological record would be odd-sized, irregularly-staggered postholes indicating the rough shape of an originally well defined and well constructed building. Interpretation from the evidence to the original would be of extreme difficulty. Another example, from the 11th century, is at Trondheim, Norway (Long, 1975, Pl. IIA). The use of the Norwegian word allows the notching of the timbers to be called *laft* construction, the timbers being notched or lafted; in its simplest form the notch is cut only in the upper side of the timber and is therefore half the thickness of the log; more complex forms involve carefully shaped notches in both the topside and underside of the beam; the notch can also be constructed of dovetail form. Another excavated example is from Bergen, Norway (Herteig, 1959, Pl. XXB).

Nearer home, at the watermill at Tamworth, something of the blockhouse approach can be seen (Rahtz and Sheridan, 1971-2, Fig. 2). Basal timbers showed two types of corner construction, in the 'undercroft' a morticed and pegged tenon was used, whereas for the 'millpool' a sophisticated *laft* joint was employed. This discovery reminds us that the Saxon carpenters probably had a great variety of techniques capable of solving any problems they met. The ground beams were grooved along their length to take horizontal boards and there was some evidence that vertical posts were tenoned into these beams so that timber framing techniques are now known from Anglo-Saxon England.

A much later timber building at Weoley Castle, Birmingham, of the first half of the 13th century, is of interest because of the use of both horizontal and vertical weather boarding (Oswald,

1962-3, Fig. 44); this is boarding which overlaps. The excavator quotes (*ibid*, 123), as a parallel. Der Husterknupp, Germany, where House 3 has vertical 'weather boarding' on sill beams, which is at least 250 years older than Weoley, but the boarding there does not overlap, it should more properly be termed stave construction and is comparable to that from Hedared (illustrated by Foote and Wilson, 1970, Fig. 59); these staves are fitted into slots in the intermittent sill beams and in vertical earth fast posts. Today an example of overlapping vertical weather boarding remains covering the tower of the church at Stock, Essex.

From what has been said it is clear that boards or planks could be used horizontally, held between opposed or staggered posts, or slotted into posts by the *slepweg* method; in the latter case the boards could be slotted into a sill beam. Vertical boards or planks can be used set in the ground or on a sill beam, they can be tongued and grooved, grooved with fillets, or be of other stave-like construction. Overlapping weather boarding can be used horizontally or vertically. Also horizontal boards, as well as logs or squared baulks, could be used on the blockhouse principle with projecting ends lafted together.

Whether the phrase *ligneis tabulis* could be used to describe all of these methods of construction, or whether it was confined to one or two methods, seems at the present time indeterminate. It was hoped that the literary references might have settled the point and it would have become clear which method of construction was 'in the manner of the Scotti'. Phrases such as 'smoothed planks . . . closely and strongly fastened together', 'planks, not too carefully joined together, had been loosened due to age and the planks had come apart', 'of planed timber', 'of hewn boards' and 'of hewn oak' might have given a clue to the methods of pre-Conquest timber church building, but the matter is still undecided.

D9. Excavated timber churches

The number of excavated timber 'churches' in Britain is still small. At Ardwall Isle, SW Scotland, there is a small post-in-hole oratory (Thomas, 1967, Fig. 26). At Church Island, Co. Kerry, there is a similar small structure (O'Kelly, 1958, Fig. 2 and 1973, Fig. 5), probably the remains of a *dairtheach*, an 'oak house', of Irish literature (Leask, 1955, 6, discusses various spellings of this word); the word has been applied to a larger building which required 1000 boards, there seems to be no clue from excavation or the literature whether the boards were set horizontally or vertically.

In England at Wharram Percy, Yorkshire, the earliest church is a small post-in-hole building; it might be suggested that the posts on the S side were staggered rather than directly in line (*Med. Archaeol.*, 1975, Fig. 91 and Hurst in Addyman and Morris, 1976, Fig. 12). At the church of St. Bertelin, Stafford, there are two rows of postholes and a thin sleeper beam slot at the E end (Oswald, 1954, Fig. 5). At Pottern, Wiltshire there are rock-cut slots which are taken to have held timber posts and foundation pads for sill beams (Davey, 1964, Fig. 4). At Rivenhall, Essex, trenches possibly to hold continuous rows of upright posts were discovered (*Current Archaeol.* no. 36, 1973, 15 and Rodwell, 1973, 220). At Thetford, Norfolk, wall trenches with some postholes indicated vertical log construction (*Med. Archaeol.* XV, 1971, Fig. 46). At Glastonbury, Somerset, postholes and slots probably represent timber chapels (Rahtz and Hirst, 1974, Figs. 6 and 11). At North Elmham, Norfolk, under the cathedral, excavated remains implied sole plates for timber structures, the excavator had a feeling for filleted stave work as exemplified at Greensted (Rigold, 1962-3, 104). The position in England is well stated by Biddle 'We are still very poor in wooden churches in this country as a result of excavation . . .' (Biddle, 1976, 70). This dearth is aggravated by the non-publication of important sites.

In Denmark, Biddle states that it is now quite normal to find two wooden stages before the establishment of the first stave church at the end of the 11th or beginning of the 12th century (*ibid*, 70). These discoveries must be due to the 'systematic excavations carried out in Danish churches since 1947 in search of wooden churches from the earliest Christian period' (Olsen, 1964, 277; unfortunately he does not quote the discoveries). In this country there is no such plan and, in

particular, buildings in cemeteries, such as Nazeingbury, will only be found by chance. It is much to be regretted that the Anglo-Danish excavation within Greensted Church, Essex, c. 1956 must be considered written off rather than written up; third-hand information is that from excavations in the chancel, postholes were found from two preceding rectangular churches, one with spaced uprights only and the other presumably with the posts set in a slot or trench, possibly on a sleeper beam.

D10. Church 2: Final discussion

The plan of Church 2 is incomplete and since at least two post pits were not recognised the reader will wonder if more were so 'lost'. Whatever this verdict the plan differs from the usual run of medium sized Saxon halls in having major posts positioned at least ⅓ rod (1.68 m.) apart. It shares this feature with only the grander buildings in the Saxon building catalogue, e.g. the West and East Halls at Cheddar (Rahtz, 1962-3, Figs. 22 and 25) and building G at Thetford (Davison, 1967, Fig. 43), the former dating from the 10th to 12th centuries and the latter being late Saxon. Post pits were used presumably to allow for manoeuvring heavy posts; Rahtz points out that this is a technique found only in major buildings (Wilson, 1976, 85). So in this relatively small building there are pretentions to quality. Similarly it was carefully marked out as discussed earlier.

The north nave wall, if the central repair post is correctly interpreted, suggests that a distance of 1 rod was being spanned without intermediate structural support; this need not be considered impossible since the width of the building was the same and tie beams of this length must have been used.

For this, assumed, quite pretentious building, wattle and daub infilling might have been considered unworthy. In this case vertical wall timbers, simple posts daub sealed, or staves, are a distinct possibility. Unfortunately no evidence was detected on this point. The fact that the chancel posts were close together may indicate that the chancel was built to a greater height than the nave. Equally well horizontal boards could have slotted into the posts by the *slepweg* method.

The small narthex at the western end is an interesting feature being paralleled at Thetford St. Michael's (*Med. Archaeol.*, XV, 1971, Fig. 46). In the case of the later Norwegian stave churches it is stated that the narthex was where the congregation left their arms (Bugge, 1953).

D11. Interpretation as churches

Now that the cemetery buildings have been described and discussed their interpretation as churches can be examined. They do not exhibit the diagnostic feature of a chancel, square or apsidal ended, which is narrower than the nave. However, the second building does appear divided into a nave and a chancel, although both of the same width, and has the remains of a narthex at the west, but the evidence is not unequivocal. Although 'parish' churches, like Rivenhall and Thetford, do show a narrower chancel, Biddle reminds us that there may be different liturgical requirements according to the status and function of a particular church (Biddle in Clemoes and Hughes, 1971, 403). For a cemetery church of this period the requirements are unknown.

The most telling evidence concerns the orientation and association of the graves and the buildings. The remaining graves were concentrated to the E and SE of the buildings and this area remains amongst the most popular for Christian burial today. The graves closest to Church 1 are aligned very closely on it and two of the primary graves are positioned neatly inside the building. The secondary graves, in the main, cluster around the east end of Church 2; this supports the contention that the churches are successive. Particularly noteworthy is the fact that the building orientation does not follow that of the field corner in which the cemetery is set; a few graves close to the southern boundary follow its line suggesting that this remained as a hedge or line of trees.

The graves at the east end of Church 1 deserve special mention. Their position, presumably behind the altar, is the most intensely used part of the whole cemetery, even the secondary graves were relatively deep. Four of the six graves fit nicely inside the outline of the church; the other two

must have followed after the end of the life of the building. The group contained the only three special small finds in the whole cemetery (Appendix 5, nos. 9 and 10, App. 6, no. 3) and 26% of the Saxon pottery scattered in all the graves; there were 11 sherds in grave 52 and these may have originated from church vessels. Five of the six graves contained skeletal remains and four of them exhibited the greatest pathology (see C7) and stand out because of this, their considerable age, and because of the care they would have needed during life. Thus this group seem to have been special people buried in a prestigious place of special sanctity, a sanctity which apparently survived the building, as burials continued to be placed there after it had been demolished.

Church 2 is a building of modest proportions. However the use of post pits and the spacing of the posts are features expected in grand buildings. This is considered consistent with the building being a church.

The theory of a monastic community based on the skeletal evidence (see C7) does not invalidate the interpretation of the two cemetery buildings as churches; any conventual buildings outside the cemetery would have been lost in machine scraping. Within the cemetery, fragments of loomweights and the pit F35, with pieces of a lava quern, may be associated with either conventual or secular sources.

D12. The churches: Conclusions

It has been suggested that the two buildings in the cemetery are churches, Church 1 being superseded by Church 2. The buildings themselves provide new data on building types. New Saxon building techniques are still coming to light, and, until the picture is more complete, it would be unwise to, try to establish the position of the two buildings in the Saxon building catalogue.

Clear parallels for the buildings are absent so that dating cannot be obtained this way. The dates for the burials have been discussed with the result that Church 1 could date from the second half of the 7th century with Church 2 and the cemetery lasting probably until the Danish invasion c. AD 870. It is perhaps safe to suggest a second half of 7th to 8th century date for Church 1 and an 8th to first half of 9th century date for Church 2.

E.   Other cemetery area features

A few cemetery area features are not clearly associated with a particular period. However, two of these, one outside the E end of each church, could be associated with the buildings (Fig. 9). At the end of Church 1 is a double posthole F26 which could have held a pair of stout posts; grave 88 overlay one of the holes. At the end of Church 2 is a possible foundation F27 for a free-standing object. Perhaps the posts and foundation were for crosses at the end of each church, but the latter could have been for a repair post to support the ridge of the building. A similar central post hole has been noted in the timber church at Thetford (*Med. Archaeol.*, XV, 1970, Fig. 46).

At the SE corner of the cemetery is a group of features F37 of unknown purpose or date (Fig. 6). These include a gravel-filled hole cut by a pit, an adjacent possible beam slot with nearby postholes, gravel spreads and a loam-filled depression.

Two possibly associated post positions, F33 and F34, were noted in the side of the already silted SW arm of the Belgic gully 17 (Fig. 6). One of these was for a stout rectangular post. They and other minor post positions remain indeterminate in purpose and date.

F.   Final conclusions

The excavation lasted 18 months and cost £118. The work began at a salvage urgency but sometimes relaxed to a more normal rescue situation. The philosophy was to obtain the maximum information in the limited time available and expediencies were adopted to achieve this end. A full time investigation would have meant more complete excavation but the overall picture would have been little affected. Earlier vigilance of the site, however, might have increased our knowledge very

considerably. In this respect the competence of gravel site operators in recognising 'soft spots' in the ground should not be underestimated and their keen interest could perhaps usefully be fostered.

Separate conclusions have been written on the Belgic and Romano-British farms, on the Middle Saxon cemetery and on the two timber buildings interpreted as churches. With the designation of the site as a leisure lake man has made his final impact.

It was Rex Hull's original pottery description that ensured the site was first recorded in the archaeological literature and, although there is no need now to see the pottery as a grave group, it is most appropriate that this report should appear in a journal, the next issue of which will be dedicated to his memory.

The finds and records are in the Collections of the Waltham Abbey Historical Society and anyone who can contribute to their understanding or interpretation is welcome to contact the Society. The skeletal material is stored in the Duckworth Laboratory, Cambridge. Selected finds and plans are on display in the Society's museum at Waltham Abbey.

APPENDIX I: POTTERY (FIGS. 10-20) by RHONA M. HUGGINS

Pottery from the three main phases of settlement of the site, Iron Age, Romano-British and Saxon, is illustrated from ditch and pit groups and the fabrics are discussed. There were no stratified coins, and metalwork too was scarce, so pottery provides the best dating evidence for the site.

The position of Nazeingbury between Verulamium, Camulodunum and Londinium, on the border of Essex and Hertfordshire, a border which may also have divided the Catuvellauni and the Trinovantes, with Harlow and Braughing to the north, makes the material of particular interest.

Ditches 16, 14 and 11, with the gullies 17 and 18 were apparently all filled by silt and domestic rubbish by the mid-1st century AD, perhaps by the Conquest. Gully 18 and pit F32 are the only features with a high proportion of pre-Belgic pottery. Ditch 11 contained a little Roman greyware, but this was of fine quality and could have been imported before the Conquest. The main concentration of Romano-British pottery was in the area of the sub-enclosure C, and this seems to indicate a move eastwards of domestic occupation early in the Roman period.

The pre-Flavian samian ware (see below) in ditch 6 is accompanied by a high proportion of native wares (Fig. 10) and this, together with the presence of an almost complete beaker, no. 160, suggests that ditch 6 was dug before the sub-enclosure C (ditches 1 and 2); the presence of mid-2nd century sherds probably implies a clearing out which was not evident on excavation. The large piece of fragile girth beaker, no. 174, low down in ditch 12, confirms the suggestion that ditches 6 and 12 were dug at the same time (see B8, Phase 3); the higher proportion of native wares in ditch 12 can be explained as residual from the overlapping of ditch 11. Ditches 1, 2, 4, 5, 6E, 8 and 10 and pits 1 and 9, all contained mid-2nd century pottery, ditches 1, 2, 8 and 10 having a greater proportion of earlier and native ware than the others (see Histogram, Fig. 10).

Ditch 15 designates the upper part of ditch 12 and contained 3rd and 4th century pottery. Ditch 13 was probably a re-cutting of ditch 5 contemporary with ditch 15.

Saxon pottery was mainly found in the fill of graves, grass or chaff-tempered ware predominating. Although Iron Age and some R-B sherds, derived from the settlement which the cemetery overlay, was also found in the graves, they were outnumbered by the Saxon material.

Only pit 10 post-dates the cemetery if the evidence of a single sherd of shelly ware (Fig. 20/297) can be relied upon. This ware was entirely missing from the cemetery area although it is common in the period after c. AD 850 in Essex. Pit 10 is outside the cemetery area and represents the only feature of this period, probably 9th-10th century.

The area is known to have been used for cultivation and meadowland from at least the 11th century until the nursery development of the 20th century, and this is borne out by an almost total lack of medieval and later pottery.

The Iron Age pottery is typical of domestic sites in Essex and Hertfordshire with all the pottery

fired in primitive reducing kilns but almost half being very skilfully wheel thrown. There is nothing to suggest that the two types of ware are not contemporary, indeed the rougher hand-made wares appear to continue in use into the Roman period while the wheel-thrown wares are superseded by the better Roman greywares.

The practice of boring holes in pots after firing, usually in the base but also in the sides, was common as on other Belgic sites. The practice is not confined to any particular type of pot but was evident on any moderate sized jar. These pots with holes imply some specific and widespread use which is not yet understood. No pots had holes made before firing and it might be thought that the potters were not in direct contact with their customers and were not aware of their needs. If the pots were made near at hand surely some pots would have been made with holes cut before firing, a much easier process, to meet this need. Amphora sherds are sometimes rounded and bored with a central hole (App. 5/1).

In the Romano-British period the community was able to benefit from the new culture, acquiring all the new range of table and cooking ware but continuing to use some traditional forms; the shelly ware bowls and large storage jars continued in use into the 2nd century. It should perhaps be remembered that kitchens and cooking are usually a female area of activity, while the Roman, and possibly the Belgic, invasions were mainly a change of male domination. It is not surprising therefore that kitchen equipment shows a gradual change. In the Saxon period however a total change of population is suggested when all Roman types of pot disappear.

FABRICS

Pre-Belgic Iron Age
GRASS-TEMPERED: Black ware with cavities of grass or chaff temper fired out, smooth brown/grey surface, handmade; it closely resembles the Saxon fabric. Two sherds were from pit 16 (nos. 1 and 2); a single sherd of harder ware with sand and some grass tempering, bored with a small hole, was found in ditch 11. The fabric is dated on analogy with Little Waltham, near Chelmsford, to middle Iron Age (Drury, P. J., CBA Research Rep. forthcoming).

GRIT-TEMPERED: Brownish/grey with white angular grits, probably flint fragments, giving a rough surface. A small quantity was found in the Iron Age ditches, often in the lowest fill. The only rim (no. 3) was found in 'pit' F32, at the W corner of enclosure B, which was cut by gully 17.

'Belgic' Iron Age
FABRIC (a) Wheel-thrown, fairly thick greyish ware often tempered with small black specks of 'grog', smooth grey or black surfaces, with occasional red patches. This is a common fabric in Essex, Herts. and N. Kent, the black 'grog' specks being distinctive (information from Isobel Thompson). Forms are usually medium sized jars with small turned bases (Hawkes and Hull, 1947). Three types can be distinguished:
1. Plain undecorated vessels (nos. 8, 10, 14, 20, 21, 22, 31, 35-9).
2. Vessels with cordons, usually a single band below the neck, nos. 23 and 24 are typical, and the butt beaker no. 9 can be included in this type.
3. Deeply grooved vessels giving a wavy profile, the grooving is restricted to the upper half of the vessel (nos. 6, 27, 28, 29 and 35).

FABRIC (b) Handmade, black, sand tempered; forms are of simple profile, medium size pots more upright than (a) with flat small bases. Rims are sometimes burnished and their neatness may be due to some work on the wheel. Three types are noted:
1. Decorated, only three examples occurred, sherds nos. 25 and 26 with burnished decoration reminiscent of the pre-Belgic Northamptonshire bowls (Harding, 1974, Fig. 69); and the third, no. 34, with a row of stabbing, perhaps with a birdbone, and rough scoring emanating from these marks down the body; (see Wheathampstead; Wheeler, 1936, Pl. LI, nos. 18/19; he regarded the series as prior to c. BC 10).

2. Plain vessels (no. 30). Continued into the Roman period.

3. Vessels with well made smooth rims, rough horizontal rilling on the shoulder, the lower part roughly finished outside (nos. 12 and 33). This is a common type in Essex and Herts. None was identifiable in Roman features.

FABRIC (c) Coarse reddish fabric with grey patches, red 'grog' particles and sand temper, smooth surfaces. Large storage vessels. The bases are small and flat with rough marking. Four types are distinguished:

1. 'Belgic' wavy pattern incised on the shoulder and rough scoring below (no. 16).

2. Romano-British jars have a neater wavy pattern on the shoulder, and rough grooving on the body.

3. R-B criss-cross combing (nos. 107 and 206).

4. R-B rough decoration made by stabbing with a toothed tool or comb like that used for (c)3 (no. 50).

FABRIC (d) Wheel made, reddish sand-tempered fabric, either plain or with incised linear decoration of varying neatness (no. 18). The forms are intermediate in size between (a) and (c).

FABRIC (e) Grey or black fabric with shell temper, probably handmade in the 'Belgic' period. The only form of vessel is a simple bowl with flat base and inturned rim (nos. 11, 15 and 40-2). The ware continues in the R-B period with slight changes of rim form (nos. 118-20 and 163-5 illustrate the 1st century development, nos. 291 a-g show a 2nd century group). Similar bowls occur in sand-tempered black ware in R-B contexts (nos. 52-7).

Romano-British (see (b)2, (c)2-4, (e) above)

FABRIC (f) Greyware, wheel made, well fired in a controlled kiln with a wide range of forms: pots, jars, bowls, platters, lids. Jars frequently have a band of burnished decoration in a shoulder band, sometimes a black slip is applied outside and, in the 2nd century, a white slip is used. Many parallels can be found in Verulamium (Wheeler, 1936 and Frere, 1972); Camulodunum (Hawkes & Hull, 1947); Londinium (Sheldon, 1974; Marsden, 1975); Enfield (Gentry, 1977); Highgate (Brown & Sheldon, 1974).

FABRIC (g) Buffware, from R-B features only. Mortaria and flagons are the most common forms with some jars. No. 136 has a mark of the Brockley Hill potter 'Lallaius' (identified by K. Hartley). The flagon, no. 46, has flaking holes in the sides similar to flagons at Verulamium, this is probably a failure in technique. In the 2nd-century pit 1, buffwares range from a creamy white fine ware, possibly from Colchester, and a soft chalky white ware through several shades of buff to a fine hard pinkish, and a fine red ware with white slip, the latter probably imitates a buff ware.

FABRIC (h) Thin fine red ware. Two sherds of a fairly hard thin red ware (no. 13) were found in ditch 14 which contained only Iron Age pottery, the sherds came from the shoulder of a flagon or beaker and were stamped. No parallel has been found, but the ware did not occur in R-B features. A softer redware, sometimes, pinkish with simple stamping or rouletting decoration did occur in R-B features (nos. 103, 104, 140, 195, 218A); this was possibly imported.

FABRIC (j) Thick sandy ware, buff with greyish core. Amphorae with two rounded handles and pointed base (no. 147). One handle had a stamp identified by K. Hartley as Spanish (see below). Sherds occurred in the Iron Age ditch 11 and from R-B features including the 2nd-century pit 1, but such vessels would have a long life.

FABRIC (k) 'London' ware, a fine pinkish or grey ware, deeply stamped with concentric circles and intricate patterns (nos. 101 and 215-7).

Not every pot can be assigned with certainty to these categories, beakers particularly are in widely different fabrics; these are described in the text. Third and 4th century wares were not numerous; black-coated buffware, probably from the Nene Valley, occurred and there was one black-coated red ware rim, no. 185, and sherds of Much Hadham ware, similar to the larger group found at Sewardstone 9 km. south in the Lea Valley (Huggins, 1978), occurred with Oxfordshire redwares.

Saxon

GRASS TEMPERED: Black, occasionally with one red surface usually outside and cavities of grass or chaff, handmade. The fabric is like the Middle Iron Age fabric and the rim forms are simple, unfortunately too few were found at Nazeingbury to make any classification. The fabric was the most common one found in the Middle Saxon graves and was not found in Belgic features (nos. 291-6). Sand is sometimes present in the temper.

GRIT TEMPERED: A few black sherds with brownish surfaces were found in the graves, the grits are small and rounded and give a sandpaper effect. Similar sherds have been found in Saxon contexts at Waltham Abbey and elsewhere but insufficient has been found to make a secure dating possible.

SHELL TEMPERED: The only sherd of handmade greyware with pinkish surface was found in pit 10 some way from the cemetery area (see no. 297). The fabric is common in the area after AD 850.

DECORATED SAMIAN by G. B. DANNELL

Bowl rim form 37 (Fig. 18/214). Rogers (1974) ovolo B 14, used by his potter X-13, and SACER, for whom see the small vine-leaf and border (cf. Stanfield & Simpson, 1958, Pl. 83·5), c. AD 120-145. Lezoux. From Pit 1, J2.

Sherd of bowl form 37 (Fig. 18/214A), style of Potter X-6 (Stanfield & Simpson, 1958, Pls. 74-6). The ovolo is probably Rogers (1974) B 230, and the fragment of decoration left, looks like the hair from the bust on Stanfield & Simpson, (1958), Pl. 75.18, c. AD 120-145, Lezoux. From Pit 1, J1.

TABLE 4. NAZEINGBURY, ESSEX, 1975-6. SAMIAN POTTERY (identified by G. Dannell)

Feature	Description	Form	Origin	Date
Pit 1	Rim & base	18	S. Gaul	Pre-Flavian
	Base stamp (5)	27	Martres-de-Veyre	AD 100-125
	Rim	27	S. Gaul	
	3 rims	33	Martres-de-Veyre	AD 110-135
	2 rims + 2 sherds	?	S. Gaul	late 1st/2nd century
	Base stamp (3)	33	Martres-de-Veyre?	AD 110-135
	Rim, decorated	37	Lezoux	AD 120-145
	Sherd, decorated	37	Lezoux	AD 120-145
Ditch 6	cup	24/25		Claudian
	rim	35/36	S. Gaul	1st century
	stamp (4)	24?		Tiberio-Claudian
Ditch 6E	2 rims	18	S. Gaul	Pre-Flavian
	1 rim	27	S. Gaul	Flavian (like pit 1)
	1 rim		Central Gaul	Hadrianic
	1 rim	35	?	1st/2nd century
Ditch 1	Base, v. worn + sherd	27?	Martres-de-Veyre	Flavian
Ditch 4	Rim, unrouletted	29?		Pre-Flavian
Pit 6	Sherd			?Claudian
Unstrat.	Large rim		S. Gaul	late 1st/early 2nd century
	Collar stamp (1)	44	Lezoux	AD 135-160
	Base stamp (2)	31	Lezoux	AD 125-145

Also found were: Ditch 2:   1 sherd in fair condition from bottom of ditch.
Ditch 4:   Worn rim, base and 2 sherds unidentified.
Ditch 11: Very small sherd from top of ditch, thin good quality.

SAMIAN STAMPS by BRENDA M. DICKINSON

1. Marcellus iii 8a on form 44 or 44/81 (stamped on collar) [MARCELLVS·F. This stamp is known from Maryport and on forms 15/31, 18/31 and 18/31R. Marcellus iii was a Lezoux potter, whose stamps occur in Hadrianic-Antonine contexts there. His stamps also appear on Hadrian's Wall, at Mumrills, Newstead and in the Antonine fire at Verulamium. He made form 27 and, occasionally, 79, 79R and 80. c. AD 135-160. Found after machine scraping ditch 12.

2. Secundinus iii 3a on form 31, [SECVNDINIM. A stamp of the earliest Lezoux Secundinus, though it occurs neither there nor in a dated context. However, one of his stamps is known from the Saalburg Erdkastell and on a decorated bowl of form 37 from Nursling, with decoration typical of the Hadrianic-Antonine period. These, and his frequent use of form 27, suggest a date c. AD 125-145. Unstratified, found near ditch 12.

3. Tasgillus ii 2b on form 33, TASGILLVS·F]. Tasgillus was one of the potters who moved from Les Martres-de-Veyre to Lezoux. This stamp is known at Lezoux, but was possibly used at Les Martres too. It appears on forms 18/31, 18/31R, 27 and 33, and is known from Birdoswald and Hadrian's Wall (Turret 52A). Other stamps of his occur at Camelon and on form 29 (stamped, after moulding, under the base). His main activity was probably at Les Martres, and a likely date is AD 110-135. From Pit 1, loam fill, J2.

4. Volus 6d on form 24 (?) [VOLVS. The attribution is tentative, but if the stamp indeed belongs to Volus, it can be dated to the Tiberio-Claudian period, in view of his use of forms Dragendorff 11, Loeschcke 11, Ritt.5 and Dr.29, with early decoration; c. AD 40-50. From ditch 6.

5. Unidentified, on form 27 *CENI*. As the fabric is that of Les Martres-de-Veyre, this is possibly a stamp of Genialis iii, but it may equally well be illiterate; c. AD 100-125. From Pit 1, loam fill, J2.

MORTARIUM STAMP by KATHARINE F. HARTLEY

Fig. 16/136. A flange fragment from a mortarium in cream fabric. The retrograde potter's stamp gives Lallaius in complete impressions. Lallaius worked at Brockley Hill, Middx. where twenty-seven of his stamps have been found and sixteen other stamps have been noted from other sites throughout England and Wales. A stamp of his was found at Verulamium in a deposit dated AD 90-105 (Frere, 1972, 376, no. 24). The rim-forms fit well with manufacture within the period AD 90-130 and this example is unlikely to be earlier than AD 100. This stamp has often been published as Lallans but Professor Kenneth Jackson considers that Lallaius is the more probable reading. Ditch 6E.

AMPHORA STAMP by KATHARINE F. HARTLEY

Figs. 16/147 and 24/11. This is a handle from one of the large globular amphorae commonly found in Britain which were made in the Guadalquivir region of the province of Baetica in southern Spain and probably used for oil. Along the handle is an incompletely impressed stamp of Q. A. GEMELLI (Callender, 1965, Fig. 14, no. 10 and p. 219-220 no. 1417). An amphora of his, recorded from Windisch would have been made before AD 105 when the site was abandoned. Ditch 6E.

HISTOGRAMS (FIG. 10)

Pottery from features with over 70 sherds have been shown as percentages of the total in each feature for fabrics (a) to (g), with the object of obtaining an overall picture. A small percentage of unusual fabrics accounts for the remainder. It will be seen from these that the two Iron Age ditches 11 and 14 have almost equal proportions of (a) and (b), the R-B (f) forming only a tiny percentage in ditch 11. In R-B features (a) disappears, (b) continues as a small percentage together with (c) and (e) but (f) reaches 50% in ditches 1, 2, 5 and 6, dug in the 1st century AD, and over 70% in ditches 4 and 6E and pit 1, dug in the 2nd century AD.
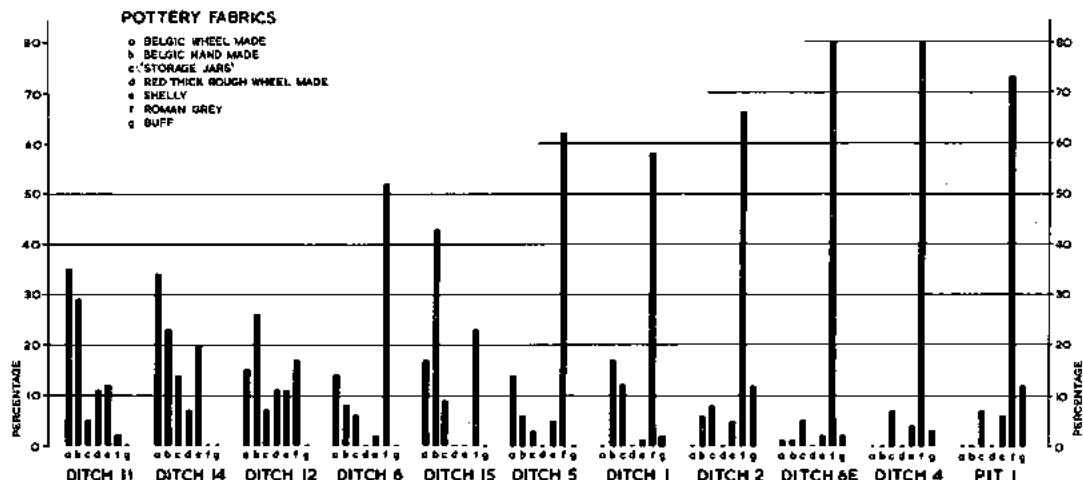
FIG. 10. NAZEINGBURY, ESSEX, 1975-6
Histogram showing pottery fabrics a to g in selected features.

FIG. 11. POTTERY FROM PITS 16 AND F32, GULLY 17 AND DITCH 14; 1-3 PRE-BELGIC, 4-15 BELGIC

Pit 16

1. Large potsherd, rough handmade ware with grass/chaff temper, black core, grey/brown patches outside, inside caked with brown deposit flaking off from burnt surface. Probably Middle Iron Age (information from W. J. Rodwell).
2. Smaller pot rim of similar fabric to 1 and found with it.

Pit F32

3. Rim of uncertain diameter, greyish brown ware with angular grit temper of varying size giving rough surfaces. Probably pre-Belgic.
4. Rim and sherd of black sandy ware, roughly grooved on shoulder.

Gully 17

5. Wheelmade dark grey fabric, sand temper.
6. Black with sand and black grog temper; (compare no. 35).

Ditch 14

7. Black, burnished outside.
8. Black, smooth outer surface.
9. Grey core, reddish, smooth outer surface slightly blackened, inner surface rough, moulded band on shoulder, butt beaker; (Wheeler, 1936, Fig. 14/31d; in Britain characteristic of *c.* AD 1-45).
10. Blackware, burnished outside.
11. Black, shell tempered.
12. Dark grey ware, black surfaces with brown patches, rough grooving on shoulder, lower part roughened deliberately, rim burnished outside, possibly finished on a wheel but probably coil made; type (b)3, several rims of this type were found. Bases often have holes pierced after firing; (Rook, 1968, Fig. V; Wheeler, 1936, Figs. 19 and 20, type 61).
13. Two sherds of fine red ware, stamped diagonal pattern.
14. Black with smooth surface.
15. Black shelly ware.
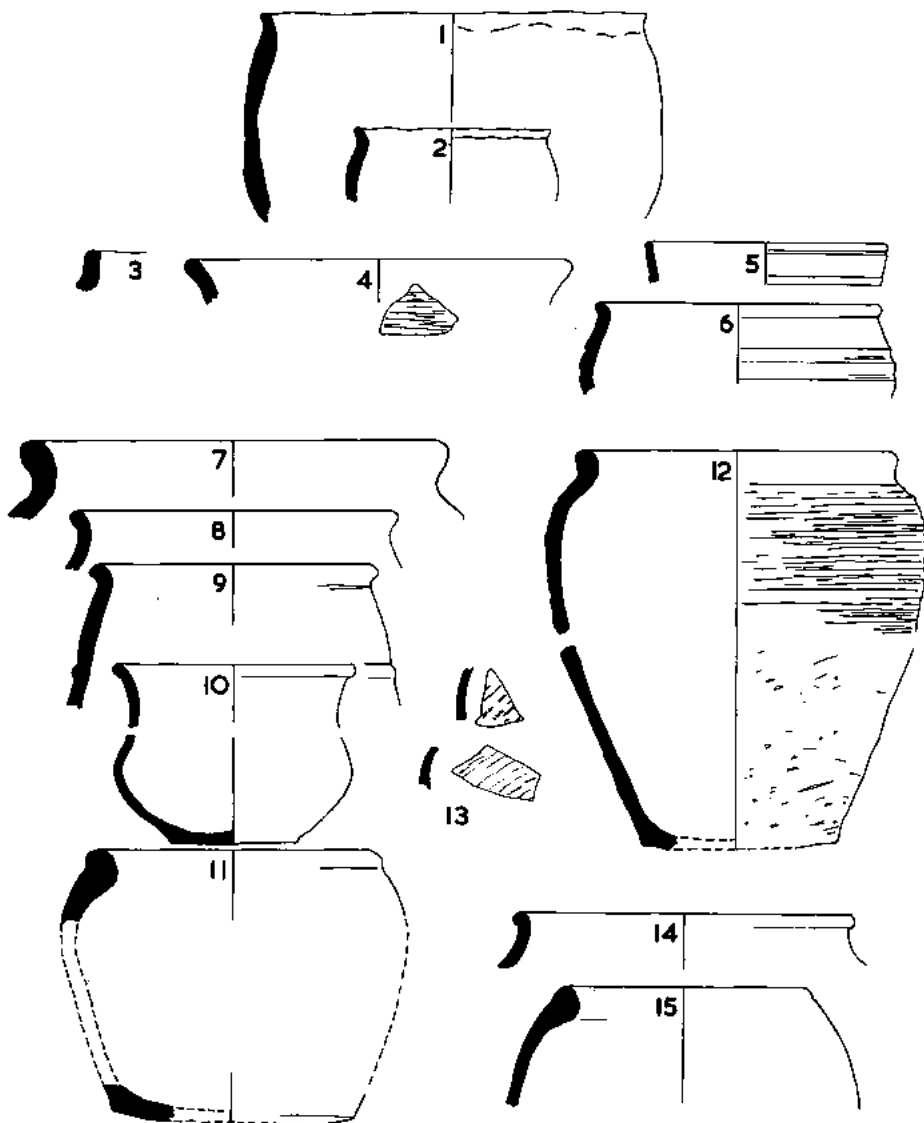
FIG. 11. NAZEINGBURY, ESSEX, 1975-6
Pottery from pits 16 and F32, gully 17 and ditch 14; 1-3 pre-Belgic, 4-15 Belgic. Sc.1/4

FIG. 12. POTTERY FROM DITCH 11. ALL BELGIC

16.   Fabric (c), red surfaces with thick grey core, black specks, fairly rough, wavy pattern lightly
       burnished on shoulder, partly blackened, lower pattern made with different tool; base 13 cm.
       dia. also found, flat, and another rim with similar decoration were found in ditch 6; (Rook, 1968,
       Fig. VIII/11A; Wheeler, 1936, Figs. 18 and 19 type 60).

17.   Storage jar, reddish grey fabric, worn black surfaces. 3 fragments of similar rims came from
       different parts of the ditch.
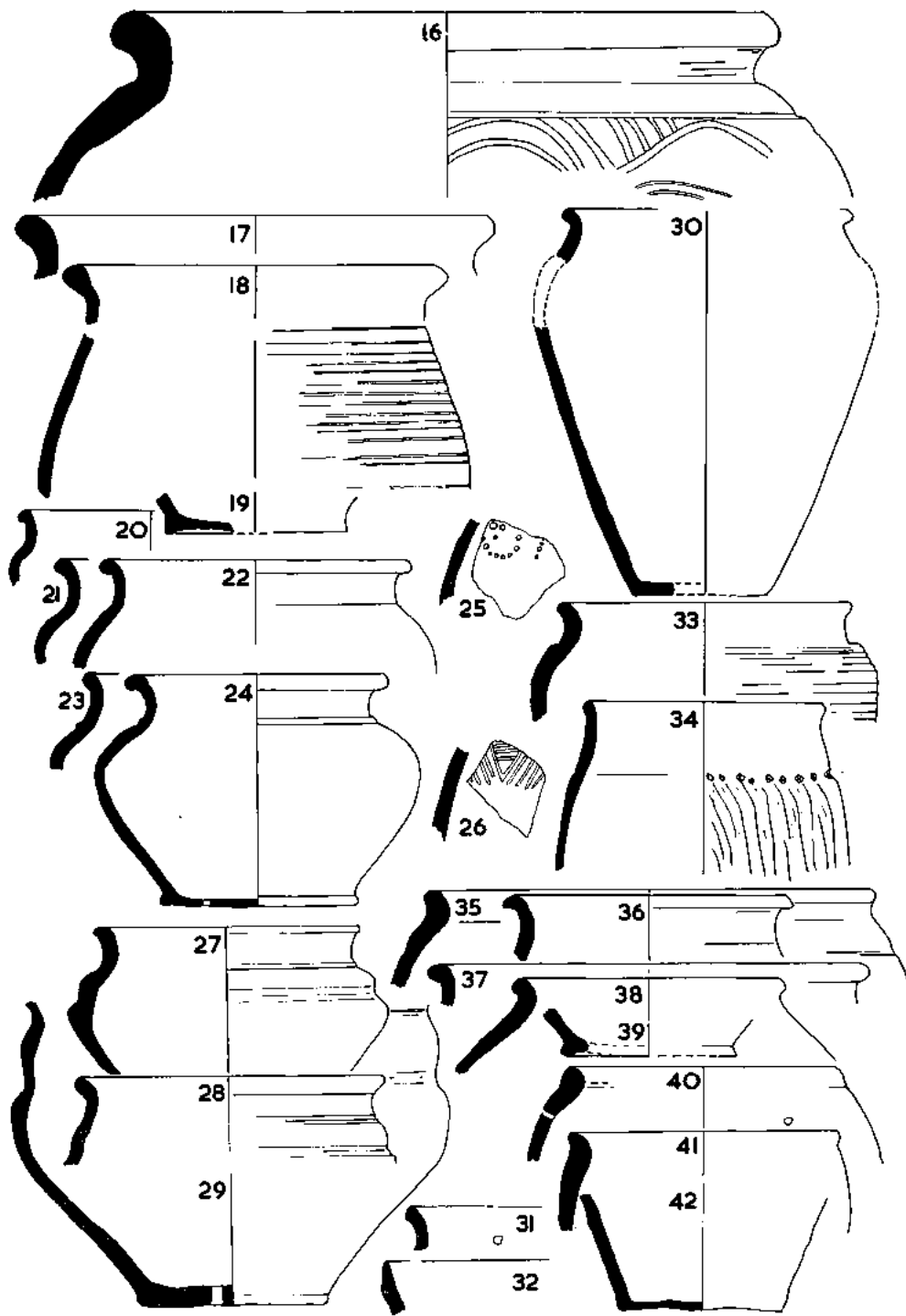
FIG. 12. NAZEINGBURY, ESSEX, 1975-6
Pottery from ditch 11. All Belgic. Sc. 1/4

18 & 19.Coarse redware, slightly blackened inside and worn, neat incised lines on body.

20-22. Brownish/grey ware, grog flecks in temper, smooth surfaces; (Highgate phase 1, AD 50-60; Brown and Sheldon, 1974, 225).

23 & 24.Black sandy ware, with shoulder cordon, no. 24 was almost complete with 4 holes bored in the base, surface reddened; (Rook, 1968, Fig. V/A).

25 & 26.Body sherds of different vessels, 25 was brownish with smooth outer surface, 26 blacker with dark grey surfaces, both patterns could have been made with the same tool and are lightly impressed.

27-29. Pots with heavy cordoning on the upper part, black fabric, tempered with black 'grog' specks, or vegetable particles which burn out leaving cavities; (Wheeler, 1936, Fig. 17/51; Birchall, 1965, Fig. 19/165). This type is perhaps more common in Essex than Hertfordshire.

30.   Redware with grey core, worn black surfaces show red on both sides.

31.   Dark grey sandy ware with black surfaces; hole bored in side.

32.   Rim of uncertain diameter, reddish ware with rough sandy surfaces, unusual fabric.

33.   Fabric (b)3 with rough shoulder grooving; (see no. 12).

34.   Handmade, sand tempered, black ware, with row of impressions stabbed on shoulder with vertical lines emanating from the marks downwards; (Rodwell, 1976, Fig. 16/16).

35-39. Greyish/black ware, grey core with black grog specks.

40.   Rim with hole bored in side, black coarse fabric with some shell temper.

41 & 42.Similar fabric to 40, rough inside, smooth outside.

FIG. 13.   POTTERY FROM DITCHES 1 AND 2. ROMANO-BRITISH

Buffware (g)

43.   Mortarium, white grits inside; (Frere, 1972, Fig. 102, AD 49-60).

44-46. Flagons; (Frere, 1972, Fig. 102/109, AD 60-75).

47.   Flagon with small handle.

Coarse redware (c)

48-50. Storage jars, pattern stabbed with comb? diagonally.

Black sandy ware (b)

51.   Complete pot, sand and shell temper, carbonised under rim outside.

Coarse grey sand-tempered ware

52-55. Pots with slight out-turned rim.

56.   Shoulder of pot with incised decoration (Sheldon, 1974, Fig. 29/210, Flavian-Trajanic).

57.   Pot with inturned rim.

58.   Complete upper part of pot with oval stab marks.

59.   Complete lower part of pot, 5 holes bored in base.

60 & 61.Lid and large part of pot in identical fabric, fine sandy surface, light grey core and reddish margins, unlike rest of post in this group.

Shell-tempered ware

62-66. Fabric (e), dark grey with occasional patches of red.

FIG. 14.   POTTERY FROM DITCHES 1 AND 2. ROMANO-BRITISH

Fine greyware

67-71. Pots with shoulder decoration. 67/8 have whitish slip, 70 is almost complete with three holes bored in base, tooling marks on lower half, 71 is black outside with more sand temper.
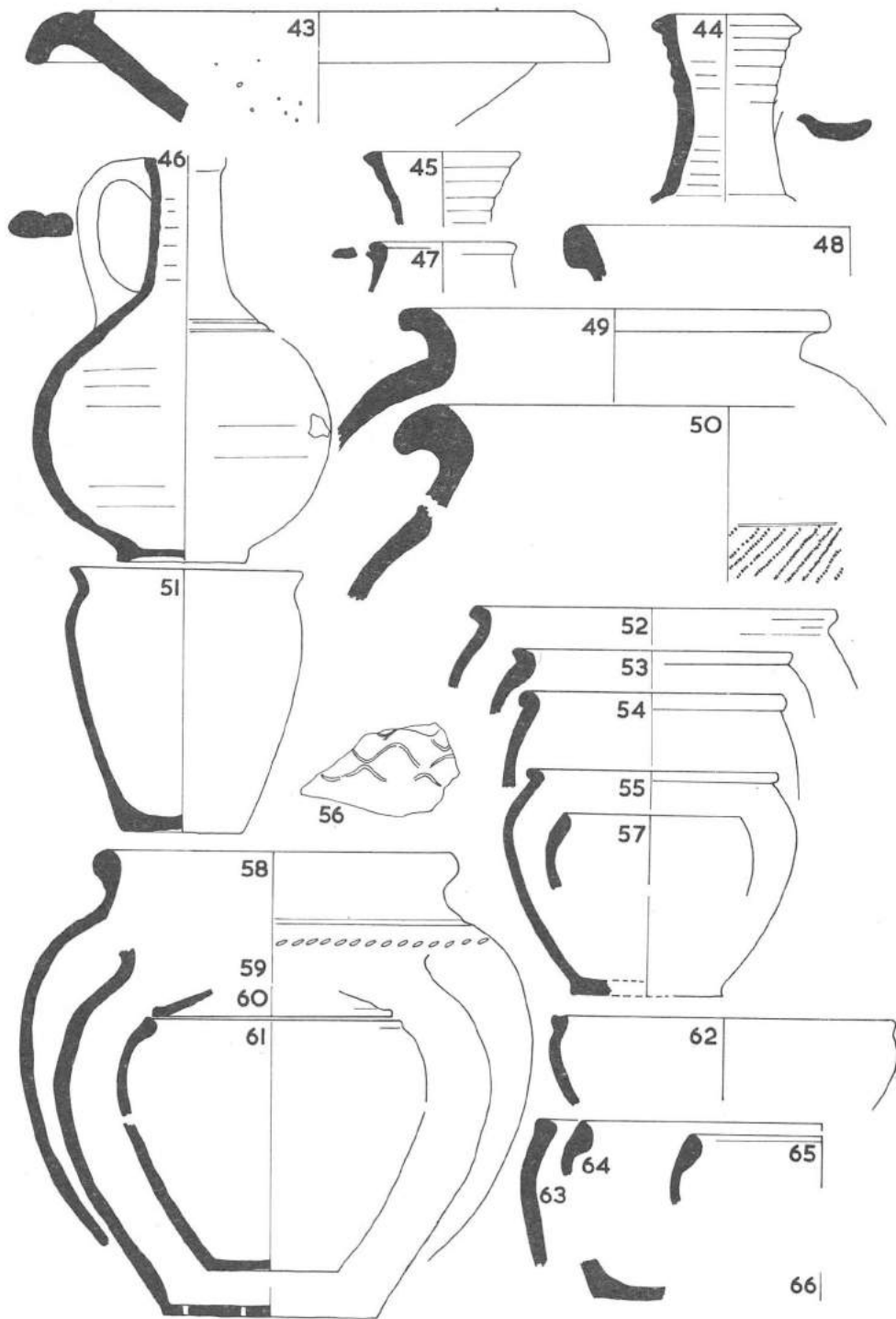
FIG. 13. NAZEINGBURY, ESSEX, 1975-6
Pottery from ditches 1 and 2 (see also Fig. 14). Sc.1/4

Sandy greyware

72-74.   Narrow necked jars: 74 is light greyware, 72-3 are native tradition in coarse black ware, 73 has black 'grog' specks.

75-76.   Simple rim pots, dark grey, 75 is sooted and 76 has red margins.

77-90.   77 and 80 have black 'grog' specks in the fabric, 85 is in soft orange fabric, 82-4 have reddish cores, 86 is dark reddish fabric and 87 has reddish surfaces.

Greyware

91-92.   Platters, 91 is slightly burnished inside, 92 has traces of black surfaces.

93.   Bowl rim of grey/brown ware, fine sand temper; (Highgate phase 2 or 3, AD 70-140; Brown and Sheldon, 1974, 227-30).

Beakers

94.   Possibly butt beaker base, sandy grey ware.

95-98.   Poppyhead beakers, fine dark grey ware, 98 is lighter colour, upper part has whitish slip with dark barbotine dots applied over it; (possibly Highgate Phase III, AD 100-140; *ibid,* 228-30).

99-100. Greyware bases.

101.   'London ware', soft orange-red ware with deeply stamped pattern; die no. R4.2 quadruple ring stamp (Rodwell, 1978, App. Group 2C and Fig. 7.5, 29).
         (Dr. W. J. Rodwell has examined the piece and knows of no parallel for this stamp; see also 215-7 below; *c.* AD 100-130).

102.   Base, hard ware with grey core, red margins and smooth black surfaces.

103.   Soft fine redware, rouletted pattern on shoulder.

104.   Soft fine redware, pedestal base (of a tazza?).

105.   Very worn base of dark orange ware with traces of red slip; Oxfordshire; (found in upper level of ditch above gravel).

FIG. 15.   POTTERY FROM DITCH 4

Buffware (g)

106.   Mortarium, slight pink core, few grits. (Marsden, 1975, Fig. 35/58, common 1st century, often Flavian).

Coarse redware (c)

107-8.   Storage jars with type 4 decoration (see Fabrics).

Coarse black ware (b)

109-117. Pots of various sizes, 103 and 107 have grog temper added to sand; some cavities in fabric indicate use of vegetable matter in temper.

Coarse shelly ware (e)

118-120. Bowls with inturned rims, fabric sometimes reddened.

Beakers

121.   Soft grey ware.

122.   Pinkish brown soft fabric, darkened under girth outside (similar fabric to 103 above).

123.   Base of similar fabric to 122, single hole bored in centre.

124.   Flanged rim bowl, soft grey ware; (Highgate Phase III/IV, AD 100-160; Brown and Sheldon, 1974, 228-30).

Platter

125.   Soft grey ware.

Bowl

126.   Greyware flanged rim with impressed stamp on rim.
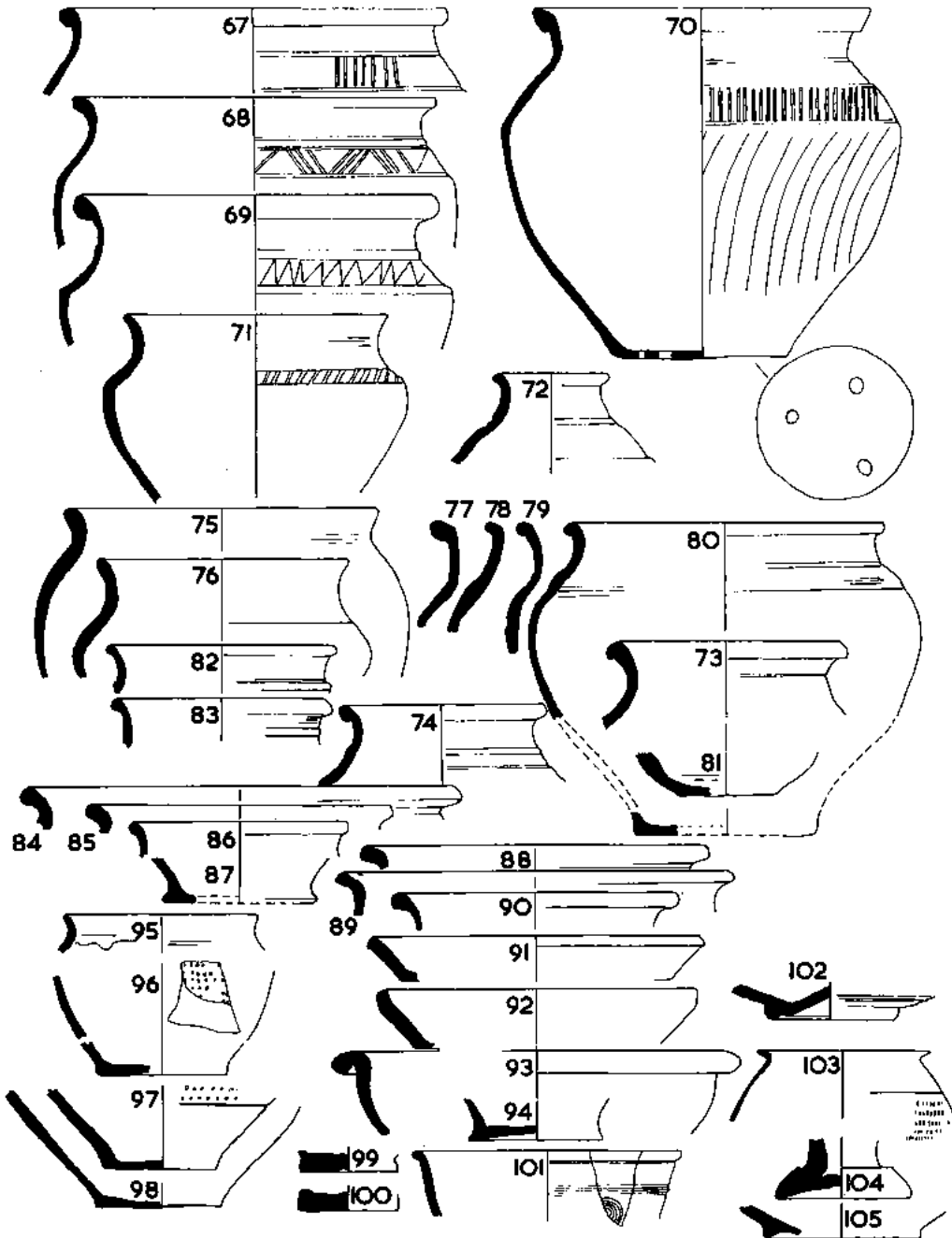
FIG. 14. NAZEINGBURY, ESSEX, 1975-6
Pottery from ditches 1 & 2 (see also Fig. 13). Sc. 1/4

Jars
127.   Greyware, lightly scribed pattern.
128.   Dark grey sandy ware, double incised band on neck.
129.   Coarse black fabric with slight cavities, burnished pattern.
130.   Soft grey sandy ware, cordon on neck.
131.   Reddish fabric with black surfaces.
132.   Soft pink fabric.
133.   Soft grey ware, slight cordon on neck.
134.   Pedestal base, soft greyware with dark buff surface.
135.   Sandy black ware, heavy wheelmarks inside base and lines incised outside.

FIG. 16.   POTTERY FROM DITCHES 6E (136-150) AND DITCH 6 (151-165)

Ditch 6E

Buffware (g)
136.   Mortarium with stamp of the Brockley Hill pottery 'Lallaius' (identified by Mrs. K. Hartley; *c.* AD 90-130).
137-8. Flasks, both sand tempered, 138 has some red grog in temper.
139.   Soft buff fabric with overall dark brown slip. Found in upper level of ditch, either an early import or Nene Valley ware of 4th century.

Redware (h)
140.   Bowl rim, red ware with dark brown surfaces, lightly stamped pattern.

Greyware (f)
141-2. Platters, 141 had black surfaces, 142 black outside.
143.   Cordoned and grooved pot.
144.   Redware with grey core.
145.   Narrow necked jar, sand tempered with black slip on upper part with burnished pattern.
146.   Cordoned pot, fine greyware.

Amphora (j)
147.   Rim and handle (one of two), coarse sand temper, orange buff ware often with greyish core; one handle has a stamp identified by Mrs. K. Hartley as Spanish (see above).
148-9. Cordoned pot rim and base of similar fabric, grey sandy ware.
150.   Shelly ware bowl.

Ditch 6

151.   Sherd of greyware poppyhead beaker, greyish barbotine dots on darker grey surface.

Buffware (g)
152.   Rim of small pot, light orange fabric.

Black sandy ware (a)
153.   Moulded rim of bowl (see 124).
154.   Girth sherd with cordon, possibly of carinated cup or pedestalled bowl; (Birchall, 1965, Fig. 26/219-220 from Essex); 'Belgic' (a) fabric with black and red specks in temper; residual.

Shelly ware (e)
155.   Red ware with shell fragments and cavities, band of impressed decoration; storage jar.

Greyware (f)
156 & 7. The lattice decoration of 157 is probably 2nd century, it does not appear at Verulamium before this.
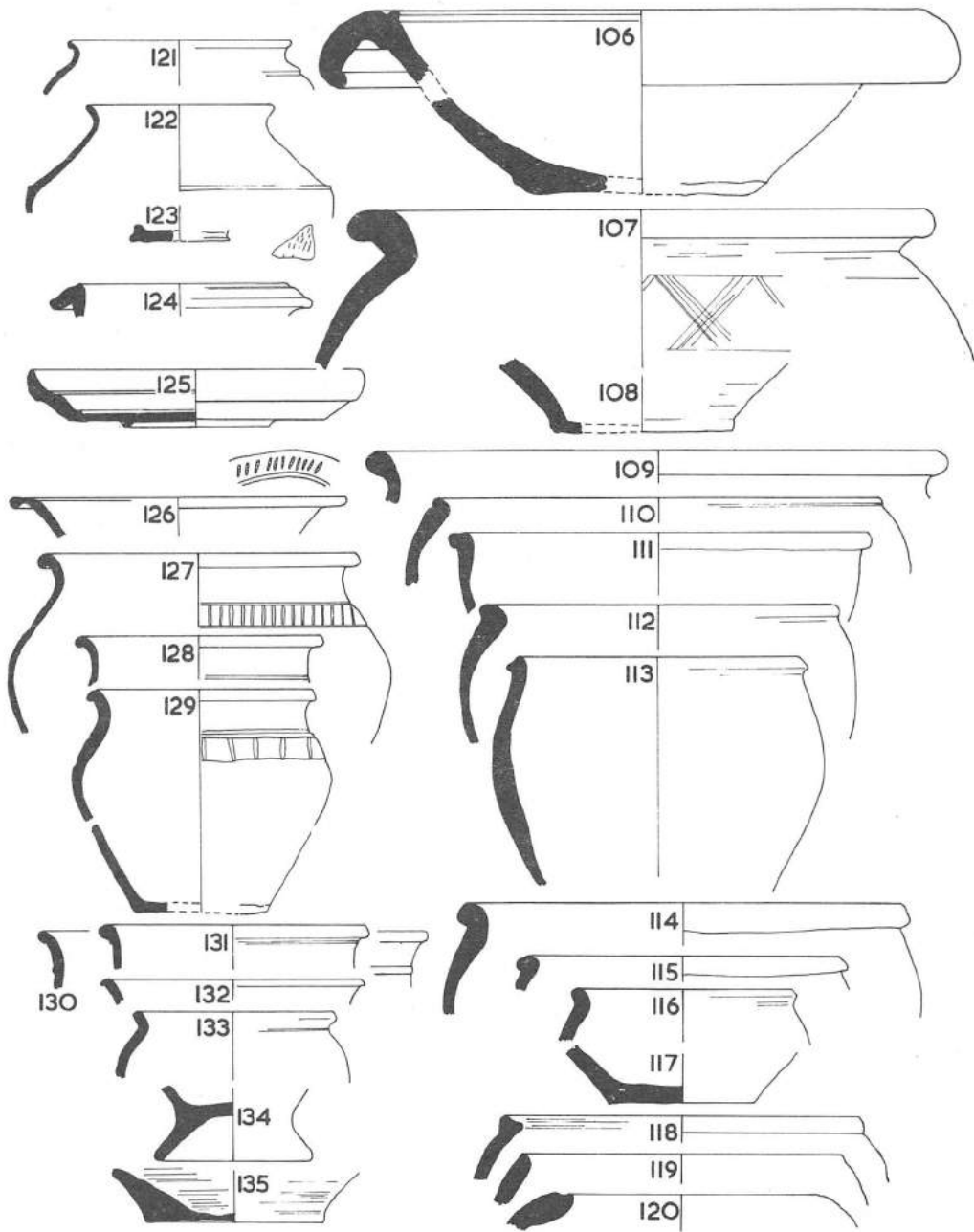
FIG. 15. NAZEINGBURY, ESSEX, 1975-6
Pottery from ditch 4. Sc.1/4

Bowl

158.   Light grey ware, black micaceous wash over both surfaces, perhaps imitating samian
           form 24/25 with different rim.

Beakers

159.   Greyware.
160.   Soft greyware, very fragile, almost complete vessel; (rim compares with Frere, 1972, Fig.
           101/69; at Verulamium, dated to before AD 60).

Grey sandyware

161-2.   162 has some shell in the temper.

Shelly ware

163-5.   Bowls with inturned rims, 164 has lid seating.

FIG. 17.   POTTERY FROM DITCHES 5, 8, 10, 12, 13, 15 AND PITS 7, 9

Ditch 5

166.   Poppyhead beaker with applied decoration over whitish slip, light greyware. (Highgate,
           Fig. 5/70 Phase III, AD 100-140; Brown and Sheldon, 1974, 228-30: see also Tyers, 1978,
           beakers from London).
167-171.   Greyware vessels.
172-3.   Shell tempered black ware, with sand temper including a stone.

Ditch 12

174.   Girth beaker, fine greyware with remains of black slip on upper half; (probably imitation
           of Gallo-Belgic form 82, Hawkes & Hull, 1947, Fig. 50/1, 1st half of 1st century AD).
175.   Beaker neck, light grey ware.
176.   Burnished blackware lid or base with incised zigzag.
177.   Bowl, grey fabric with black surfaces and burnished lattice pattern; (Frere, 1972, Fig.
           128/973, AD 150-160).
178.   Mica dusted dish, light grey fabric, black surfaces; similar slightly larger bowl was found in
           pit 6 (not illustrated).
179-80.   Light greyware vessels.
181.   Shelly blackware bowl.

Pit 7

182.   Redware with slight burnish outside, worn; (Much Hadham 3rd or 4th century; Huggins,
           1978, no. 72).

Ditch 8

183-4.   Sandy grey ware vessels; the rim form 183 is not seen at Verulamium until 2nd century;
           (Frere, 1972, Fig. 113/488); 184 has wire marks underneath, and is blackened.

Ditch 13

185.   Cup rim, fine redware with black coat outside, mid 2nd century.
186.   Bowl, greyware with dark grey surfaces.
187.   Greyware.

Ditch 15

188.   Light grey ware with dark burnish on rim and outside, worn. 3rd/4th century.
189.   Red sandy ware, darkened outside; possibly Much Hadham.
190.   Upright rim of red sandy ware, burnt outside.
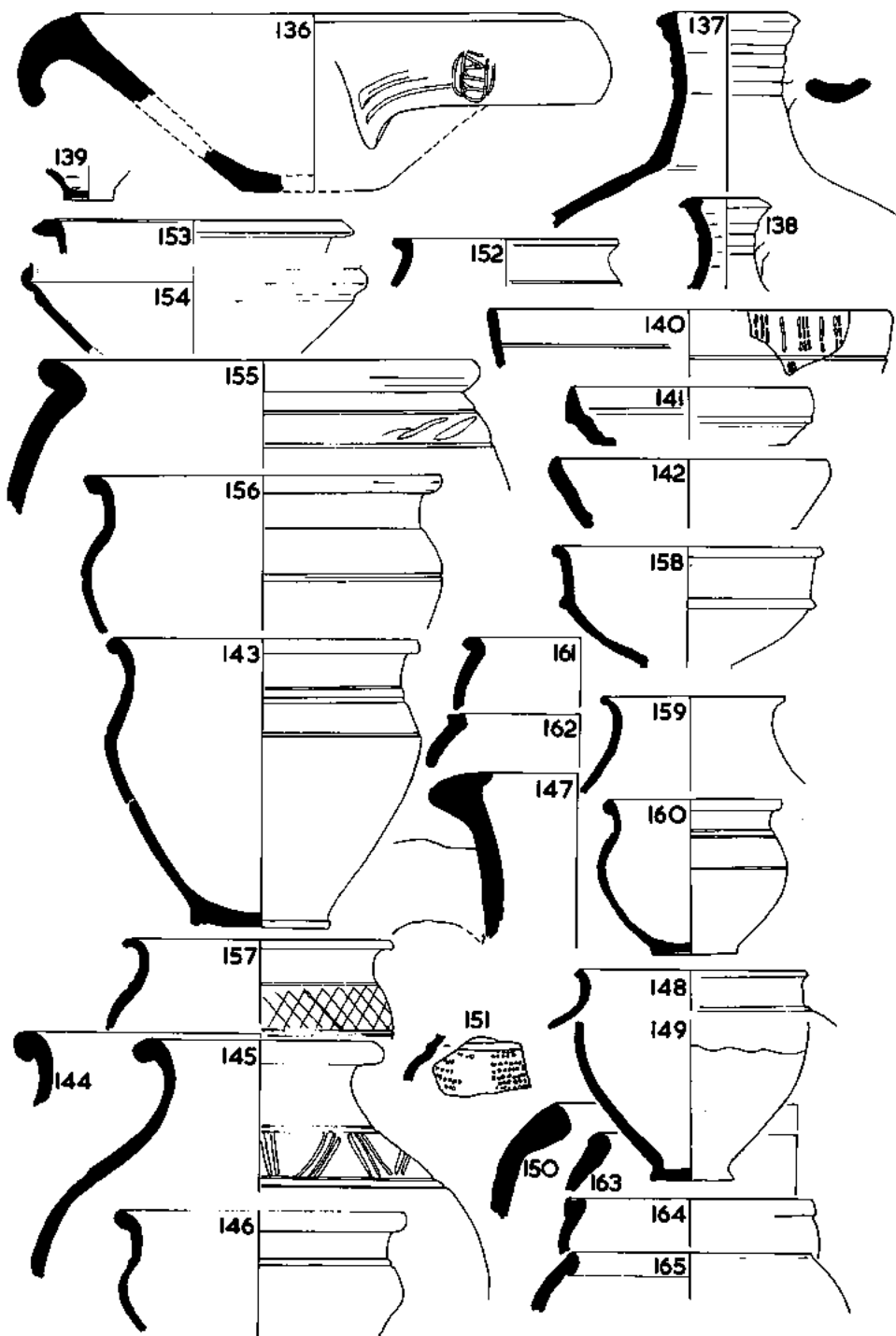
FIG. 16. NAZEINGBURY, ESSEX, 1975-6
Pottery from ditches 6E (136-150) and 6 (151-165). Sc.1/4

Ditch 10
191.   Rim of large blackware vessel.
192.   Buffware, grooved.
193.   Storage jar rim, fabric (c).

Pit 9
194.   Mortarium, pink fabric, buff surfaces outside, white red and black grit inside.
195.   Cup rim, pink fabric.
196.   Bowl, greyware sooted outside, burnished lattice decoration.
197.   Buffware with grey core.
198.   Light greyware.
199.   Greyware with black surfaces.
200-3.   Greyware, 201 & 202 have black slipped surfaces.

FIG. 18.   POTTERY FROM PIT 1 (J1-8 refer to strata on Fig. 3/K)

204.   J1.   Coarse brownish/grey fabric with red 'grog' temper; (Frere, 1972, Fig. 108/308,
                        AD 75-105).
205.   J6.   Rim of jar over 50 cm. dia., roughly made, reddish fabric like 204; (*ibid*,
                        Fig. 126/919).
206.   J2.   Lower part of jar with crisscross pattern inscribed with a toothed implement,
                        similar fabric to 204/5; (Wheeler, 1936, Fig. 27/14, *c.* AD 160-190).

Buffware (207-13)
207.   J2.   Moulded bowl/rim, orange sandy ware; (Frere, 1972, Fig. 106/213; AD 60-75).
208.   J6.   Dark buff sandy ware.
209.   J1.   Flagon, orange sandy fabric; (Frere, 1972, Fig. 122/798, AD 150-160).
210.   J2.   Flagon, like 209.
211-2.   J2.   Flagon handles, orange fabric like 209/10.
213.   J2.   Pink sandy fabric.
214.   J2.   Decorated samian bowl, rivetted; (see 'Decorated samian' for discussion).
214A.   J1.   Decorated samian bowl sherd (see 'Decorated samian').
215-7.   J2 & 6.   'London ware' bowl fragments, buff with grey core, pattern stamped after
                        making on wheel; (see also 101 above). Dr. W. J. Rodwell states: The rim sherd
                        has a single triple-ring stamp and part of a block stamp. The ring stamp is Die
                        no. R3.4 (Rodwell, 1978, App.) and occurs also at Chelmsford and Eastwood,
                        Essex. The block stamp is B19, it is very like Die B9 from Billericay. The
                        stamps on the sherds are Die R4.3 which occurs at London (Bank of England),
                        Canvey Island, Chelmsford and Chigwell. Dated *c.* AD 100-130. (See also
                        Drury, 1976, 116; Frere, 1972, Fig. 119/696; Wheeler, 1936, Fig. 31-35).
218.   J2.   Platter or lid, pink sandy ware.
218A.   J6.   Fine greyware with pink surfaces, rouletted decoration.

Coarse shelly ware (e)
219a-g.   J1, 2 & 8. Rims of dia. between 14 and 20 cm., grey fabric with brownish surfaces
                        occasionally blackened, h is a typical base.

Greyware
220/1.   J2 & 8.   Rim and base of tiny vessels, unguent jars?
222.   J6.   Poppyhead beaker, applied grey dots on black burnished surface, one sherd
                        had high black burnish, but most of the pot was dull; similar pot (Frere, 1972,
                        Fig. 123/837) occurred at Verulamium in a pit dated AD 150/160 together
                        with a pot (843) similar to pot 244 below; for London-type beakers, see Tyers
                        (1978), Dc/Dr = 1.1, Dr/H = 4.0.
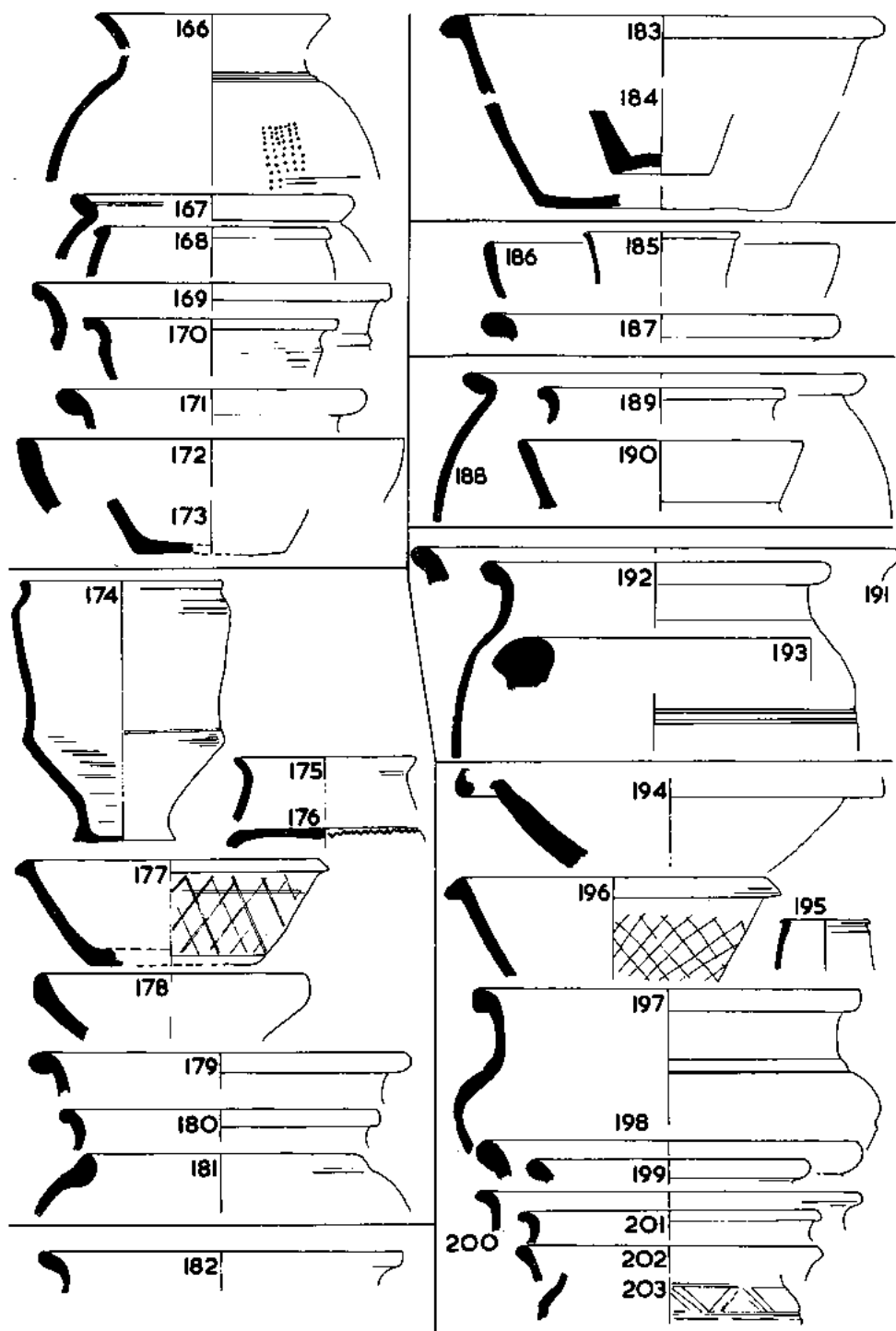
FIG. 17 NAZEINGBURY, ESSEX, 1975-6
Pottery from ditches 5 (166-173), 8 (183-4), 10 (191-3), 12 (174-181), 13 (185-7), 15 (188-190) and pits 7 (182) 9 (194-203). Sc.1/14

223.	J2.	Bowl, black burnished inside and upper part outside; imitates Dr.27 with different foot; (Hawkes & Hull, 1947, Pl. L/23A, 1st/2nd century).
224.	J2.	Bowl, dark surface outside; (Frere, 1972, Fig. 108/323, AD 75-105).
224A.	J6.	Sherd of light grey fabric with black surfaces, impressed pattern.
225.	J2.	Bowl with burnished lattice pattern. (*ibid*, Fig. 127, AD 150-160).
226-8.	J2 & 6.	Bowls, 226 and 228 are burnished outside.
229.	J2.	Dish, pinkish fabric with black burnished surfaces. (Hawkes & Hull, 1947, Pl. XLIX/16A).
230.	J6.	Dish with footring base, metallic burnish inside. (*ibid*, Pl. L/31A).
231.	J6.	Dark grey ware with black burnished surface, deeply incised grooves and wavy pattern on shoulder. The rim form and technique of decoration are both unusual and a parallel has not been found.
232.	J2.	Platter, greyware. (*ibid*, Pl. XLIX/2A).
233-6.	J2.	Platters, greyware either burnished or dark surfaces.
237.	J2.	Platter, light grey with dark surfaces; (Hawkes & Hull, 1947, Pl. L/24). The platter is like those found at Nazeingbury in 1936 (Hull, 1945, Fig. 2/4-5, dated Claudius-Nero).

FIG. 19.   POTTERY FROM PIT 1 (J1-8 refer to strata on Fig. 3/K)
(Greywares except where otherwise described)

238-40.	J2.	Flanged rim pots, sandy, 238 & 9 slightly reddish.
241-2.	J2 & 8.	Lids.
243a-f.	J1, 2 & 6.	Dia. between 12 and 14 cm., some brown or black surfaces.
244.	J6.	Almost complete pot, finely turned and finished, burnished pattern on shoulder; (see no. 222 above).
245.	J1.	Poppyhead beaker with diamond pattern of dots.
246.	J8.	Dark grey fabric, pattern impressed by square-toothed tool.
247-8.	J1 & 2.	Dark grey ware beakers.
249-50.	J2 & 6.	Beakers with dark surfaces, one burnished.
251-53.	J2 & 6.	Beakers with white slip outside.
254.	J2.	Lid with dark surfaces.
255-6.	J1 & 2.	Lids of reddish sandy ware, 255 has black surface.
257.	J2.	Lid knob.
258-60.	J1 & 2.	Lids.
261-3.	J2.	Pots with white slip outside and shoulder patterns.
264a-d.	J1 & 2.	Pots of dia. between 22 and 26 cm. with white slip outside.
265.	J9.	Greyish brown fabric, neck cordon.
266.	J1.	Sandy black ware with orange patch outside.
267.	J2.	Pot with grooved shoulder.
268.	J1 & 2.	Sandy black fabric, orange surface.
269-71.	J2 & 6.	Typical bases.
272a-d.	J1 & 2.	Rims of similar type and diameter.
273a-d.	J2.	Pots with burnished patterns on shoulder.
274-81.	J1, 2, & 6.	Pots with black slip and shoulder decoration.
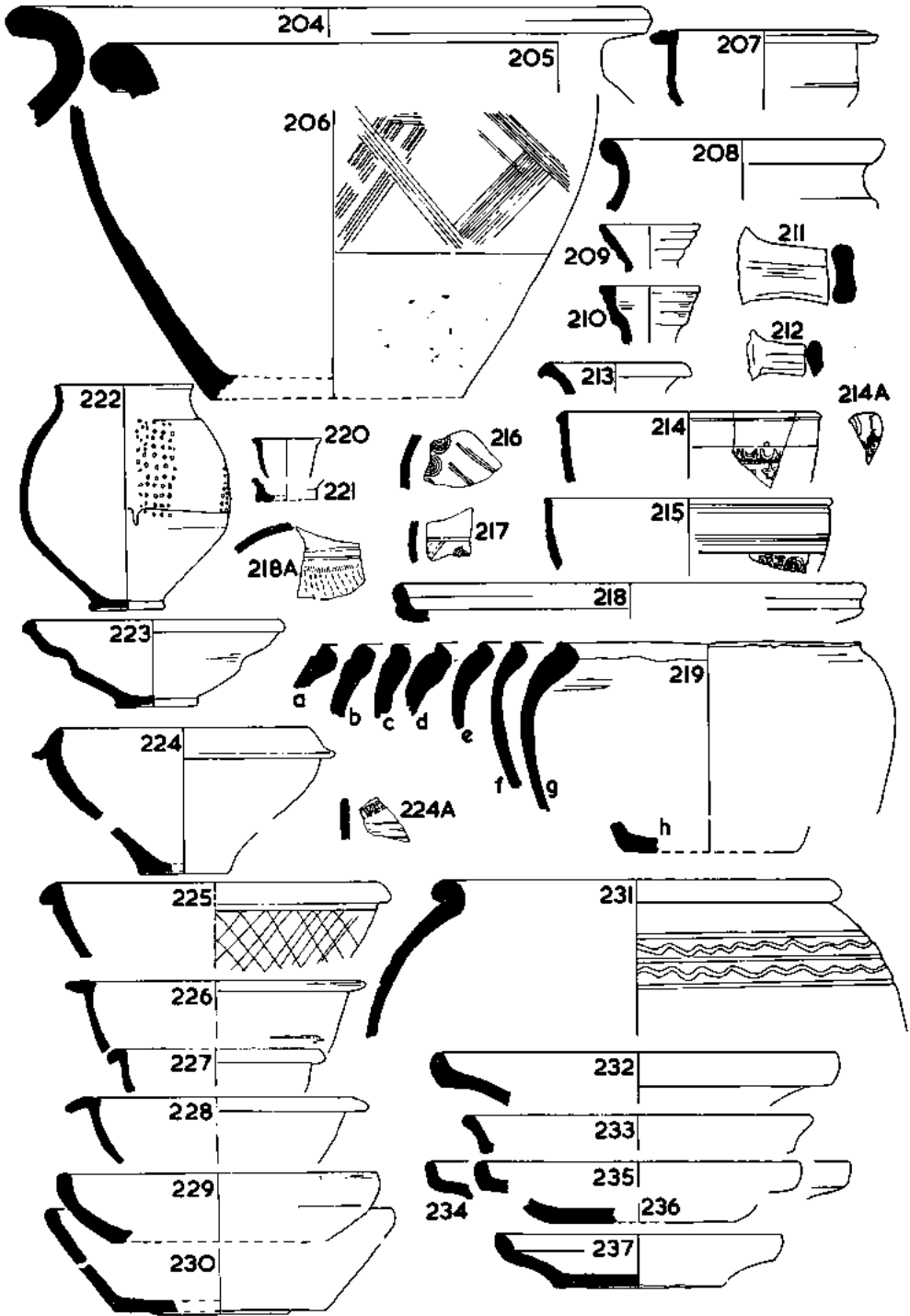
FIG. 18 NAZEINGBURY, ESSEX, 1975-6
Pottery from pit 1 (see also Fig. 19). Sc.1/4
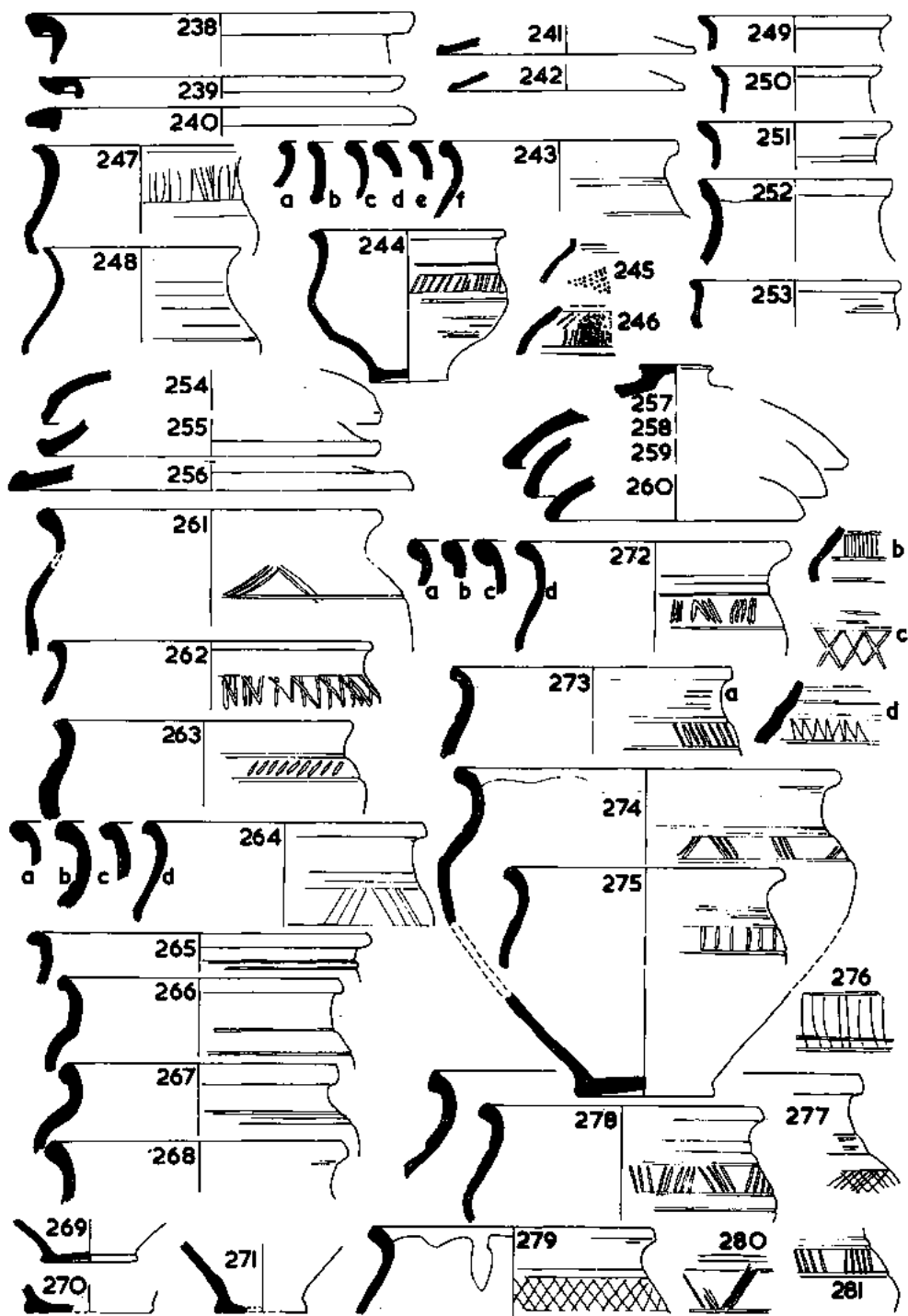
FIG. 19. NAZEINGBURY, ESSEX, 1975-6
Pottery from pit 1 (see also Fig. 18). Sc.1/4

FIG. 20.   POTTERY FROM MIDDLE SAXON GRAVES AND PIT 10

Fill of graves

282.   Grave 52: Rim of large pot, black surface, red outer margin, grey core with black specks. Belgic.

283.   Grave 52: Brownish fabric, grey core, sand temper giving a rough surface, wheel made. Late Roman.

284.   Grave 52: Rim of black fabric, sand tempered with rough surfaces, worn. Probably Belgic.

285.   Grave 78: Pinkish core, greyish surfaces, fine sand temper. Roman. .

286.   Grave 85: Base of grey ware, pinkish surfaces, partly blackened inside. Roman.

287-8.   Loam above graves or near graves 85-87: Much Hadham redware. Late Roman.

289.   Grave 20: Rim of fine reddish ware, wheelmade, with dark outside surfaces. Belgic or Roman.

290.   Grave 33: Rim with groove outside, wheelmade, black core, reddish surfaces. Late Roman.

291.   Grave 82: Black grass tempered ware, diameter probably larger than 293-6. Saxon.

292.   Grave 148: Neck sherd of very roughly made pot, black core, red outer surface, grey inside surface, grass temper. Saxon.

293.   Grave 75: Rim of small handmade pot, black ware, very soft, grass tempered. Saxon.

294.   Grave 70-3: Rim of pot, black sandy ware with some trace of grass temper, slight reddening of outer surface. Saxon.

295.   Grave 107: Rim of pot, black, grass tempered, very rough and soft ware. Saxon.

296.   Grave 27: Rim of less rounded type, black sandy ware, handmade with rough surface, reddish surface inside. Saxon?

From Pit 10

297.   Fragment of bowl rim with pierced handle, red shelly ware with grey core, handmade. 9/10th century AD. (Dunning, 1959, Fig. 15/5; this type of handle also occurs on Ipswich ware pots, *ibid*, Fig. 3/4).
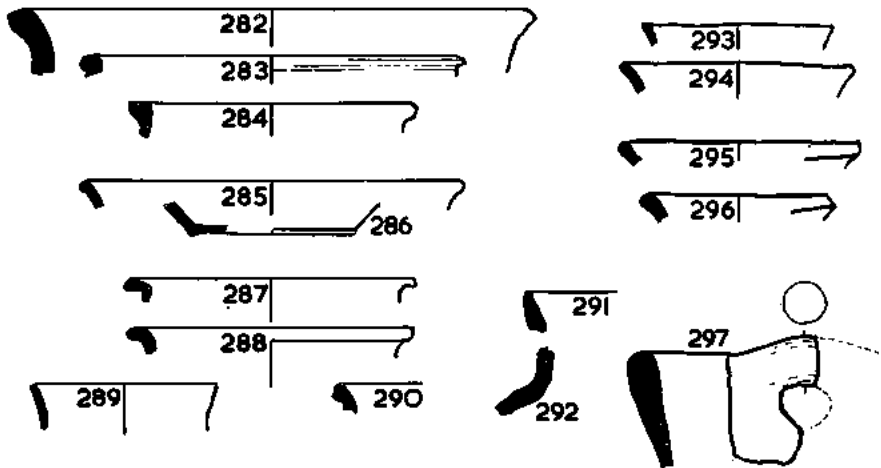
FIG. 20.   NAZEINGBURY, ESSEX, 1975-6
Pottery from Middle Saxon graves (282-296) and pit 10 (279) Sc. 1/4

APPENDIX 2: CLAY OBJECTS (FIG. 21)

(a) BELGIC

The Nazeingbury objects, in Belgic contexts, were made in three fabrics and are here classified into five types:

FABRIC C: Some sand and small stones but with small *chalk* lumps; poorly levigated; fired buff to orange with grey reduced patches; generally with whitish surfaces which were quite smooth; as found the surfaces were often cracked and the interior fragmented.

FABRIC S: *Sandy* with some small stones and a very little chalk; fired buff to orange with grey reduced areas; buff or grey surfaces; some evidence of having been laid on grass or straw to dry; some evidence of vegetable matter tempering.

FABRIC VS: *Very sandy* with some flint grits; fired orange brown, or if incompletely, purple grey; surfaces are distinctly rough to the touch.

The objects are illustrated in Fig. 21 in first angle projection, for instance a view from the left is shown on the left. Stippling indicates fractured surfaces, hatching indicates a cross section showing the largest remaining extent of an object. Vertical lines indicate smoothed surfaces. Long dash lines indicate established shape, short dash lines indicate hidden detail such as holes. Cross hatching represents shadow.

Type 1, triangular loom weights

1. Corner fragment, 8.3 cm. thick, evidence of one hole *c.* 11 mm. dia. and finger-made groove round corner. Fabric C, ditch 11.
2. Fragment, evidence of one hole which if central gives a thickness of *c.* 8.8 cm. Fabric VS, ditch 11.
3. Fragment, evidence of one hole which if central gives a thickness of *c.* 6.5 cm. Fabric S, ditch 11.
4. Fragment, evidence of one hole *c.* 11 mm. dia. if hole central thickness is *c.* 6 cm. Fabric S, ditch 14.
5. Fragment, evidence of one hole. Fabric VS, ditch 12 but probably derived from ditch 11.
6. Fragment, evidence of one hole. Fabric S, unlocated near ditch 11.
7. Corner fragment, no evidence of hole. Fabric S, unlocated near ditch 11.
8. (not illustrated). Fragments probably of type 1. Fabric S, two in ditch 11, one each in ditches 14 and 16.

Type 2, cylindrical objects

9. Fragment with carefully smoothed surfaces, flattish bottom, *c.* 9.2 cm. max. dia. Fabric C but fired orange/red throughout, ditch 11.
10. Fragment with flattish bottom, *c.* 9.8 cm. max. dia. Fabric VS, ditch 11.

Type 3, cob-loaf shaped objects

11. Fragment, roughly shaped but smooth surfaces, *c.* 9.2 cm. dia. Fabric S, ditch 11.
12. Large fragment, with slightly convex bottom, surface very unevenly finished but smooth, *c.* 12.6 cm. dia. Fabric S, ditch 11.
13. (not illustrated). Small fragments probably of type 3, ditch 11, one S and two C; ditch 14, one S. Also Romano-British ditch 6, one C, and dump Q, one C.

Type 4, square section

14. Base fragment with smooth undulating surfaces, *c.* 7.2 cm. square, remains 7.6 cm. high. Fabric S, ditch 11.

Type 5, rectangular section

15. Corner fragment, thickness *c.* 8 cm., other dimensions greater than 11 and 12 cm. Fabric C, ditch 11.
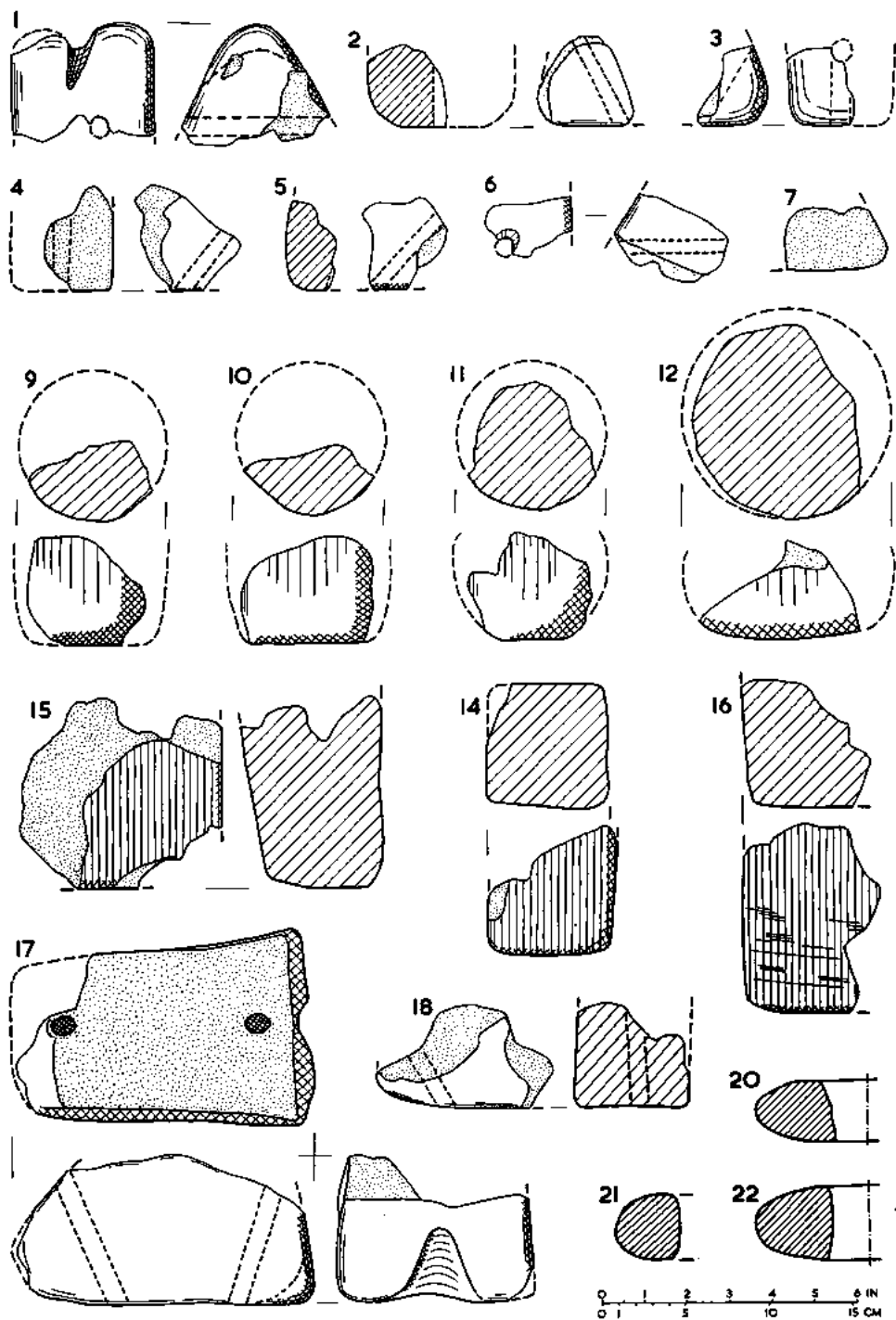
FIG. 21. NAZEINGBURY, ESSEX, 1975-6
Clay objects: 1-16, Belgic; 17 & 18, Romano-British; 20-22, Saxon

16. Corner fragment, surfaces smooth and scraped flat with a rough edged tool, dimensions greater than 11×8×8 cm. Fabric C, ditch 11.

Besides the examples listed above there were many other fragments together with pieces here classed as daub (see Appendix 8); all material is listed in Table 5.

TABLE 5. NAZEINGBURY, ESSEX, 1975-6. PROVENANCE OF 'BELGIC' CLAY OBJECTS

	Type 1	Type 2	Type 3	Type 4	Type 5	Types 1, 4 or 5	Other frags.	Pieces of daub	No. of buckets excavated
Ditch 11	9	3	5	1	2	19	23	14	1200
Ditch 14	2	0	1	0	0	13	2	26	180
Ditch 16	1	0	0	0	0	4	7	1	90
Gully 17	0	0	0	0	0	1	2	0	140
Ditch 12	0	0	0	0	0	6	6	2	990
Dump Q	0	0	1	0	0	1	2	0	—

DISCUSSION OF BELGIC CLAY OBJECTS

The Nazeingbury Type 1 weights have been reported from elsewhere in Essex and Hertfordshire (Drury and Rodwell, 1973, 87—89; Wheeler, 1936, 178—180), although the Nazeingbury examples are rather thicker. These weights are usually interpreted as loom weights but could perhaps alternatively be thatch weights. The Nazeingbury Types 2 and 3 objects are as yet unparalleled, but with a hole at the top could serve the same purpose as Type 1. Type 4, often with expanded ends, is usually interpreted as a fire bar or 'Belgic brick' but small complete examples from Orsett and Mucking suggest no obvious function (Rodwell, 1974, Fig. 9/4; Jones and Jones, 1975, Fig. 48). Type 5 is perhaps paralleled by a rectangular block from Orsett (*ibid*, Fig. 9/2) but is thicker; again the function is uncertain.

These pieces, some of which are certainly loom weights, were found with other rubbish, pottery and animal bones, which is clearly of domestic origin. There was also associated daub (see Appendix 8) resulting from accidental firing of structures. Table 1, detailing the provenance of the material, shows that some was found in the Romano-British ditch 12 but presumably derived from ditch 11. The contents of Dump Q comes from an uncertain source near wells 1 and 3.

One first-sized lump of burnt sandy clay with chalk and small stones was found in Ditch 11. It had a rough annular shape of internal diameter *c*. 25 cm. and could have been used as a stand for an unstable pot.

(b) ROMANO-BRITISH
Type 6, Weights, thatch or loom (FIG. 21)
This is a small group of hard sandy clay pieces fired orange red with grey reduced areas, surfaces variable from smoothed to rough, some grass or straw marking on surfaces.

17. Large piece, weighing 1.7 kg., length 18 cm., thickness 10 to 11.8 cm., two pierced holes *c*. 12 mm. dia., one corner groove remains, another probably existed. Original shape uncertain, basically like a large Type 1 weight but nature of oxidisation and rounding at top edge suggests a hog-back profile. Ditch 4 with 17 small fragments.

18. Corner fragment, could be from weight like no. 17, evidence of one hole *c.* 11 mm. dia., thickness *c.* 7 cm. or more. From dump Q near wells 1 and 3.
19. (not illustrated). Two fragments possibly similar, one with remains of a pierced hole. Ditch 6E.

Loom weights are not generally reported from the large Roman sites in Britain. No. 17 is very large and could equally well be a thatch weight.

(c) SAXON
Loom weights
This is a distinctive group of fired sandy clay loom weights, almost completely fired orange brown with surfaces fairly rough to the touch. Annular, intermediate and bun-shaped Saxon loom weights have been defined (Dunning, 1959, 23-4); in the annular type the central hole is large compared to the clay around it, the weight being made as a ring from a clay 'sausage'. The others have pierced holes which become quite small in the bun-shaped type.
20. Roughly formed example, outer dia. *c.* 13 cm., thickness *c.* 4 cm., central hole *c.* 4.5 cm. dia. Probably of intermediate type.
21. Fragment with relatively narrow band of clay showing both annular and intermediate characteristics.
22. Fragment, outer diameter *c.* 14 cm., thickness *c.* 4.5 cm., central hole *c.* 4.5 cm. dia. A better made intermediate type.

These three examples with 44 other fragments were found in clearing the lower topsoil to define graves 91, 122, 125 and 154, nine other small fragments were in the fill of grave 122 and one piece each was in graves 91, 101, 121 and 155. One further fragment was in the nearby pit F35. Sixty out of 61 pieces were thus in a limited area of the cemetery. Their presence near pit F35 suggests domestic activity there in the Middle Saxon period prior to or during its use as a cemetery. Similar loom weights have been found in Middle Saxon contexts at nearby Waltham Abbey (Huggins, 1976, Fig. 42).

APPENDIX 3: IRON OBJECTS (FIG. 22)
Only 14 iron objects including 9 nails were found, their condition was good with a central core of wrought iron remaining.
1. L-shaped key, 13.6 cm. long, square shank with suspension ring, two prongs on projecting arm. This key is for a tumbler lock in which the tumblers fit into corresponding holes in a bolt. The key is inserted into a vertical slot in the door is turned 90° so that the two pins fit into holes in the tumblers, then by vertical motion the tumblers can be lifted clear of the bolt which can then be withdrawn by means of a cord. Found low down in Ditch 15 with material dated 4th century and earlier derived pottery. Illustrated examples from London include a similar but smaller key (LRT, 1930, Pl. XXX/5). A comparable shaped key from Verulamium was from a well dated *c.* AD 160—190 (Wheeler, 1936, Pl. LXV/31).
2. Object with terminal loop or hook decorated with three grooves, stem forged into rectangular section and twisted, presumably to work harden it. Found, without dating material, in silt of Well 2, presumed to be part of the handle of a bucket.
3. Spike or tool, 31.8 cm. long with 10 mm. square shank, one end pointed, the other is damaged. Found in Pit 1 filled in mid-2nd century AD.
4. Three-quarter ring of tapering rectangular section. Found in loam above Middle Saxon graves, dating uncertain.
Nails: Two types of Romano-British nail, as described at Verulamium (Frere, 1972, 186), were found. Type I with square sectioned tapering stem with round heads; the nails in this category probably represent groups C to E at Inchtuthil (Angus et al, 1962, Table 1); Type II with a
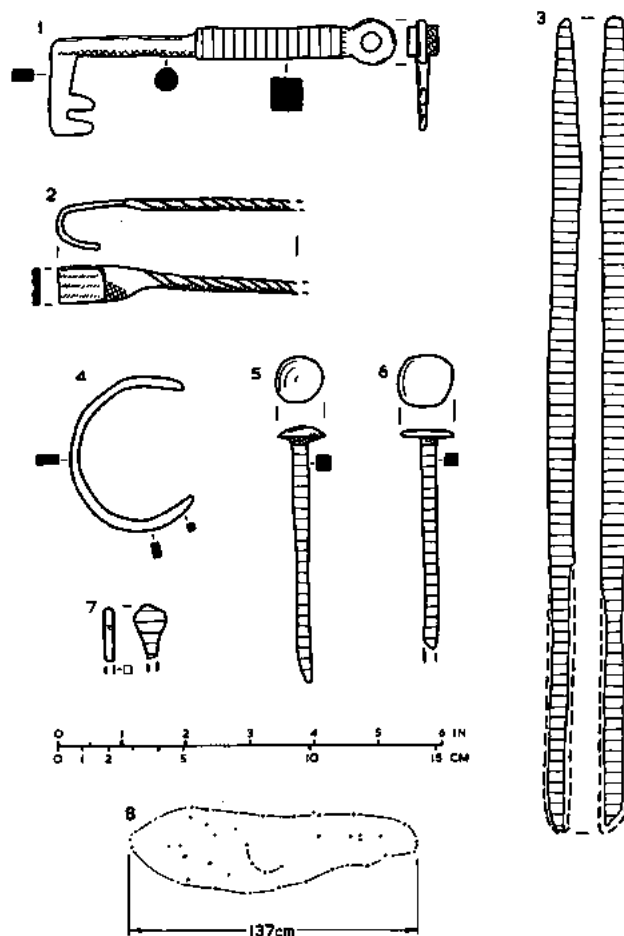
FIG. 22. NAZEINGBURY, ESSEX, 1975-6
Iron objects: 1-7, Romano-British, scale applies; 8, Saxon, iron marks in grave 26

rectangular sectioned tapering stem and with a head, sometimes called triangular, of the same thickness as the stem.

5,6 Two examples of Type I nails, possibly 4 and 3½ inch examples. No. 5 has a domed head, no. 6 has the flat disc head typical of the Inchtuthil nails of comparable size. The nails were found as follows; possibly 4 inch: 4 in Pit 1, 1 in Ditch 1; possibly 3 inch: 1 in Pit 1; 2½ inch and possibly 2 inch: 1 each in Ditch 12; fragments, 3 in Pit 1.

7.   Fragment of Type II nail. Single example in Ditch 4.

Iron in Saxon graves: A fragment possibly from the blade of a knife was found near the pelvis of the skeleton in Grave 20. The presence of iron 'spots' in the chest area of burial 44 and of iron concretions or marks under burial 26 (Fig. 22/8) have been discussed earlier (C4).

APPENDIX 4: BRONZE OBJECTS (FIG. 23)

1.   End of a pin, 44 mm. long, silvered. Represents a right hand with the thumb and first finger holding an object like a bead with a central hole. The other fingers are held together and

represented by engraved lines. Found in the fill of Ditch 1 with pottery of mid-1st to mid-2nd century. Hands holding fruit are common forms of bronze pins. An example from Verulamium (Frere, 1972, Fig. 34/64) with a larger and hollow arm was found in a layer dated AD 105—130.

2. Tweezers, 40 mm. long, decorated with engraved lines. Found in Ditch 2 with pottery dated mid-1st to mid-2nd century.

3. Brooch, lacking catchplate and pin. Coil spring with eight turns has evidence of possibly gilding remaining. An axial bar passed through the coil and through a central lug, this lug has a second hole through which the chord of the spring passes. No ornament other than the possible gilding. Found in Ditch 2, date as 1 and 2 above. Camulodunum type IV (Hawkes and Hull, 1947, 310—11), examples have been dated to the late 1st century but at Camulodunum and Verulamium (Frere, 1972, 114) the introduction of the type is taken back to c. AD 50—65. Compared to published types this is a rather plain example.

4. Length of lightly twisted 2 mm. square section wire. Found in Ditch 8.

5. Short length of 3 mm. dia. rod decorated with five rows of herringbone incisions, one end flattened, the other broken. Found in Ditch 12.

6. Fragment of 3 mm dia. wire, one end pointed with broken tip, other end also broken. Found in Ditch 1.

7. Pin, 99 mm. long with biconical head. Three roughly cut grooves around head. Found in Pit 1, associated pottery dates closing of pit to mid-2nd century AD.
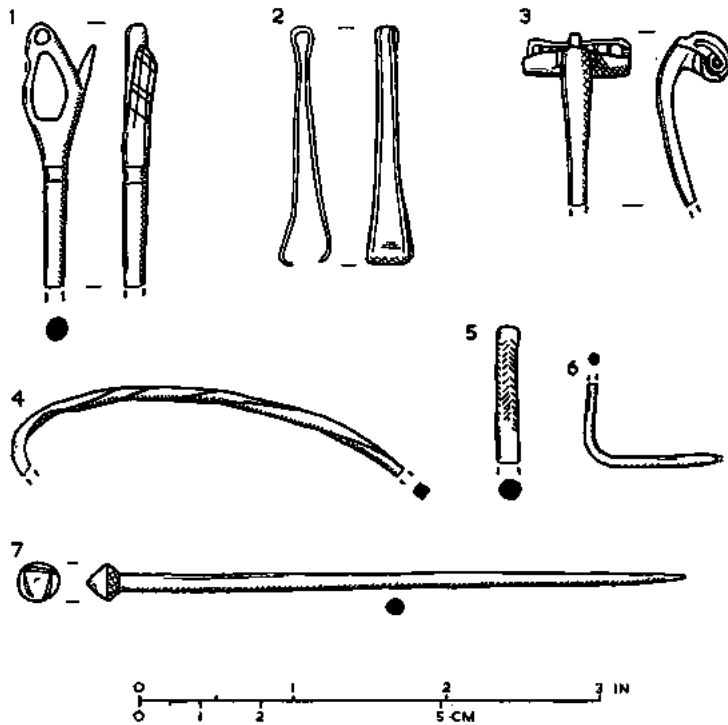
FIG. 23. NAZEINGBURY, ESSEX, 1975-6
Bronze objects: Romano-British

APPENDIX 5: GLASS, POTTERY, FRIT AND BONE OBJECTS AND POTTER'S MARK (FIG. 24)

The description and assessment of nos. 5 and 6 are by Dr. D. B. Harden, F.S.A.

(a) Belgic

1. Pottery disc, c. 8 cm. dia., roughly shaped from wall sherd of fabric (c) storage jar, red surfaces with thick grey core, black specks in temper; non-central hole bored 8 mm. dia.; rough scoring of outside surface prior to firing. Found in ditch 11 with nos. 2 and 3 below.

2 and 3. Pottery discs roughly rounded from sherds of Spanish amphorae, pink fabric, sand tempered; maximum diameter 4 cm. Found in ditch 11 with no. 1. They may all be associated in some game, or no. 1 may be a large spindle whorl.

(b) Romano-British

4. Rim fragment of pillar moulded bowl, pale bluish green glass, 15 cm. internal dia. A common type usually found in 1st or early 2nd century contexts (Frere, 1972, Fig. 74/4). Found in loam fill of Pit 1 with pottery dated up to c. AD 160.

5. Oblate bead of very dark green glass, 17 mm. dia. with 6 mm. dia. hole, with opaque light blue crisscrossed trails and three opaque yellow blobs in the interspaces, with, in one place, a yellow drip trail joining two of the yellow blobs; all trailing marvered flush. A parallel at Richborough (Bushe-Fox, 1949, Pl. LV/236) has turquoise-blue blobs and white crisscross lines; this was identified as Teutonic (Frankish) of the Migration Period. Dr. Harden states that though 'it is Teutonic, i.e. non-Roman, this bead does not have to be post-Roman for the Teutons were in Britain long before the Roman armies left.' He would not like to date it earlier than the 3rd century AD. It was found in ditch 12 which replaced ditch 11 at the beginning of the Roman period and seems to have remained open certainly until the mid 2nd century and possibly later.

6. Square-sectioned green glass bead, 5 mm. long by 3 mm. square. Such beads are common in Roman contexts of the late 2nd to 4th century AD, occurring frequently as dividers on gold necklaces or as danglers on earrings as well as in simple chains of beads. Parallels occur at Verulamium (Wheeler, 1936, Fig. 47/67) in a supposedly 4th century necklace; the examples there are (d) bright green and (g) bright blue. Dr. Harden states that the type can certainly be 3rd century and may even occur in the late 2nd century. Found in loam fill of pit 1 with pottery dating up to c. AD 160.

7. Fragment of melon bead in turquoise blue frit. Reconstruction suggests 18 mm. dia. with 8 mm. dia. hole. This type is probably most common in middle 1st century contexts (Hawkes and Hull, 1947, 307). Found in Ditch 4 with pottery of 1st half of 2nd century date.

8. Pottery fragment, orange fabric with purple/brown colour coat; flared mouth or base neatly turned, hole roughly finished inside. Dr. W. J. Rodwell has suggested it may be a mouthpiece for a musical instrument. Found in ditch 4 with pottery up to c. AD 160.

(c) Saxon

9. Bone pin with broken tip, remaining length 5 cm., head c. 6 mm. square. Found in the mouth of skeleton in grave 53 so possibly a shroud pin. Grave 53 is a secondary burial likely to date from 8th to first half of 9th century AD.

10. Ornament, 23 dia., 17 mm. high made from a tooth, probably of a horse, with the root removed and all surfaces polished smooth; two natural holes suggest it could have been used as a pendant. Found in the chest area of burial 64 a secondary burial of which the bones were much decayed, at the SE corner of Church 1.
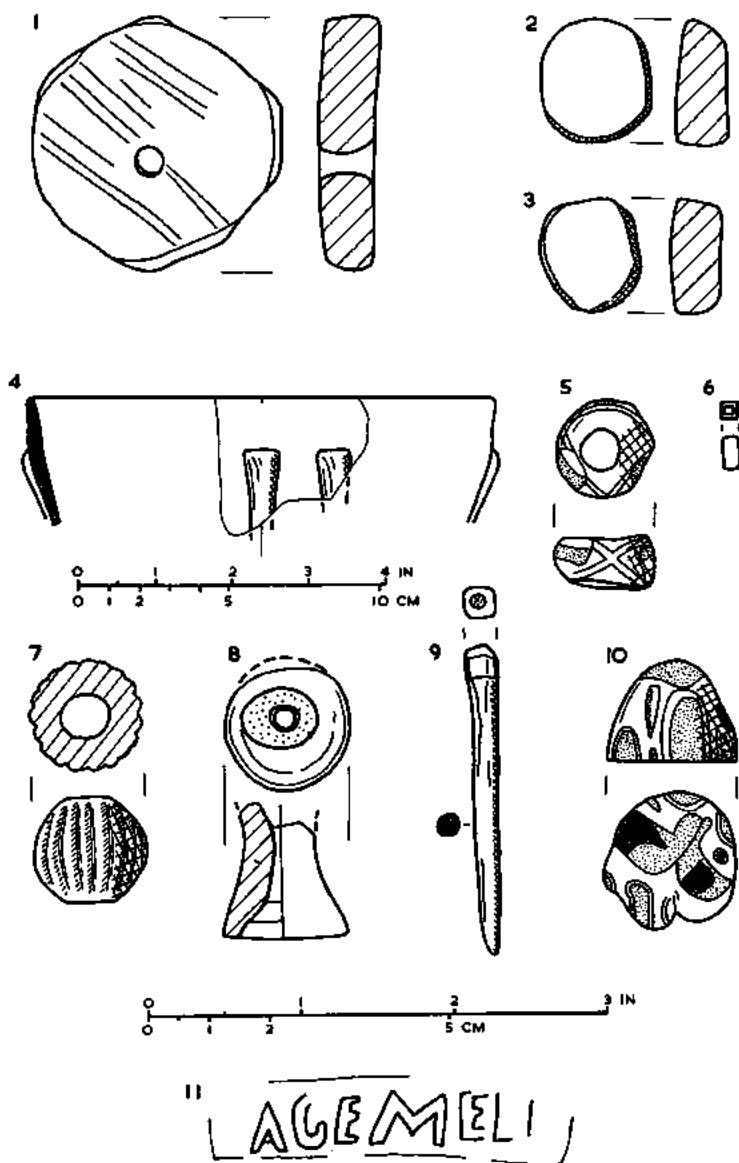
FIG. 24. NAZEINGBURY, ESSEX, 1975-6
Glass, 4-6; pottery, 1-3, 8; frit, 7; bone, 9-10; potter's mark, 11.
1-3, Belgic; 4-8, 11 Romano-British; 9-10, Saxon. Top scale applies to 1-4, bottom scale applies to 5-11.
(For 11 see amphora stamp report, App. 1, and Fig. 16/147)

APPENDIX 6: COINS

(a) Belgic

1. Cunobelinus bronze coin. Mack (1964, 89), 244, his second series; Allen 41, his 'developed type with Tasciovanus legend'; Rodwell's (1976, Fig. 38) 'Later Tasciovanus' bronze. Struck off centre, thus some legend lost. Corroded, but condition probably good when lost.

Obv: [CUNO]B Naked horseman galloping to the right with dart held high in his right hand, a large oval shield on his left arm.

Rev: [TASCIIOV]ANTIS Helmeted figure standing holding a spear in his right hand and shield in his left. Found in Romano-British Ditch 4, position shown on section Fig. 3C.

The distribution of Mack 244 coins has been plotted by Dr. W. J. Rodwell (1976, Fig. 38) who writes 'the find spots are Braughing (9), Harlow (26), Colchester (3), Verulamium (4), Silchester (2), near Abingdon (3), Dorchester, Sandy and Haversham, Bucks. (1 each)'. Allen considers that Mack 244 coins must have been minted at Verulamium. The Harlow coins come from the temple site; Harlow is only 10 km. (6 miles) from Nazeingbury, the site being on a mound in the valley of the Stort, a tributary of the Lea.

2. A gold coin of Cunobelinus is recorded by Allen (1960, 230) as being found at lower Nazeing at TL30/387061. Now in Colchester and Essex Museum numbered 132/1949 with a slightly different grid reference. Mr. D. T-D Clarke, Curator, Colchester and Essex Museum, considers it to be nearest Mack 211 and states it was found, about 1925, during the construction of greenhouses just west of Nazeingbury. This would be in Little West Field (Fig. 1A) between Nursery Road and the moat, about ½ km. from the site of the excavation.

Another gold Cunobelinus coin, like 2 above, is recorded by Allen (1960, 230) 'at TL 4106 at Nazeing, Broxbourne'; this location is 4 km. into Essex, Broxbourne being in Hertfordshire, it seems possible it should read 'Nazeing, Broxbourne Road' which would describe the find spot of no. 2; 4106 could be a misreading of 3906 so that this would be a duplicate record of the previous coin. The only other record is 'noted at B.M.' and both Dr. Kent and Mr. Clarke agree there is probably an error.

(b) Romano-British

3. Bronze centenionalis of Constans, AD 346—350, 19 to 21 mm. dia., condition fine but some surface erosion. Like Seaby 3876.

Obv: Diad., dr. and cuir. bust 1, holding globe [D.N.CONSTA]NS P.F.AUG.

Rev: Soldier advancing r. dragging young barbarian from hut beneath trees. F[EL.TEMP.REP]-ARATIO; in ex. TRP (Trier).

Found in Saxon grave 53/53A, a pathological male with a child above (Pl. 4C). These are secondary burials at the east end of Church 1. Either a stray coin or, in the absence of Roman coins in Romano-British contexts, it is perhaps more likely to have been a relic thrown in when grave 53 had been partially filled or when the child's burial was introduced, no separate grave was seen for the child.

APPENDIX 7: STONE AND FLINT (NOT ILLUSTRATED)

(a) Belgic

1. Small lump of Hertfordshire Puddingstone. Elsewhere this has been used for quernstones in the Belgic period (O'Neil, 1945, 99). Belgic ditch 11.

(b) Romano-British

2. Outer fragment of flat quernsone, lava, c. 66 cm. outer diameter, 2½ to 3 cm. thick. Pit 11.
3. Outer fragment of roughly tooled medium grain micaceous sandstone, c. 56 cm. outer diameter, c. 7 cm. thick, remains of lip or flange around edge. Ditch 6E.

4. Annular fragment of compact fine grained sandstone, possibly part of a quernstone re-used as a whetstone. Ditch 6E.
5. Small fragment as 3. Ditch 4.
6. Edge fragment of millstone grit, 9 cm. thick, approx. 50 cm. outer dia. Pit 1.
7. Fragments of millstone grit. One each in Ditches 1 and 2.
8. Fragment of fine grained, well cemented, meta-standstone, with signs of use as quernstone. Ditch 5.

(c) Saxon
9. Fragmented piece of lava quernstone, c. 2 cm. thick. Saxon pit F35.

Seven struck flints, 3 blades and 4 flakes, occurred in various contexts. The mesolithic site of Broxbourne (Warren et al, 1934) is 1 km. distant across the river Lea. All would be at home in a mesolithic context; a few calcined flints were spread about the site and 20 heat affected stones were likewise found.

APPENDIX 8: BUILDING MATERIAL
A. DAUB

(a) Belgic (LISTED IN TABLES 1 AND 5)
Pieces of fired clay are classified as daub although few show wattle impressions. A characteristic of this material is that it is usually completely oxidised as would be expected from the conflagration of a standing building. There are two distinct groups.

The daub in ditch 14 was of fabric C (see Appendix 2) and two pieces were c. 3 cm. thick as if the daub had been pressed against a flat boarded face. The outside showed finger marks where the clay had been applied by hand but one piece showed that the edge of a board, about 2 cm. thick, had been used to press in the clay. Another piece with a projection may have formed at the junction of two flat timbers. A fragment of convex shape had been hand formed for some special purpose. This daub could have derived from the burning down of a building in the rectangular enclosure B or within the circular gully 18.

The daub in ditch 11 was different, it contained no chalk and had fewer finger impressions. It was also in thin surface pieces suggesting it had resulted from a less intense fire; it was found mainly in the lower part of the ditch around the SE corner of the enclosure A. It was not particularly close to the circular gully 18 and could conceivably derive from another building at this corner of the enclosure. The two pieces from ditch 12 were similar to those in ditch 11, and probably derived therefrom, and may well have come from the inside of a circular building.

Three pieces of daub with clear wattle impressions were found in the fill of primary grave 54, and a further piece was found in each of the secondary graves 90 and 100. This daub, mostly of fabric C is taken to be derived Belgic material.

(b) Romano-British (TABLE 6)
The 36 pieces in Pit 1, the latrine pit, are of two types. One type was of rough sandy formless lumps with some vegetable matter, only very lightly fired, with maximum dimensions of 7 cm. The second type was of surface fragments 1 to 2 cm. thick with much chopped straw or other vegetable inclusion. The material was found in the peaty silt and in the final loam fill (section, Fig. 3K) and is all taken to be derived from the light ridge structure over the latrine. Two types of daub were reported from Verulamium (Frere, 1972, Fig. 4) a plain outer face of clay being used there to cover an initial application around the wattles, trowel keying marks were noticed between the two. The same technique of primary application and secondary facing may have been employed at Nazeingbury to account for the two different types.

B. TILE AND BRICK

(b) Romano-British

Fragments of Roman building debris were found as in Table 6; fragments of daub are included:

TABLE 6. NAZEINGBURY, ESSEX, 1975-6. ROMANO-BRITISH BUILDING DEBRIS

Feature	Tegula	Possible tegula	Imbrex	Brick	Flue tile	Daub	Buckets excavated
Ditch 1	0	2	0	2	0	0	490
,, 2	2	2	0	1	0	0	290
,, 4	0	1	0	6	0	3	290
,, 5	0	0	0	1	0	0	500
,, 6	0	0	0	0	0	0	470
,, 8	0	0	0	0	0	0	390
,, 12	0	0	0	1	0	2	990
Well 1	8	1	1	3	0	0	105
,, 3	1	0	0	9	0	0	45
Pit 1	0	2	0	4	1	36	325
,, 4	0	1	0	0	0	0	33
,, 10	0	0	0	2	1	0	320
,, 11	0	0	0	1	0	0	140
Dump Q	2	2	1	11	4	0	—
Grave 52	0	0	0	0	1	0	22

Material recorded from Dump Q, between wells 1 and 3, is only a small part of that which must have been present. Much had been scraped away from the upper fill of wells 1 and 3. These facts together with the type of material in this area suggest that hereabouts there was a substantial building destroyed before recording began. A little tile and brick had been machine scraped from the top of well 2.

There is insufficient building debris in Ditches 1, 2 and 4 to suggest there was a substantial building within the sub-enclosure C. This together with the large possible thatch weight (Appendix 2, no. 17) may indicate that the building therein was thatched.

One piece of flue tile, from Dump Q, was c. 11.5 cm wide, with evidence of a side vent; from end to side vent measured 15 cm. The face was marked with vertical combed lines with some lateral marks at the end of the tile. The three other fragments from Dump Q probably show oblique combed lines. The fragment from Pit 1 was very worn but the markings show it was a relief patterned flue tile of diamond or chevron pattern, these types have both been found in contexts of the last half of the 1st century AD (Lowther in O'Neil, 1945, 97).

APPENDIX 9: ANIMAL BONES, MOLLUSCA AND EGG (FIG. 25)

Some 160 kg. of bones of ox, horse, sheep/goat, goat, pig, cat, dog, deer, chicken, goose, mallard with oysters, one snail and one egg were recovered from the excavated features and from dump Q between wells 1 and 3. The main groups were as follows:

(a) Belgic

Ditch 11: 26.8 kg; 14 ox, 3 horse, 17 sheep, 3 pig, 1 deer, 1 dog (all minimum numbers of individuals — MNI)
Ditch 16: 5.6 kg; 4 ox, 1 horse, 2 sheep, 2 pig.
Ditch 17: 1.6 kg; 1 ox, 1 horse, 1 sheep.

(b) Romano-British

Ditch 12: 27.2 kg.; 8 ox, 4 horse, 6 sheep, 2 pig, 1 dog.

Dump Q: 21.3 kg. collected, much more remained; 6 ox, 2 horse, 2 sheep, 1 goat, 7 pig, 1 cat, 53 oysters, 2 chicken, 1 goose (Bones from this unstratified source are not included in the Table and diagrams which follow).

Ditch 8:   13.8 kg.; 3 ox, 5 horse, 1 sheep, 1 goose, 1 mallard.

Pit 12:   12.2 kg.; 6 ox, 4 horse, 1 pig.

Ditch 6E: 10.2 kg.; 3 ox, 1 horse, 2 sheep, 2 pig, 2 oysters.

Ditch 5:   6.8 kg.; 1 ox, 1 horse, 1 sheep, 1 mallard.

Well 3:   6.8 kg.; 1 ox, 57 pig, 13 oysters, 1 mallard.

Ditch 6:   5.9 kg.; 2 ox, 1 horse, 1 sheep, 1 pig.

Pit 1:   4.3 kg.; 2 ox, 1 horse, 10 sheep, 2 pig, 1 dog, 1 cat, 11 oysters, 1 chicken.

Ditches 1 and 2: 3.4 kg.; 2 ox, 1 horse, 1 sheep, 1 pig.

Ditch 10: 2.4 kg; 2 ox, 1 sheep.

Ditch 21: 2.3 kg.; 1 ox, 2 horse.

Ditch 15: 2 kg.; 2 ox, 1 horse.

Ditch 4:   1.8 kg.; 1 ox, 1 sheep, 1 chicken

Pit 14:   0.7 kg.; 1 ox, 1 sheep.

Well 1:   0.2 kg.; 1 horse, 2 pig.

(c) Saxon

Pit 10:   5.9 kg.; 3 ox, 1 horse, 2 goat, 5 pig, 1 dog, 1 cat, 1 chicken.

Pit F35:   0.6 kg.; 1 ox, 1 horse, 1 goat, 1 sheep/goat, 1 pig.

The bones were analysed by feature: ditch, pit or well, and were then divided into separate parts of the body after the method of Rixson (in Sheldon, 1974, 108-11) i.e. head, forequarters, hindquarters and feet. The minimum number of individuals (MNI) was worked out for each feature of each part of the body, the Belgic and Romano-British results were separately added up to produce Table 7 and Fig 25. The maximum number of identifications was generally on mandibles and teeth but bones from other parts of the body make the overall MNI higher in most cases, see Table 7.

Ageing has been based on data from Schmid (1972, Table X for tooth development, Table IX for fusion of epiphyses) with additional data on horse tooth wear from Silver (1969, 293). It is appreciated that ancient animals took longer to reach maturity, in some cases they may have taken twice as long, or even longer to reach a particular stage of tooth eruption (as suggested by Tables E, and G of Silver, 1969) or of epiphyseal fusion; thus the age scales on Fig. 25 may need to be multiplied by a factor of perhaps 2 or more. Whether there was the same delay in reaching sexual maturity as in reaching physical maturity seems not to have been discussed in the archaeological literature.

In an attempt to distinguish between casual accumulation of rubbish and intentional deposition, the 'intensity of rubbish' both bone and pottery, has been calculated and is included in Tables 1 and 2. The amount of bone per bucket of soil excavated was chosen and the units 'grams per bucket' give convenient numbers.

ANIMAL BONES, DISCUSSION

Horse: Five horses were represented in ditch 8; one was an almost complete head of about 5 years; molars of a second horse showed it to be old; separate teeth of two other horses were likewise old; a fifth horse was adult. Four horses represented in pit 12 included adult and old animals, one living well into the second decade of life. An incisor from Well 1 suggests an age of 5 to 8 years. In Belgic contexts there were no incisors so the horses can only be said to be adult.

8

Fifteen metapodials yielded length and/or width measurements. A histogram of lengths (Fig. 25A) shows that the Romano-British animals were larger in general than pre-Roman Camulodunum examples (Hawkes and Hull, 1947, 351). The only two Belgic examples were the two smallest metatarsals suggesting that an improvement in breed and/or nutrition had occurred in the Romano-British period.

Only 5 Belgic horses were substantiated whereas 24 were found in Romano-British contexts, however 4 times as much Romano-British soil was excavated as was Belgic. Of possible draught animals, horse and ox, the Belgic horses are 20% of the total whereas the Romano-British are 37% of the total. These figures may or may not be considered to show the increased importance of the horse in the Romano-British period. There is evidence from nearby Waltham that the lush meadows of the Lea, in later times, were well suited to horses; in 1587 some 30 royal carriage horses there required 120 loads of hay, 80 loads of straw and 540 quarters of oats and it was calculated (Huggins, 1972, note 71) that one horse then needed the hay from 3 acres of meadow.

Ox: Twenty Belgic and 41 Romano-British ox were substantiated. The lengths of the metapodials are fairly comparable with those of the Celtic ox given by Cornwall (1956, 155 and 182), these were 178—218 mm. for metatarsals and 161—189 for metacarpals. The Nazeingbury values were 192—226 mm. and 174—214 mm. respectively. The difference is hardly sufficient to suggest that any breed other than *bos longifrons* is present. Only one Belgic metapodial was measurable and this was the smallest metacarpal.

From the analysis of the teeth (Fig. 25B) it can be seen that almost equal numbers of ox were killed in their second, third and fourth or more years. The most significant difference perhaps is that in the Romano-British phase a few animals were being slaughtered early in life.

Detailed consideration of the finds of the ox bones showed that one feature, pit 12, contained mostly slaughterer's waste; there were a minimum of 6 animals on horn cores including one complete skull, but no other ox bones at all. In contrast ditch 12 had a majority of bones, numbering 93, from the fore and hindquarters whereas waste from the head and feet numbered only 29; thus ditch 12 was receiving more domestic debris than slaughterer's waste. The Belgic ditch 11 had a more equal proportion of 66 'food' bones to 50 'waste' bones.

Sheep: Twenty-two Belgic and 26 Romano-British sheep (or goat) were attested. The identification was mainly on the mandibles and odd teeth. Ten sheep were represented in the Romano-British pit 1, the contents of which were considered to be kitchen waste.

The histograms of frequency of sheep (Fig. 25C) are similar for the Belgic and Romano-British periods. Few bones of the feet were found: a metacarpal of length 115 mm. from ditch 12 and a metatarsal of length 125 mm. were both shorter and much more slender than a modern sheep.

In the 17th century the ewe was ready for breeding after 27 months (Trow Smith, 1957) i.e. after two shearings. The histograms show that this would have left few ewes for breeding. Presumably the dates from Schmid underestimate the age at which the ancient animals came to sexual maturity.

Pig: Only five individuals were represented in the Belgic features. The Romano-British record was dominated by 1046 foot bones and 51 other pig bones, representing 57 animals, from well 3; without these there would only have been 2 pig identified by feet and a minimum of 10 animals based on remains of the head.

The histograms of the frequency against age (Fig. 25D) based on tooth development show that most animals were killed in their second year, but again these ages may need multiplying by a factor of two or more. Trow Smith (1951, 54) suggests, in Saxon times, that the pig took four times as long to reach the bacon stage as today.
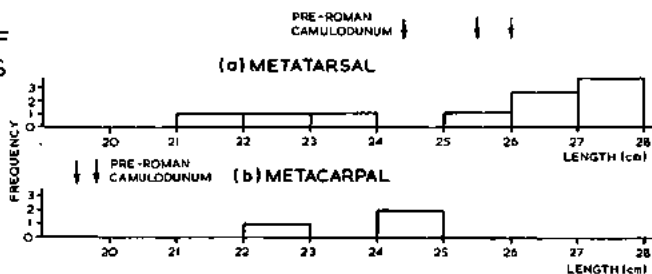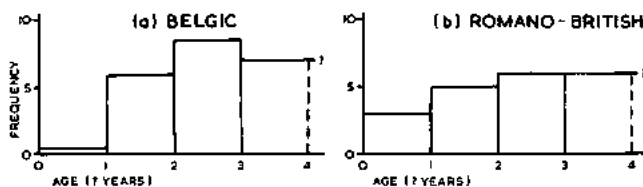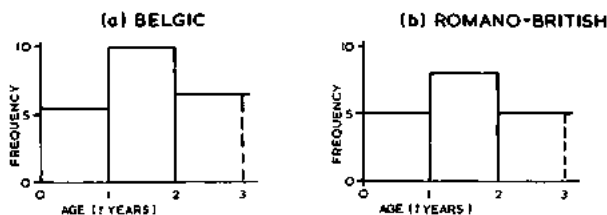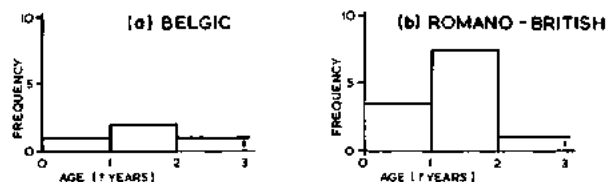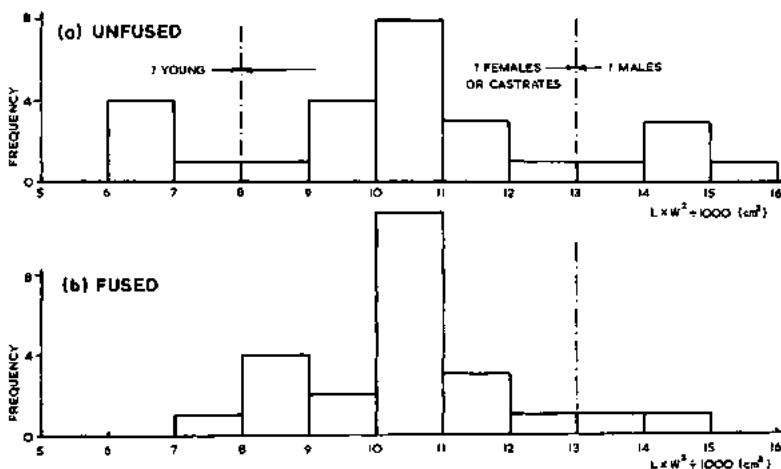
FIG. 25. NAZEINGBURY, ESSEX, 1975-6
Histograms of animal bone data.

TABLE 7. NAZEINGBURY, ESSEX, 1975-6. NUMBER OF ANIMAL BONES AND MINIMUM NUMBER OF INDIVIDUALS

	HORSE				OX				SHEEP/GOAT				PIG			
	Belgic		R-B		Belgic		R-B		Belgic		R-B		Belgic		R-B	
	Bones	MNI	Bones	MNI	Bones	MNI	Bones	MNI	Bones	MNI	Bones	MNI	Bones	MNI	Bones	MNI
Head	5	4	8	15	47	20	58	31	23	21	20	25	4	5	20	14
Forequarters	10	2	11	6	42	16	105	29	3	2	10	7	6	2	22	9
Hindquarters	10	2	19	11	37	9	92	23	10	6	3	3	5	2	30	9
Feet	1	1	21	12	16	7	42	18	4	3	6	4	0	0	1049	59
Overall MNI	5		24		20		41		22		26		5		72	

If the MNI is larger than the number of bones it means the extra identifications have been made on loose teeth which were not counted as bones. The overall MNI is obtained by considering the body as a whole.

P. J. HUGGINS

The foot bones in well 3 were picked out by hand from the black silt so that the smaller bones may be under represented. The record is as follows:

unciforms	6	other carpals and tarsals	11
metacarpal III	88	metapodials II and V	295
metacarpal IV	97	phalanges prima	214
calcaneum	2	phalanges secunda	33
astragalus	2	cloven bones	45
cuboid	13	separate epiphyses	26
navicular	5		
metatarsal III	109		
metatarsal IV	104		

The feet were apparently cut off just above the metapodials there being few cuboids, astragali or calcanea.

The Metapodials III and IV were studied in detail; the distal epiphysis was fused on 163 bones and unfused on 235 bones. In some cases fusion was partial. Schmid suggests this fusion occurs at 2 years.

Attempts have been made to sort bones by sex from a histogram of width measurements and other indices (Ryder, 1969, Fig. 29; Chaplin, 1971, Fig. 11). There were 51 measurable right metatarsal III bones; 24 of these were fused and 27 unfused. Various quantities were plotted—length, width, weight—but a quantity $l \times w^2 \div 1000$, here called the 'volume index', where 'l' is the overall length in centimetres and 'w' is the minimum lateral width in centimetres, was chosen as it seemed to discriminate best between the 'small' and 'large' bones. This quantity is a measure of the volume of the bone and, hopefully, the size of the animal. For better comparison of the unfused and fused bones, the unfused lengths were multiplied by a factor of 1.21 this being determined from fitting suitable epiphyses to several unfused shafts. The results are plotted in Fig. 25E. The diagram from the unfused bones peaks at three points probably representing 5 very young or runts, the central peak possibly representing 17 females or castrates, and the smaller peak possibly representing 5 males; the diagram for the fused bones is obviously missing the very young group, but has the central peak, not quite so well ordered, of 22 females or castrates, with possibly 2 males. A total of 39 females or castrates and 7 males is suggested probably of about the same age, i.e. the time of fusion of the epiphysis, as the two diagrams are so comparable.

The feet may have been deposited following an autumn culling, or they may have accumulated over a period of time. All the footbones came from the lower silt of well 3 (section, Fig. 5T) which was some 23 cm (9 in.) deep, there were none in the upper silt which suggests a simultaneous deposition. It is not possible to decide whether the majority are castrates or young females who may have already had litters. In the 16th century a 'whole' female was expected to farrow at a year and to breed for at least 6 years if limited to 6 or 8 per litter (Trow Smith, 1957, 250). Although pigs can be slaughtered at any age, they were not considered adult baconers or porkers until rising two years (*ibid*, 128). If the ageing is valid we may have the latter here represented.

If the animals were killed together the implications are considerable. The resulting meat would have to be salted or sold quickly as it would seem to meet more than the needs of even an extended farming family. The discarding of the trotters shows these were not used for cooking and this suggests the farm at a level above subsistence economy. Elsewhere the presence of pigs trotters in the Roman kitchen floor deposit (Schmid, 1972, 35) was taken to show that boiled or roasted pigs feet were a favourite food of the rich; at Nazeingbury it seems they were considered as waste.

Also in well 3 were 10 pig bones from the head (MNI 4) and 41 from the fore and hindquarters (MNI 4). On tooth wear and epiphyseal fusion three individuals were judged killed in their first year.

Dog: (a) Belgic: Humerus, ulna and 5 metapodials in ditch 11.

          (b) Romano-British: skull and mandible fragments in ditch 12; maxilla fragment in pit 1.

          (c) Saxon: humerus and metapodial in pit 10.

Cat: (b) Romano-British: skull in pit 1; radius and femur in dump Q.

          (c) Saxon: fibula in pit 10.

Goat: (b) Romano-British (probably): horn core from dump Q

          (c) Saxon: horn core in pit F35; horn core and probably mandible and 12 other bones in pit 10.

Deer: (a) Belgic: radius from ditch 11.

Chicken: (b) Romano-British: radius in Pit 1; femur in ditch 4; two humeri on dump Q.

          (c) Saxon: ulna and caracoid in pit 10.

Goose: (b) Romano-British: humerus in ditch 8; femur and two ulna on dump Q.

Mallard: (b) Romano-British: caracoid and two humeri in well 3; tibio-tarsus in ditch 5; humerus in ditch 8.

Oyster: (b) Romano-British: 53 in dump Q, 13 in well 3, 2 in ditch 6E and 11 in pit 1.

Snail: (b) Romano-British: One large specimen of *helix aspersa* on dump Q; an edible species almost certainly introduced to this country in the 1st century AD (Evans, 1972, 175).

Fish: (b) Romano-British: 10 spiny fragments from silt of well 1.

Egg: (b) Romano-British: fragments of eggshell, probably chicken, in upper fill of pit 1.

PATHOLOGY

Specimens were assessed by Glenys Putnam as follows: fragment of metapodial of horse or ox with an osteosarcoma and associated osteoporosis, very pustilent, possibly a break, from Belgic ditch 11: two phalanges I and cloven bone of horse with evidence of arthritis, typical of wear in the case of a draught animal, from R-B ditch 12.

APPENDIX 10: ENVIRONMENTAL

Waterlogged deposits were found in wells 1 to 3, and in pits 1, 6, 7, 9 and 11. A sample from well 1 was studied by Alison Gebbels, B.Sc.; she identified 20 fragments of wood and 32 of charcoal, all Oak *(Quercus sp.)* as well as 3 pieces of Hawthorn-type charcoal *(Crataegus sp.)*. There were many larger pieces of oak as well. Miss Gebbels also identified part of a frog. It was judged that the insect remains from well 1 would be worth studying but no funds were available for this.

A lens of peat in the alluvial gravel, and therefore older than man's occupation on the site, was sampled by Maureen Girling. She wrote: "The beetle fauna is dominated by aquatic species *(Heloporus* spp., *Ochthebius* sp., *Hydraena* sp., *Hydroporus* sp.*)* and includes one family *(Elmidae)* normally found in running water. Accumulations of rotting vegetation and some dung provided habitats for members of beetles present in the deposit. *Phytophagous* (plant-feeding) beetles indicate water-side vegetation and other low plants and there is a suggestion of fairly open conditions from the presence of *Agriotes,* whose larvae are known as 'wireworms'. The fauna lacks any tree associated beetles. This may be a result of the unstable environment (river migration over a gravel terrace) or perhaps indicates that the deposit is considerably older than the excavated material. A third, more likely possibility, is that the sample is not representative of the total population."

The samples are still available and anyone who would like to undertake further work is welcome to contact the Waltham Abbey Historical Society.

ACKNOWLEDGEMENTS

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NOTE

Gentry Factions and the Witham Affray, 1628

B. W. QUINTRELL

St. Patrick's Day normally passed unnoticed in early Stuart Essex. In 1628 however, in circumstances which made trouble almost inevitable, it provided the occasion for an outbreak of disturbing violence. At Witham, where a company of Irish footsoldiers just back from Buckingham's ill-fated expedition to the isle of Rhé was uncomfortably accommodated, the townsmen lost little time in disrupting the men's celebrations. Red crosses were tied to the whipping post and to a dog, thus insulting the soldiers' religion and their patron; and as tempers rose a series of ugly quarrels broke out. Shots were fired, much blood was shed and the captain of the company had his forehead grazed by a bullet. Many on either side were 'dangerously wounded' and rumour soon had it that thirty lives had been lost. In the event no one appears to have been killed; but so angry was the mood of the town and the surrounding countryside that the deputy lieutenants had considerable difficulty in restoring some semblance of order. Despite Witham's reputation for compliance with royal policy, the townsmen at first refused to lay down their arms even though they were ordered to do so in the king's name. [1]

The soldiers were part of colonel Pierce Crosby's regiment, temporarily but forcibly billeted on or near the maritime parts of Essex from January 1628. For the moment, the Privy Council could neither afford to pay them off nor risk disbanding them before it was able to do so. Their presence served as an unwanted reminder to the county of the inconveniences of Buckingham's belatedly aggressive foreign policy and illustrated again the peremptory nature of much of the work of the lieutenancy during the 1620s. Ever since the outbreak of the Thirty Years War in 1618, the coastal regions of Essex had become particularly sensitive to the military demands made on them as they grew in awareness of their own predicament. The facilities at Harwich offered the government a useful point of rendezvous and departure for troops bound for the continent in the protestant interest; but for the county they brought also the lawlessness associated with pressed men. In addition Essex was expected to contribute its quota of both men and money to Buckingham's unhappy ventures against France and Spain; yet, while its seaboard became increasingly vulnerable to invasion from forces stationed in the Spanish Netherlands, the Council repeatedly failed to accept its share of the county's military costs. [2]

The 1620s brought the functions of the lieutenancy, and its relations with the Council, into sharper focus than at any time since the passing of the Armada. By 1628, signs of strain were widely apparent. Even though the lieutenancy's authority to assess arms had from 1604 rested solely on the royal prerogative, thus increasing its dependence on Conciliar support, its powers had not diminished. These powers could be both abrasive in use and unsettling in effect. Because offensive and defensive measures require incisive action, the lord lieutenant and his deputies—unlike the J.P.s—acknowledged no exempt jurisdictions within the county in their charge, putting even the larger corporate boroughs under their oversight. Despite their extensive authority, they formed a small group, normally drawn from the most senior gentry: where there were often forty to fifty active J.P.s in Essex in the 1620s, there were rarely as many as eight deputies. They were directly answerable only to the lord lieutenant and the Council, and took representatives of the body of the county into their confidence only in so far as they thought it prudent to do so. Much of their most urgent work was considered at short notice, and in private. Hastily convened meetings were held at the home of one of their number or at a convenient inn, and were attended by as many of the group as were not away at London or otherwise engaged; they were followed by a series of urgent decisions affecting the county's resources in men, money and, in 1628, accommodation. Pressing though such

business was, the lieutenants however had no central registry to publicise and coordinate their policies—as had the J.P.s and the church court judges—but instead were heavily dependent for assistance on their private clerks. In their work, as in that of the Council itself, there was thus present from time to time an awkward conjunction of urgent business and inadequate administrative resources to carry it through effectively. As a result, the lieutenants' orders sometimes appeared in a noticeably—and to some of their recipients, suspiciously—informal and haphazard way.

Their most trying decisions, and the ones which lived longest with them, concerned the raising of money for the purpose in hand. But the questions of how much to raise and how to obtain part of it immediately were more easily answered than the problem which provided one of the major discouragements to the service: how far and how soon would the Council accept responsibility for whatever money was spent. By 1628 a pattern had become set. Using their own credits, the deputies at once raised as much as they could; shortly afterwards they sought to cover and to amplify this sum by a county rate; and then they waited, with the rest of the ratepayers, for some response from the Council. During the 1620s it frequently failed them. Its internal weaknesses also meant that it failed to place itself, consistently and solidly, behind the lieutenants' efforts to enforce its policies. Small wonder that by the later 1620s the deputy lieutenants were taking exceptional care to preserve the warrants by which they acted, in some counties agreeing that decisions taken by some of their number should be in the name of all. Whether they liked it or not, the deputies were aware that to the county at large they were likely to appear as the instruments not only of a calamitous foreign policy but also of the government's apparent attempt to simultaneously strengthen its hold on the localities.[3]

When Crosby's regiment arrived in January 1628 it was always likely that feelings would run high, that none of the towns would willingly accept its companies, and that the deputies would have difficulty in raising the £1,000 rate on the county which they calculated would be necessary to provide the 6d. a day which each soldier was to receive, and was expected to pass on to his host, for his maintenance. The deputies, complaining to the Council from the outset that Crosby's regiment was too big and too Irish, met the resistance they expected; several of the companies had to be moved more than once, and one-third of the £1,000 rate was never collected. It is thus tempting to see the Witham affray on St. Patrick's Day as not only an example of the annoyance which arose over the petty irritations caused by these uninvited guests, but also as an expression of the same deep-seated disquiet at the constitutional implications of forced billeting that was shortly to be formally expressed in the Petition of Right. From such small incidents constitutional issues sometimes grow; and it is perhaps not surprising that the disturbance has recently been cited as an example of the military oppression which persuaded Englishmen in the later 1620s and 1630s to leave their home country for the anticipated freedom of the New World. Beyond doubt, eastern England both bore the brunt of the billeting of 1628 and supplied, during the 1630s, much of the impetus and personnel for successive waves of migration.[4]

Yet to claim so much for the Witham affray is mistaken. Behind it lay not so much resentment at the authority of the lieutenants as such as frustration at the apparent outcome of a struggle for primacy within the Essex lieutenancy, itself associated with rival electoral pretensions, in which the extent of that authority was never in dispute. Its context was that of a factional struggle for office, not profound unrest about a question of constitutional principle. Both Court and Council were nevertheless involved; but their respective roles were both marked by such indecision that they managed to succour their critics while dismaying those who might have been their friends locally.

At the heart of the factional struggle was Robert Rich, second earl of Warwick, by substance and energy easily the most prominent of the county's ten peers. After succeeding in 1619 to the costly earldom which his father had only briefly held, Warwick had for some years enjoyed a modest share of Court favour, notable more for his prominence in its social round than for any accretion of public office.[5] He had, however, contrived in May 1625 to loosen the earl of Sussex's limp but persistent hold on the Essex lord lieutenancy by taking advantage of rumours of preparations for invasion by

privateers, sailing out of Dunkirk in the Spanish Netherlands, to have himself appointed as his partner. During the following year, Warwick threw himself into his new responsibilities with such vigour that one of Buckingham's informants soon reported that he had aroused the resentment of many of the gentry by his lavish expenditure on the defences along the north Essex coast, including the erection of a new fort at Landguard Point, which arguably was in Suffolk anyway.[6] Although Warwick always enjoyed the support of like-minded gentry from puritan families, often associated with his business ventures or his estates,. and was sufficiently popular with the people at large to be later dubbed 'king of Essex', he tended to unsettle the majority of his fellow gentry. Quite apart from his personal ambitions, he disturbed them by his vision of regional defence, encompassing groups of counties, which was alien to their particularist instincts; and they were undoubtedly relieved when he was removed from the Essex lieutenancy during the summer of 1626. His fall was not unexpected. Earlier in the year it had become clear that Buckingham, who had been instrumental in his appointment, had thrown in his lot for the time being at least with the High Churchmen surrounding the new king and no longer had any immediate need for those leading puritan peers and ministers, either at Court or in the countryside, whom he had been cultivating as a counterweight. Warwick's enthusiasm had always chimed uneasily with the duke's dilatoriness.[7]

With Sussex restored as sole lord lieutenant, Warwick's friends amongst the deputies also lost their places; and after leading the resistance to the forced loan, to which Charles had resorted after prematurely dissolving the parliament of 1626 in order to save Buckingham from his many and varied critics, they were removed from the commission of peace as well. For the only time during the forty years before the Civil War there was no Barrington among either the deputy lieutenants or the JPs.[8] Warwick had by no means lost interest in the Essex lieutenancy, however; and at Court he still had the services of his supple younger brother Henry, earl of Holland, who stood high in the new queen's favour. Holland was already working to keep the command of the new fort at Landguard out of Sussex's importuning hands, while looking for an opportunity to ease the plaintive old peer out of the lieutenancy altogether. The Rich connection was still very much alive, if less brashly so, than in the recent past; and Warwick himself, as he suggested in the parliament of 1628, still had hopes of a return to favour.[9]

For the moment however Buckingham was looking in other directions. Perhaps the characteristic most common to the seven deputies in office when Crosby's regiment arrived was their lack of close association with Warwick. Three certainly were servants of the Court: one of the three was near-Catholic, the other two Calvinist enough to be sometimes regarded as puritanical. Their presence in the lieutenancy suggests that the Council was anxious to improve communications between itself and the county, even at the risk of appearing overbearing. Its representatives could muster only meagre associations with Essex, however. The popishly-inclined Sir Richard Weston, currently chancellor of the Exchequer, was it is true sometimes looked upon as a spokesman for his native county at Court but, as the senior gentry well knew, his recent acquaintance with it was slight; he had been brought back into the lieutenancy in January 1628 after an interval. The ageing diplomat, Sir Thomas Edmondes, now treasurer of the Household and like Weston a Privy Councillor, rested his claim to an Essex association very largely on the Stapleford Abbots estate brought to him by his first wife. Only Sir Thomas Fanshawe, an Exchequer official and the least of these three Courtiers, was an active J.P.—and then only in the far south-western corner of the county where he happened to have his home. Both Edmondes and Fanshawe had come into the lieutenancy in 1626 as Warwick left it. The other four deputies, headed by William Lord Maynard, were all country gentry made uneasy by the sweep of Warwick's pretentions, and perhaps for that reason inclined to stretch further their tolerance of the Council's excesses and deficiencies.[10]

Yet despite this apparently unpromising circumstance, Warwick's fortunes began to revive almost as soon as the troops reached their first billets. One of the indications that they were doing so was to be provided, in due course, by the way in which Witham, despite solid grounds for exemption, found itself nevertheless burdened with one of the companies, one which it strongly felt might more

equitably have remained with its puritan neighbour Maldon, a town always more likely to follow Warwick than any rival Courtly interest.

At first however, Witham appeared to be in no danger. It had conscientiously paid its share of recent military taxes and of the forced loan of 1626-7, and thus deserved well both of the deputies and of the Council; and as a struggling cloth town of modest size it seemed to lack the resources for billeting. More important, its interests were well represented among the current deputies. One of them, William Smyth of Cressing Temple, who served as treasurer for both the magazine rate in 1627 and the billeting rate in 1628, was actually principal tenant of the king's manor of Witham which his family were shortly to buy; and the founder of their Tudor prosperity, the judge Sir John Smyth, lay buried in Witham church. The Smyths, whose connections continued to show traces of Catholicism, had been lords of the half hundred of Witham since the Dissolution. In addition, Sir Richard Weston held a subordinate manor in the town. His Catholic leanings were a good deal stronger than those of the Smyths; and it was characteristic of the area around Witham that it was less firmly Calvinist than most other parts of the county.[11] Within the town lived the heirs of another Tudor judge, Southcote, and at least one of the sons of Sir Thomas Wiseman of Rivenhall near by, a senior J.P., all of them open to accusations of Catholicism. A group of determinedly Catholic minor gentry families lived on the former Vaux estates to the north-west of the town, while away to the east at St. Osyth, Thomas Lord Darcy—a pliant creature of Buckingham—clung only tenuously to his protestantism, while his daughter embraced Catholicism and her husband, Sir Thomas Savage, was among the patrons of that rising Arminian, Richard Montagu. Smyth's nephew, Henry Neville Smyth of Cressing Temple, who was just beginning to assert himself in the county, was another with High Church sympathies.[12] This conjunction of Catholic, near-Catholic and Arminian families was unique in Essex and did much to account for the half hundred's reputation for almost unreserved acceptance of Caroline Court policy. When the regiment arrived, the deputies decided after consultation with J.P.s and freeholders to interpret the Council's accompanying instructions in such a way that Colchester, Harwich and Maldon, as well as smaller communities like Dedham and Horndon-on-the-Hill, which had all proved obstructive to the king's service in the past, should be made to pay for their attitude by having troops billeted on them.[13] In such ways were liberties taken with Conciliar policy, as hard-pressed gentry officials sought to re-establish by one means an effective authority damaged by another. The company received by Maldon late in January, commanded by captain Rosse Carew, was however to be the one concerned in the Witham affray less than two months later.

In retrospect, it is easy to see that Maldon was unlikely to accept a company of eighty men without complaint. As a parliamentary borough it had politically ambitious gentry anxious to be interested in its affairs, and it had been courted regularly in the past by Warwick and his associates, most of them freemen of the town. Above all it was unwilling to risk disruption of its weekly market, to which it owed much of its moderate prosperity. Its corporation lost little more time in approaching the Council than the townsmen as a whole did in manhandling Carew's charges. Accompanying its petition with a series of colourful depositions concerning the soldiers' excesses, it almost managed to persuade the Council that Maldon was too small to accommodate a company; and it needed a swift counter-petition from nearby Witham, emphasising both its support for Conciliar policy and its own lack of station by originating from 'His Majesty's tenants of the manor' there, to avert the danger by stressing Maldon's corporate status and sea-faring activity. After further interventions by both Weston and William Smyth, the Council decided to leave Carew's company where it was; but other companies placed in recalcitrant communities of moderate size, as at Horndon-on-the-Hill and Billericay, were moved on to more commodious towns like Braintree and Chelmsford. The matter thus seemed to be resolved in an adequate compromise. Witham's argument that to move men from Maldon, because they had been roughly handled, would have put the rule of law in jeopardy had, for the moment, prevailed.[14]

For Witham the illusion that the threat of billeting had passed was strengthened by the unusually close interest being taken in the county by members of the Court as the first preparations were being made for convening a new parliament in March 1628. The writ of summons, providing for the holding of the county election, had been issued on 31 January, the day on which the Witham counter-petition reached the Council, and an attempt was to be made to implement it in Essex remarkably soon afterwards: so much did the business of the billeting coincide with the renewed stirring of electoral politics. In all the previous elections of the 1620s Warwick had proved dominant, continuously claiming both shire seats without opposition, and increasing his influence with the three parliamentary boroughs until even Colchester showed signs of bowing to his will. When the last election had been held, early in 1626, the breach between Buckingham and Warwick had not yet become clear locally; and the county gentry as a whole had then, once again, proved willing to accept Rich candidates without contest or compromise. In 1628 however the circumstances were very different; and the campaign for the county seats, and the manoeuvring over the location of Carew's company, were both to be barometers of the respective dispositions of the contending interests within the country. It was nevertheless the Courtiers amongst the deputies who first made the issue plain. Shortly after they had procured the election writ, Edmondes and Fanshawe made the first of two attempts to catch Warwick off guard by holding the county election prematurely at Stratford Langthorne in the south-west corner of Essex, well away from the main centres of Rich influence. The location was suitable only to an uncontested return, and their strategy was clearly aimed at achieving that result, presumably by securing the election of themselves or of one of them in partnership with Weston. Unfortunately for them, Warwick's own sources of intelligence in London were so alert that a disconcertingly large body of freeholders appeared at Stratford and persuaded Edmondes and Fanshawe to call off their plan. Nevertheless, the elderly Smyth, his main work as county treasurer at an end, judged the moment ripe to resign his place in the lieutenancy, 'voluntarily' as lord Maynard's letter book recorded.[15]

It was this unsuspecting action which directly opened the way for Warwick's recovery of influence within the lieutenancy and also served to illustrate the Council's failure to take advantage of local reservations about him. Smyth's successor proved to be not another senior gentleman of similar outlook but instead the most Calvinist of the Mildmays, Sir Henry of Graces in Little Baddow, the closest of his family to Warwick, who was appointed on 17 February. He not only lived within ten miles of Maldon, but his late wife's father, Sir Arthur Herris of Creeksea, was one of Warwick's candidates for the borough at the impending election. With the lord lieutenant, Sussex, resident neither at Court nor in the county, and thus not wholly conversant with the finer details of Rich influence, it was comparatively easy to secure the change. The agent was almost certainly the one Mildmay already among the deputies, Sir Henry of Moulsham, the pliant and uninquisitive head of the family, who was kin to Sussex through their Fitzwalter connection, and who was certainly able to recommend his cousin of Graces for his military skill and experience, which had already proved valuable during the emergency in 1625. This same amenable Moulsham channel was doubtless used again a fortnight later when a third Sir Henry Mildmay, this time of Wanstead and the royal jewel house, was added to the seven deputies currently in commission. This Sir Henry was not only a Courtier but was also deputy steward of the borough of Maldon and, having his eye firmly fixed on a regular seat there, had already come to terms with Warwick—with whom he had since 1624 also been linked by marriage—with that end in mind. He too had strong puritan sympathies. He was appointed a deputy at just the moment, late in February 1628, at which he and Sir Arthur Herris were being returned to parliament as the Members for Maldon.

Meanwhile Edmondes and Fanshawe, acting from London, had no more success with a second attempt to catch Warwick's supporters unawares, made soon after Smyth's resignation. The freeholders were again out in such force at Stratford Langthorne that one of Edmondes's servants afterwards estimated that there had been 1,200 of them there. At this point the pair withdrew, as abruptly and as cryptically as they had entered the electoral campaigning. Their intervention,

although associated with the Court, was evidently not part of any wider strategy from that source and seems rather to have been prompted by their personal feelings towards Warwick and undertaken, despite their religious differences, in association with the third Courtly deputy, Weston.[16] Fanshawe certainly had incurred Warwick's hostility by 1625 when the earl refused to accept him among the deputies despite his nomination by Sussex.[17] When Weston's elevation to the peerage ruled him out of further candidacy after two false starts, they quietly withdrew. Both had seats waiting for them elsewhere[18] Interestingly, even at that late stage they made no attempt to tap the animus against Warwick which was gathering strength amongst the senior gentry. In many ways their performance over the election was a foretaste of the wayward attitude of the Council which was to bring distress to Witham in the weeks ahead.

For even though captain Carew's company was still at Maldon, Witham had all but lost the advantage it had held during January. Not only had the balance of sympathy among the deputy lieutenants started to shift perceptibly, but Warwick began to take the initiative in electoral matters as the date for the county election was finally fixed for 4 March at Chelmsford, where there was a large electoral field available should a contest occur. From his home at Leez, he wrote to the bailiffs of Colchester on 28 February complaining self-righteously that he had 'heard that some of my neighbours of quality both by theire letters and otherwise have used meanes to procure some friends of theirs to be chosen knights to serve for this shire', and ostensibly campaigning himself only for this reason. He did not name the offending neighbours—nor the chosen friends—but two of them were the crypto-Catholic, Sir Thomas Wiseman of Rivenhall, and his unswervingly Calvinist friend, Sir William Maxey of Bradwell, both of whom were close to the Smyths of Cressing Temple and Witham. Very shortly afterwards damaging information against them came to Warwick's notice. On Saturday 1 March, as part of a hastily mounted campaign to fill the gap left by Edmondes and Fanshawe, the pair naively sent out a circular letter to all the high constables in the county ordering them to bring their freeholders to Chelmsford on the following Tuesday morning ready to support such candidates for the shire seats as the majority of the J.P.s should nominate 'for the good of our Countrie.' One of the circulars quickly found its way to Sir Harbottle Grimston of Bradfield, whom Warwick was proposing once again as Sir Francis Barrington's partner for the county, and he lost no time in making his patron aware of their rivals' tactics. Warwick's anger was considerable and sustained, more than enough to depress the spirits of potential opponents and to nullify the circular's assumption that the county bench was certain not to endorse his candidates. In stormy circumstances, with the support of the mass of the freeholders making up for whatever coolness the gentry felt, Warwick's candidates once more gained the day, in the end without even a token contest. Afterwards Warwick made sure that the Council took full notice of Wiseman and Maxey's indiscretion, despite initial assurances that he would not do so.[19]

For Witham the reverse over billeting rapidly followed its friends' electoral failure. On the day of the county election at Chelmsford, the absentee Sussex, despite his ignorance of the true state of local affairs, wrote to the Council asserting that Maldon was too impoverished and had created too much bad blood to go on billeting Carew's men. He did so very probably at the prompting of Sir Henry Mildmay of the jewel house, its deputy steward. The Council which had earlier agreed with the Witham petitioners that to move the men from Maldon simply because they had been beaten would have undermined respect for order, now showed itself willing to accept Sussex's special pleading and on 6 March ordered the company, which had undeniably remained for an exceptionally long time in one town, to be transferred to any one of Thaxted, Dunmow or Witham, but adding that 'wee hold Thacsted the fittest, if there be no soldiers there billeted already.' If Sussex hoped by his intervention to demonstrate to the Council his continuing fitness for his post, he succeeded primarily in confirming his reputation for ineffectuality. On 7 March the earl of Holland acquired the coveted governorship of Landguard for himself for life and promptly appointed one of Warwick's retainers as its captain. On 8 March Carew's troops were moved, not to Thaxted as was perfectly possible, but

to Witham. All the available evidence suggests that the indolent and by now discontented Sussex simply passed on the Council's rather imprecise instructions to the deputies nearest to Maldon, who happened to be the Mildmays of Graces and Moulsham, and left them to decide where the company was to go. Wiseman, writing to William Smyth soon afterwards, was under the impression that the Council had expressly ordered the transfer of the men to Witham, an order with which the other two deputies then in Essex would have disagreed had they not, in their ignorance of the truth, 'held [it] not beseeming them to vourie [sic: vary] from' what they took to be the sense of the Council order, although they encouraged the Witham townsmen once more to petition the Council. The Maldon sessions book also indicates that the borough authorities received a precise order to transfer the men to Witham. In effect the Mildmays decided the town's fate. To the Council's electoral faintheartedness, Witham could now to its cost add the consequences of Sussex's incurable lassitude.[20]

But, for Witham's gentry protectors, worse was to follow. On 14 March the Council issued a close warrant for the attendance of Wiseman and Maxey at its Board to explain their part in the irregular canvassing before the county election. Maxey's appearance was delayed by illness; but on 17 March, the day on which the townsmen of Witham gave way to violence and the day on which the new parliament convened, Sir Thomas Wiseman made his appearance before the Council, received a severe reprimand and was left to cool his heels for a spell in the Fleet. Eleven days later one of his sons, William Wiseman of Witham, headed a group of leading participants in the affray who were brought up to the Council for a similar dressing down. In all respects the plans of William Smyth, Sir Thomas Wiseman and their friends had been thwarted. In the weeks before the 1628 election, changes among the deputy lieutenants had favoured Warwick's interests; Sussex, physically distanced from the county in his charge, provided no counter-balance; while the Court itself, divided and seemingly little interested in the shifting pattern of country dispositions, offered little more than the personal initiative of two relatively subordinate Courtiers against the thrusting ambition of Warwick. It not only failed to make common cause with his local critics; it ended by disciplining some of them on two counts. The Council meanwhile rediscovered the force of the argument against moving troops simply because they had been attacked, and it was only in late March that Carew and his men were finally transferred from Witham to Epping, shortly before they left the country altogether.[21]

The movement of that company from Maldon to Witham may thus be seen as an indicator of the way the balance of influence within the lieutenancy was changing, and the affray itself as an expression of frustration at the manner in which past loyalty and cooperation went unrewarded. The context was primarily a military one; but the basic issue was much more closely concerned with the way the authority was being used, and the identity of those using it, than it was with the nature and extent of that authority.[22] The dispute had its roots in factional differences, not in matters of constitutional principle.[23] Besides the widespread, though only moderately successful, resistance to the forced loan in 1626-7, for example, or the open challenges to the authority of the lieutenancy which occurred in other counties and in the parliament of 1628, the affray is of limited significance. Even the potentially inflammatory meeting of civil authority and military law was handled calmly by the two deputies and the sergeant-major first on the scene, and by the three magistrates who joined them later.[24] Its comparative ordinariness, however, is itself useful in illustrating the Council's apparent inability to sustain the vigour which marked its approach to the forced loan and was to be summoned anew for ship money. On the Witham evidence, by contrast, it appears rather vague, indeterminate and perhaps not really very interested after all; as a consequence, its policy quickly fell foul of local rivalries, despite the Courtiers in the commission of lieutenancy. Its performance here strongly suggests that, no matter how arbitrary Charles's government was in intent, its practical effects were much less formidable, except perhaps on rare occasions. Internal divisions at Court, imperfect awareness by the Council of local circumstances, and the lethargy of an absentee and distracted lord lieutenant helped to give the Riches the chance to shift the balance of sympathy

among the deputies—and with it, the troops from Maldon to Witham. A similar insensitivity on the Council's part condemned those gentry who, by their willingness to mount a campaign against Warwick at the county election of 1628, were at least suggesting a common interest with the dominant Weston faction at Court, to humiliating appearances at its Board instead.

In all the circumstances, it was perhaps only fitting that it should be the normally cooperative townsmen of Witham who, for a heated moment in 1628, should find themselves standing in armed defiance of the king's authority. The memory of that day certainly lingered, although it found no extravagant expression. In the county generally, there was no obvious connection between military exactions and the decision to sail overseas. In Witham there was almost certainly no association at all, for detailed research has failed to find even an occasional townsman crossing the Atlantic between 1628 and 1640.[25] Even its vicar who, had his character been less imperfect, might have followed a minority of Essex ministers who took to the high seas with part of their flocks in the cause of conscience, spent much of the 1630s before high commission about matters of a much more worldly nature.[26] Yet the affray did leave a lasting sense of resentment in the town. Although it remained firmly under the influence of gentry who, for better or worse, were prepared to accept the novel standards of the Laudian church, it reacted against ship money in a discreet but unmistakable way. When inland ship money was introduced in the later 1630s, the townsmen did not refuse to pay outright; instead they levied a quite extraordinary proportion of their total liability on non-residents who happened to have land there, and paid only a few pounds themselves.[27] Witham had evidently not forgotten the events of early 1628, when it had found itself close to the centre of a struggle for the administrative and electoral primacy of Essex, in circumstances in which it could only defend its fading interests by attacking the troops it had finally been forced to take.

Notes

1. Public Record Office, SP 16/96/39 and 39I; G. E. Aylmer, 'St. Patrick's Day 1628 in Witham, Essex', *Past and Present* no. 61 (November 1973), 139-48.
2. Between 1624 and 1627 just over 1,600 Essex men were pressed for service abroad, mostly for Germany, but also for Cadiz (400) and Rhé (100). In April 1627 troops gathered at Harwich for transit to Germany for service with Christian IV of Denmark created serious disturbances. The trained bands had been garrisoned at Colchester and Harwich for a month in 1625 during an invasion scare; more than two years later the deputy lieutenants still did not know whether the Council intended to repay the £1,000 it had cost the county. See Bodleian Library, Ms. Firth c. 4, pp. 112, 124, 295, 297, 359, 411; SP 16/59/67, 83, 84; 60/19, 20, 51, 56.
3. Late in 1627 the deputies complained to Sir Richard Weston that they had become 'neglected and disrespected of our neighbours', especially those in the corporations, and asked the Council to 'supply some suddaine remedie': Ms. Firth c. 4, p. 421. For the deputies' precautions in Lancashire, see Lancashire Record Office, LV/80, unfol. (5 Sept. 1623) and DDN 1/64, f. 17v; and for a challenge from a serjeant-at-law: *State Papers relating to Musters, Beacons, Ship Money . . . in Norfolk*, ed. Walter Rye (Norwich, 1907), 141-2. The relationship between central and local government in the decades before the Civil War has received much attention of late: see especially Derek Hirst, 'The Privy Council and the Problems of Enforcement in the 1920s' *J. British Studies*, XVIII (1978), 44-66 which is particularly valuable for its emphasis on the Council's own weaknesses, and his 'Court, Country and Politics before 1629' in *Faction and Parliament* ed. K. Sharpe (Oxford, 1978), 105-38; and for a longer view, J. Morrill, *The Revolt of the Provinces* (London, 1976).
4. T. H. Breen, 'English Origins and New World Development', *Past and Present* no. 57 (November 1972), 74-96, especially 80.
5. He had acquired the Essex vice-admiralty by 1620, but otherwise was only a J.P. He was not a Privy Councillor.
6. Ms. Firth c. 4, pp. 140-53; SP 16/6/122.
7. SP 16/461/25.
8. Ms. Firth c. 4, p. 247; British Library, Harleian 390,ff. 153v, 339v; PRO, E 163/18/12,f.29r, C 231/4,f.228r; *Acts of the Privy Council of England, 1627-8* (London, 1949), 217.
9. As the correspondence between Sussex and secretary Conway in 1627-8 reveals: e.g. SP 16/73/97,79/57,116/79, 120/28, 123/23, see also *Notes of the Debates in the House of Lords . . . 1621, 1625, 1628*, ed. F. H. Relf (Camden Society, 1929), 180n and Christopher Thompson, 'Origins of the Politics of the Parliamentary Middle Group, 1625-9'. *Royal Hist. Soc.* 5th series 22 (1972), 71—86 for Warwick's political hopes.

9

10. The deputies in 1627 told Weston that no man knew the county better than he did, but conceded that 'itt bee much altered since we had the honour to injoy you amongst us'; he had ceased to be active in county government by 1620: Ms Firth c. 4, p. 334. See also SP 16/9/63; *APC 1626,* 176; *APC 1627-8,* 237 Ms. Firth c. 4, p. 247, P. Morant, *History and Antiquities of Essex* (London, 1768), I, 177; Hirst, *JBS* XVIII, 58-9.
11. Morant, *Essex,* II, 105, 106, 109. PRO, E 134/12 James I/Michaelmas 25 provides details of the Smyths' lease of the manor of Witham from the Crown for forty years from 1605.
12. Morant, *Essex,* I, 458, II, 121-2; Essex Record Office, Q/SBa 5, *passim* and e.g. Q/SR 180/52; SP 14/50/60; *Commons Journals,* I, 776; *Lords Journals,* III, 395; *Correspondence of John Cosin,* ed. George Ornsby (Surtees Society, 1869), I, 101-2. John Southcote of Witham, son of the judge, was of sufficient standing to have his portrait painted by the anonymous follower of Hieronimo Custodis who was also employed by the recusant Howards, Petres and Wadhams: R. Strong, *The English Icon* (London, 1969), 211.
13. Maynard noted of the imposition that it was 'the first president in this kinde that ever came into the countrie.' Ms. Firth c. 4, pp. 429, 432-4; *APC 1627-8,* 224.
14. *APC 1627-8,* 253, 264, 282; SP 16/91/86, 92/59, 85.
15. Historical Manuscripts Commission, *Buccleuch (Montagu House) Mss.,* III, 324; ERO, D/Y 2/4, p. 67, Ms. Firth c. 4, p. 443.
16. Thomas Birch, *Court and Times of Charles I* (London, 1849), I, 323; *Calendar of State Papers, Venetian 1626-8,* 595; PRO, C 219/41B/104; *APC 1627-8,* 316.
17. SP 16/9/63.
18. Edmondes was already nominated for Penryn and Fanshawe had a Duchy seat ready at Lancaster.
19. ERO, D/Y 2/4, p. 85; SP 16/94/87, 95/35; Harl. 390,ff. 361r, 365r, 367v; Add. 34679,f.61r.
20. *APC 1627-8,* 335; Ms. Firth c. 4, pp. 449, 450; *Calendar of State Papers Domestic 1628-9, 8;* C 231/4, f.263v; Add. 34679, f.61r; D/B 3/1/19, f.240r. Two of the Mildmays later claimed that Thaxted and Dunmow were too poor; SP 16/96/39. Despite the innocent and uninvolved account of himself that William Wiseman gave on first examination, the Council ordered its messenger to 'apprehend' him as well as known principals in the affray: *APC 1627-8,* p. 361.
21. *APC 1627-8,* 350, 352, 354, 361, 362, 371, 373; Add. 34679, f.61r; SP 16/118/86I; *The Visitations of Essex,* ed. W. C. Metcalfe (London, 1878), 527.
22. Neither Buckingham nor his critics were able to exploit the dispute during the debate over the Petition of Right, so little was principle involved: *Notes on Debates in . . Lords,* ed. Relf, 63.
23. Shortly before Sussex died in 1629, Warwick and Weston were jointly made lord lieutenants of Essex during the course of further manoeuvring by the Court after Buckingham's assassination; Holland's influence may well have proved decisive.
24. The soldiers were inclined to boast after the riot that 'If any of yow kill us yow shalbe hanged, but if any of us kill yow wee shall not be hanged'; but they were also worried about the vulnerability of their scattered billets: SP 16/96/39I.
25. N. C. P. Tyacke, 'Migration from East Anglia to New England before 1660' (University of London PhD. thesis, 1951), *passim.* Despite its title, this thesis extends to Essex.
26. On the vicar of Witham, Francis Wright, see e.g. SP 16/261, ff. 18b, 40b, 51b, 57b, 64b, 67b; *Calamy Revised,* ed. A. G. Matthews (Oxford, 1948), 170; *The Journal of Sir Simonds D'Ewes* (1640-1), ed. W. Notestein (New Haven, 1923), 261.
27. SP 16/358, pp. 95-102, especially p. 97. Witham's ship money was assessed on 106 contributors, of whom 85 were 'outdwellers'. Only three of the sixteen townships in the half hundred had fewer resident contributors; yet Witham's liability (£33) was only narrowly short of the highest there.

NOTE

Exploratory Excavation within the Monastic Precinct, Waltham Abbey, 1972

by A. E. S. MUSTY

with contributions by: K. N. BASCOMBE, P. J. DRURY, G. C. DUNNING, BLANCHE ELLIS, ALISON R. GOODALL, IAN H. GOODALL, RHONA M. HUGGINS, S. E. RIGOLD

The excavation showed that the land lying south of the Cornmill stream had been utilized both during the monastic period and after the dissolution. Just below the turf were the remains of Abbey buildings not demolished until the seventeenth century. These buildings were associated with the post-dissolution Abbey House, the north wing of this building being located. The monastic buildings were of thirteenth/ fourteenth century date though there had been some re-building circa 1500. Deep trial excavation produced evidence of twelfth century occupation.

1. Introduction

It was envisaged that Abbey Mead (TL 381006) and surrounding land would be the site for a museum to serve the Lee Valley Regional Park. The prospect of this development led to trial trenching for the Department of the Environment in the summer of 1972; first to establish what 'features' existed, second to establish areas where no damage would be done to such 'features' by building work. The land had been in private ownership since the dissolution of the Abbey and so was likely to have been little disturbed and might, thus, contain the remains of secular buildings within the precinct walls (as described in the inventory of the Abbey taken at its dissolution in 1540[11]).

In June 1977 a trench for a water pipe was dug from the Abbey Gateway to the east; this confirmed some of the points raised by the 1972 excavation as well as indicating some new features (App. 12). Recent work on the precinct wall is also reported (App. 13).

2. Topography (Fig. 1)

The area investigated was divided into 4 sites. Sites 1 to 3 were flat grassland known as Abbey Mead. Slight undulations in the surface of site 1 indicated the presence of building 5. Site 4 was the farmyard of Abbey Farm until 1970 and, in consequence, had the greatest depth of topsoil; it is now a rose garden. The 18th century building marked 'stables' (Fig. 1) belonged to Abbey House and later became the Abbey Farmhouse until the modern farmhouse was built in the area marked 'untrenched'; the farmyard served these 2 farmhouses.

3. Documentary Survey by K. N. BASCOMBE

The Augustinian monastery of Waltham was established[1] in 1177 by King Henry II, replacing a college of secular canons founded by Harold II c. 1060. At first a priory, the new house became an abbey in 1184. During the lifetime of Harold's college, the site sampled by the excavation appears to have lain within the Saxon-Norman enclosure discovered[2] in 1972. The new foundation evidently occupied more land than the old; references to expenditure of 26s. 8d. for removing barns *(horreis)* and of £20 for purchase of land, both for enlargement of the canons "court" *(curia)* occur[3] in the Pipe Rolls for 1177-8 and 1179-80 respectively. The area presently of interest probably lay within the abbey precinct from this period, and the precinct itself was presumably defined early on. The ditch enclosing the abbey curtilage is mentioned[4] in 1222, and the gate *(ianua)* of the abbey, as a gathering point for the townspeople during a dispute with the abbot, occurs[5] in 1250. Reginald, formerly porter of the abbey, appears[6] in 1292.

Walls, apparently enclosing a precinct, are mentioned[7] temp. Abbot Reginald de Maidenheth (1274-89). By 1322 a stone wall[8] had been constructed (apparently 8 feet within the original boundary line) between the abbey precinct and the rear of at least one property on the north side of Sun Street. The completion of the circuit is probably dated by a licence[9] of 1369 to erect such a wall, and the construction of the abbey gateway, which is stated[10] to have exhibited the arms of Edward III, must date from this time.

The surviving records of the Abbey are largely restricted to cartularies, so that little is known about its internal administration or the layout of its buildings. The principal source for the latter
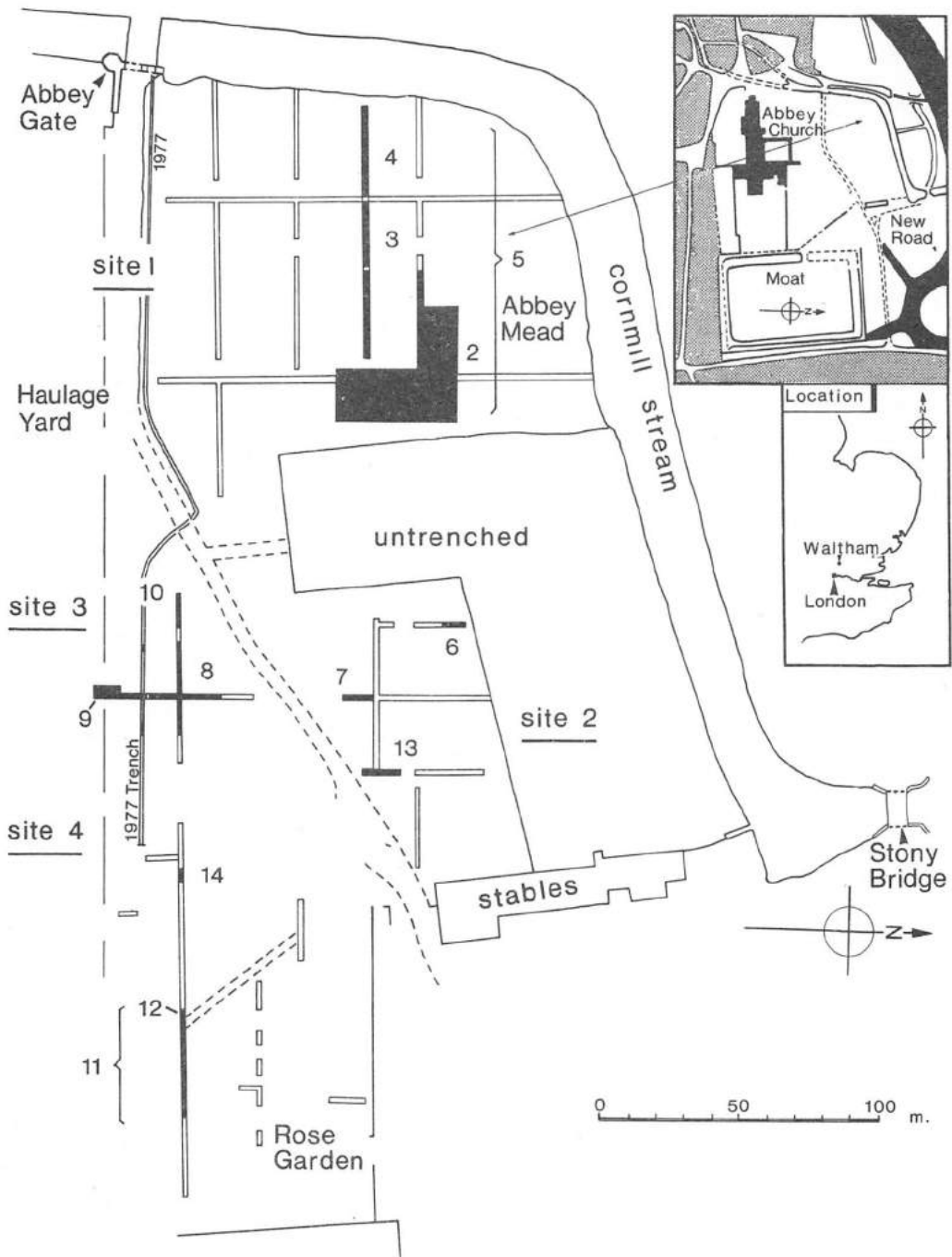
FIG. 1 WALTHAM ABBEY, 1972. Plan showing location of trial trenches. Sites 1 to 3 are in Abbey Mead. Site 4 was the farmyard of Abbey Farm, now the rose garden. The blacked-in trenches are illustrated in detail, the figure numbers being given nearby.

is an inventory[11] taken at the dissolution in 1540; this lists items of value building by building, but mentions no buildings not containing such items. In this document the *Bakehouse* and the *Brewhouse*, which may be relevant to the present excavation, follow the buttery, kitchens and scullery, which presumably lay further south, near the refectory and the cloister area. The brewhouse is followed by *the Graner there* (i.e. near or next to the brewhouse). Apart from two fishing nets, probably associated with the surviving stew ponds 250 m. to the north, the next entry relates to *The Smythes Forge*, which is known from earlier excavation[2] to have lain some 150 m. to the east of the present site 1. The inventory entries for these buildings have been transcribed elsewhere[12].

The inventory makes no mention of guest-house, almonry, or infirmary, all of which should have existed. The last-named is known at present only from a single reference[13] of 1188, recording the dedication of a-chapel therein. No references have been found to the other two, which should have lain near the abbey gateway; but the offices of almoner *(elimosinar')* and guestmaster *(hostrar')* are both recorded[14] *c.* 1540. Abbot Reginald de Maidenheth (1274-89) is said[7] to have diverted the gravelled way within the walls between the bakery and other buildings near the cloister.

Among rooms mentioned earlier in the inventory are the *Kings chambour* and the *Quenes chambour.* The possible retention after the dissolution of these, with others, as a royal residence has been discussed[15]. Visits by King Henry VIII are in fact recorded in May 1541 and February 1542, but not afterwards.

Little information exists relating to the demolition of the abbey buildings, though it had certainly begun[16] by 1543. Lead was probably removed from the church in 1544 or soon after.[17] References[18] in 1562 to undermining part of the *abbey wall* could well refer to the precinct wall.

After the dissolution, control of the Abbey site and surrounding lands was acquired[19] between 1541 and 1553 by (Sir) Anthony Denny of Cheshunt (1501-49) and his widow Joan (d. 1553). Little is known about the abbey site till *c.* 1590 when a house was built[20] north-east of the cloisters by Sir Anthony's grandson Edward (b. 1569; knighted 1589; Baron Denny of Waltham 1604; Earl of Norwich 1626; d. 1637). About 1590-1 Sir Edward married[21] Margaret, daughter of the 1st Earl of Exeter, and grand-daughter of Elizabeth I's chief minister, William Cecil, Lord Burleigh, who lived in great state at Theobalds, 2.5 km. across the river Lea to the west. This marriage probably occasioned the move from the earlier Denny seat at Dallance (1.5 km. NE) down to the abbey site.

The house, which will certainly have contained much medieval masonry, both in situ and re-used, is shown on a map[22] in the Hatfield House collection, the relevant part of which has been reproduced elsewhere.[23] The main block of the house is shown running north-south, with doors in its west and north walls; on the eastern side extend long wings from the ends of the main block.[24] The roofs are coloured red, indicating tiles. From the southern end of the main block is a further (and shorter) projection southwards; this may well represent the whole or part of the chapter house, the site of which is currently under investigation.[25] Also shown (inter alia) is a large building, running east-west, in Abbey Mead. Access was evidently across the Cornmill stream and through the Abbey gateway. This last point is clear also from the second known illustration of the house, on an embroidery[26] depicting the Earl of Norwich handing a scroll to his grandson, James Hay, later 2nd Earl of Carlisle, probably on the occasion of a general settlement[27] of the former's estates in 1632. The buildings shown on the embroidery behind the gateway are difficult to interpret and are probably fanciful.

The 2nd Earl of Carlisle succeeded[19] in 1637; he entertained[28] Charles I at the abbey in 1641, and fought on the Royalist side in the Civil War, having subsequently to compound[29] for his estates, which had been sequestered.[30] This evidently caused him some financial embarrassment, for he sold[31] outlying parts of his estates in 1651 and 1652 and made provision for further sales in his will[32] of 1660, which mentions, incidentally, several items in the great hall of the house. The house seems to have survived for the time being probably intact, as the Earl's widow, Margaret, and her second husband, the Earl of Manchester, (d. 1671) paid[33] tax at Waltham for 46 hearths in each of

the years for which records survive, viz. 1662, 1666, 1671, and 1673. On the other hand, the value of the site of the abbey and some adjoining fields apparently fell from £200 per annum[34] in 1660 to £50 per annum[35] in 1674. The embroidery previously mentioned is stated[36] to have had on the back a label stating that "the abbey buildings" were demolished in 1671. The source of this information is unknown, but at least it is not inconsistent with the valuations quoted.

In 1672 Sir Samuel Jones, of Courteenhall, Northants, acquired a mortgage[37] of the estate. The twice-widowed Countess died childless in 1676, when it passed[19] to four sisters, distant cousins of the 2nd Earl of Carlisle. The co-heiresses were bought out during the next few years by the executors of Sir Samuel Jones, the estate being reunited by 1688 in the residential ownership of his great-nephew Samuel Wake Jones (1670-1712), who was sheriff[38] of Essex in 1699 and a deputy-lieutenant[39] of the county in 1711.

In 1735 the next occupier, Charles Wake Jones (b. 1702, nephew of Samuel Wake Jones) was improving the house, and had rebuilt the front "with larger stones after a modern, most exact form".[40] It has previously been concluded[41], on the basis of n. 40, and a note[42] of c. 1770, that the house had retained its Elizabethan character till this time. However, a print of the house published[43] in 1735 suggests work of a somewhat earlier date[44], apart from the front between the wings, and modernisation by Samuel Wake Jones appears likely.[45] A mortgage of 1689 may be relevant.[46] His will of 1712 states[47] that his dwelling house, with its courts, gardens, walls and appurtenances were to be "kept up and repaired as they now are". Certainly by 1718 little, if any, medieval work was visible.[48]

Charles Wake Jones died in 1739, and subsequent owners were non-resident and showed little interest in the house. It was demolished[49] in 1770 except for its S wall (the former N wall of the monastic chapter house) and the vaulted cloister entry, which appears to have been incorporated into the house; these still stand.

After 1770 the site of the house and its grounds were devoted for two centuries partly to market gardening[50] (this part recently an orchard) and partly to farming. The excavation site lay in the latter part of the area. In 1970 the Lee Valley Regional Park Authority assumed control and the whole area is now a public open space. The abbey gateway, cloister entry and chapter house site are in the guardianship of the Ancient Monuments Branch of the Department of the Environment, and nearly all the area is scheduled under the Ancient Monuments Acts.

4. The Excavation
4.1 Site 1: The West Part of Abbey Mead (FIGS. 2-5)

Abbey Mead was the largest single area available for excavation. Wherever a trial trench was dug there was building rubble and much pottery under the turf. This rubble was taken to be evidence of a building complex which must cover the whole of the area. Footings of the later buildings proved to be within a few centimetres of the surface, and those of the earlier medieval buildings were under barely 50 cm. of soil. After the building debris had been exposed the later brick buildings, numbers 5 and 6, were already standing proud, and a late road could be traced crossing Abbey Mead. This road was well made with a pitched stone surface and curbs. Initial cleaning also exposed the yard belonging to the post-medieval Abbey House (Fig. 30); a jeton (App. 4/10) was found on the surface of the yard.

Selected deeper trial trenching produced a total of seven buildings. A reconstructed section west-east through the building complex is shown in Fig. 5. This section is intended merely to give an impression of the density of buildings. Buildings 1-6 all lay in the area investigated (Fig. 2), and represent at least four building phases.

The intrusion of later sixteenth and seventeenth century pottery into medieval levels indicates that robbing of building materials continued throughout these centuries.

4.1a BUILDING 6 (FIG. 2)

This was the latest building and was of post-medieval date; for associated pottery see App. 1/95, 98, 100, 105-7. Bricks, robbed from building 5, had been made into crude walls with little or no footings. The building was possibly a garden hut connected with the later Denny mansion.

4.1b BUILDING 5 (FIG. 2; PLS. 6A, 8A)

This building was a large well-made brick structure, with massive footings. The footings had many offset courses and changes in the alignment proved that the building had been radically altered at least once. Indeed its final plan although damaged by later robbing, shows that the building, probably once symmetrical, had been considerably reshaped. The bricks from which it was constructed were all of flemish size. Although it is by no means certain that these are not reclaimed bricks re-used in this building, by analogy with another Abbey building, building XII of the grange, they would date to the last quarter of the fifteenth century[51].

The shape of the building suggests an oven or perhaps a pair of ovens opening into a yard surrounded by a solid brick wall. However there was little evidence of burning but there was what appeared to be furnace rake-out into the yard. The louver (App. 2) was found in the rubble over the supposed oven, which was packed with large chalk blocks. Under these blocks in a layer of building debris was a small group of sherds, e.g. (Fig. 17/89) which could well fit a building date in the fifteenth or early sixteenth century. Below this was a layer of dark soil which contained the medieval tap (App. 7/23), and the jetons and coins (App. 4/16-18), all of second half of the fifteenth century date. This dark soil lay around the wall of an earlier building, which in turn lay over the hearth of a yet earlier building, see below.

Building 5 was therefore built on the site of demolished medieval buildings probably after 1500. It had been built as a freestanding structure and then rubble had been packed around its footings. Pottery nos 54-7 from this rubble was typical of the dissolution period and was associated with the jetons, coins 11, 13, 15 of circa 1530. The pottery and coins found in the rubble above the building were late seventeenth century, see pottery nos. 59--64, 66—79, 81—82, 84—88 and coins nos. 3-6, 8, 20, also clay pipes from site 1.

The two periods of rubble were typical of site 1, the first period being associated with the dissolution; the second with the late seventeenth century and the possible final demolition of the Abbey buildings in 1671.[25]

It is suggested that building 5 is a late monastic building built free-standing with a later rubble packing around the foundations. It would appear to have survived until the late seventeenth century and could well be the building shown in Abbey Mead on the map drawn for Sir Edward Denny about 1600.[23]

4.1c BUILDINGS 2, 3, 4 (FIG. 2; PLS. 6B, C, D, 8B)

These buildings are taken together because they appear to have formed a building complex which was, in part, superseded by the construction of building 5. Building 4 was represented by a clumsy footing (part in stone and part in medieval brick) for a timber structure; its walls had been cut by the building of 5 and it was therefore earlier than 5. The north wall of building 2 continued under building 5 and appears, associated with the bronze tap and the jetons (Apps. 7 and 4), within the circular feature in building 5; this wall continues, still under 5, to join with building 3. Building 4 is probably later than 2 and 3, it being a lean-to added to building 2 which is represented only by the wall connecting buildings 3 and 4.

Building 3, a large timber-framed aisled building, survived the construction of building 5 and perhaps existed with it until they were demolished together. The aisles of building 3 were divided into small rooms each with a hearth (Pls. 6C, 8B). The form of the stone stylobate in the area excavation of building 3 (Fig. 2; Pl. 6D), is identical both in make and construction to that found in
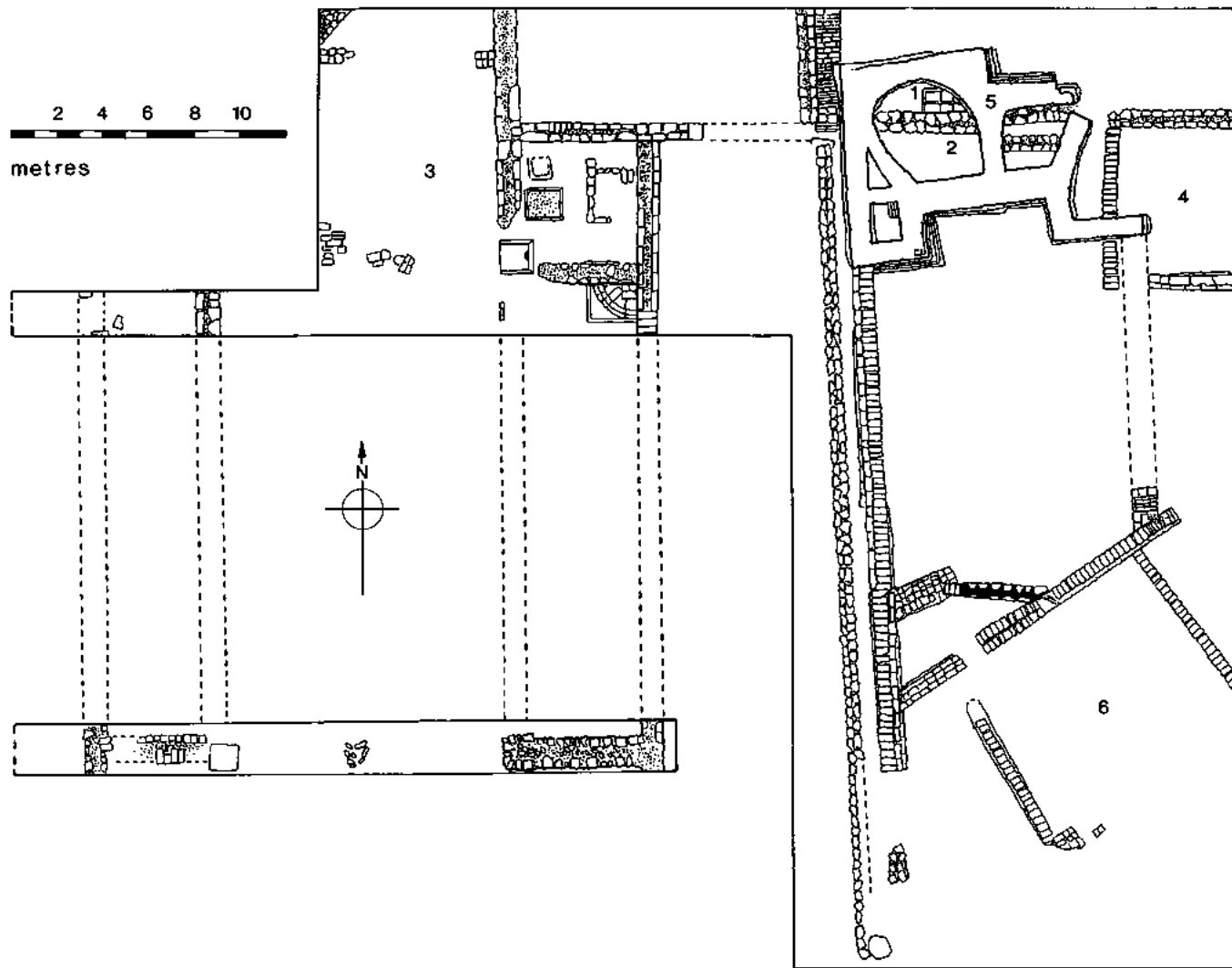
FIG. 2 WALTHAM ABBEY, ABBEY MEAD, SITE 1, 1972. Plan of buildings 1 to 6. Building 1 is represented by a hearth and fragment of wall; 2 by a single wall; 3 by ground walls for a timber-framed aisled building; 4 by ground walls; 5 by brick foundations and 6 by lines of brick.

building 9 (Fig. 9). The ground walls of building 3 were mostly constructed from large, mortared, stone blocks but there were also some large medieval bricks. These ground walls would have been the footings to carry a timber frame superstructure. The limits of building 3 were not established, but it must have been of considerable size. As for building 3 there were two distinct periods of finds, early 16th century (see pots Fig. 17/91-3), and late 17th century (Fig. 17/97) with clay pipes and other 17th century pottery; these two groups of pottery are taken to reflect building and demolition periods respectively.

4.1d BUILDING 1 (FIG. 2)

Little can be said of this building. It only appeared below the excavated internal features of building 5 and lies under building 2, the connecting wall between buildings 4 and 3, (Pls. 1B, 8A). It appeared as a hearth projecting from beneath the footings of 2. The hearth was neatly constructed of ashlar with a raised kerb.

4.1e BUILDING 7 (FIGS. 3 AND 4)

Building 7 lay immediately to the west of building 3, but on a lower level. This was probably another aisled building; one cannot be sure of its form from a single trial trench. It was a substantial building with rammed chalk and mortar wall footings similar to that of the precinct wall (see Para. 4.4). One of its interior walls had been of good quality masonry (Fig. 3/4) though this had been disturbed by robbers. The floors were of large medieval bricks of size 16×34×6 cm. which had originally been overlain by a tile floor. One triangular brown-glazed tile was found still bedded. The area of the displaced masonry had been an internal doorway; one of the pieces of masonry was a door jamb and there were empty spaces for sills in the brick floor.

The pottery in test holes around the footings of building 7 was 13th and 14th century and there was late 15th and 16th century pottery in the silt over the floors. Fig. 17/58, 16th century, is typical of pottery in silt over this building and was found amongst the disturbed stonework. From the relative depth of the building and the dating evidence of the pottery it can be suggested that this building went out of use long before the building 3-4 complex next to it, that is just prior to or at the dissolution. *Editorial note:* the use of the word 'silt' above does not imply that this was a flood deposit.

Fig. 4 shows part of building 7, but also a mass of walls, drains and general debris on the west towards the Cornmill stream. This part of the site will only be understood after area excavation. To the north on the Cornmill stream bank was a rubbish deposit which must belong to the 17th century occupation of the site. This contained pottery (Fig. 17/96); the knife handle (Fig. 19/11); the fluted bottle neck (Fig. 26/2); and the bronze fastening (Fig. 23/14.)

4.2 Site 2: The East Part of Abbey Mead

Trial trenching here did not produce the proliferation of buildings found under the turf on site 1. Three areas were selected for deeper test holes. One of these areas revealed a well-made stone and tile medieval drain (Fig. 13). This drain led from the direction of site 3, probably coming from building 8 (Fig. 8).

The other two test areas (Figs. 6 and 7) were excavated to natural through 12th century levels, dated by the pottery (Fig. 15/1-10). However, little could be understood of the pits and gullies which were dug into the natural, because of the limited area of excavation (Pl. 7A).

4.3 Site 3: The South-East Part of Abbey Mead

Here again there was a proliferation of buildings though under a greater cover of rubble than on site 1. This must be due to the alterations to and the final demolition of the Abbey House, in the 16th to 18th centuries.

Figs. 3 & 4 : Site I, Building 7

1   2   3   4   5

metres

Fig. 4

west   east

Fig. 3

1 – light brown subsoil   3 – grey silt
2 – destruction debris   4 – fallen masonry

west   east
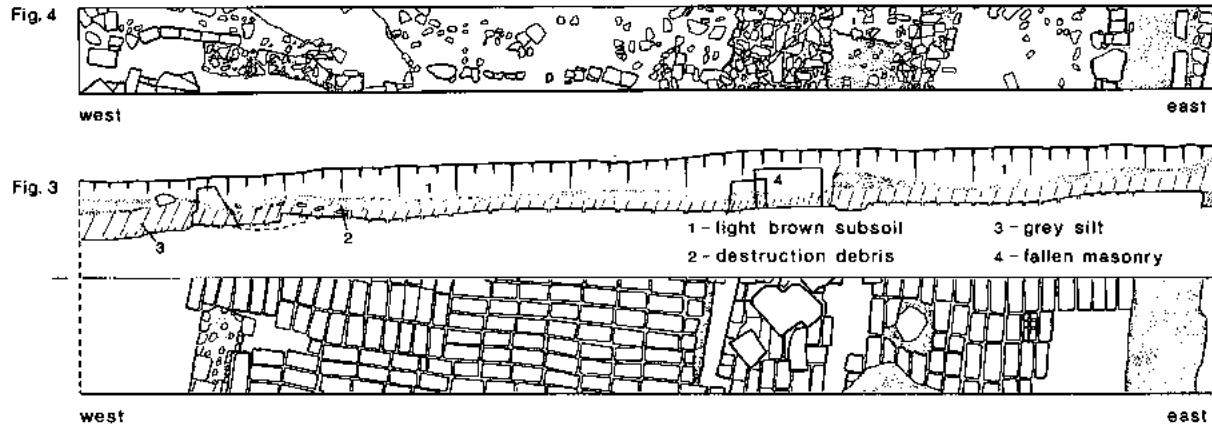
Fig. 5 :   Site I, Buildings 3, 5, 6 & 7 :   Reconstructed section to show density of buildings

10   0   10   20

metres

west   east

7   3   5   6

fig. 4   fig. 3   fig. 2
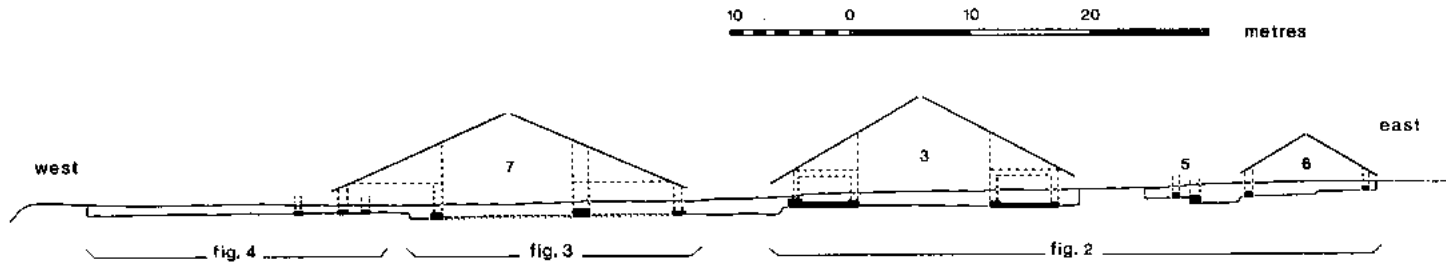
FIGS. 3-5 WALTHAM ABBEY, ABBEY MEAD, SITE I, 1972
3; Plan and section through building 7 showing medieval brick flooring (para 4. 1e).
4; Plan showing the west side of building 7 and features westwards towards the Cornmill Stream (para 4.1e).
5; Reconstructed section through buildings 3, 5, 6 and 7 (para 4.1).
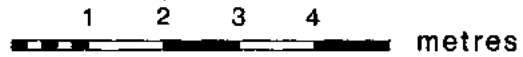
Fig. 7
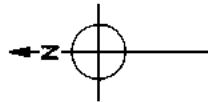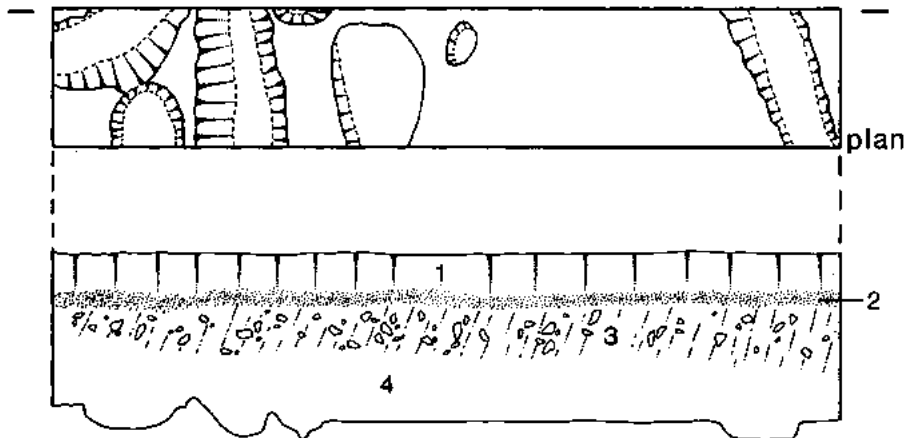
Fig. 6
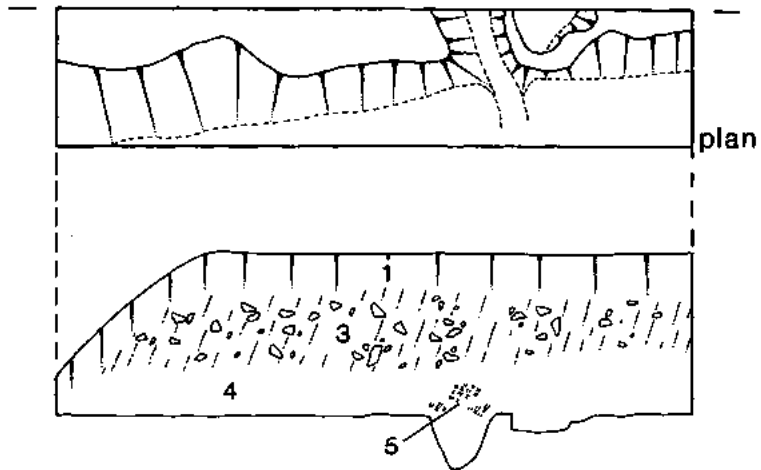
1 – topsoil   4 – brown   clay

2 – gravel   5 – orange   clay

3 – brown   soil, rubble

FIGS. 6-7 WALTHAM ABBEY, ABBEY MEAD, SITE 2, 1972. Plans and sections showing 12th century pits and gullies cutting into natural.

Sections show depth of trial
trenching, not the full
depth of deposit

1 2 3 4 5 6

metres

N

A

A

B

B

5

3 2 1

5 3 6 2 1

5

3

1

4

3

5

1

3

3

5

2

1 — topsoil

2 — gravel

3 — rubble, orange silt

4 — gravel, brown silt

5 — orange clay

6 — rubble, grey silt
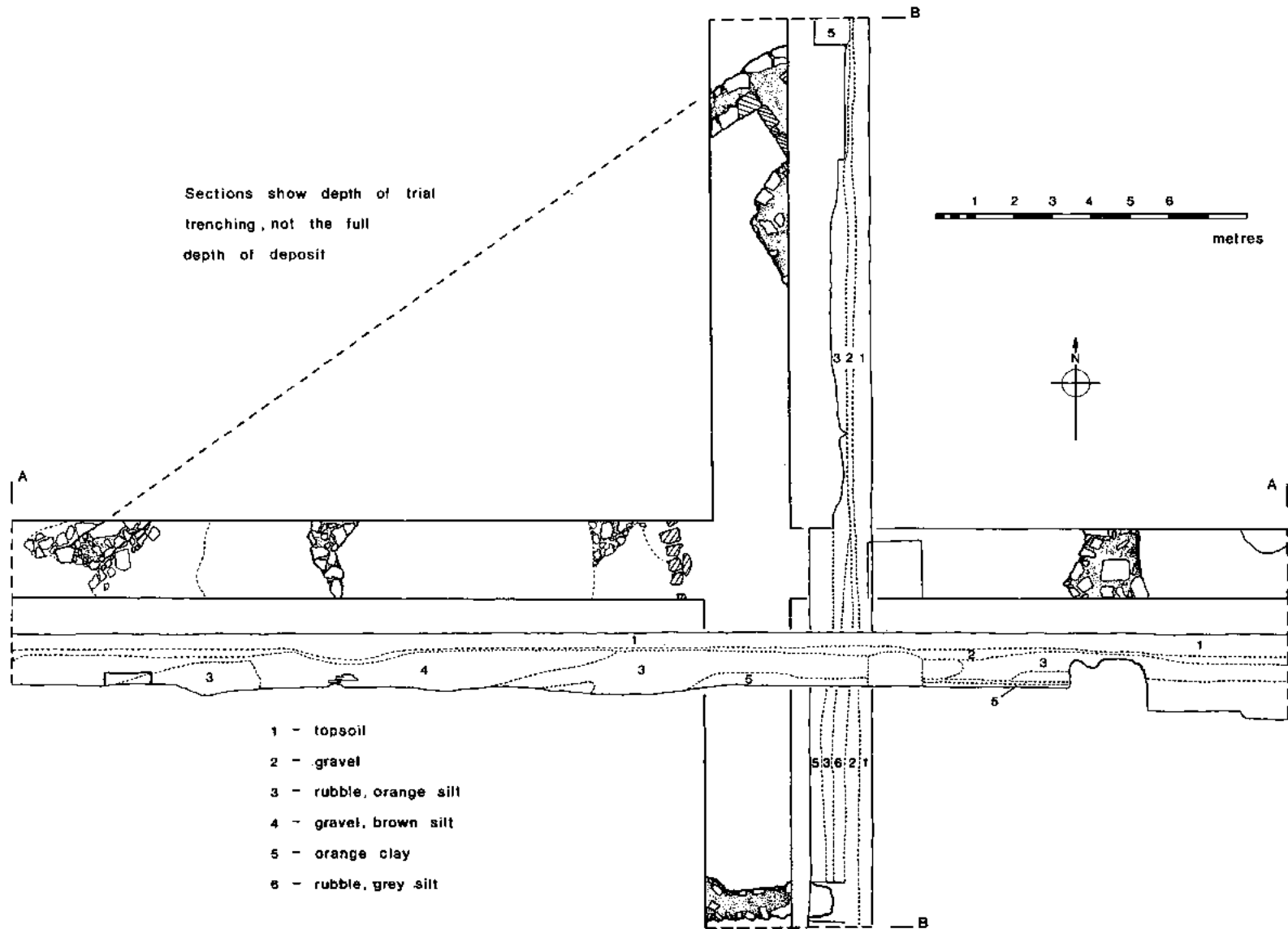
FIG. 8 WALTHAM ABBEY, ABBEY MEAD, SITE 3, 1972. Plan and sections of building 8 (para. 4.3a).

4.3a BUILDING 8 (FIG. 8)

Building 8 was a substantial but much robbed monastic building with walls of mortared stone and tiles (Pl. 7B) lying at forty-five degrees to the rest of the Abbey buildings. Again trial trenching could do little more than establish its presence, and some idea of its date. That it is a fairly early building is indicated by the coin (App. 4/1) and the pottery (Fig. 16 nos. 30-3, from level 5, Fig. 8); level 5 was not however a purely medieval layer indicating use up to and perhaps beyond the dissolution. However medieval pottery only was found within the angle of the main wall (Fig. 8) and in the continuation of the trench (Fig. 9). A slot 8 through the mortar surface 4 produced medieval pottery of 13th/14th century date and two post holes containing 12th century pottery (Fig. 16/29). These latter features could well be for scaffolding posts for the erection of building 9. They were not associated with the post-17th century disturbance which had affected the layers above.

4.3b BUILDING 9, ABBEY HOUSE (FIGS. 9, 30)

This building raises all the problems concerned with the houses where Sir Edward Denny and later Charles Wake Jones lived. Building 9 survived as a floor of worn red tiles, probably once glazed, bordered by a damaged mortar and rubble wall footing which had a stylobate set into it (Pl. 7C). By reason of the depth of this building and its method of construction (building methods bore a strong resemblance to those used in building 3, site 1) it could well be medieval and probably part of one of the monastic ranges.

It seems evident from the survival of the chapter house wall and the slype that Sir Edward Denny's house was constructed re-using monastic ranges, a practice common at other Abbeys after the dissolution, as for instance Hailes Abbey, Gloucestershire. The position of the wall and floor under discussion agrees well with the relative position of the house as shown in the map drawn for Sir Edward Denny in about 1600.[22] It also agrees with an engraving showing the house after it was remodelled by Charles Wake Jones (Pl. 9). The garden wall shown on the south side of the house, the carriage entrance through it, and the central garden walk all still exist; the house itself faces east.

This was the only part of any site that had a continuous run of finds from the 15th to the 19th centuries. 15th, 16th and 17th century pottery was found in the silt and rubble over the floor (Fig. 16/65, 80, 83); there was also a jeton of 16th century date (App. 4/12) and fragments of clay pipe stems. In the rubble overlying the silt on the floor there was 17th century pottery. In the general rubble layer above there was 18th and 19th century pottery and clay pipes of this date.

The conclusion about the remains seen is that this was part of a medieval building re-used by Sir Edward Denny, but outside the remodelled building created by Charles Wake Jones in the early-18th century, because of the amount of finds of that date lying over the floor. It would appear that when Wake Jones re-built the house, its wings were contracted, probably being completely demolished and replaced by the two symmetrical wings shown in Pl. 9. Yet it appears from the upstanding remains and Farmer's comments, that the original central hall was retained and merely re-modelled (App. 11). This would explain why the floor of building 9 (Fig. 9) which would have formed the north wing of Sir Edward Denny's house, apparently went out of use in the late-17th century. Similar alterations seem to have taken place in the south wing at about this time.[52] The pipe trench evidence (App. 12) suggests that the western extensions to the house were also destroyed at this period. Perhaps all the above buildings were levelled in the demolitions of 1671 (see Sect. 3).

4.3c BUILDING 10 (FIG. 10)

This was a small fragment of a late brick building on site 3. Perhaps this was a garden feature connected with the Abbey House.

Fig. 9 : Site 3 , Building 9 .   Continuation of fig. 8 , B-B
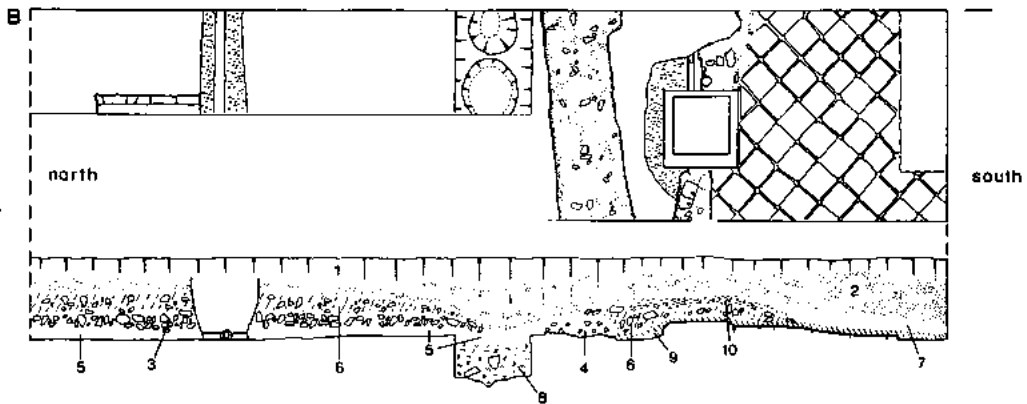
Fig. 10 : Site 3 , Building 10 .   Continuation of fig. 8 , A-A
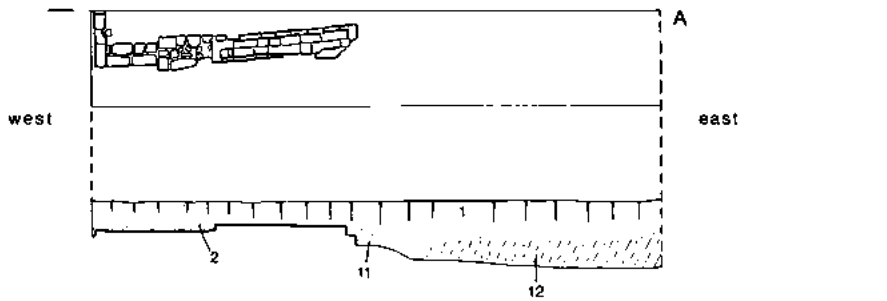
1 — topsoil		7 — grey silt	
2 — gravel		8 — black clay	
3 — rubble		9 — dark brown silt	
4 — mortar, rubble		10 — cement	
5 — orange clay		11 — yellow sandy soil	
6 — rubble, grey silt		12 — brown soil	

metres
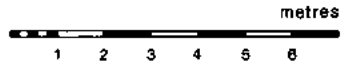
FIGS. 9-10 WALTHAM ABBEY, ABBEY MEAD, SITE 3, 1972.
9; Plan and section of part of building 9 (para 4.3b).
10; Plan and section of a fragment of building 10 (para. 4.3c).

Fig. 11: Site 4 : Precinct wall and features

east — west

2 — 1 — 8

3 — 4 — 2 — 5 — 9 — 6

6 — 7

0 — 5 — 10 — metres
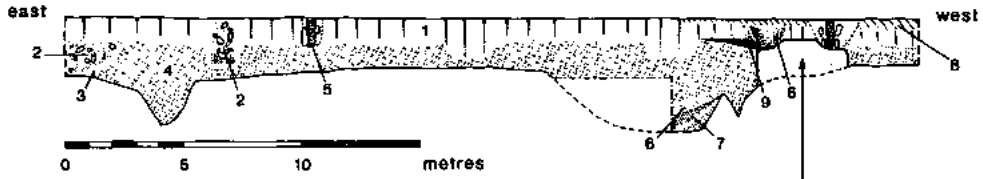
1 — topsoil
2 — brown clay, rubble
3 — gravel
4 — brown clay
5 — timber
6 — yellow clay
7 — black soil
8 — brown soil
9 — mortar

Fig. 12: Site 4: Precinct wall

east — 9 — 6 — 5 — west

4 — wall

ditch

metres

0 — 1 — 2 — 3 — 4 — 5
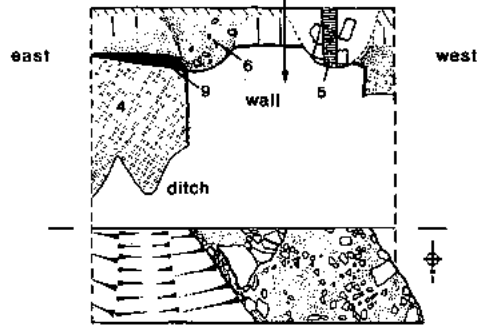
Fig. 13: Site 2: Medieval drain

plan
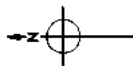
Fig. 14: Monastic culvert

1 — topsoil
2 — brown soil, dark
3 — brown soil
4 — chalk
5 — rubble, brown soil
6 — yellow clay
7 — stone rubble, mortar

Site 4

s — n

2 — 1

3 — 4 — 7 — 6
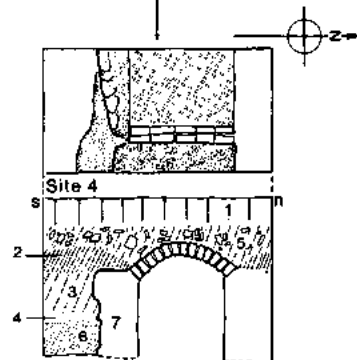
FIGS. 11-14 WALTHAM ABBEY, 1972
A: FARMYARD OF ABBEY FARM, SITE 4.
11; Precinct wall and pits cutting into natural (para. 4.4).
12; Precinct wall, enlarged (para. 4.4).
14; Monastic culvert (para. 4.4).
B: ABBEY MEAD, SITE 2.
13; Medieval drain (para. 4.2).

4.4 Site 4: Farmyard of Abbey Farm

This site of the farmyard had a great depth of soil. Here it was possible to examine part of a monastic culvert (Fig. 14). This culvert had been built from stone rubble and mortar and had been re-topped in brick, probably in the 16th century (Fig. 15/90).

A section was dug to natural through the farmyard (Fig. 11). This cut the Abbey Precinct wall, a massive footing of rammed chalk and mortar, which had been trench-built. A skim of mortar in the section, level 9, indicated the depth from which this had been dug (detail, Fig. 12). Another trench was dug to cross this wall and check its alignment (Fig. 1). A late-15th century jeton was found actually on the footings of the precinct wall (App. 4, 14), perhaps indicating the dis-use of the wall and the extension of the precinct to the present brick boundaries beyond the moat (Fig. 30) before the dissolution. For a full discussion of the precinct wall see Appendix 13.

The natural clay on site 4, again had features cut into it (Fig. 11). As on site 2 these were of twelfth century date (Fig. 15/11-16 and 20-1) and, as before, an insufficient area was excavated to obtain a clear idea of the function of these features, although they did appear to be pits rather than ditches. The builders of the precinct wall had dug right down into the pit closest to that wall to obtain an acceptable footing (Pl. 7D).

5. Conclusions

It is evident that Abbey Mead formed the outer court or 'curia' of the Abbey and was within and, in part, bounded by the precinct wall. The full extent of the precinct wall is now better understood as a result of further excavation reported in Appendix 13. Abbey Mead must therefore contain many of the functional buildings essential to the welfare of the Abbey.

The division into cubicles of the aisles of building 3 suggests that this structure was an infirmary or guest-house. The latter would seem more likely, for an infirmary arranged north-south would require a separate building for a chapel. One would also expect an infirmary to be placed further from the noise and bustle of the outer court.

The function of building 5 must, for the time being, remain in doubt. However the inventory of the Abbey taken in 1540[11] notes that the brewhouse lay somewhere in this area. The bronze tap, although sealed under building 5, might indicate the traditional use of the site. In plan the building has some resemblance to the malt-house at Fountains Abbey[53] and the curved structures could well be bases for vats rather than ovens.

Building 8 is in a more appropriate position to be the monastic infirmary and this would also agree with its early date. Its angle in relation to other monastic buildings may well reflect the pattern of the monastic drainage system and the need for an infirmary rere-dorter. Further details of this building have been recorded from the 1977 pipe trench.[54]

Conclusions may only be tentative after limited trial work. However it is evident that this area is of importance to the understanding of the secular part of monastic life. It is the view of the excavator that there is no area that can be built upon in the normal way; only a cover building to display the excavated remains would be suitable.

A list of features is not given because with so many trenches dug it would be too long and complicated. The site books will be typed out and copies deposited with the D. of E. and the Waltham Abbey Historical Society. The pottery is with the WAHS, the other finds, May 1979, are with the D. of E.

Appendix 1: Pottery (FIGS. 15-17) by RHONA M. HUGGINS

The pottery was recorded fully and discussed in the preliminary report published in 1972 following the excavation.[55] The present report has been shortened to illustrate only those pots of particular interest or importance for dating. The numbers from the preliminary report have been retained for ease of reference and the original descriptions are given in full.

ROMAN A sherd of Castor ware with barbotine decoration, 21, was found with 12th century pottery.

PRE-MONASTIC Wherever trenches were excavated to 'natural', pits and gullies were found containing pottery of 12th century date similar to the large group, associated with the palisade which preceded the monastic forge,[56] and was thought to represent the boundary of the 11th and 12th century manorial enclosure. All the area under discussion would lie within this enclosure. Nos. 1-16, 20 and 22 from sites 2 and 4 with nos. 17-19, 29 from site 3, all belong to this group, with coarse shelly ware predominating and some early glazed wares occurring.

MONASTIC The group, nos. 24-8 from site 4, includes 13th century forms with a jug rim probably of the 2nd half of the 13th century of local type[57]. From site 3, nos. 23 and 30-3 with 43A, can be associated with the coin of 1180-5 (App. 4/1) and are slightly more developed in form than the late-12th century group. The handled shelly ware pot, no. 23, is a rarity in Essex but can be paralleled at Winchester[58] in 10th/11th century groups, a similar handle was found on site 4, so no. 23 is probably derived from pre-monastic features. Nos. 34-6 from site 1, building 6, are probably of late 12th or 13th century date. Nos. 41-3 and the imported no. 39 suggest a date in the late-13th or early-14th century for the destruction of building 8 on site 3 (Fig. 8/3). The jug handle, no. 34 from site 4, is probably 14th century and the Spanish maiolica bowl, no. 90, is 15th or early-16th century in date.

POST-MEDIEVAL The group, nos. 44-52, from the destruction layer over building 8, has 15th century forms such as the bifid rim but these may still have been in use in the 16th century. Seventeenth century local wares[59], nos. 94, 102 and 103, with sherds of Frechen stoneware, indicate activity in the mid-17th century as occurred on site 1.

The large flanged-rim pot, no. 53, is late-15th or early-16th century and the rim, no. 89, from the circular feature in building 5 is probably earlier in the 15th century. The coins stratified below suggest a date in the second half of the 15th century.

The jugs nos. 54, 55, 57 from the footings of building 5 are typical of the 1540 Dissolution period[60] with some earlier elements such as piercing of the handle still occurring. The jug, no. 58, from building 7 is perhaps a little earlier, the white painted band is typical of local jugs, from the 14th century to the Dissolution.

The rubble over buildings 5, 3 and 6 contained pottery of two periods, Dissolution and then second half of the 17th century. Only the most typical are shown here. The jug, no. 66, is probably locally made of unglazed redware with a dark surface. Jugs formed a large proportion of the 16th century pottery in this rubble with some storage jars and bowls. Nos. 91-3 are all imported wares associated with building 3 and probably of late-15th or 16th century date. The rubble of this building also included nos. 95-106 all of mid-17th century date with imported buffwares and stonewares forming a good proportion of the group.

Fig. 15 Pottery from Sites 2 and 4

Site 2. From clay above gully (Fig. 6/4)
(note: this clay was called loam in the forge excavations to the east)
1. Cooking pot rim, St. Neots ware, fine shelly, blackened outside and over rim to inside.
2. Cooking pot rim, shelly ware with shell leached, red surfaces, grey core (not illustrated).
3. Cooking pot rim, coarse shell temper, leached, surfaces blackened (not illustrated).

Site 2. From pits and gullies of the trench in Fig. 6
4. Cooking pot rim, coarse shell temper, blackened outside rim (not illustrated).
5. Cooking pot rim similar to 4, some blackening outside rim.
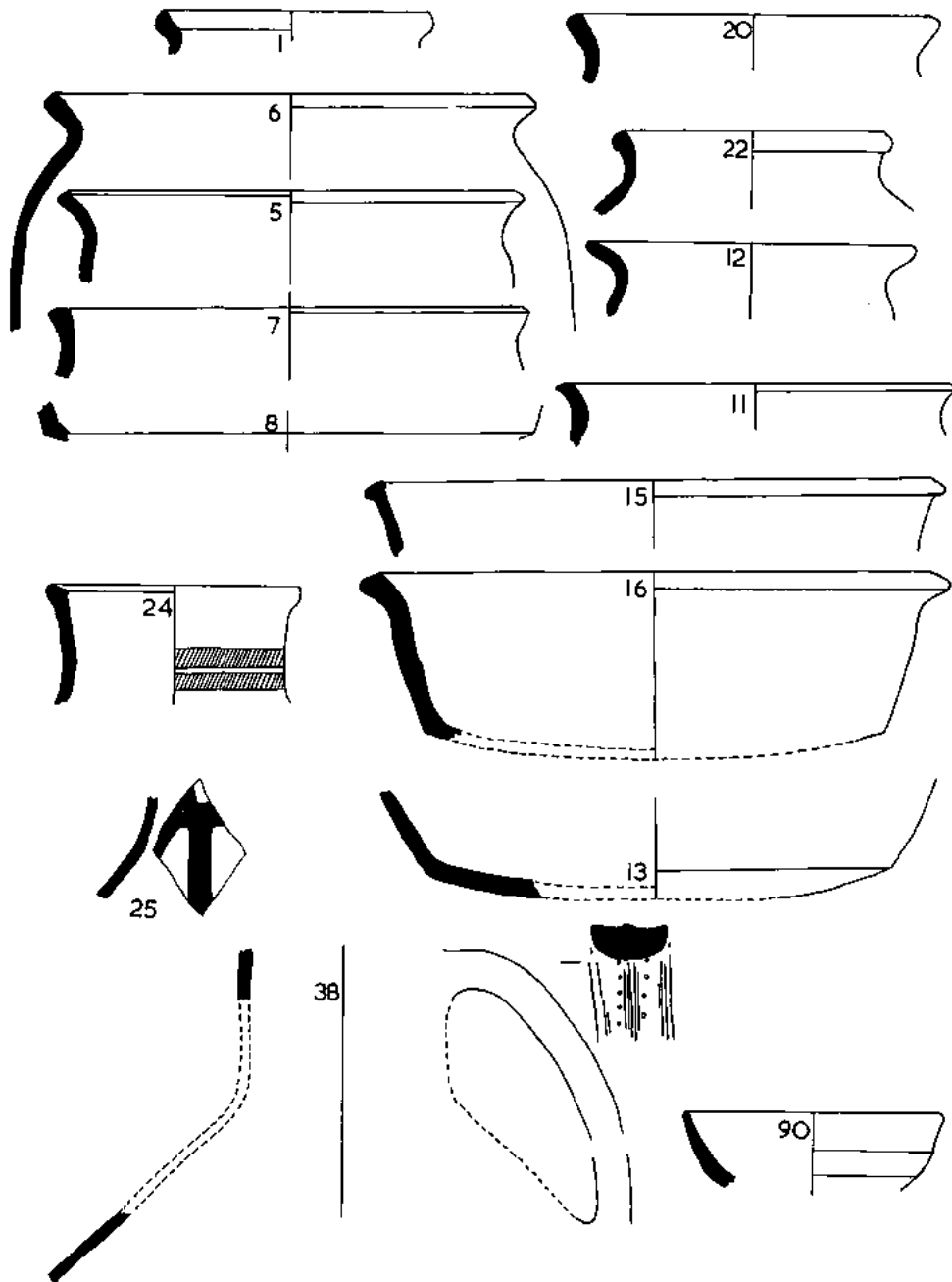
FIG. 15 WALTHAM ABBEY, 1972. Pottery from sites 2 and 4 (App. 1). Sc. 1:4.

6. Large piece of cooking pot, similar to 4 and 5, grey core, blackened inside rim and at bottom outside.
7. Cooking pot rim, similar fabric to 4-6, some blackening of rim inside and on shoulder outside.
8. Typical sagging base in similar fabric to 4-7.

Site 2. From pits and gullies of the trench in Fig. 7
9. Cooking pot rim, coarse shelly ware, red outer surfaces (not illustrated).
10. Cooking pot rim, shelly ware (not illustrated).

Site 4. From ditches east of precinct wall (Fig. 11)
20. Cooking pot rim, coarse shell temper, grey core, grey surfaces with some red patches.
21. Small sherd Roman Castor ware with barbotine decoration on grey fine fabric, dark grey surfaces (not illustrated).

Site 4. From east-west gully cutting into natural (central of 5 test holes, Fig. 1)
22. Cooking pot rim, grey sandy ware with traces of fine shell, grey core, reddish surfaces blackened both sides.

Site 4. From pit east of precinct wall (Fig. 11/7)
11. Cooking pot rim, grey sandy ware, blackened outside.
12. Cooking pot rim, coarse shelly ware, blackened inside and dark grey outside.
13. Base of jug, grey sandy ware, green glaze with brown patches on outside. Four sherds of a very fine grey ware jug with similar glaze outside were found in the same group.
14. Handle of vessel, red surface, grey, shell tempered ware (not illustrated, see no. 23 from building 8/5 below).
15. Rim of pot or bowl, coarse shelly ware, reddish surfaces, some blackening outside.
16. Large piece of thick bowl, coarse shell temper, grey core, pinkish red inside, blackened outside below rim. A sherd of similar thickness and fabric has a band of thumb impressions in the same group. Both probably hand made.

Site 4. From subsoil in farmyard (Fig. 11/4)
24. Jug rim, red ware with grey core, fine sand temper, decorated with double white band on neck with lead glaze over bands and splashed elsewhere outside.
25. Jug sherd, redware with grey core, fine sand temper, decorated with brown painted lines under orange glaze.
26. Cooking pot rim, grey ware tempered with coarse sand, blackened surfaces.
27. Cooking pot rim, redware tempered with coarse sand (not illustrated).
28. Cooking pot rim redware tempered with shell (not illustrated).

Site 4. From subsoil
38. Jug handle of buff fabric with green glaze on back of handle and outside body of jug, back of handle pierced and grooved.

Site 4. From rubble over sewer (Fig. 14/5)
90. Upper part of cup or bowl, pinkish fabric with whitish glaze on both surfaces, strong wheel marks outside, Spanish maiolica, 16th century.

Fig. 16 Pottery from site 3, buildings 8 and 9

Building 9, slot with postholes in bottom (Fig. 9/8)
29. Cooking pot or bowl rim, coarse shell temper, grey core, red surfaces.
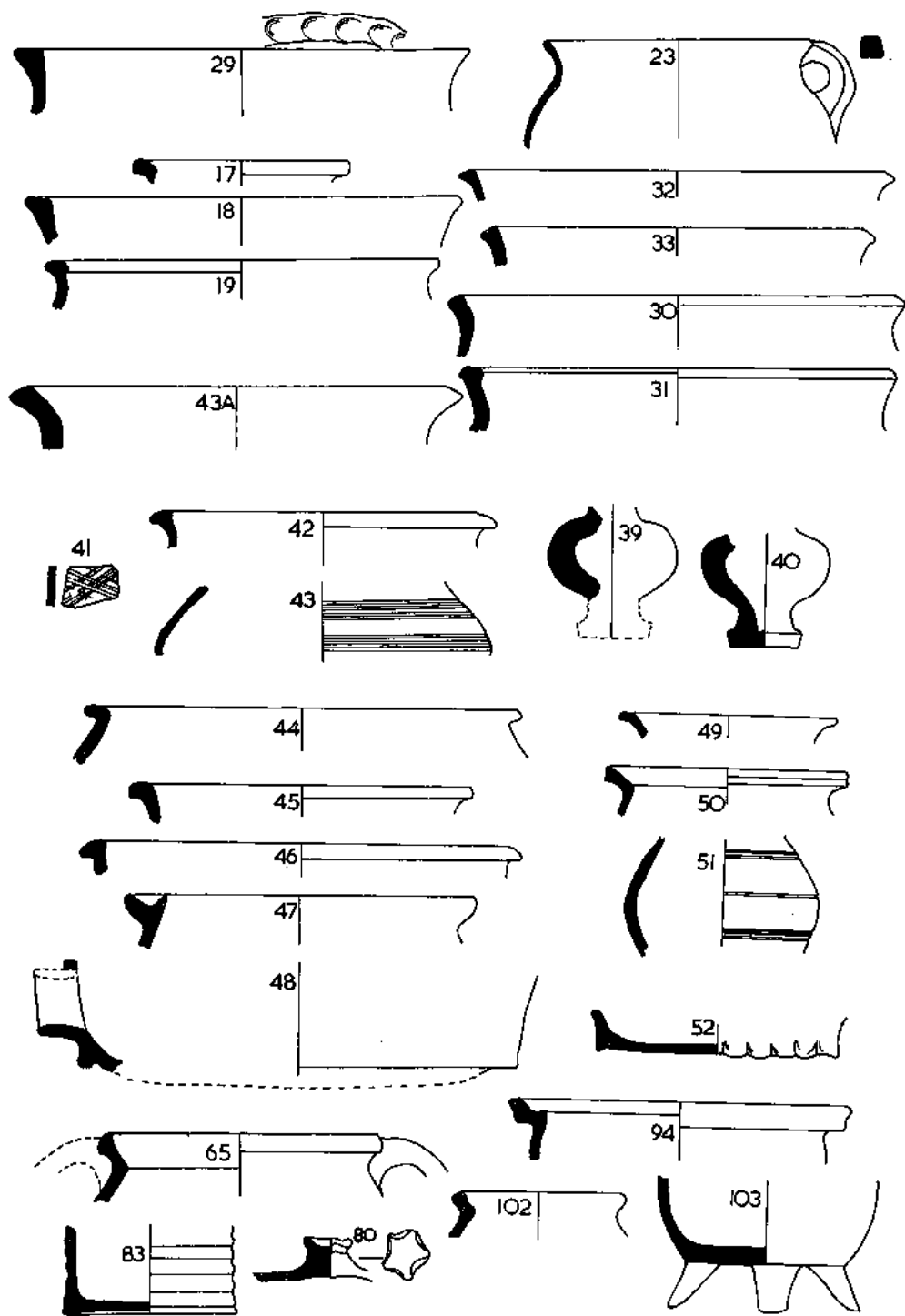
FIG. 16 WALTHAM ABBEY, 1972. Pottery from site 3 (App. 1). Sc. 1:4.

Building 8, posthole at eastern end of section Fig. 8
17. Rim of pot fine shelly ware like no. 1.
18. Rim of bowl or pot, tempered with coarse shell and sand, dark surfaces.
19. Cooking pot rim, coarse sand temper, grey core, brown inner surface, red margins and outer surface.

Building 8, from orange clay (Fig. 8/5)
23. Rim with handle, hand made, grey ware tempered with sand and some shell, orange/red outside surface. If the handle is for suspending the pot, two would be necessary, see 14 above, probably derived.
30. Cooking pot rim, coarse shelly ware, red surface patches.
31. Cooking pot rim, grey core and surfaces with red margins, coarse sand temper.
32. Rim of pot or bowl, sand temper with some shell, reddish brown fabric, blackened surfaces.
33. Rim similar to 32 but thicker and tempered with coarse shell.
(Note: no 43A, in layer 2, is probably derived from this group)

Building 8, from destruction rubble (Fig. 8/3)
39. Small pot of fine, light redware with metallic green glaze on both sides.
41. Sherd of unglazed sandy ware with crisscross inscribed decoration, brown surfaces, grey core.
42. Cooking pot rim, grey ware tempered with fine sand, brown surfaces, unglazed.
43. Shoulder of jug, fine sand tempered with red inner surface and core, grey margins, brownish/ green glaze outside and inscribed linear decoration.
40. Similar to 39 with complete base showing cheesewire marks. Both 39 and 40 are probably imports from the Netherlands or Rhineland and may have contained mercury. (Included here for comparison with no. 39, but found in soil above drain, site 2, Fig. 13.)

Building 8, from levelling after demolition, (Fig. 8/2)
43A. Rim of bowl or pitcher, tempered with coarse sand, grey with red surfaces, both surfaces have been coated with white slip, two patches of red over this slip on rim and outside may represent decoration, a thin yellow glaze with green patches covers both surfaces.
44. Cooking pot rim, grey, sandy, hard ware, with red margins.
45. Cooking pot rim, tempered with coarse sand and shell, grey core brown surfaces much blackened.
46. Cooking pot rim, fine unglazed redware.
47. Bifid rim, sandy unglazed redware.
48. Base with bunghole, red unglazed sandy ware, bunghole dia. 4 cm.
49. Rim of pot, fine pink ware, mottled green glaze inside only.
50. Rim of pot, red sandy ware, splashes of glaze inside rim.
51. Body-sherd of small jug, pinkish/buff ware with incised linear decoration under green glaze outside.
52. Jug base with edge thumbed down, red unglazed sandy ware.
94. Rim of pipkin, similar to no. 95 site 1, redware with brown glaze on both surfaces; 17th century.
102. Rim of small pipkin, unglazed redware, mid 17th century.
103. Tripod base of pipkin like 102, brown glaze inside base, underside blackened.

Building 9, from silt over the floor (Fig. 9/7)
65. Pipkin rim with handle, probably one of two handles, redware, grey core, dark brown glaze inside, red slip outside.
83. Base of mug, dark purblish fabric with black glaze both sides.

Building 9, from rubble over the floor (Fig. 9/6)
80. Knob of lid, redware, brown glaze on outer surface only, frill has been made by pulling upwards with five fingers together.

Fig. 17. Pottery from Site 1

From destruction and building rubble south of building 6 (Fig. 2)

34. Cooking pot or bowl rim, coarse shell temper with red surfaces.
35. Cooking pot rim, coarse shell temper, reddish fabric with darkened surfaces.
36. Jug rim of greyish/red fabric tempered with sand, yellow glaze on both sides.
53. Flanged rim of large pot or bowl, unglazed redware.

From building rubble within the circular feature in building 5 (Para. 4.1b)

89. Rim of large bowl, rough sandy unglazed redware with black core slightly thumbed along inner edge of rim. Also: five redware sherds; one greyware sherd; one green glazed redware sherd; one buffware, green glazed base.

From building rubble around footings of building 5 (Fig. 2)

This group is not illustrated.

54. Jug rim and handle of rough redware, unglazed, the handle pierced in careless way.
55. Rim of jug with strap handle, sandy redware with traces of white paint, single thumb mark on back of handle.
56. Flanged rim of large bowl or cooking pot, redware with grey core, unglazed, rough and rather worn.
57. Jug rim, red unglazed ware with painted white band below rim, traces of pushed out spout.

From amongst the displaced stonework of building 7, over the floor (Fig. 3)

58. Jug rim, redware, unglazed, white band below rim.

From rubble over building 3 (Fig. 2)

37. Cooking pot rim of grey ware, coarse sand temper (not illustrated)

From rubble over buildings 5, 3 and 6 (Fig. 2)

59. Jug rim, redware with white slip coating inside and outside mottled green glaze outside only. (not illustrated).
60. Jug rim, fine grey ware, unglazed (not illustrated).
61. Jug rim and handle, redware with splash of glaze under handle (not illustrated).
62. Jug rim of redware, outer surface dark grey, pushed out spout and trace of handle (not illustrated).
63. Lower part of maiolica handle with blue glaze, probably one of a pair of loop handles on a South Netherlands flower vase usually dated to 1475-1540. (See J. G. Hurst in Guy Beresford, 'The Old Manor, Askett', Records of Bucks. XVIII (1971), 343-366).
64. Rim of large bowl, rough redware, unglazed (not illustrated).
66. Upper part of jug, redware with dark outer surface, red inside, well made on wheel with incised bands on shoulder, wide strap handle with thumbed impression down back, pushed out lip opposite the handle. Typical of 16th century jugs at Waltham, glaze may be used as a bib on the front. Jugs of similar shape may be decorated by simple white painted curving lines on plain unglazed red surface jugs (see also 61-62 above).
67. Rim and handle of small jug, redware, unglazed with white band painted below handle.
68. Neck of flask, redware unglazed, probably imported.
69. Handle of mug or small jug, redware with greenish glaze partially covering surface.
70. Pipkin rim, redware, trace of glaze on rim and white paint below rim outside, dark surfaces (not illustrated).
71. Rim, redware, brown glaze outside below rim, probably a storage vessel (not illustrated).
72. Flanged rim, redware, trace of brown glaze inside rim and pot (not illustrated).
73. Pipkin rim, redware, brown glaze inside and over rim (not illustrated).

74. Rim of redware vessel, thumbed band below rim, handle is probably one of two, brown glaze below neck. A sherd with green glaze inside over white slip and trace of foot may belong to this vessel. Probably Dutch, or from London (not illustrated).
75. Pedestal base with thumbed edge, rough red sandy ware, unglazed, black inside (not illustrated).
76. 'Frilled' base of mug, Raeren stoneware, light brown glaze outside and under base with grey patches, matt buff inside; 1475-1570.
77-9. Bowl rims of red unglazed ware.
84. Base of mug or small pot, redware with black/brown glaze both sides (not illustrated).
85. Rim of storage vessel, redware, unglazed dark surfaces with white band painted below rim, probably handled, like 87 (not illustrated).
86. Rim and handle of storage vessel, probably two handles, redware, dark surfaces, some glaze below rim inside and white band painted outside (not illustrated).
87. Rim and handle of storage vessel, probably two handles, with single thumb impression on handle junction, white band painted below rim (not illustrated).
88. Rim and handle of vessel, roughly made redware, unglazed (not illustrated).

From rubble around the footings of building 5
81. Rim and handle with base of mug, redware with light brown glaze on both surfaces, base thumbed (not illustrated).
82. Rim of cup or mug, redware with dark brown/black glaze on both surfaces, ridges outside (not illustrated).

From rubble over building 3 (Fig. 2)
91. Neck of jug, fine white fabric with green glaze outside, probably French.
92. Base of small vessel, redware with yellow slip on upper part outside covered by thin lead glaze which also covers inside of base giving brown colour, base trimmed with knife outside; Dutch.
93. Fragments of jug of pinkish fabric with grey core, soft, all surfaces covered with whitish slip including under the base, strong marks inside made by tool, the slip has a worn brown coating overall which may be a decayed glaze, possibly Spanish maiolica as no. 90 from site 4, but a parallel has not been found for the shape.
97. Fragmentary chafing dish bowl, buffware with yellow glaze outside and partially inside, trace of handle springing from decorative moulded band. A yellow glazed base similar to 98 and another without ridging were in this group representing three vessels of slightly different diameter. Some signs of heating inside base.

From destruction deposits inside building 6 (Fig. 2)
95. Almost complete pipkin. Redware with brown glaze on both surfaces but very little under base. Three feet and two handles. A rather angular shape and overall glaze are not typical of local pipkins and it is probably a Dutch import.
98. Fragmentary chafing dish. Buff ware with green glaze on both sides, though very thin and patchy inside base. The ridged base has three openings cut in it and holes allow heat to pass into the bowl above. There was a trace of a loop handle springing from the decorative band, two are usual. The band has been formed by applying a separate strip of clay and indenting all round with a small round tool. This differs from 97 where the band is the rim of a lower bowl probably attached to a pedestal, the vessels have been fused together but the break shows the division clearly.

From destruction rubble over building 6
100. Rim of pipkin with brown glaze on both sides, typical of local 'Metropolitan' ware. 2nd half of 17th century (not illustrated).
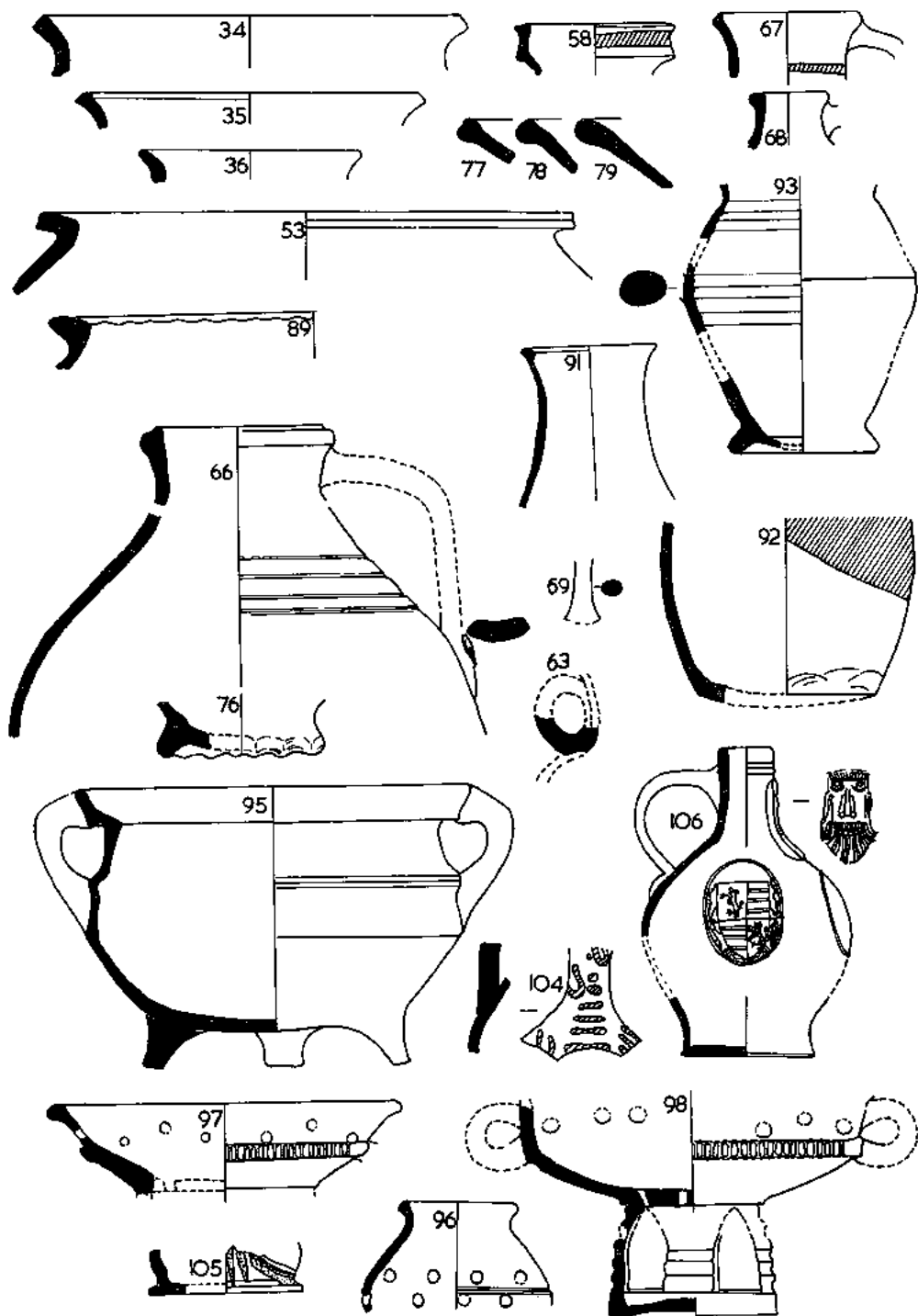
FIG. 17 WALTHAM ABBEY, 1972. Pottery from site 1 (App. 1). Sc. 1:4.

105. Base of drug jar, buff delftware with white glaze inside and blue (stippled) decoration outside. Probably from Southwark, in Dutch tradition.
106. 'Bellarmine' bottle with mask and probably three crests, Frechen stoneware with mottled brown glaze outside, matt buff inside; 1st half of 17th century.
107. Crest from similar vessel to 106. Quartered, 1st and 4th paly; 2nd and 3rd lion rampant surmounted by royal crown (not illustrated).

From topsoil over building 5

104. Jug handle with slip trailed pattern on redware, clear yellow lead glaze gives yellow pattern on dark brown background. Patchy thin brown glaze inside pot. 'Metropolitan' type ware mid-17th century.

From late rubbish deposits on Cornmill Stream bank

96. Upper part of perfume pot, buff ware with yellow glaze outside. Such pots were a popular remedy against the plague in the mid 17th century.
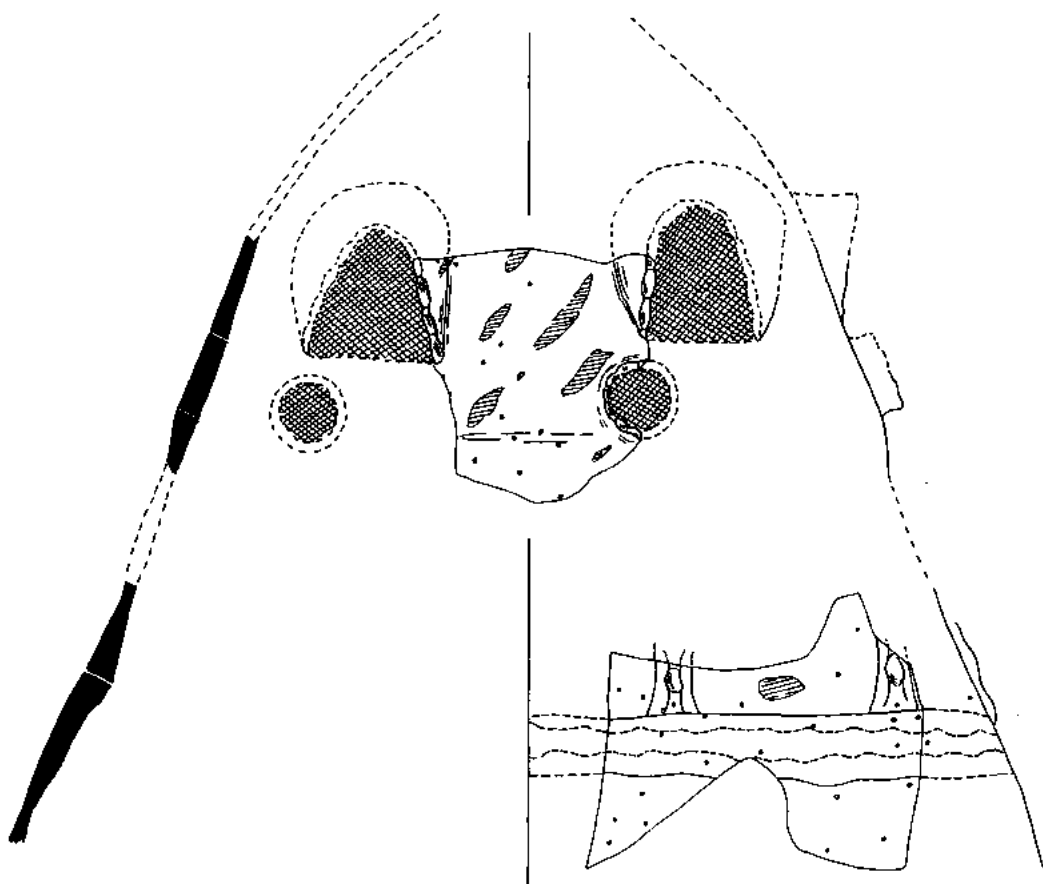
FIG. 18 WALTHAM ABBEY, 1972. Pottery louver from destruction rubble over building 5 (App. 2). Sc. 1:4.

Appendix 2: The Louver (FIG. 18) by RHONA M. HUGGINS

Several fragments of red fabric similar to roof tiles, badly fired with grey core, were found in brick rubble over the oven in building 5. Two large fragments enable some restoration of the louver; it apparently had six triangular vents with canopies sloping inwards, the upper part of the canopy was not found. Below the left hand side of each triangular vent was a small circular vent with pulled back collar. A piece of a similar circular vent with deeper collar may represent a further tier of vents above the triangular vents. The lower fragment found with the upper one has traces of thumbed strips most of which have pulled away and left only the scars. Above the horizontal band the louver was glazed overall with greenish brown glaze. Some attempt had been made to paint white diagonal lines prior to glazing but this was too thinly and badly applied and gives a patchy appearance. The louver is roughly made, probably by hand with some tidying up on a slow wheel, the inner surfaces are rough and blackened near the vents. The whole louver had been haphazardly pricked from the outside, after application of thumbed bands, slip decoration and glaze (but before firing), and the pricking continues into the unglazed section below the horizontal band. No doubt this lower section was intended to be hidden by roof tiles or a supporting platform. The glaze and decoration is typical of late-14th and 15th century pottery in the Waltham area and it is suggested that the louver is of this date. If it belonged to the oven near which it was found, a date in the second half of the 15th century would be suggested, based on the bricks used in that oven[61].

Pottery louvers have been found in Essex and Hertfordshire and have been discussed by Dunning[62].

Appendix 3: Floor Tiles (FIG. 19) by P. J. DRURY

In common with most religious houses in Essex, floor tiles from several sources were present, although relatively few examples of each group were found. They may be described as follows:

1. Penn Tiles

All are in a hard red moderately sandy fabric with a grey core, being 18-24 mm. thick, with undercut edges; the base retains the sand used to line the mould. Penn tiles were described by Hohler in 1942[63] and are generally ascribed to the fourteenth century; they were decorated by the 'slip-over-impression' technique[64]. Five designs were present:

1. A lion's mask under a canopy, with another grotesque mask, probably representing a monkey, in the inner angle. Fragments came from destruction debris on site 3. This is Hohler's design P109; it occurs at Beeleigh Abbey and Norton Mandeville church in Essex, and Hohler lists 11 other sites, including five in London; it is also known from Cheshunt, Herts.[65]
2. Pierced cinquefoil within a cusped circle, with trefoils springing into the outer angles. Five fragments were present, from destruction debris on site 3. This is Hohler P74, in its usual form without an enclosing frame. The design is a common one, and is also known from Beeleigh Abbey. Hohler lists 17 other sites, including the kiln site at Penn, three sites in London, and St. Alban's Abbey. It is also known from King's Langley and Cheshunt.[65]
3. Fleur-de-lys between four quadrants enclosing quarter-octofoils; Fragment from destruction debris, site 3. The design is close to Hohler P 46, although it lacks dots between the petals of the octofoils.
4. Part of a sixteen-tile design, from destruction debris, site 3; the pattern was not recorded by Hohler.
5. Gyronny of sixteen; two fragments, from destruction debris, site 3. This was not recorded as a Penn motif by Hohler, but it has since been recorded at Penn Church and Gt. Hampden Church (both Bucks), Hurly Priory (Berks), and Cheshunt Great House (Herts)[65].

Recent work[66] has shown that Penn tiles reached several sites in the south-western half of Essex; their appearance at Waltham is thus not surprising. However, they do not seem to have been extensively used at the abbey, since only four other fragments, of Hohler's designs P52, 54, 121, and 138, are known from the house.[67]

2. Tiles of the Westminster Tiler Group

These are ill-represented in this collection, although they occur commonly in other contexts at the abbey. They are in a red rather granular fabric, generally with a grey core, and contain dark red nodules. The thickness is *c.* 25 mm, the edges being undercut. The decoration seems to be by the 'slip-over-impression' technique.[68]

6. A fleur-de-lys, from a damaged die, part of one stalk being missing. A single fragment came from destruction debris, site 3. This is a relatively common design, known from Bengeo, Herts, St. Mary's Hospital Bishopsgate, and Canterbury.[69]

7. A small fleur-de-lys and an elaborate cross, not one of the usual heraldic forms, side by side. The design seems peculiar to Waltham Abbey; perhaps the cross is meant to signify the Holy Cross for which the house was famed, and after which the parish is named. A single small fragment was found in destruction debris between buildings 5 and 6.

Three fragments of plain tiles of this group were found: two cream-slipped and glazed (from destruction rubble on sites 3 and 1) and one with a dark green glaze from rubble over building 9, Fig. 9/6. Evidence from Waltham Abbey itself confirms that these tiles were current in the early fourteenth century, and indeed evidence from elsewhere makes an emergence in the late-thirteenth century highly likely.[70] Recent excavation of the Chapter House at Waltham has produced a wide range of these tiles, which will be fully published in due course. The drawings here published, showing the complete forms of designs 6 and 7, are derived from Chapter House tiles.[71]

3. Tiles of the 'West Essex' group

Again common elsewhere at Waltham Abbey, but ill-represented in this collection. They are in a hard red fabric with a grey core, 23-25 mm. thick, with very slightly splayed edges and bases retaining the sand lining of the mould. Decoration is by the 'stamp-on-slip' technique.[64]

8. A foil within a circle. A single fragment, as illustrated, may be part of the same design as a fragment from Pleshey Castle.[72]

9. Four half-circles arranged around a small eight-pointed star. A single fragment, part of a tile scored (before firing) into eight equal triangles, came from topsoil site 1; a half tile, shown in outline on the drawing, is known from the Chapter House.[71] In both cases the stamp has been used on a quarry of larger size than that for which it was designed. There is also a very worn decorated fragment, the pattern unidentifiable, from destruction rubble site 3. These tiles are of fourteenth century date, and were probably made in the area between Waltham and Pleshey. The group is briefly discussed in a recent report on the excavations at Pleshey, 1959-63.[73]

4. Plain, probably Flemish, tiles

A number of fragments of plain tiles were found, 25-28 mm. thick, in a hard red sandy fabric, with sand from the mould adhering to the base, and knife-cut, slightly splayed edges. One example comprised a diagonal half of a tile 150 mm. sq., scored before, and snapped after, firing. It had a plain glaze, deep purple-brown in colour on the reduced tile; there was a possible nail hole in the corner. Three fragments were similar but less reduced, and were glazed over a cream slip, thinly brushed onto the surface. One from rubble, building 6 site 1, showed a possible nail hole; the others came from topsoil/rubble site 1.

If the identification of the nail holes, derived from the use of a nailed board to hold the tiles during trimming, is correct, these tiles should be of Flemish origin, a conclusion supported by their general appearance, and the tendency for the cream slip and glaze to flake off. Their size and thickness suggests that they belong to the fifteenth century, when references to '*brode Holand tyle*' (at Stamford in 1449) and *largis tegulis Flaundrensibus* (at York in 1415) occur.[74] Such tiles are relatively common in Essex and East Anglia. The 260 mm. square tiles found in situ in building 9 may belong to this group but none were submitted for examination.
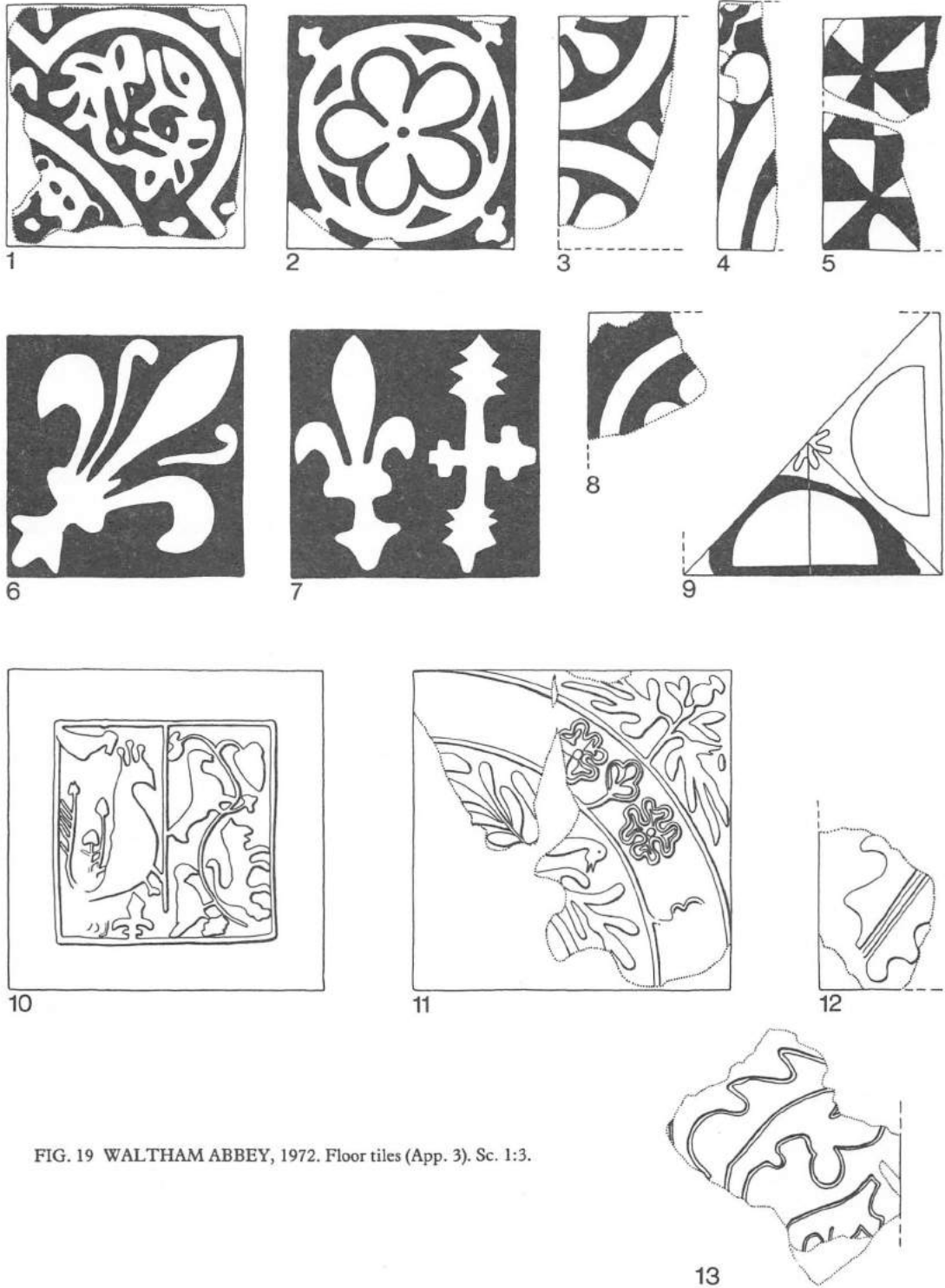
FIG. 19 WALTHAM ABBEY, 1972. Floor tiles (App. 3). Sc. 1:3.

5. Waltham Abbey relief tiles

This group is known only from this site, and that of the Chapter House at Waltham; for the sake of completeness all known examples are included here. The decorated tiles are 140-45 mm. square, and vary from 27 to 32 mm. in thickness, with splayed, knife-cut edges. There is no sign of sand adhering to the base. The fabric is orange-red, relatively soft and micaceous, with brighter orange-red inclusions. With the exception of No. 13, the pattern stands 1-2 mm. high in soft, rather than sharp, relief; the quality of both impression and die is rather poor. A plain glaze was generally used, giving a lustrous brown finish. The designs are as follows:

10. Two separate designs in conjoined panels, within a plain border; one design shows a peacock, the symbol of pride and conceit,[75] 'a perfecte embleme of deep envie'[76] observed by a dove, the embodiment of innocence.[77] The significance of the fleur-de-lys in this context is not clear, and it is possible that another motif occupied the lower left-hand corner. If the first panel contrasts innocence and envy, the second may contrast innocence and aggression, for it shows a cat beneath two doves perched on a vine. A complete tile comes from demolition debris over the Abbey House, building 9, and another, very worn, from the Chapter House, AO; all were cream-slipped and plain glazed.

11. A pattern complete on four identical tiles, with conventional foliage either side of a zone defined by concentric quadrants; within the zone elaborate four-petal rose motifs probably alternate with trefoils springing from the inner quadrant. The foliage in the outer angle is crowned by a thistle or poppy head, whilst a bird's head seems to be present among the inner foliage. A half tile came from a yellow clay spread, site 3, and fragments from rubble, site 1, and a late disturbance, site 3; a complete example, but very indistinct, came from the Chapter House, OQ.

12. A fragment of a design, possibly a diagonally-divided fleur-de-lys; a single fragment came from topsoil, site 1.

13. A fragment of a tile similar in fabric and finish to 9-11; a pattern of foliage is outlined in counter-relief, probably by the use of a stamp, although other methods, for example the use of a pointed tool following a template, are possible. A single fragment, with a green glaze over a sporadic cream slip, is known from the Chapter House excavations, BP.

These decorated tiles are probably to be associated with a group of plain tiles, c. 200 mm square and 33-35 mm. thick, plain (brown) glazed and in a fabric virtually identical to that of the decorated tiles described. The plain tiles are unusual in that, having been cast in an unsanded mould, the edges were not subsequently trimmed all round, but only where (presumably) the tile had distorted on removal. The tiles were moulded with splayed edges; the corners are inevitably somewhat rounded. Kiln adherence marks show that they were fired on end, each layer in the kiln being stacked at right angles to the one below. Many were found in the Chapter House excavations, including unworn wasters, and one example with a cream slip under the glaze; the glaze was often reduced to a rather greenish colour. Fragments of these tiles came from rubble inside a hearth, building 3; topsoil, site 1; rubble over building 3; and rubble, site 3; c. 2½ tiles came from demolition rubble associated with walling, site 3; and a tile c. 190 mm. sq., and two fragments, came from Abbey House demolition rubble site 3. Fragments of unworn wasters, broken in the kiln and showing signs of kiln adherence, came from dark soil over building 3, site 1, and rubble over building 3, site 1.

DISCUSSION

If, as seems likely, the association of the plain and decorated tiles is correct, it is probable that the group as a whole was manufactured at or near Waltham. Wasters are commonly found in buildings close to tile kilns,[78] but totally unusable tiles,—in contrast to poor specimens—rarely seem to have travelled any distance. The fact that these tiles have not so far been found at other sites also supports this view. The size and general form of the plain tiles suggests that they are derived from the fifteenth century *brode Holand tyle*, which set a fashion for large plain tiles which continued into the post-medieval period, the later ones generally being unglazed. After the end of the fourteenth

century, decorated tiles of any form are thus rare in Essex.[79]

The designs themselves must now be considered. That of no. 11 is thoroughly medieval in concept, save for the inclusion of the poppy or thistle; a variant of this theme can be found in the repertoire of most medieval tile factories. However, the pattern was long-lived, occurring even in the 17th and 18th century North Devon series.[80]

The design of No. 13 seems to be debased stiff-leaf foliage; if so, its medieval derivation is not in doubt, nor is that of No. 12, if the interpretation of the design is correct. Whilst the subjects included in design 10 were not normally depicted on tiles of the period, they are by no means uncommon in medieval decorative art generally. For example, the thirteenth century font at Hodnet, Salop, bears carvings of both a cat catching a mouse, and a peacock; both are crudely drawn, the latter so much so as to suggest that the inspiration came from a Bestiary or similar source rather than life.[81] But there are some finely observed studies of peacocks on late fourteenth century misericordes at Lincoln Cathedral[82] and in the Chapel at New College, Oxford.[83] However, the layout of the design of this tile shows a hint of Renaissance style, suggesting a rather later date.

On historical grounds, these tiles are likely to have been used at Waltham either before the dissolution in 1540, or during the construction of the Abbey House c. 1595-1600. Unfortunately, the contexts in which they have been found shed no light on this problem. The connection with large Flemish tiles suggests a date not earlier than the fifteenth century, and the Renaissance air of No. 10 a date in the sixteenth; taken as a whole, the preponderance of basically medieval designs favours a pre-dissolution date, probably within the period c. 1500-1540. It should be remembered, however, that tiles were made specially for lay patrons after the dissolution, the best known such series being those made for Sir William Sharrington at Lacock Abbey c. 1550.[84] These, however were well-made inlaid tiles, decorated with Renaissance motifs, and prominently bearing the arms and initials of the patron. Of arms and initials in the Waltham series there is no sign; this in itself seems to be a powerful argument against their being commissioned by a post-dissolution lay patron.

Similar relief and counter-relief tiles were produced in Scotland during the 16th century;[85] as in Essex, they appeared after a long period when only plain Flemish or similar local products were available. The designs of these tiles are generally rather crude, and the pattern is often within a plain border; symbolic and heraldic designs predominate, but there are some archaic patterns. Tiles 195 mm. square from Linlithgow Palace bear the initials I M, joined by a love-knot and set within a shield-shaped panel; the device refers to James IV and his queen, Margaret Tudor, dating the tiles to 1502-13. Others from Dirleton Castle bear the arms of William, Earl of Gowrie and his wife Dorothea Stewart. They were married by 1562, and William was executed in 1584;[86] their tiles are probably among the latest examples of the group.

It remains to suggest a source for the inspiration which produced the Waltham tiles. It seems safe, on the evidence of design and their relatively poor quality, to dismiss any possibility of a *direct* connection with the Renaissance-style relief tiles which were exported from Normandy to southern England during the first half of the sixteenth century.[87] However, the fact that as a result of this trade, relief tiles became fashionable in areas of southern England where they had never before appeared may suggest the reason for their appearance at Waltham. Earlier relief tiles, although common in East Anglia (the products of the Bawsey factory being the best known,[88]), are not normally found south of Colchester;[89] save for the group under discussion, only a few strays are known from the remainder of the county and London.

On present evidence, Suffolk seems to be the most likely source of direct expertise and inspiration; although few tiles from that county are yet published, evidence is beginning to accrue for the production of relief tiles there throughout the medieval period. At Campsea Ash Priory, tiles with the design framed within a plain border appear alongside obviously earlier material, and are provisionally dated to the 15th century.[90] Curiosities, like the seemingly identical tiles from Flixton, Suffolk[91] and St. Julian's Church, Norwich,[92] depicting the Paschal Lamb should, on stylistic

grounds be later still, and indeed, both in concept and standard of execution these tiles are similar to our no. 9. As more intensive work is undertaken in Norfolk and Suffolk, the range and date of the relief tile industry in the area should become clearer.

Dutch Tiles (FIG. 20) by A. E. S. MUSTY

Five pieces of tile with polychrome designs[93] all have a buff or buff-pink fabric and thickness between 16 and 20 mm. Two have designs outlined in a thin manganese line, (1) contains the brown head and neck of an animal and (2) a chequer pattern with green and brown squares similar to a tile recorded at Basing House, Hampshire.[94] A piece of border tile (3) has part of a scroll pattern in green. Fragments (4) and (5) are too small and worn to enable precise identifications of the designs. No archaeological dating is available for these pieces of tile, but the thickness and reserved decoration in the corners of (1) and (2) would indicate a date at the beginning of the seventeenth century.
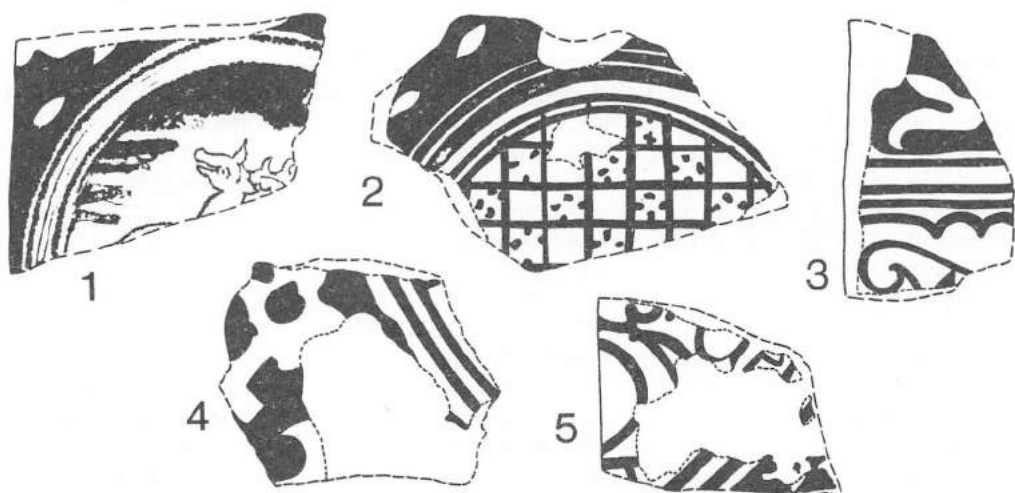
FIG. 20 WALTHAM ABBEY, 1972. Dutch tiles (App. 3). Sc. 1:2.

Appendix 4: Coins and Jetons by S. E. RIGOLD

1. Short Cross silver penny, class Ib + AL [AIN.ON]. CARD, struck 1180-1185, demonetized 1250. Weight 1.07 g. This coin was found in a stratum comparable with level 5, Fig. 8; pottery Fig. 16/23, 30-3, 43A is probably all associated. Note based on information from J. Brand.
2. William I of Namur, 1337-91 imitation sterling penny, not later than c. 1350, pierced so could have had an after-life as a jeton. (Chautard, *Imitations des monnaies au type esterlin,* Nancy, 1872, Pl..VI, 3).
3. Henry VIII base halfpenny, no m.m., probably posthumous 1547-51 but out of circulation by 1561. Found in 17th century rubble over building 5.
4. Mary I, groat, 1553-4, clipped, worn, with hole bored in border. Found with 5 below in the rubble over building 5.
5. Elizabeth I, groat, 1558-61, worn and split. Found with 4 above.
6. Charles I, farthing, CAROLUS DG BRI.FRAN ET HIB REX, m.m. a mullet both sides, good condition. Found in the rubble over building 5 so lost in the late 17th century.

7. Charles I, shilling, m.m. anchor 1638-9, after Briot head, square topped shield over short cross fleury. From the Cornmill stream bank.
8. Charles I, halfcrown, worn, clipped, m.m. sun 1645/6. Found in the rubble over building 5 so lost late in the century (typical enough, in this condition, in the 1690s).
9. Jeton, early/mid. Nuremberg, c. 1540, dia. 22 mm., "normal" type, (three crowns and three lys Reichsapfel (large) in trilobe) cut in half; topsoil.
10. Jeton, Hans Krauwinckel, c. 1580-1620, dia. 21 mm. From a late yard surface in Abbey Mead, associated with the Abbey House. "Normal" type as above.
11. Jeton, Nuremberg, c 1530, dia. 23 mm., "normal" type. Found in rubble between buildings 3 and 5.
12. Jeton, early/mid. Nuremberg, c. 1530, dia. 26 mm., (ship/losenge of four lys). Found in rubble over the floor of building 9.
13. Jeton, as 12, dia. 27 mm. found in rubble between buildings 5 and 6.
14. Jeton, very early Nuremberg, c. 1490's, thick, dia. 20 mm. (Figure full face with mitre, sword and crozier/small Reichsapfel in trilobe). Found on the precinct wall, site 4.
15. Jeton, Nuremberg, c. 1530, dia. 25 mm., (ship/small Reichsapfel in trilobe, two stars). Found as 11.
16. Jeton, Tournai fine quality, c. 1430-40, or later dia. 26 mm., GETTES BIEN PAIES BIEN/ VIVE LE ROI. (Elaborate cross fleury/lozenge of four lys). Found in the deep subsoil on site 4.
17. Jeton, French 'derivative', 2nd half of fifteenth century, dia. 28 mm., Shield of France modern with cinquefoil in chief, crown between cinquefoils over three-strand cross fleury in quadrilobe; (quatrefoil) MARIA. GRACIA. PLENA./.(quatrefoil) ..A..V..E.. Inscription has cinquefoil stops. Found below the fill of the circular feature of building 5 (Fig. 2) with the tap Fig. 23/23.
18. Jeton, as 17, dia. 27 mm., fairly thick, AVE. MARIA. GRACIA. PLENA. Found as 17.
19. Jeton, as 17 and 18 but possibly later c. 1500, very worn, dia. 26 mm., poor quality, (three lys on field). Found with 17 and 18.
20. Farthing Token of Robert Aske, Salter of S. Katherns., probably 1650s. William Boyne, *Trade Tokens Issued in the Seventeenth Century*, Ed. Williamson, 1889, 726, London 2591. Found in rubble around building 5. This token indicates the date of loss of coins 3, 4, 5, 6, 8. The tokens are rare outside their period of issue (1648-72); the base penny, 3, is definitely residual but any date in the 1690's would be reasonable enough for 8, if not 4 and 5.

Appendix 5: Claypipes

On Site 1 no stratified pipes were found, the 35 examples being from the topsoil. They were of types 4, 5, 6, 17, with an overall date range[95] of 1600-70. Two type-4 pipes were stamped, one with a wheel on the base, one with a gauntlet. Nineteenth century pipes were represented by three items. One similar to type 14/15 with the relief initials LA on the sides of a flat spur; the mould lines had been cut from the bowl. The other two were a fragment of a bowl with chevron decorated seams and a fragment of a fluted bowl. On site 3, 5 items were found in destruction rubble over building 9; one of type 6 (1660-80), four of type 12 (1730-80) with the relief initials G?, MW, MW, WW.

Appendix 6: Iron Objects (FIGS. 21-3)
by IAN H. GOODALL, SPURS by BLANCHE ELLIS

All iron objects have been X-radiographed.
1. Key with internally kidney-shaped bow, solid stopped stem and broken bit. From chalk block packing of oval hole in building 5, probably early-16th century
2. Latch key with internally kidney-shaped bow and broken bit. The form of the bit may be compared with two from Salisbury.[96] From rubble over floor of building 3.

11

3-5. Incomplete strap hinges, no. 3 with a simply shaped terminal. No. 3, from pipe trench (Fig. 9); 4, with 16th and 17th century pottery, site 1; 5, from 17th and 18th century subsoil, site 3.

6. Hinge pivot with slender tang and substantial guide arm. Found with dissolution period pottery in rubble around building 5.

7. Bolt keeper with inner shaping, arms broken. Hammered into the door jamb, the bolt located in the keeper when in locked position. From mortar level in trial trench site. 1.

8. Flat figure-eight hasp, hooked at one end. From 1977 pipe trench.

9-11. Whittle tang knives with incomplete blades. No. 11 has a circular sectioned bolster of characteristic post-medieval date and a shaped bone handle. No. 9 is 11th or 12th century, from the gully (Fig. 6); 10, with 17th century pottery from building 6; 11, from 17th century rubbish deposit on the Cornmill stream bank, found with bronze App. 7/14, glass App. 10/2.

12. Head from claw hammer, one claw gently downcurved, the other distorted and almost horizontal. Head expands round oval eye; octagonal section butt. From late demolition rubble, site 3, with bronzes App. 7/2, 13, 16, 22, lead App. 8/3.

13. Broken hook, from late-17th century demolition rubble over building 5 with coins App. 4/3-6, 8, 20, and bronzes App. 7/10, 18.

14. Mount with shaped, perforated terminals. With 14th-15th century pottery from rubble on site 3.

15. U-shaped handle loop from bucket, one fixing plate broken, the other lost. The bucket from the well at Duffield Castle, Derbyshire[97] retained both support loops for its handle. With dissolution period pottery in rubble around building 5.

16. Curved and perforated sheet iron plates, both incomplete. One 210 × 80 mm., the other 102 × 50 mm., not illustrated. From 17th century rubble Site 3.

17. 143 mm. length of 1 mm. diameter wire, not illustrated. From 17th and 18th century subsoil Site 3.

18-20. Rings, two of rectangular section, one circular. No. 18, with 14th-15th century pottery from brown soil (Fig. 10/12); 19, from topsoil, site 1; 20, from 18th century subsoil, site 3.

21. Buckle with pin resting against a revolving sheet iron cylinder. The rounded shape recalls one from Basing House, Hants.[98] From topsoil, site 1.

22. Hollow conical mouthpiece from bridle bit. Compare with a more complete bit from Basing House, Hants.[99] From topsoil, site 1.

23. Snaffle bit. Simple cheekpiece and one mouthpiece with moulded centre. From topsoil, site 1.

24-6. Horseshoes, nos. 24 and 25 with incomplete arms. No. 26 (not illustrated) is complete, 164 mm wide, has one thickened arm tip and a toe clip. No. 24, from dissolution period rubble around building 5; 25 from 17th century rubble, site 3; 26, from topsoil, site 1.

27. Blanche Ellis writes: Small prick spur. Sides, of triangular section, project downwards to slight curve under ankle. Evenly set *figure 8* terminals, broken one retaining a rivet, the other with two rivets which held the spur leather between the terminal and a small rectangular inner plate, which also survives. Short straight neck, the quadrangular goad points slightly downwards. The same type as London Museum C 1219[100]. First half of the 13th century. Overall length about 115 mm.; length of neck 27 mm., goad 13 mm. From building 8 destruction rubble (Fig. 8/3).

28. Blanche Ellis writes: Rowel spur. Slender D-section sides curved under ankles, *figure 8* terminals. Short downcurved neck, most divided by rowel box in which only rowel pin now remains. The spur probably belongs to a post-medieval group resembling the form of many 14th-century spurs. It is very like a spur which retains stud attachments and buckle of definite post-medieval type, found with 18th-century pottery, at St. Cross, Oxford.[101] Probably late 17th-18th century. Overall length 125 mm.; length of neck 30 mm., rowel box 15 mm. From topsoil, site 1.
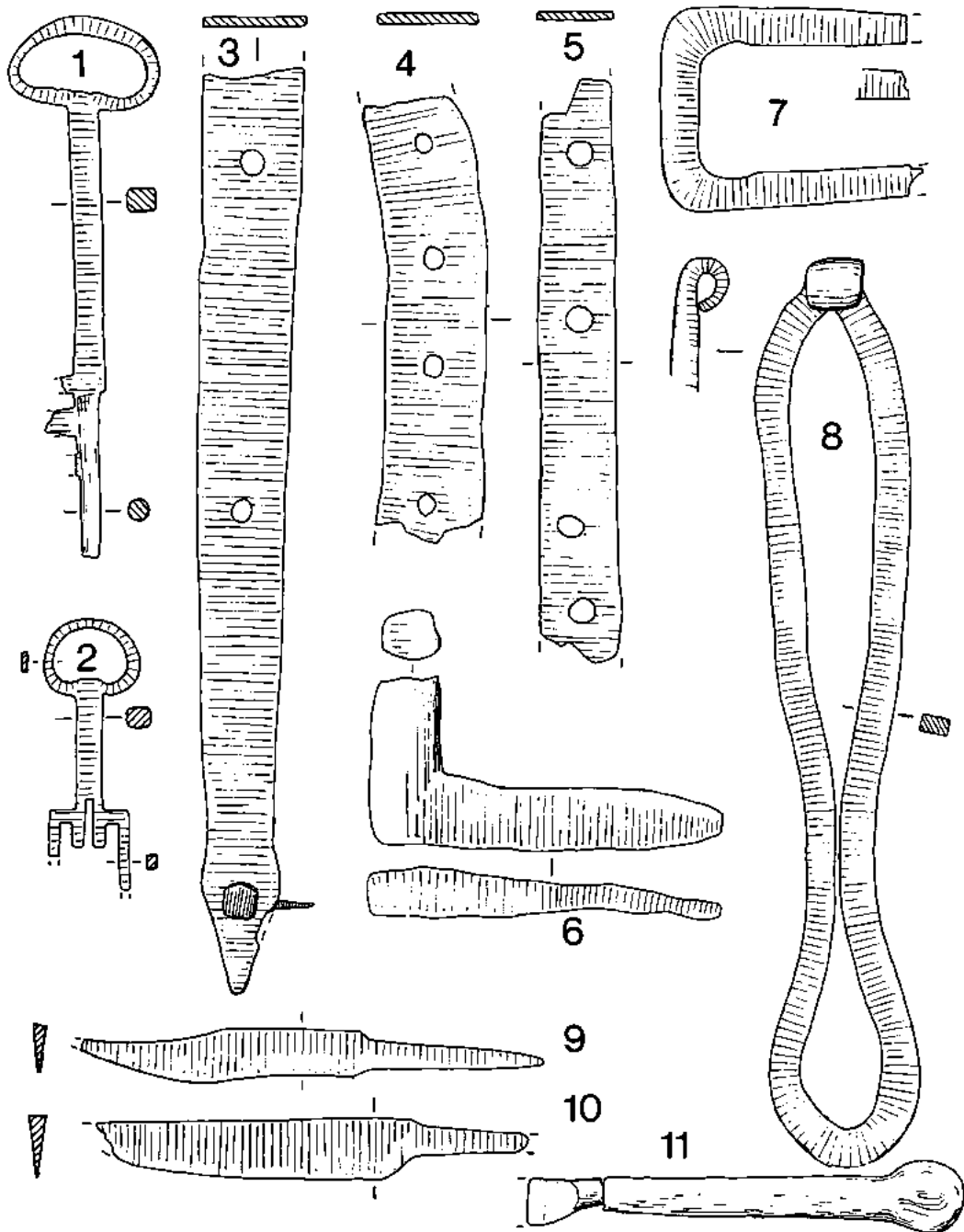
FIG. 21 WALTHAM ABBEY, 1972. Iron objects, 1-11 (App. 6). Sc. 1:2.
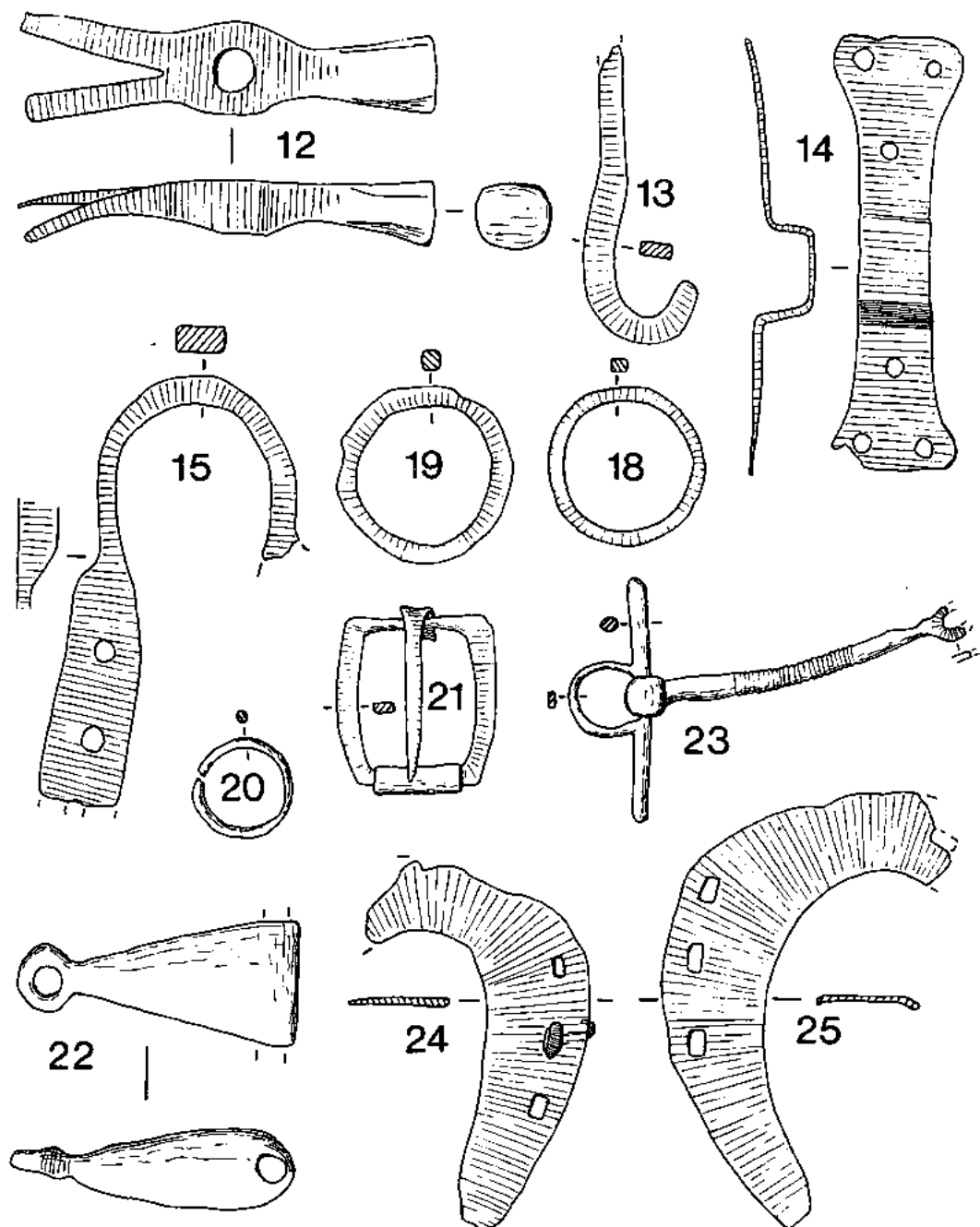
FIG. 22 WALTHAM ABBEY, 1972. Iron objects, 12-25 (App. 6). Sc. 1:2.
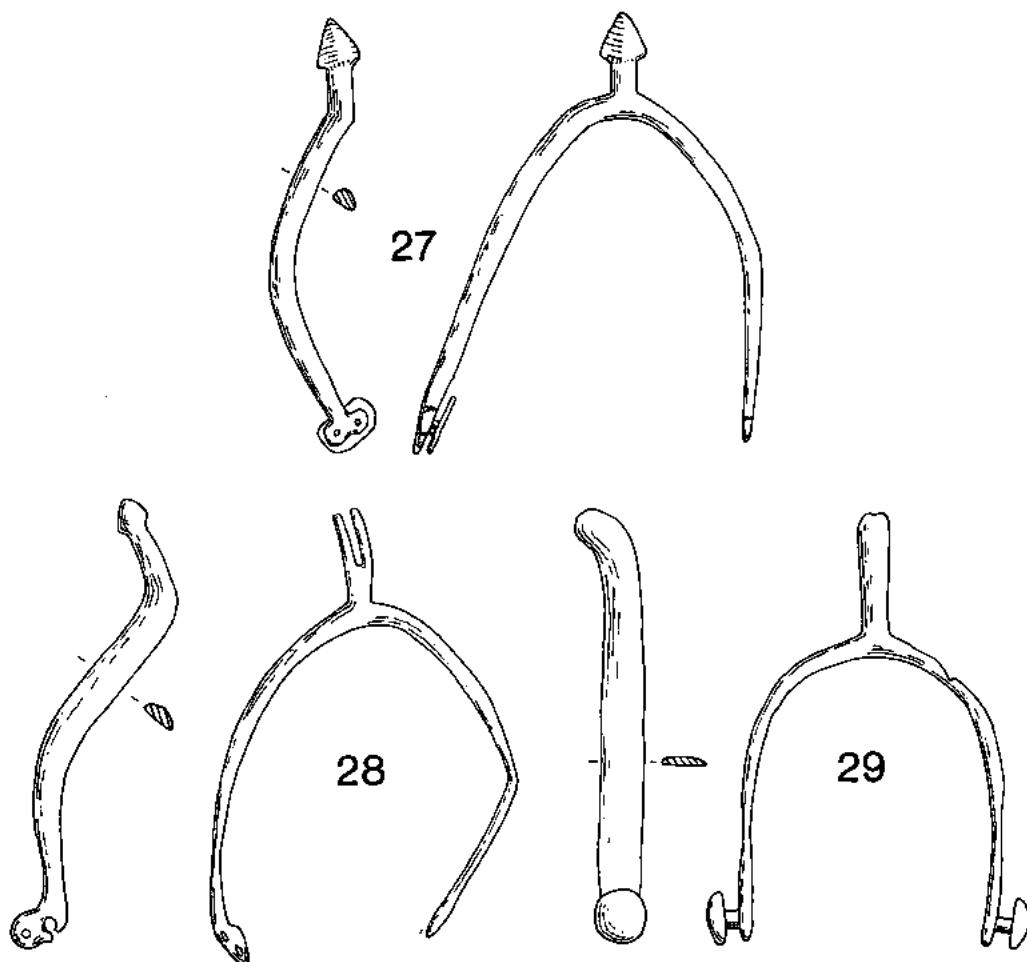
FIG. 23 WALTHAM ABBEY, 1972. Iron spurs, 27-29 (App. 6). Sc. 1:2.

29. Blanche Ellis writes: Rowel spur. Straight sides of flattened D-section. Rounded forward ends with one bold mushroom stud on each, the outer originally having had a swivelling buckle. Short neck, rowel box droops downwards, only rust remains of small rowel which when found retained two small points. Traces of non-ferrous plating. Nineteenth-century, probably second half. Overall length 113 mm.; length of neck 38 mm.; diameter of terminal studs 14 mm. From topsoil, site 3.

Appendix 7: Copper alloy objects (FIGS. 24-5) by ALISON R. GOODALL

1. Circular buckle with cast decoration on the frame, bevelled on the inner and outer edge alternately. From dark soil within building 3.
2. Originally a double-looped buckle with a rosette on each loop; it has been broken and re-used with a crudely made buckle-plate. From late demolition rubble on site 3, see also 13, 16, 22, with iron App. 6/12, lead App. 8/3.
3. Double-looped buckle; pin missing. From topsoil, site 1.

4. Buckle with a moulded frame and a projecting tongue on the front; the bar around which the pin swivels has moulded stops. From topsoil, site 1.
5. D-shaped buckle; pin broken. Found with dissolution pottery and iron objects App. 7/6, 15, 24, in rubble around building 5.
6. Strap-end plate with possible traces of solder on the back, comparable with a 14th century example from Seacourt.[102] From rubble over building 3.
7. Cap from a button with a five-petalled flower on a four-lobed hatched design; it would probably have had a back of bone, wood or another metal, and a metal attachment loop. From topsoil, site 1.
8. Seventeen lace-ends, five with fixing pins, and ranging in length between 25 and 35 mm.; from sites 1 and 3, generally 17th century or later, but one from site 1 building 5 is 14th-15th century and one from site 1 building 6 is late 16th century.
9. Thimble with a rolled rim and tapering sides; it has pits on the top and sides, above two rows of roulette decoration. From topsoil, site 3.
10. Needle with an almost cruciform eye in a shallow groove; the pointed end is triangular in section. From late-17th century demolition rubble over building 5 with the coins App. 4/3-6, 8, 20. Probable point of a similar pin from building 6, with late-16th century pottery.
11. Twenty-eight pins all with double coiled wire heads, mostly 17th century or later, although one from within the angle of building 8 is possibly 15th/16th century; the lengths vary from 18 to 57 mm., with most specimens either 20-25 mm. or 30-35 mm. The rest are from late deposits on sites 1 and 3.
12. Upper part of one arm and one loop of the hinge from a pair of dividers; the top of the arm is rectangular-sectioned with triangular punches on the inner face, incised lines and crosses on the outer face, and ring-and-dot ornament on the remaining faces; the edges of the outer face are notched. With late-17th century pottery from gravel over building 9 (Fig. 9/2).
13. Spoon-shaped object with an irregular strip riveted onto the back of the bowl; the handle appears to be complete. From late demolition rubble on site 3, see also 2, 16, 22, lace ends and pins, iron App. 6/12 and lead App. 8/3.
14. Incomplete fitting with arms for attachment. From 17th century rubbish deposit on the cornmill stream bank. Found with iron App. 6/11, glass App. 10/2.
15. Stud with heavy round head and an irregular groove round the margin of the head. From topsoil, site 1.
16-17. Two rings with irregular polygonal sections, possibly unfinished; these rings may have been from buckles as at Wharram Percy, where a similarly crude ring is fitted with a moulded pin.[103] No. 16, from late demolition rubble on site 3 (see 13 above); 17, from within the angle of building 8 (Fig. 8).
18. Folded sheet; one end is complete and is decorated with a row of punched rings, the other is damaged. From late-17th century demolition rubble over building 5 see 10 above with iron App. 6/13 and coins App. 4/3-6, 8, 20.
19. Rim fragment, probably from a vessel. From 14th-15th century deposit, site 3.
20. Rim fragment with two marginal grooves and a round-headed rivet. From topsoil, site 1.
21. Twist-loop. From building 6 with late-17th century pottery.
22. Three lengths of wire, 1-1.5 mm. in diameter. From late demolition rubble on site 3, see also 2, 13, 16.
23. Dr. G. C. Dunning contributed this description. A complete bronze tap, 5.2 inches (132 mm.) long, the spout is a stylized animal head, with open jaws enclosing a short tube. The ears are laid flat behind the head. The tap-handle is bifurcated. Each branch ends in an animal head, more realistic and detailed than that on the spout. The tongue protrudes from the open mouth, and
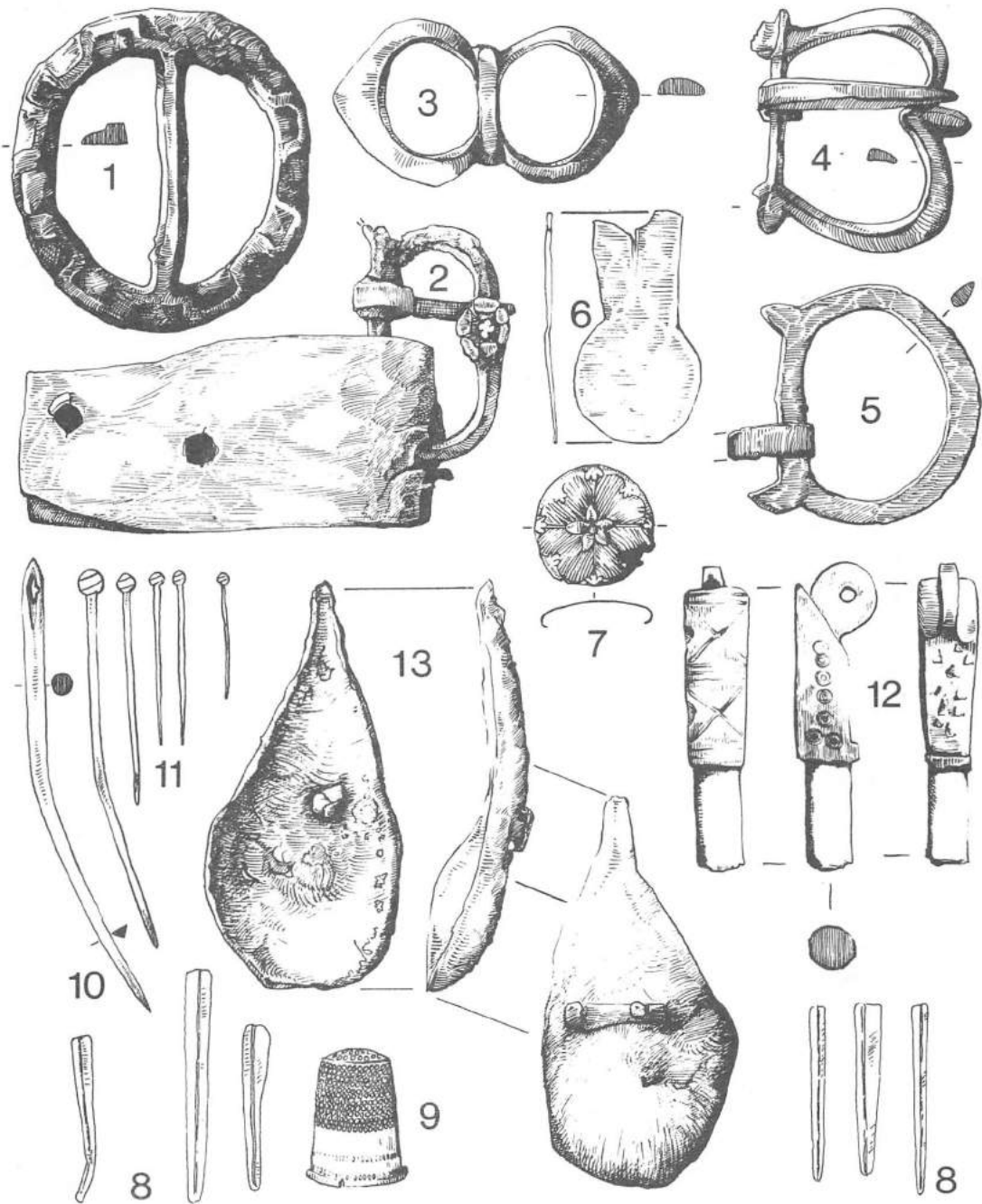
FIG. 24 WALTHAM ABBEY, 1972. Copper alloy objects, 1-13 (App. 7). Sc. 1:1.
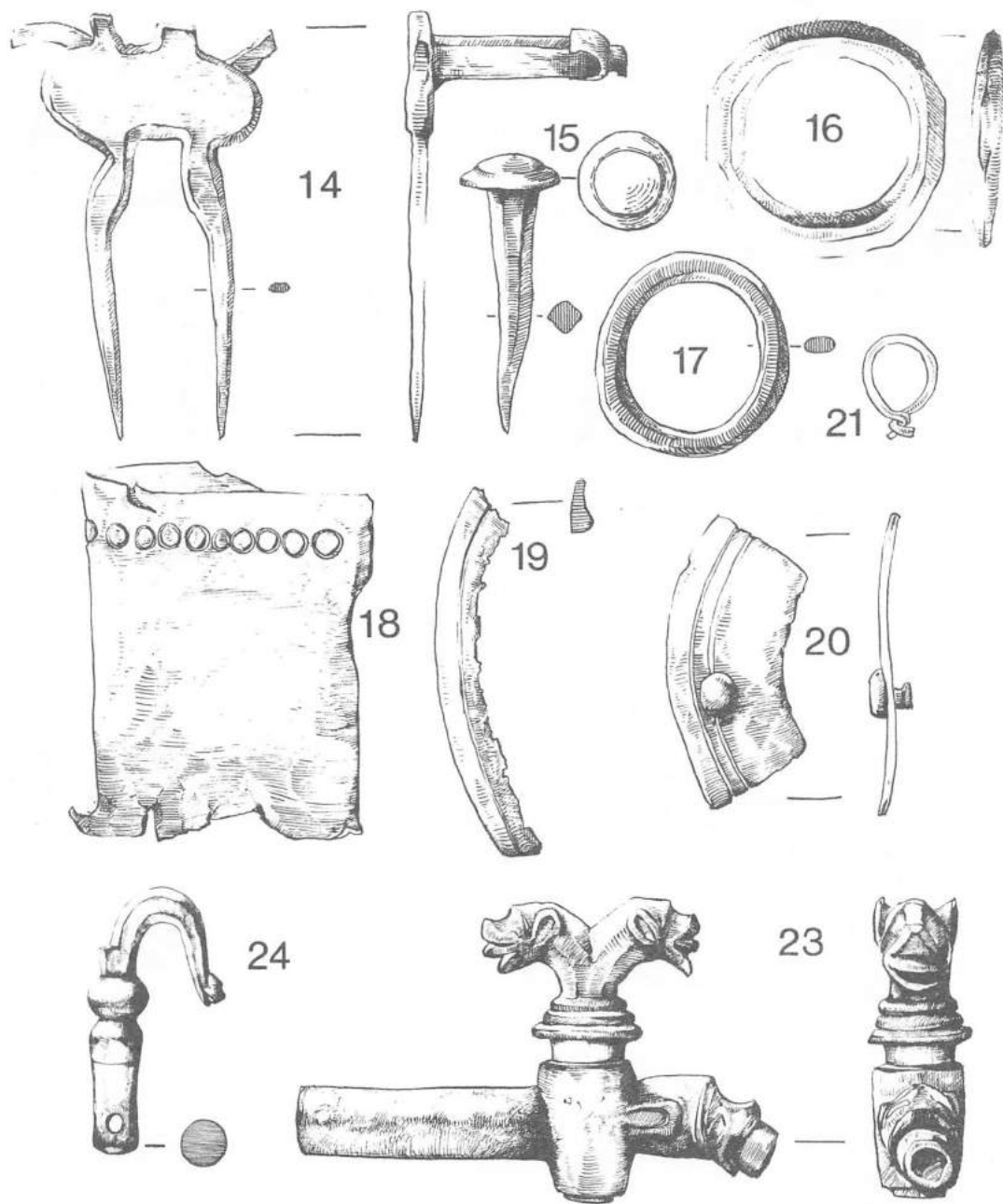
FIG. 25 WALTHAM ABBEY, 1972. Copper alloy objects, 14-23 (App. 7). Nos. 14-20, Sc. 1:1; nos. 23-4, Sc. 1:2.

the ears are in relief. On the lower part of the handle are three mouldings, which increase in size downwards.

The tap is remarkable for the paired zoomorphic decoration on the handle, for which no parallel has been noted in this country. Taps from other English sites, earlier in date than this example, are different in construction (*Ant. J.* 1968, 310). On the other hand, in the Museum of the Abbaye des Dunes at Coxyde, Western Flaunders, is an almost identical tap, though with a different moulding (eight sided) on the handle. This parallel need not imply that the Waltham Abbey tap is an import. Tap-handles of other forms are standardised, and occur widely in northern Europe. Found below the packing in building 5, with jetons of 1450-*c.* 1500 (App. 4/17-19).

24. The spigot with part of the handle from a similar tap found with 17th century pottery in the eastern section of the 1977 pipe trench (App. 12).

Appendix 8: Lead objects (FIG. 26) by ALISON R. GOODALL

1. Decorative object with traces of gilding; it may originally have been an open square, each side being a moulded strip outlined with a bead-row and with a semicircular projection in the middle. Topsoil, site 1.
2. Circular weight with scratches, perhaps intended as decoration, on the upper surface. From building 9, level 6 with mid-17th century pottery.
3. Fragment, possibly from the rim of a box, with the lip rolled round an iron strengthening rod. From late demolition rubble, site 3; see iron, App. 6/12; bronze, App. 7/2, 13, 16, 22.
4. Pieces of H-sectioned window came. Mostly from topsoil, site 1. Some fragments came from site 3 and some from the displaced masonry of building 7, site 1.
5. Fused lead. Mostly from late deposits on sites 1 and 3.
6. Fragments of sheet and strip; probably scrap. From topsoil.
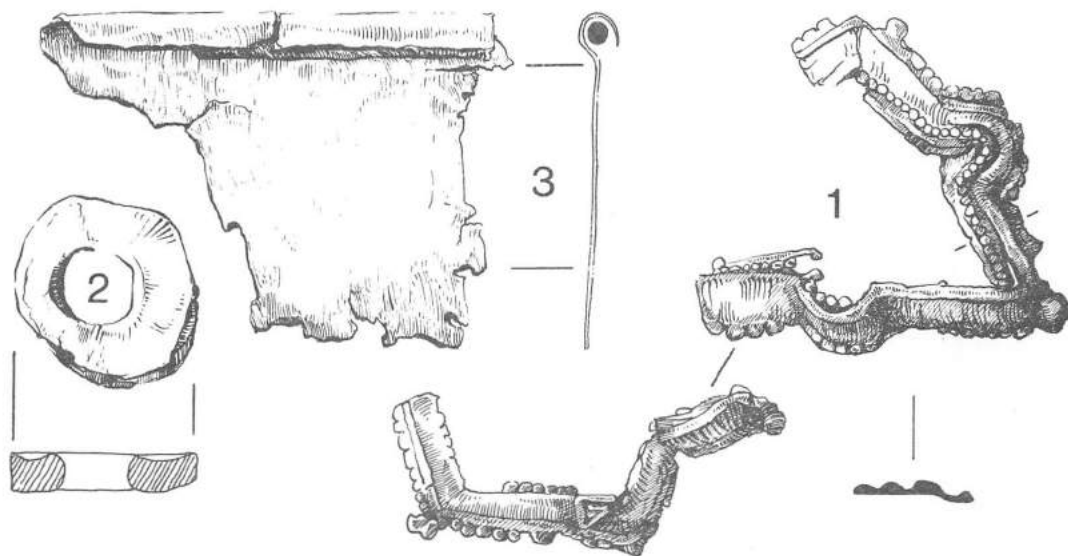
FIG. 26 WALTHAM ABBEY, 1972. Lead objects (App. 8). Sc. 1:1.

A. E. S. MUSTY
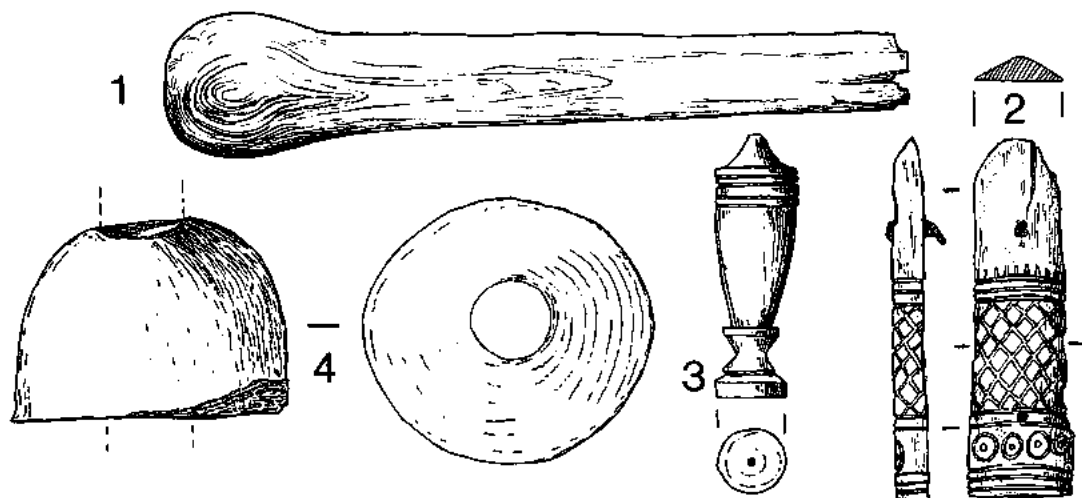
FIG. 27 WALTHAM ABBEY, 1972. Bone objects (App. 9). Sc. 1:1.
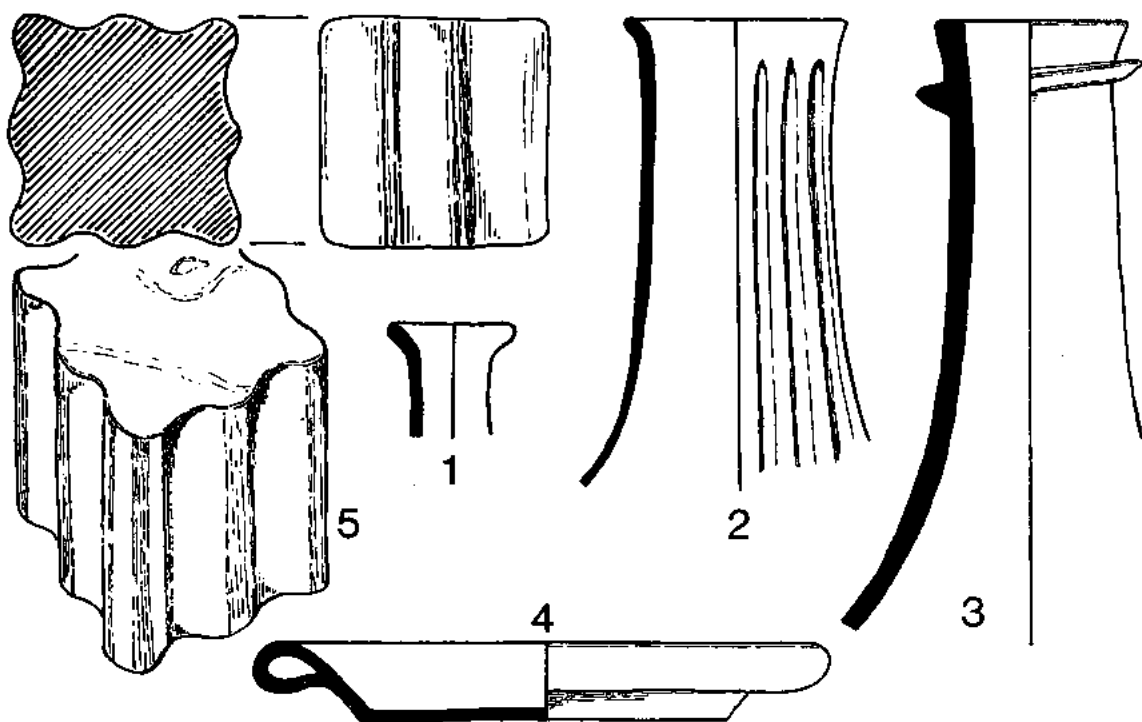
FIG. 28 WALTHAM ABBEY, 1972. Glass, 1-4; Sc. 1:2. Pottery, 5; Sc. 2:1.

Appendix 9: Bone objects (FIG. 27) by IAN H. GOODALL

1. Shaped handle from whittle tang knife. From rubble, site 1.
2. Broken scale from knife handle with two holes for former iron rivets. Bone of triangular section with incised line, ring-and-dot and lattice decoration. From rubble, site 1.
3. Turned cylindrical ?finial, similar to some from Basing House, Hants.[104] From topsoil, site 1.
4. Spindle whorl, polished, 35 mm. diameter, made from epiphysis of humerus of femur of ox or horse, found with 12th century pottery (Fig. 15/1-3). From brown clay Fig. 6/4.

Appendix 10: Glass and pottery objects (FIG. 28)

1. Neck of small phial, pale green glass. From the pipe trench, site 3, building 9.
2. Fluted neck of a green glass bottle. From a rubbish deposit on the bank of the Cornmill stream see iron App. 6/11, bronze App. 7/14.
3. Neck of large irregular dark green glass bottle. From topsoil, site 1.
4. Fragment of a dark green glass dish. Found with 17th century pottery (nos. 95, 98) in building 6.
5. A pottery five-stone with fluted sides. Cream fabric dark green glaze. From gravel over building 9 (Fig. 9/2) with late-17th century pottery.

Appendix 11: Description of Abbey House

This description was written in 1735 in 'The HISTORY of the ancient TOWN, and once famous Abbey of Waltham, in the county of ESSEX' by J. Farmer, of Waltham Abbey, pages 159-162.

This Abbey is a curious large and antique structure. It hath two wings on each side of the front; the whole front being lately re-built with large stones after a modern, most exact form by the said Charles Wake Jones.

It is beautiful to behold, and leads down to a spacious fine garden; a fine canal incompassing the same with plenty of all kinds of fish. There are the most curious ever green hedges, walks, groves; and for variety of fruit. 'tis scarce to be equall'd by any private gentleman's: There are also fine kitchen gardens, vineyards, a bowling green;..............The whole gardens contain about twelve acres of land, and are wall'd in with brick.

But to return again to the Abbey-House: There is a sumptuous hall, in length it contains sixteen yards and a half; in height nine yards one foot. It is exceeding handsome, by reason of the wainscotting and extraordinary painting. At the upper end is a hunting piece, done by the ingenious Mr. J. Ross, in which is represented the said Charles Wake Jones on horseback, and his sister (since dead) in riding habits...............The bottom of the hall is of fine stone and square black marble; and the chimney-piece is of most beautiful marble. On the top are quartered the arms of Mr. Jones and his Lady. For my readers curiosity I have took the model of the house (Pl. 9). There are many rooms repairing, and the whole house altering; which, when finished, will be extraordinary neat, handsome and commodious.

As to the Out-buildings, there is every thing convenient; and for stabling, few more compact, neater, or more useful.

At the entrance out of Romeland you pass over a bridge into a courtyard, (the bridge over the Cornmill stream shown on Figs. 1 and 30) which both leads to the Abbey-House, and to the stabling; and in which are two rows, or an avenue, of tall and stately Sicamore-Trees: It is likewise incompassed with as many fertile pastures, beautiful meads, and pleasant meadows and marshes, as any gentlemans seat can well be.
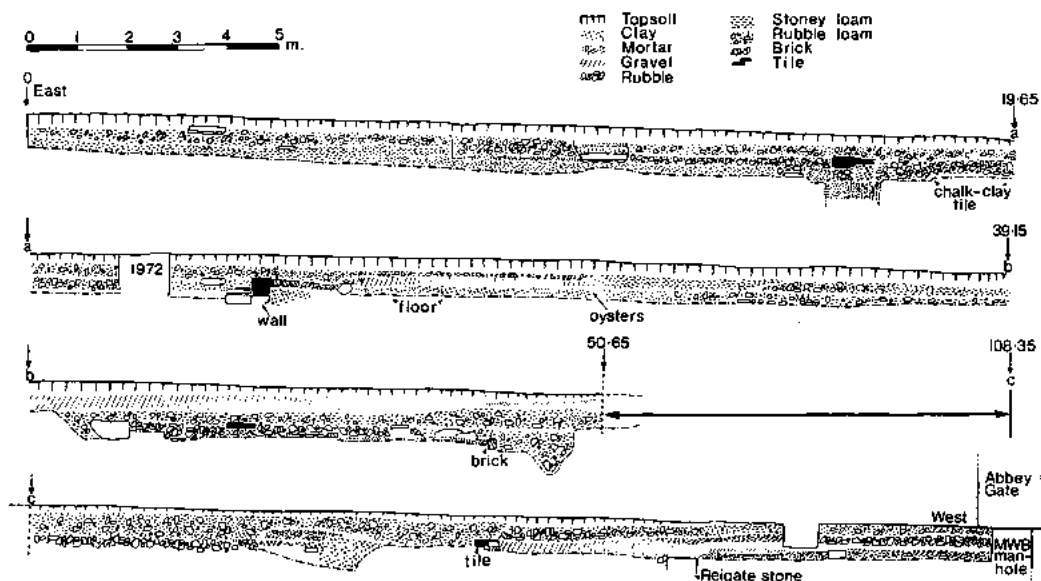
FIG. 29 WALTHAM ABBEY, ABBEY MEAD, 1977. Section of S face of a pipe trench dug from near the Abbey Gateway across to site 3, see. Fig. 1 for line of trench (App. 12).

Appendix 12: Observations during digging of a pipe trench, 1977
by RHONA M. HUGGINS

In June 1977 the Lea (Lee) Valley Regional Park Authority laid a water pipe from their rosegarden (Musty, site 3) to the Abbey gateway water junction making a dogleg bend to cross the track (see Fig. 1). The trench was dug by the Park gardeners by hand and was 40 cm wide and 60 cm deep. The author observed the work for the Department of the Environment, drew the south section along the length of the pipeline (Fig. 29) and investigated some features with the assistance of members of the Waltham Abbey Historical Society. At no point was 'natural' reached by the trench digging or by the archaeological investigation, the narrowness of the trench prevented digging to any great depth.

The eastern section from the rosegarden to the track contained much rubble and two walls were seen on either side of the trench dug by A. E. Musty in 1972, one was of ashlar stone construction and had been re-used in the 17th century by inserting a brick hearth on its outside with a backing of laid roof tiles; this reversal of a stone Abbey wall can be paralleled in the standing wall of the Chapter House where brick chimneys were inserted in the outside of the stone wall. The other medieval wall was seen only as a 'ghost' filled with yellow mortar and rubble and probably re-used for some light construction. A rim sherd of 16th or early-17th century date was found in this rubble. The foundation trench for this wall matches that with the ashlar stone and they are taken to belong to the same building. There was evidence of a tiled floor on mortar between these two walls, some floor tiles occurred in this area amongst rubble and a fragment of medieval window glass with red painted decoration was also found. Near the track, rubble over a mortared floor seems to indicate that the Abbey House extended from the western medieval wall to the track.

The track itself was seen to be modern in construction with a loam beneath the thin layer of makeup. Mortar and flint were seen below the loam and seem to be rubble from a nearby building.

The western section from the track to the Abbey gateway also contained much rubble and it was evident that here too the medieval ground level lay at the bottom of the 60 cm deep trench. Two walls in this section could be medieval in origin though re-used in the 17th century, chalk blocks were used in the foundation with a lump of Essex conglomerate (puddingstone) squared and in position. These walls were 39 metres apart and rubble was seen in the medieval level between them. They could represent a long medieval range; the 1972 trenches would have missed them. It seems from the gravel layers that the present track only existed from the Gatehouse as far as the first of these medieval walls, the present line being established only after the destruction of the Abbey House in the 18th century.

The area where the Gatehouse building is to be expected was clearly different to the rest of the trench and laid Reigate stone was seen at about 8 metres in the bottom of the trench under late mortar. This was not investigated further but could represent a wall or 'sleeper wall' under the inner arch of the gateway.

Finds from the trench were very few, no medieval pottery was found, and only a few sherds of 16/17th pottery were recovered mainly from the eastern section. These sherds enabled the medieval level to be established. A bronze spigot of a tap, App. 7/24, was recovered in the eastern section with 17th century pottery. A piece of Caen stone with Norman 'dog-tooth' decoration was found in the eastern section.
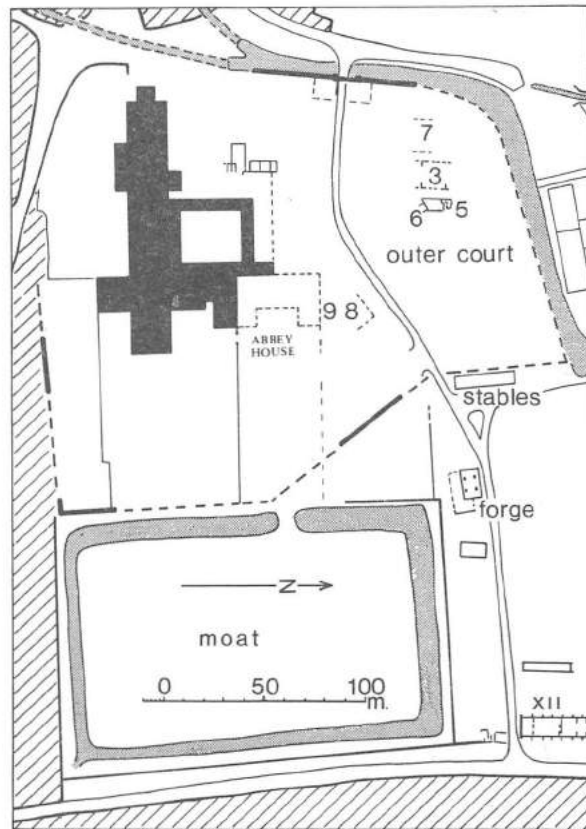
FIG. 30 WALTHAM ABBEY, 1975. Plan showing position of buildings here reported and indicating, in full line, well substantiated lengths of the monastic precinct wall.

Appendix 13: The precinct wall (FIG. 30) by RHONA M. HUGGINS

The length of wall in site 4 is taken to be part of the precinct wall of the Abbey and was unexpected in this position running NW/SE. Previously it had been thought to run on the line of the present 15th/16th century brick wall along Crooked Mile on the other side of the moated area (Fig. 30).

Part of the western precinct wall stands to the NW of the present church in a ruinous condition, it is ashlar faced with a rubble core. This standing length lines up with the Abbey Gateway alongside the Cornmill stream, and wall footings have been seen by members of Waltham Abbey Historical Society, at low water, along the Cornmill stream to the north of the Abbey Gateway. The gateway may be dated c. 1369 when a licence to crenellate was granted to the Abbot of Waltham, it bears the arms of Edward III or Richard II. The associated wall is likely to be of a similar date.

A length of wall foundations was seen, on the south, during building work in the gardens on the N side of Sun Street. These gardens were extended into the Abbey area after the Dissolution and their present boundary wall with the Abbey Gardens is known to be mainly post-medieval.

Work carried out in 1974 by Waltham Abbey Historical Society under the direction of P. J. Huggins in the garden of no. 26 Sun Street, established that a corner of the standing wall has medieval foundations and remnants of the lower ashlar courses remain. By extending from this SE corner northwards a meeting point with the line of the NW/SE length can be suggested near the entrance to the moated area. The plan shows (Fig. 30) the known and conjectural lengths in full and dashed lines respectively.

Site 4 has now been laid out as a rose garden by the Lee Valley Regional Park Authority and they have marked the line of the wall by a double row of cobbles through the flowerbeds.

NOTES

1. V.C.H., *Essex*, **II**, 167.
2. Huggins and Huggins (1973), 127.
3. Pipe Roll Soc. **XXVII** (1906), 37; **XXIX** (1908), 34.
4. British Library (henceforth B.L.) Harl. MS. 391, f.4v.
5. *Ibid;* f.7v.
6. Fisher (1887), 212-3. The incident referred to took place in 1277.
7. B.L. Harl MS. 3776, f.38.
8. Essex Record Office (henceforth E.R.O.) D/DU 389/2.
9. Cal Close (1367-70), 245.
10. Stamp (1904), 2nd lecture, 20.
11. Public Record Office (henceforth P.R.O.) E117/11/24.
12. Bascombe in Huggins (1972), 32-3.
13. B.L. Harl MS. 391, f.100.
14. P.R.O. SC 12/6/64.
15. Bascombe in Huggins (1976), 80, 101.
16. P.R.O. E101/545/29: accounts for building a new lodge for King Henry VIII at Waltham in 1543, including carriage of the following items from the churchyard to the lodge: timber (p. 66); old timber *(ibid);* a load of beams (p. 71); six loads of tile (p. 78); 28 loads of paving tiles (p. 81).
17. Colvin (1975), 37.
18. Fuller (1840), 276.
19. V.C.H., *Essex*, V, 157.
20. Bascombe in Huggins (1970), 217-8.
21. G.E.C. (1936), 768.
22. Hatfield House, Maps and Charts II, f.23; copy in B.L. Maps 186, L.2, f.23.
23. Huggins (1972), pl. 1.
24. The design may well have been influenced by Sir Edward's father-in-law's house at Wimbledon, built in 1588: for which see e.g., Summerson, (1969), 36.
25. Excavation by A. B. Havercroft for the Dept. of the Environment.
26. Sotheby's, Auction Sale Catalogue, 2 July 1965.
27. Northamptonshire Record Office (henceforth N.R.O.), W(C) 203.
28. Fuller (1840), 279-80.

29. Cal. S.P. Dom. Committee for Compounding, Part II (1890), 853.
30. B.L. Additional MS.5505, quoted in Winters (1888), 38.
31. N.R.O. W(C), 217, 219, 220.
32. P.R.O. Prob 11/306 f.106.
33. E.R.O. Q/RT^{h}1 (1662); P.R.O. E179/246/19 (1666); E.R.O. Q/RT^{h}5 (1671); E.R.O. Q/RT^{h}8 (1673).
34. N.R.O. W(C) 229.
35. N.R.O. Acc. 1965/129: Particulars of Waltham and Nazeing manors, 1674.
36. Information from Sotheby's (Sotheby Parke Bernet and Co), 1976.
37. P.R.O. Prob. 11/341 f.1 (codicil).
38. Morant (1768), 44.
39. N.R.O. W(C) 361.
40. Farmer (1735), 159-62.
41. Bascombe in Huggins (1970), 219.
42. Bodl. MS Top. gen: c.18. f.112.
43. Farmer (1735) f.p. 159; plate 5. The print in Muilman (1771), f.p. 157, is very similar.
44. The front applied in 1685 to Grimsthorpe Castle, Lincs, seems a particularly close parallel: Colvin in Colvin and Harris (1970), 91 and Pevsner (1964), 71, 555.
45. The remaining architectural features (one blocked mullion and transom cross-window, and two mutilated brick-faced gate piers with moulded stone bases) also appear to accord better with a date before 1700 than after it. The cross-window overlooks the chapter-house site, which must by then have become outside the house.
46. N.R.O. W(C) 258.
47. P.R.O. Prob. 11/531 f.289v.
48. Willis (1718), 192.
49. Muilman (1771), 157.
50. Bascombe in Huggins (1970), 219-20.
51. Huggins (1972), App. 3.
52. See documentary note above.
53. R. Gilyard-Beer, Fountains Abbey, (1970), 72, H.M.S.O.
54. See appendix 12.
55. Musty, A. E. S. Excavations at Waltham Abbey in 1972 (Interim Report), p. 25, Waltham Abbey Historical Society.
56. Huggins and Huggins (1973), Figs. 7, 8.
57. Huggins (1976), Fig. 38.
58. Cunliffe, B. (1964) "Winchester Excavations 1949-1960", I. Winchester, p. 108, no. 6.
59. Huggins, P. J. (1969) "Excavations at Sewardstone Street, Waltham Abbey, Essex, 1966", Post-Med. Archaeol., 3, 47-99.
60. Huggins (1972).
61. For a discussion of brick sizes at Waltham Abbey see Huggins, (1972), App. 3.
62. G. C. Dunning, Med. Archaeol. X, 1966, 74-80.
63. C. Hohler, 'Medieval pavingtiles in Buckinghamshire', Records of Bucks, XIV, (1942), 1-49, 99-131.
64. Described in P. J. Drury and G. D. Pratt, 'A later-13th and early-14th century tile factory at Danbury, Essex', Med. Archaeol. XIX (1975), 92-164, esp. 138-40 and 161.
65. Information from Mrs. E. S. Eames.
66. In connection with the Census of Medieval Tiles in Essex, at present being undertaken by the writer.
67. Rhona M. Huggins (Trans. Essex. Arch. Soc., 3rd Series, II (1970), 257-60) illustrated those from the cloisters (Fig. 16/1, 2) and one (Fig. 16/3) which was at the church in 1953 (B. W. East, pers. comm.) and which probably came from Charlton's excavations (noted in Antiq.J., XIX (1939) 330), the finds from which were deposited with the Abbey Gardens Trustees. The fourth, also at the church in 1953, bears the remains of a label attesting its donation after the 1938 excavations.
68. See Drury and Pratt (1975), op. cit. in n.64, esp. pp. 140, 161.
69. The sites are referred to in L. Keen, 'Medieval Floor Tiles of the 'Westminster' Tiler at Bengeo, Herts.', Herts. Archaeol., III (1973), 90-93. The examples at Bengeo (Fig. 1/7) have the same die-fault as the tile illustrated here, although it is not shown in Keen's drawing (information from P. J. Huggins); the other examples have not been examined, but the London example was illustrated by Ward-Perkins in the London Museum Medieval Catalogue (1940), Fig. 82/70, p. 251, with the stalk complete. See also Huggins (1976), Fig. 43.
70. See Keen (1973), op. cit. in n.69, 93; also Huggins in Med. Arch., XX (1976) 120-22. Recent discoveries at Stratford Langthorne Abbey, in excavations by Miss P. M. Wilkinson for Passmore Edwards Museum, are also relevant, but a discussion of these would be out of place here.
71. Kindly made available by Mr. A. Havercroft.
72. Kindly made available by the excavator, Mr. S. R. Bassett.
73. P. J. Drury, 'The Floor Tiles' in F. Williams, Excavations at Pleshey Castle 1959-63, British Archaeological Report 42, 1977.

74. Quoted by L. Keen, 'A series of seventeenth and eighteenth century lead-glazed relief tiles from North Devon,' *J. Brit. Archaeol. Ass.*, **XXXII** (1969), 144-170 at p. 148; For the use of the nailed board, see A. Lane, *'A Guide to the Collections of tiles in the Victoria and Albert Museum'*, H.M.S.O. (1960).
75. See J. A. André, 'Notes on Symbolic Animals in English Art and Architecture' *Archaeol. J.*, **XLVIII** (1891), 210-40, esp. 225.
76. John Swan *'Speculum Mundi'*, Cambridge, 1643.
77. André (1891), *op. cit.* in n.74, 223-4.
78. For examples see Drury and Pratt (1975), *op. cit.* in n.63, 154-6.
79. The evidence for this will be published in the forthcoming *Census of Medieval Tiles in Essex.*
80. Design 23 in Keen (1969), *op. cit.* in n.74.
81. G. C. Druce, 'The Medieval Bestiaries and their influence on Ecclesiastical Decorative Arts', *J. Brit. Archaeol. Ass.*, **XXVI** (1910), 35-79, esp. p. 45.
82. M. D. Anderson, *Lincoln Choir Stalls* (Friends of Lincoln Cathedral, 1951), Fig. 19, showing peacocks and cranes.
83. R.C.H.M., *City of Oxford*, 1939, 84 and pl. 157 (1).
84. J. A. Gotch, *Early Renaissance Architecture in England*, London (1901), 38 and pl. IX.
85. Described by J. S. Richardson in 'Scottish Mediaeval Ornamented Floor Tiles'. *Proc. Soc. Antiq. Scot.*, **LXIII** (1928-9), 308-9.
86. *Dictionary of National Biography*, **XVII**, 514f.
87. See for example E. Turner, 'Decorative Tiles found at Keymer', *Sussex Archaeol. Coll.*, **XVI** (1864), 128-34; also J. B. Ward-Perkins, 'English Medieval Embossed Tiles', *Archaeol. J.*, **XCIV** (1937), 128-53, esp. 130.
88. E. S. Eames, 'The Products of a Medieval tile kiln at Bawsey, King's Lynn', *Antiq. J.*, **XXXV** (1955), 162-81.
89. For a distribution map, see L. Keen, 'Medieval Floor Tiles from Campsea Ash Priory', *Proc. Suff. Inst. Archaeol.*, **XXXII** (1971), 140-51.
90. Keen (1971), *op. cit.* n.89.
91. S. E. West, 'A Medieval floor-tile from Flixton', *Proc. Suff. Inst. Archaeol.*, **XXXII** (1971), 201.
92. *Norfolk Archaeol.*, **I** (1847), 368-9, I am grateful to Laurence Keen for drawing these tiles to my attention.
93. I owe the identification and dating of these tiles to Laurence Keen.
94. *Post-Medieval Archaeol.*, **IV** (1970), 87 and Fig. 25/7.
95. Type numbers refer to the simplified general typology Fig. 3.G. and Fig. 4.G. in Adrian Oswald, *Clay Pipes for the Archaeologist*, BAR 14, 1975.
96. Hugh Shortt, *Salisbury Heritage; Illustrations from the Museum Collection*, Salisbury 1973, plate 58 nos. 7 and 8.
97. J. Charles Cox, 'Duffield Castle; its History, Site and recently found remains', *Derbyshire Archaeol. J.*, **9** (1887), 161; G. C. Dunning in L. A. S. Butler, 'Medieval finds from Castell-y-Bere, Merioneth'. *Archaeologia Cambrensis*, **123** (1974), 105, Fig. 13.
98. Stephen Moorhouse, 'Finds from Basing House, Hampshire (*c.* 1540-1645): Part Two', *Post-Medieval Archaeol.*, **5** (1971), 60, Fig. 25/175.
99. *Ibid.*, 47-9, Fig. 21/89.
100. *London Museum Medieval Catalogue* (1940), 102, Fig. 31/3. Now in the Museum of London.
101. Excavated by Oxford Archaeological Unit; publication forthcoming in *Oxoniensia.*
102. M. Biddle, 'The Deserted Medieval Village of Seacourt, Berkshire', *Oxoniensia*, **26-7** (1961-62), 168, Fig. 28/4.
103. A. R. Goodall in J. G. Hurst, forthcoming.
104. Stephen Moorhouse, 'Finds from Basing House, Hampshire (*c.* 1540-1645): Part Two', *Post-Medieval Archaeol.*, **5** (1971), 61, Fig. 25/182-4.

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Acknowledgements

NOTE

Excavation of a Late Roman Site
at Sewardstone Hamlet,
Waltham Holy Cross, Essex, 1968-75
by RHONA M. HUGGINS

A small late Roman settlement on the bank of the Lea was investigated by trial trenching during construction work at Northfield Nurseries, Sewardstone. Pottery and coins associated with pits and gullies are discussed. A survey of a nearby field called Cobfield is included. Documentary evidence for Saxon and later periods is reviewed.

INTRODUCTION

The hamlet of Sewardstone lies about two miles south of Waltham Abbey in the parish of Waltham Holy Cross, now part of Epping Forest District. The hamlet is bounded on the west by the River Lea with Waltham Abbey to the north and Chingford to the south; on the east the land rises from water meadows by the river to arable fields and then above the 200 ft. contour to the forest of Waltham, now called Epping Forest, where Sewardstone meets the Loughton boundary (Fig. 1). The site is on London Clay at about 60 ft. above mean sea level.

Today a 'ribbon' development of nurseries and housing has been built along the Sewardstone Road. At Northfield Nurseries the owner, Mr. John Harker, in 1965, discovered Roman pottery in a probable ditch while digging foundations for new glasshouses (TQ 379976). The pottery was identified by Mr. Bernard Barr and reported to Waltham Abbey Historical Society. Contact with Mr. Harker was maintained, and, when he undertook further work, P. J. Huggins excavated trial trenches at A, B, C and D (Fig. 2) for the Society in May 1973. In 1974, following further finds, Terry Turner, another member of the Society, excavated two further trial trenches, T1 and T2. In 1975 Mr. Harker planned further extensions and P. J. Huggins directed a weekend excavation of the area Z.

Two other members of the Society, P. Penfold and W. F. G. Walker, were, over the same period, carrying out field walking, using a metal detector to the north of the site on land known as Cobfields (Fig. 1) owned by Mr. M. Davies; a summary of their work is included here (Appendix). The author, as Hon. Curator of the Society, has collected all the accounts of the various workers, and studied their finds, in order to present this report of an area of the Lea Valley which has received little attention previously. She wishes to thank all those mentioned above and the volunteers who helped with the excavation, and most particularly Mr. Harker for reporting finds and giving permission to excavate. Dr. K. N. Bascombe and Dr. Margaret Gelling are also thanked for assistance with the documentary section, and P. J. Huggins drew Figs. 1, 2 and 3. D.T-D. Clarke gave advice on the coins.

HISTORICAL NOTES

The manor of Sewardstone was included, in the Domesday survey, within the 40 hides for Waltham Holy Cross[1] held by the Bishop of Durham in 1086 and by King Harold in 1066; it forms the southernmost part of the parish. Manorial courts were held at Sewardstone in the 13th century at which time a list of tenants shows 80 householders for Sewardstone compared with 170 for Waltham[2].

FIG. 1. SEWARDSTONE HAMLET, BASED ON CRAWTER'S MAP OF 1826
Northfield adjoins Pattypool Mead.

The first record of the name occurs as 'Siwardeston' in a Pipe Roll of 1176-90[3]; Reaney interprets this as 'Sigeweard's tun'[4]. The map[5] of Waltham Holy Cross as surveyed by Crawter in 1826 shows blocks of common land distributed alongside the river at regular intervals between Chingford and Waltham (Fig. 1). Each piece of 'common' mead or meadowland is divided into strips and was probably liable to occasional flooding; in each case fields lie on the higher ground to the east of the meadow and these too may have originally been 'common'; the names 'Town Field' and 'Cobfield' suggest this. Within the boundary of Sewardstone there are two such blocks of 'common' mead, i.e. Cobmead adjoined by the Cobfields, and Pattypool Mead adjoined by Northfield and other fields; Northfield and the field to the south include the site under discussion here.

The name Cob or Cobbing, from Cobbins Brook, derives from the Old English personal name 'Cobba'[6], while Pattypool is *padipol* in 1271 and 1277 meaning 'brook or pool of Pada', or possibly 'a pool infested with toads'[7] from the adjective *padig*. Both these names 'Cobba' and 'Pada', are considered to belong to the early Saxon period[8] and it seems likely that they were originally separate estates which became united as Sewardstone or 'Siwardeston' later in the Saxon period[9], presumably upon the arrival of a man named 'Sigeweard'.

In the 1271 court roll[10] of Sewardstone manor, Ralph Ascelin granted one rood of meadow in *padipol* to Margaret Heuris. In 1277 an inquisition[11] found that John de Lepehatch, Henry Spich and Richard Cusel, holding one rood of meadow, Geoffrey Kypot, holding half an acre of meadow and John Payn, holding half an acre of meadow, were required (by reason of these holdings) to maintain a bridge, 10 ft. long and 6 ft. broad, in *padypol*. The latter entry occurs among a sequence of items apparently relating to Chingford (which was part of the Half Hundred of Waltham), but as the place-name *padypol* does not occur in Chingford[12] it is highly probable that both entries refer to the same area. *Padypol* was evidently held in strips or small parcels at that time just as it was in 1825. A bridge 10 ft. long would not span the Lea at *Padypol*, so it must have crossed a minor stream or ditch.

A survey of 1733[13] repeats one of 1631 for 'Padie Pool' and states that the total acreage was 45 acres, 11 demesne lands held by two tenants and the remainder copyhold held by 13 tenants in 39 parcels; 'Paddipool', together with other marshes and meads in Sewardstone, was common from Lammas to Lady Day.

Finds and sites of Roman date have now been found at Northfield adjoining Pattypool, at Cobfields, at Waltham[14] and, to the north of Waltham, at Nazeingbury[15], the latter being in fields adjoining yet another block of common mead. The sites are linked by the river, which was certainly navigable in the time of Alfred[16], but a Roman road between them also seems probable. Such a road can be postulated running from London via Stratford and following the Lea along its eastern bank as far as Harlow where a Roman settlement of considerable size near the temple area was found recently.[17].

The dug-out boat[18], now in Chelmsford Museum, found in 1935 in a ballast pit at Sewardstone, may be mentioned here as it was close to the Northfield site. It was said to be 13 ft. long and made from a single oak trunk with a solid thwart left standing 5 ft. 4 in. from one end. The conditions in which it was found suggested at the time that it might be Mesolithic in date, but the finding of the Waltham Abbey smith's hoard[19], dated *c.* BC 50 to AD 50, in similar conditions under the marsh clay now allows a much later date to be considered possible for the boat, and it may even have been a simple craft used by the Romano-British at Pattypool[20].

THE EXCAVATIONS (FIGS. 2 AND 3)

Area Z: Mr. Harker had stripped the topsoil Z1 and reported finds of Roman pottery and a coin. The whole area was waterlogged but, by constructing a dam on the west side, an area 4.6×2.4 m. was made suitable for excavation. The features found included: a north-to-south gully of remaining depth 33 cm. filled with silt Z2 and Z3; a pit filled with silt Z4 of remaining depth 15 cm; a silt-filled ·
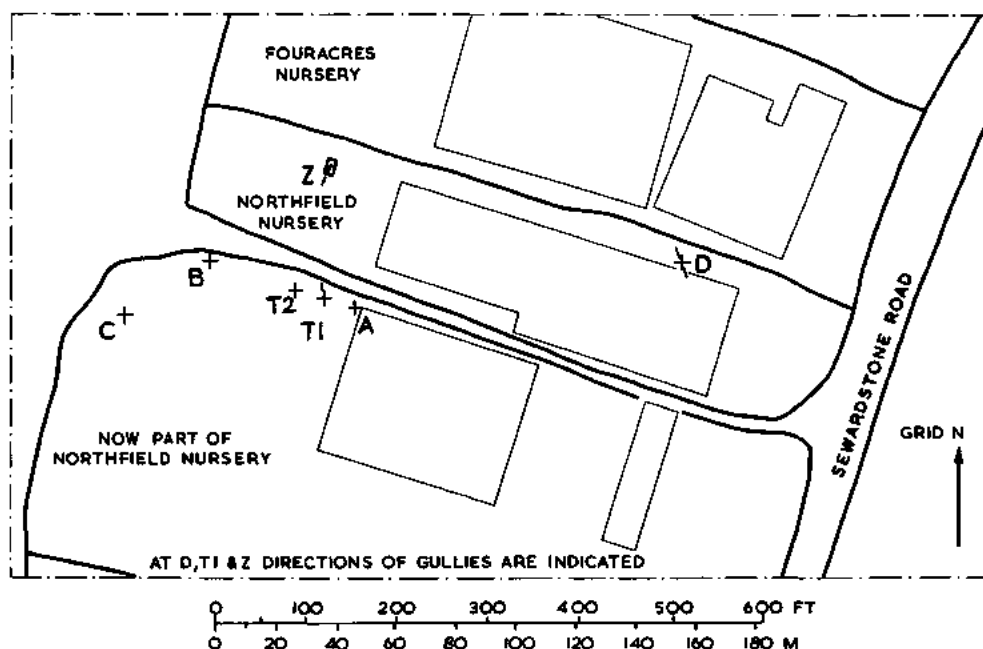
FIG. 2. SEWARDSTONE HAMLET
Plan of site showing present nursery buildings and position of excavated trenches based on O.S. map of 1935.

run-in Z5 to the gully; a shallow depression Z6; and four possible post holes from 2 to 5 cm deep. The silt in all these features was of the same slate-grey appearance.

BUILDING MATERIALS: Seventy-seven fragments of tile including pieces of tegulae and imbrices, two fragments were tempered with shell; from the fill of all features. Pieces of daub, several with wattle impressions; from Z2 and Z3, the gully fill.

QUERN: Several fragments varying in thickness from 2 to 8 cm., coarse millstone grit.

ANIMAL BONE: 4 kg, including ox, pig and sheep, some bones had been shattered for marrow extraction; 12 oyster shells.

GLASS: A fragment of clear, greenish glass vessel; from gully fill Z2.

BRONZE COINS:
1.   Constantius II, AD 324-37, 18 mm. dia, broken but fair condition.
        Obverse: laur. and cuir. bust r. ...TIVS NOB/C
        Reverse: two soldiers standing either side of two standards, m.m.illegible; from Z3, lowest gully fill.
2.   Identified by the British Museum as 'a contemporary imitation of mid-4th century AD Roman bronze coin', 15 mm. dia; from Z1, Mr. Harker's preliminary stripping.
3.   Unidentifiable coin, 13 mm. dia, 4th century; from Z2, upper gully fill.

POTTERY: There were 354 sherds of late Roman pottery from area Z.

FROM Z2, UPPER FILL OF GULLY (FIGS. 4 AND 5)
Mortaria (FIG. 4)
1   Smooth buff ware with buff and pink grits; Oxford type, see *Ver.* 1288[21] in orange fabric dated AD 375—410.
2   Red ware with white, red and grey grits, worn: Probably Much Hadham ware.

Beakers (FIG. 4)

3 & 3a   Rim and body sherd of light orange fabric, worn black slip outside, rough finish inside, incised lines on shoulder and rouletted impressed pattern.

4   Body sherd of red ware with trace of red slip outside, no mica particles, grey core, stamped impressed pattern on shoulder; Oxford type[22].

5   Base, orange/red ware, micaceous, trace of red slip outside; Oxford type.

6   Body sherd of red ware similar to 5, traces of red slip outside, impressed rouletted pattern outside.

7   Base, red ware with some traces of mica, wheel-marks inside; Much Hadham type.

Flagon (FIG. 4)

8   Base of creamy buff ware, greyish core, smooth surfaces.

Bowls (FIG. 4)

9   Rim, creamy fabric with few brown and black inclusions, probably grog, orange/black slip overall applied after rouletted pattern impressed on shoulder; Nene Valley type[23].

10   Rim of similar fabric to 9 but black slip overall.

11   Samian ware, Drag. f31 (Antonine C.G.), very worn.

12   Rim, bright red ware, no slip or mica, decorative grooved band; Much Hadham type.

13   Rim, red ware, rather worn; probably Much Hadham[24].

14-16   Rims, light grey fine fabric with black surfaces, worn; no. 16 has black slip line outside the rim, dark grey surface below this.

17   Rim, light grey fabric with mid-grey surfaces, fine sand temper and no slip, surfaces like fine sandpaper.

18   Flanged rim, grey ware.

19   Flanged rim with traces of white slip inside and on top of rim, grey ware.

20   Flanged rim, grey ware, darker surfaces and fine sand temper.

Jars (FIG. 4 and 5)

21-3   Rims, orange/red ware; probably all Much Hadham types (nos. 22 and 23 fitted rimsherds in Z3)

24   Rim, dark red fabric tempered with fine sand, squared edge to rim.

25   Rim, red ware with grey core, worn surfaces; possibly Oxford type.

26   Rim of red ware.

27   Rim of dark red ware, rim grooved on edge.

28   Rim with slight burnish, red ware.

29   Rim, orange/red ware; probably Much Hadham type.

30   Narrow-necked rim, grey ware.

31   Rim, light grey, soft, sandy ware, trace of white slip outside, groove on shoulder.

32   Rim, dark grey, sandy ware.

33   Rim, light grey ware like 31.

34   Rim of grey ware.

35   Rim of light grey fabric with sand temper, dark surfaces, trace of black slip; *Ver.* 1187.

36   Rim of light grey sandy ware, dark surfaces.

37-9   Rims, grey ware.

40-1   Rims, sandy grey ware.

42   Rim, light grey with brownish margins, dark grey surfaces.

Not illustrated; flat grey ware bases from 5 to 10 cm. dia., one has scoring on the base roughly dividing it into halves and quarters.

43   Jar rim, buff ware, coarse sand temper with cavities, finely ridged on shoulder.

44-6   Rims and base of soft shell-tempered ware, 44 is pinkish tempered with fine shell, 45 and 46 have shell and cavities, dark grey fabric.
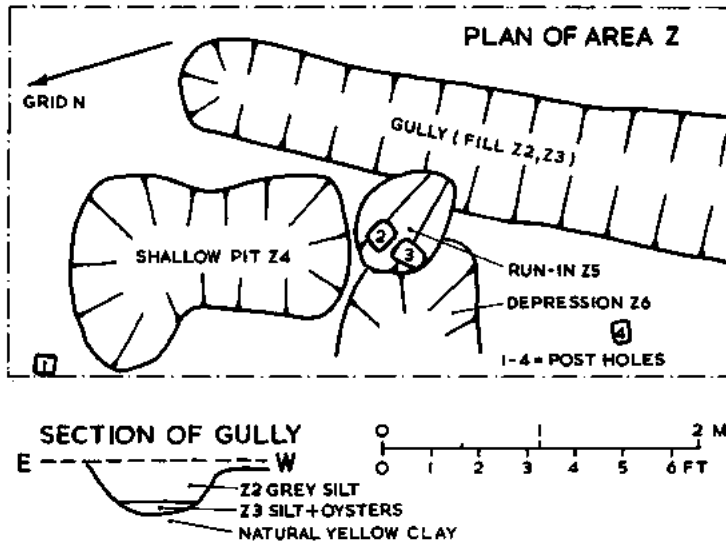
FIG. 3. SEWARDSTONE HAMLET
Plan of Area Z and section of gully, in Northfield.

Storage jar (FIG. 5)

47   Rim and sherd of coarse reddish ware with some large grits in temper, sherd has rough pattern scored into shoulder.

48   Base of hard, grey ware with very rough surfaces, brownish outside, lava fragments in temper; Mayen ware[25].

FROM Z3, LOWER FILL OF GULLY (FIG. 5)

Bowls (FIG. 5)

49   Rim, creamy fabric with inclusions like 9 and 10, red colour coat and trace of incised pattern on shoulder. Nene Valley type.

50   Large sherd with complete profile, fine, soft red ware, traces of red slip on surfaces, samian copy; Oxford type.

51   Large sherd, fine, sand-tempered grey ware, inside and over rim dark, possibly slipped.

52   Large part of bowl with scars of handle, stamped concentric decoration applied after throwing, bright orange/red fabric. A similar bowl with two handles was found in Much Hadham kilns and is now in Hertford Museum.

Jars (FIG. 5)

53   Rim, similar fabric to 52; Much Hadham ware.

54   Rim, dark red ware.

55   Narrow neck rim sherd, fine grey ware with black surfaces.

56   Rim, grey ware; Much Hadham type.

57   Rim, fine, light grey ware.

58   Rim, fine grey ware; Much Hadham type.

Storage jars (FIG. 5)

59   Rim, sandy grey ware with dark grey surfaces.

60-61   Rim and base, grey, shell-tempered ware.

Mortaria (FIG. 5)

62   Rim, red ware with red slip; Possibly Oxford type.
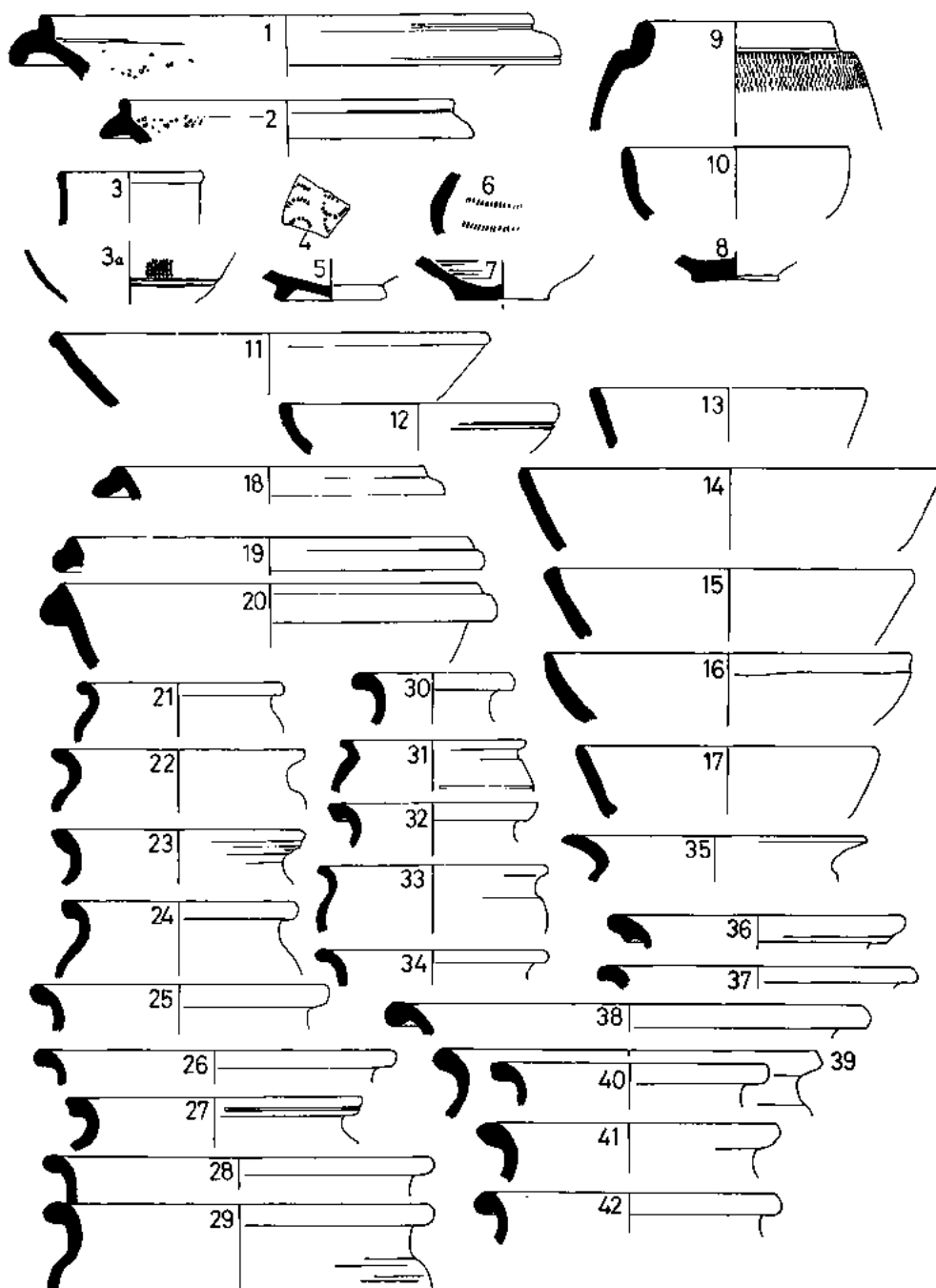
FIG. 4. SEWARDSTONE HAMLET
Pottery from Z2. Sc. 1:4.
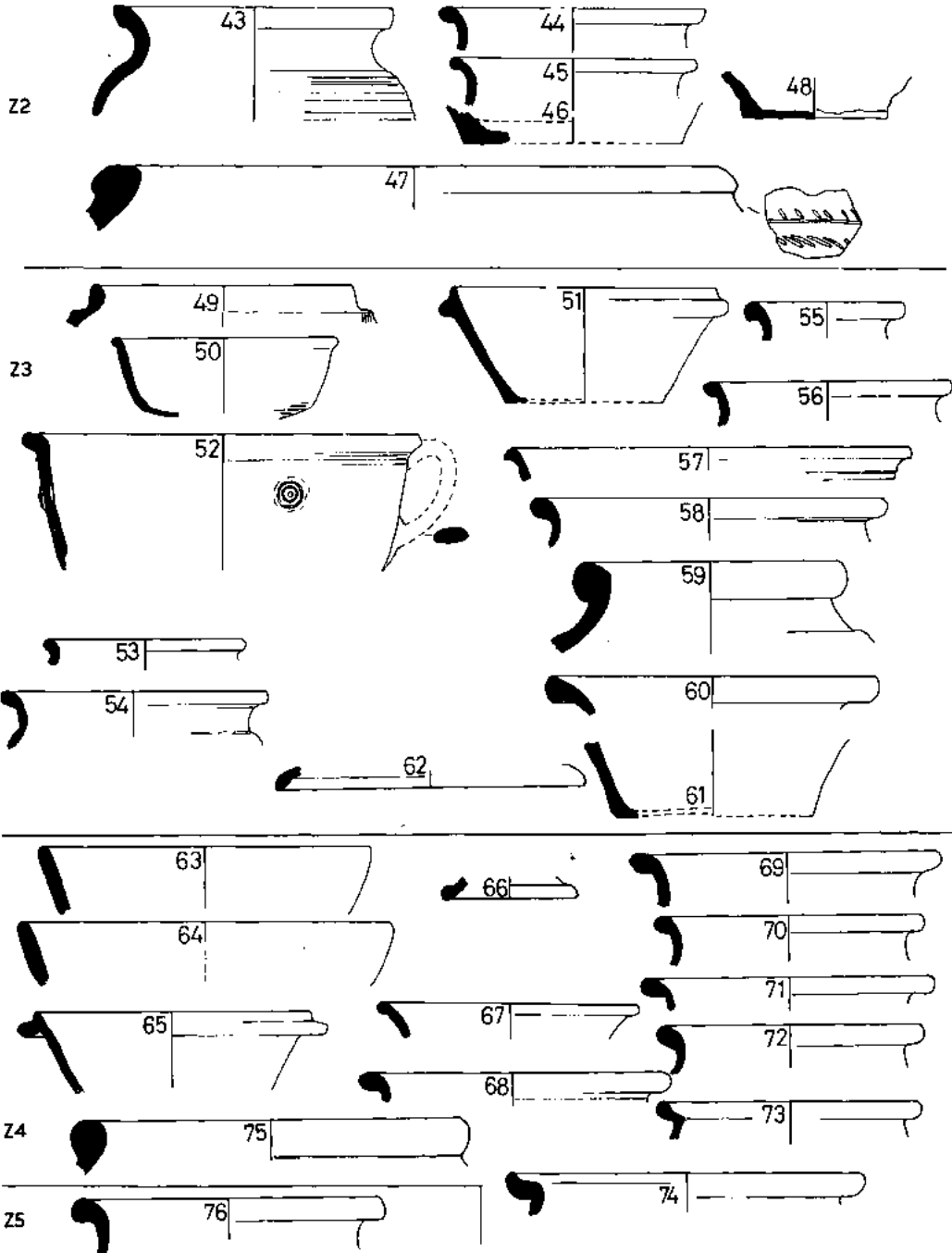
FIG. 5. SEWARDSTONE HAMLET
Pottery from Z2, Z3, Z4, Z5. Sc. 1:4.

FROM Z4, SHALLOW PIT (FIG. 5)

Bowls (FIG. 5)

63   Rim, light grey ware, black surfaces.

64   Rim, sandy grey ware.

65   Flanged rim, sandy grey ware.

67   Rim, sandy grey ware.

Lid or foot? (FIG. 5)

66   Rim, bright red ware; Much Hadham type.

Jars (FIG. 5)

68   Rim, bright red ware; Much Hadham type.

69-74   Rims, grey sandy ware.

Storage jars (FIG. 5)

75   Rim of grey ware.

FROM Z5, RUN-IN TO GULLY (FIG. 5)

76   Rim of jar, sandy grey ware.

Trench T1

In the small trenches A, B, C, D, T1 and T2, the topsoil, sometimes with dumped clay below, overlay a friable mottled grey/orange silt 10—50 cm. thick, over natural yellow clay at 30—60 cm. below the present ground level. Details are as follows. Trench T1 measured 1.8 by 1.7 m., it revealed a U-shaped gully 1.6 m. across by 40 cm. deep, silt filled, which ran N/S and terminated in a 23 cm. dia. post hole; all finds were from the silt.

COIN: Unidentifiable 4th century type, AE, 15 mm. dia.

BUILDING MATERIALS: 5 fragments of tegula and imbrex, one piece of flat tile, 7 iron nails.

ANIMAL BONE: 1 kg., including ox and sheep.

POTTERY: (FIG. 6)

There were 127 worn sherds, late Roman, all compared to type sherds[26].

83   Bowl or beaker of grey ware.

84   Beaker sherd, red ware with black surfaces, rouletted pattern. Colchester type.

85   Beaker sherd, red ware with white paint. Oxford type.

86   Bowl rim, grey ware with black surfaces. Much Hadham.

87   Bowl rim, red ware, slightly micaceous. Much Hadham.

88   Bowl rim, red ware with red slip surfaces. Oxford.

89   Jar rim, red ware; Much Hadham.

90-1   Jar rims, grey ware, Possibly Much Hadham.

92   Flat base, 10 cm. dia., rough flint-tempered ware; Rettendon type[27].

Trench T2

This contained a shallow pit or depression, 45 cm. by 1.2 m., silt filled.

POTTERY: (FIG. 6)

There were 41 sherds, late Roman, from the silt.

77   Beaker rim, red slip, worn, samian copy.

78   Bowl rim, light grey ware.

79   Bowl rim, grey ware, slightly brown.

80   Jar rim, grey ware.

81   Jar rim, grey ware.

82   Jar rim, red fabric with grey core, black surfaces except inside rim.
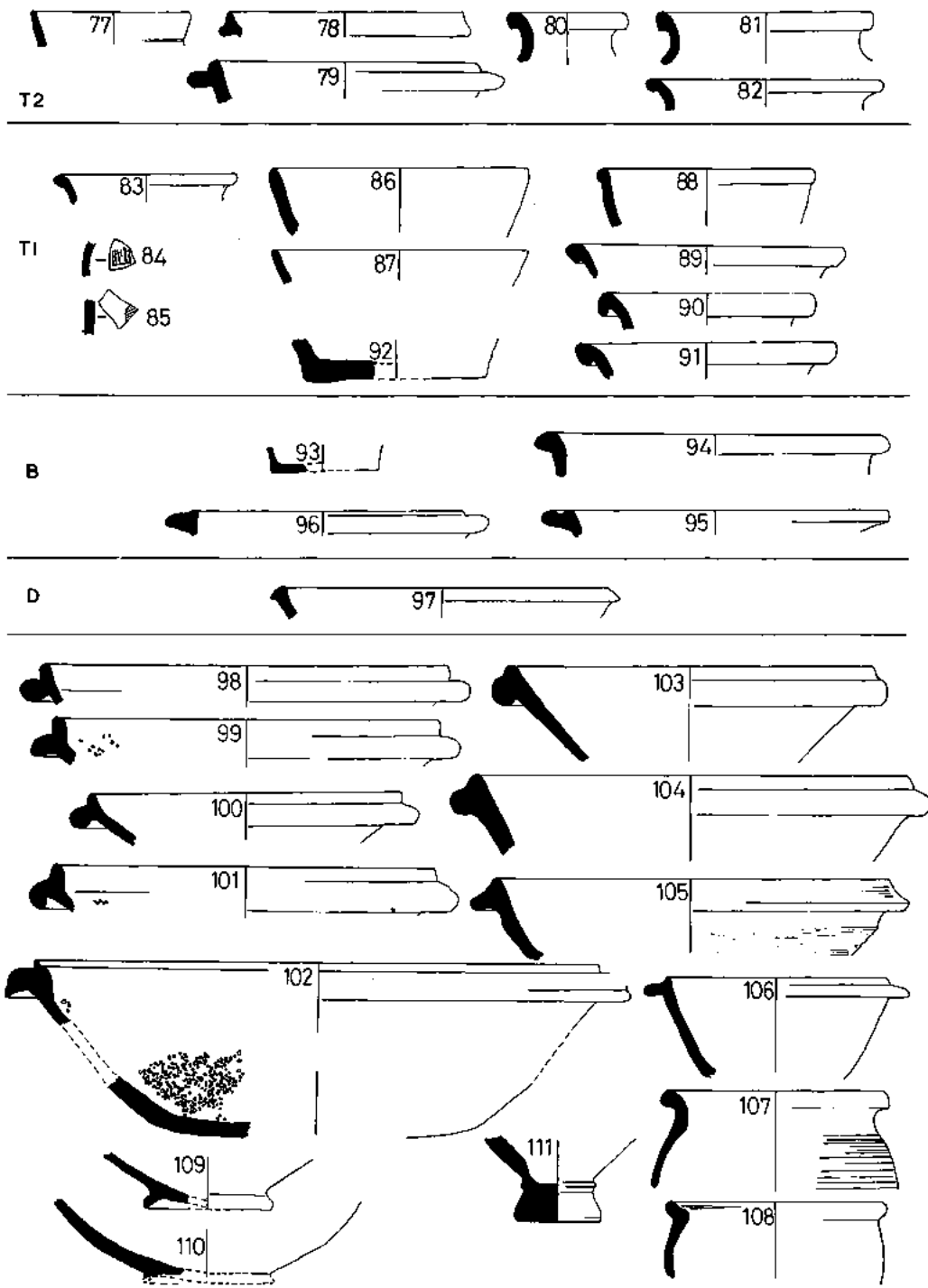
FIG. 6. SEWARDSTONE HAMLET
Pottery from T1, T2, B and D, with nos. 98—111 unstratified. Sc. 1:4.

Trench A

This was 0.9 m. square. No features or Roman pottery were found.

Trench B

This was 0.9 m. wide and 4.6 m. long by the path to Pattypool.
BUILDING MATERIALS: Two fragments Roman tegula and other red brick pieces.
POTTERY: (FIG. 6)
There were 5 Roman sherds in disturbed clay over silt, 25 sherds in silt.

93   Base sherd, brownish sandy ware.
94   Rim sherd, greyish brown ware.
95   Bowl rim, greyish brown fabric, worn.
96   Bowl rim, black micaceous ware, tempered with fine sand.

Trench C

This was 0.8 m. square, water was reached at about 1 m. deep.
POTTERY: 10 Roman sherds, from the silt, none illustrated.

Trench D

This was 2.1 by 0.9 m. on the north side of Northfield glasshouse. A gully was located running NE/SW similar to one found by Mr. Harker while stripping topsoil inside the glasshouse.
POTTERY: (FIG. 6) Three sherds, probably Roman, in gully silt.

97   Bowl rim, red ware, brown surfaces, worn.

Unstratified

Pottery collected by Mr. Harker over the years includes many of the fabrics and types already discussed from the other excavated areas. Those listed here are not paralleled elsewhere although they are considered to be of 4th century date: they extend the range of forms.

Mortaria (FIG. 6)
98-100 Creamy buff fabric with white, pink, and grey grits. Oxford type.
101   Red, soft fabric, micaceous, white, pink and grey grits. Oxford type.
102   Rim and base, creamy buff fabric, grey, pink and white grits.

Bowls (FIG. 6)
103   Grey ware, fine sand temper, trace of black slip on top of rim.
104   Grey ware.
105   Vesiculated, brown surfaces, black core, wheel-made.
106   Buff surfaces, sandy, worn.

Jars (FIG. 6)
107-8   Grey ware, sandy.

Bases (FIG. 6)
109-10 Pinkish fabric with red slip imitating samian; Oxford.
111   Orange/buff surfaces, red core.

POTTERY ANALYSIS AND DATING

TABLE 1 FABRIC TYPES (number of sherds in features and trenches)

	Z1	Z2	Z3	Z4	Z5	T1	T2	A	B	C	D
Hadham red ware	8	36	16	5	—	22	1	—	—	1	1
Oxford red ware	10	17	6	—	—	5	3	—	12	—	—
Oxford buff ware	—	3	1	—	—	2	—	—	—	—	—
Nene Valley ware	7	8	2	—	—	—	1	—	—	—	—
Colchester black coated	—	2	—	—	—	2	—	—	—	—	—
Rettendon-type grit tempered	—	—	—	4	—	—	1	—	—	1	—
Mayen lava tempered	—	1	1	—	—	—	—	—	—	—	—
Shell tempered	3	3	4	—	—	—	—	—	—	1	—
Samian	—	1	—	—	—	—	1	—	—	—	—
Rough black ware	—	1	—	—	2	—	—	—	—	—	—
Grass tempered	—	—	—	—	—	1	—	—	—	—	—

Grey wares have not been included in the above table but they probably originated from Much Hadham, central Essex or other local kilns.

Of the identifiable sources Much Hadham (15 miles north) is the most common, the red ware is similar to Oxford red ware but is slightly harder and stronger. Although the sherds in trench B were small and worn they were predominantly of Oxford type and it seems possible that Hadham red ware superseded Oxford red ware, both B and D are likely to contain occupation material rather than destruction rubbish. The fine buff wares from Oxford, the Nene Valley and Colchester fall within a 50-mile radius and were presumably luxury items. The Mayen pot, No. 48, was no doubt valued for its near-stoneware hardness and may have contained a valuable commodity from the Rhineland such as wine or honey, Sewardstone is only 12 miles from London by road or river. The shell-tempered ware is very similar to St. Neots Late Saxon ware except for the flat base, a Bedfordshire source seems possible; sherds of similar type are found at other 4th century sites such as Rawreth, Essex[28], and Brentford, Middlesex[29]. The samian fragments (No. 11 illustrated) were both very worn and could represent heirlooms; the two rough black sherds were heavily grooved and are probably of 1st century date but cannot suggest a settlement of that date. The single grass-tempered sherd was in the upper level of the pit T1 and may suggest that the Saxons levelled the site, perhaps to establish their common field.

The types of pottery are all found elsewhere in 4th-century groups. The coins were broken and corroded but the coin of Constantius in Z3 was probably in fine condition when lost. The only pot which might be called 'Romano-Saxon' is No. 52 which was in fresh, unworn condition. There seems to be no evidence of the settlement being inhabited after the 4th century.

CONCLUSIONS

Although only trial trenches were dug in limited areas, the similarity of the finds and features suggests a limited period of use for the site. No finds have been reported from the neighbouring nurseries.

The shallow gullies could have enclosed a farmstead and have provided drainage for a building or buildings of timber with wattle-and-daub infilling and tiled roof. The finds of pottery and building material were most intense in Area Z and this is the most likely locality for a building, which possibly stood just to the east of Z on slightly higher ground above the marshy river valley.

The course of the river Lea at Sewardstone has many meanders and marshes and has been affected by drainage, millstreams and reservoirs. It has been suggested[30] that, in Roman times, the water level of the Thames was lower than today; if this is so, the Lea, being a tributary of the Thames,

would also have been lower. The present site therefore may have been drier than today and more suitable for a living site. The mottled grey/orange silt over the natural clay may have been caused by flooding of the site. In later periods all domestic buildings have been sited on higher ground alongside Sewardstone Road.

The settlement seems to have been established in the late Roman period and abandoned towards the end of the 4th century. A close parallel for the pottery and coins occurs in the phase 3 ditch on site A at Northumberland Wharf, Brentford[29], Middx., which is also a riverside site. Rawreth and Braintree[31] in Essex provide parallels for farms of the same period.

APPENDIX: FIELD SURVEY OF UPPER COBFIELD (FIG. 1)

Upper Cobfield is situated between Waltham and the Northfield site, on high ground overlooking the river. The field has recently been deep-ploughed and is noticeably more gravelly than its neighbours. This may indicate that the site is an unidentified patch of terrace gravel at *c.* 30 m. OD and *c.* 12 m. above the Lea at this point.

Worked flints of various periods were found and a record of these is held by the society. The site offers a fine vantage point over the surrounding area.

P. Penfold and W. F. G. Walker found 9 Roman coins (listed below) in Cobfield and 105 sherds of Roman pottery. The coins are mainly dated to the 3rd and 4th centuries AD, and 12 of the 16 rim forms found can be paralleled by examples from Northfield already illustrated (Figs. 4—6, Nos. 19, 33, 42, 53, 54, 58, 59, 74, 80, 94).

In the medieval period the adjoining Cobmead was common land divided into strips; the Inventory[32] of the Abbey of Waltham taken in 1540 records 140 acres of '*whete* in a field called *Cobbefeld*' and a further 100 acres in oats in the same field, belonging to the Abbey.

COINS

1 Two of Faustina Jnr., AD. 145—75, AE, 32 mm, sestertius.
   Obverse: dr. bust r., inscription worn away.
   Reverse: worn smooth.
2 Claudius II Gothicus type, AD 265—70, AE, 15 mm., broken.
   Obverse: worn, radiate bust r.
   Reverse; altar, CONSEC]RATIO.
3 Tetricus I, AD 270—73, AE, 19 mm., badly struck.
   Obverse: Rad. head r., very worn.
   Reverse: Aequitas standing l. as R.I.C.52, very worn.
4 Claudius II Gothicus type, AD 265—70, AE, 11 mm., Bar.Rad.
   Obverse: Bust r.
   Reverse: Man on horseback.
5 Allectus, AD 293—96, AE, 20 mm. max. dia., broken
   Obverse: Rad. bust r. ...ALLECTVS..., standing figure.
   Reverse: Standing figure, ABVN]D or PROVI]D [AVG S/P.
   Possibly Camulodunum mint.
6 Licinus II, AD 317—24, AE, 17 mm.
   Obverse: Bust r.
   Reverse: Laurel wreath round VOT V.
7 Constantius II, AD 354—61, AE, 17 mm.
   Obverse: Bust r.
   Reverse: Soldier spearing fallen horseman.
8, 9, 10. Illegible, AE, 15—17 mm.
11 Carausius, AD. 287—93, Antoninianus R.I.C.34, Londinium.

12 Constantine II, AD 317—40, British copy.
    Obverse: Bust r.
    Reverse: Horseman.

BRONZE OBJECTS (FIG. 7)

1 Fragment of bronze brooch with incised linear decoration on bow and simple incised ring-and-dot decoration on foot, the double holes being pierced, broken remains of a pin-hook under the foot, the head is missing. Mr. Daffyd Kidd of the British Museum has examined the brooch and considers a 5th—6th century date likely, but no exact parallel has yet been found. Its size suggests it was one of a pair used to fasten a garment of light material (possibly a woman's) at the shoulders.

2 Seal or ring bezel, bronze, the back roughly finished, the front gilded with the impression of an eagle with raised wings[33]. 13 mm dia.

3 Damaged seal-box lid, ring-and-dot motif inscribed on top, hinge attached and trace of another attachment on underside[34].

Not illustrated:

4 Hollow globular pommel, probably medieval.

5 Plaque embossed with a figure of a woman holding up a mirror in her right hand, dressed in flowing robes, perhaps part of a hand-mirror of Roman or post-medieval date.

6 Rectangular fragment, curved as if part of a bracelet with a central pivot-hole across the underside, pierced and embossed lattice decoration. Date uncertain.

IRON OBJECTS *(not illustrated)*

7 Nail, 19 cm. long.

8 Fragments of a rapier blade, perhaps medieval in date.

CLAY OBJECT

9 Fragment of pottery counter, dia. 250 mm., red fabric, incised VI[I.
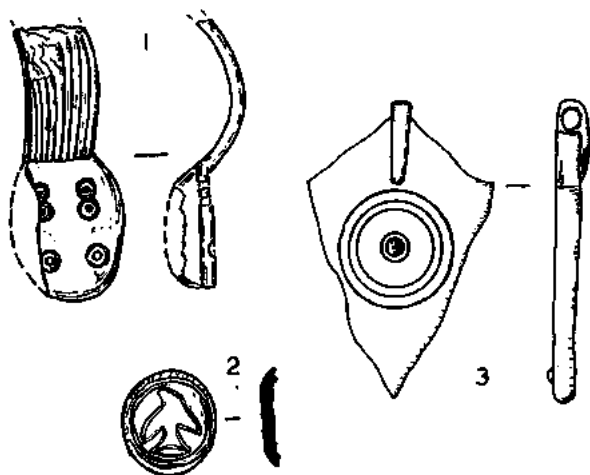
FIG. 7. COBFIELD
Bronze objects. Sc. 1:1.

NOTES

1 V.C.H., *Essex,* V, 155.
2 V.C.H., *Essex,* V, 162.
3 Reaney (1969), 30.

4   Reaney (1969), 30.
5   Unpublished. Held in the Waltham Abbey Historical Society's collection, it is basically similar to the 1842 Tithe Award
    Map, Essex Record Office D/CT 381.
6   Reaney (1969), 5.
7   Reaney (1969), 29, Dr Margaret Gelling has confirmed this derivation but points out that *padig* refers to toads not frogs.
8   Reaney (1969), 5.
9   Gelling (1976), 795—847.
10 Public Record Office (P.R.O.) SC 2/173/30 m.4.
11 P.R.O. J.I. 1/323 m.39.
12 Britton (1970), 164—209.
13 E.R.O. D/DSoLI.
14 *Britannia* (1976), 344-5.
15 *Britannia* (1976), 345.
16 *The Anglo-Saxon Chronicle,* The Parker Chron. sub-anno 895-6.
17 Conlan (1973), 30—50.
18 Proc. Prehist. Soc., II (1936) 144-5.
19 *London Archaeologist,* I No. 11 (1971), 244; partially discussed by Manning (1977).
20 S. McGrail of Maritime Museum has taken a sample from this boat, and from others of similar type found
    elsewhere, and is at present awaiting C—14 dates.
21 *'Ver.'* refers to *Verulamium Excavations.*
22 Young (1973), 105—15.
23 Swan (1975), 49, no. 48.
24 This and other Much Hadham ware was identified by Bernard Barr who excavated kilns at Bromley Hall, Much
    Hadham, Herts. Both red and grey wares were found in the kiln material.
25 Fulford (1975), 171—8.
26 All the pottery in this group was identified by comparison with type sherds by Chris Green of the Dept. of Urban
    Archaeol., London, using macroscopic technique.
27 Tildesley (1971), 35—50.
28 Drury (1977).
29 Laws (1976), 179—205.
30. Willcox (1975), 285—92.
31. Drury, (1976).
32 P.R.O., E117/11/24.
33 Jones (1972) has a somewhat similar object on p. 70.
34 Compare with Hawkes (1947), Pl. C, no. 7, and Liversidge (1973), Fig. 76b.

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NOTE

Ambresbury Banks, an Iron Age Camp in Epping Forest, Essex: a report on excavations of 1933, 1956, 1958 and 1968

by J. A. ALEXANDER, M. AYLWIN COTTON, R. ROBERTSON MACKAY
and S. HAZZLEDINE WARREN

Ambresbury Banks is a 11.7-acre univallate enclosure with external ditch and some remains of a counterscarp bank, in Epping Forest. The main bank was of dump construction originally separated from the ditch by a berm. There was a single entrance approached by a trapezoidal shaped causeway. The ends of the bank at the entrance were revetted with coursed Essex Puddingstone blocks so as to form a parallel-sided passageway through the bank. Postholes at each end of the passageway represent inner and outer gates. The width of the passageway was sufficient to suggest double gates; but no central postholes were found. An internal spring would have been ponded up by the bank.

Finds were few but indicate an Iron Age date of the second half of the first millennium BC, with some re-use in the Belgic period. The subsequent history of the camp is also considered.

1. Introduction

Ambresbury Banks, also called Ambersbury or Amesbury, is a banked and ditched enclosure situated in Epping Forest, about 1 mile (1½ km.) north-west of Theydon Bois, and just south of the A11 main road in the vicinity of the fourteenth milestone from London to Epping (TL437003). The site lies in the parishes of Epping and Waltham Holy Cross, the boundary of these parishes, between the Lea and Roding Valleys, crossing it from north-west to south-east through gaps in the banks (Fig. 1). The enclosure is on the SE side of the crest of the NE—SW ridge (and watershed) through the forest, lying between the 109 and 116 m. contours nearly at the highest point in the forest, with the land sloping away to the south-east.

This scheduled ancient monument consists of a single bank, which now stands some 1.3-2.2 m. high, a wide silted-up ditch, and a 0.4-1.0 m. high intermittent counterscarp bank on the outer lip of the ditch. The main bank now has six main breaks in its circumference, the SW break being approached by a track marked by side-ditches (Fig. 1). The mainly level area enclosed is about twelve acres (*c.* 5 hectares) and its form is roughly ovate, although the N and E corners are turned sufficiently sharply, with a near-straight stretch of rampart between, to suggest a sub-quadrangulate form (Fig. 1). At the south, the head of a small valley is enclosed, from which a stream flows south-east through a gap in the bank. The NW side is roughly parallel to the A11 road from which it is separated only by 30 m. of level ground. Today the site is covered with hornbeam, beech, oak, holly and birch trees and the carpet of their leaves bears no undergrowth. It has been much disturbed in the SE sector, apparently by quarrying, but is otherwise well preserved.

13

2. History of the Site

The earliest documentary reference is given by Reaney (1935, 22) as 'castrum de Eppynhatthe'. However, K. N. Bascombe has recently studied the document (BL. Add. MS. 37655 ff. 2, 219) and finds that Reaney has misread 'costeram de Eppynghacth' or 'cost'am de Eppynghache' which occur in a perambulation of the Forest made in 1300, phrases which must refer not to the camp but to the border or side of Eppinghacth or Eppynghache probably on the Epping-Theydon Bois boundary; both Epping and Waltham Holy Cross lie within the Forest boundary so the camp would not be mentioned in a perambulation.

The camp is divided by the Epping/Waltham Holy Cross parish boundary through the north-west gateway along what is now a NW—SE footpath. There are no Saxon or Norman bounds for Epping, Waltham Holy Cross or Theydon Bois surviving. However, bounds dating to 1060 do exist for Alderton (Kemble, 1839-48, 813), now the eastern part of Loughton, and these include 'Sateres byrig' which probably refers to Loughton Camp, a slightly smaller univallate camp some 3.4 km. south-west of Ambresbury Banks in a very similar situation. The next landmark in the Alderton bounds is 'stanweges hacce' which may refer to a nearby Roman road; Loughton Camp today can only be approached by footpaths and bridleways. Bounds for Tippedene (now Debden, the western part of Loughton) also exist (Kemble, 1839-48, 813) and are better identified; they encompass a rectangular area defined mainly by streams flowing from the forest to the river Roding and make no mention of either 'stanweg' or a camp. In the forest area the boundary has changed very little since 1060, following the obvious boundary of the high watershed. The division of Ambresbury Banks between two parishes is curious, and perhaps suggests that a trackway from the north-west, leading to the gateway, survived when the boundary was first drawn by the Saxons, who apportioned the forest between themselves, perhaps in the 5th or 6th century AD.

Morant (1768, 45) refers to a document of 1670 concerning rights of common in the woods relating to Upshire (part of Waltham Holy Cross nearest to Ambresbury Banks) which mentions 'Amesbury woods', possibly the origin of the name. Morant goes on to say 'by the side of Copped Hall park is a fine old camp inclosing 11 acres 2 roods and 20 perches; commonly called Ambres Bank. The new road from Debden-green to Epping, goes through it. Hereabouts appears to me to have been fought the decisive battle between Boadicea and the Romans . . . . . '.

Ogborne (1814, 217) quotes a letter of Smart Lethieullier of Wanstead dated *c.* 1789, which refers to 'the ditch filled up very lately in order to make a straight road from Debden Green to Epping Market', but he also states 'There are no regular openings, like gateways or entrances, only two places where the bank has been cut through', a statement which casts doubt upon his observation in view of the sketch which appears in Ogborne showing all the breaks in the bank which occur on the modern O.S. map.

Gough (1806, 127) also describes the camp: 'Just without the park (Copt Hall) on the SE side of the London road, is an oval camp called Ambresbury banks, and probably British. This entrenchment is now entirely overgrown with old oaks and hornbeams. It was formerly in the very heart of the forest, and no road near it, till the present turnpike road from London to Epping was made, almost within the memory of man, which now runs within a hundred yards of it; but the intrenchment cannot be perceived from thence, by reason of the wood that covers it. It is of an irregular figure, rather longest from east to west, and on a gentle declivity to the south-east. It contains near 12 acres, and is surrounded by a ditch, and high bank much worn down by time, though where there are angles they are still very bold and high. There are no regular openings like gateways or entrances, only two places where the bank has been cut through, and the ditch filled up very lately in order to make a strait road from Debden Green to Epping market. The boundary between the parishes of Waltham and Epping runs exactly through the middle of this intrenchment, whether carried so casually by the first settlers of those boundaries, or on purpose, as it was then a remarkable spot of ground, I leave to better judgements to conjecture. As I can find no reason to

attribute this intrenchment either to the Romans, Saxons or Danes, I cannot help concluding it to have been a British oppidum, and perhaps it had some relation to other remains of that people which are discoverable in our Forest'.

The road (previously A11, now B1393) which runs to Epping along the NW side of the camp, is first shown on the Chapman & André map of 1777, but in 1768 was in the care of the Epping and Ongar Highway Trust. There is evidence that the line of the road existed at an earlier period, however; a map (Hatfield House Library, Maps and Charts II, f. 23) of Waltham Holy Cross parish, drawn *c.* 1590 for the Denny family, indicates a road 'to Epping', approximately on the line of the A11, bypassing Loughton; it may be that this road fell into disuse after this period but it probably existed, at least as a trackway, along the parish boundaries in the medieval period.

The first recorded excavation of the site is that undertaken by the Essex Field Club in 1881, under the direction of General Pitt-Rivers (1881). The bank and ditch were then sectioned on the NW side. In 1903, in the Victoria County History (Essex, I, 279) the Roman attribution was discounted, in view of Pitt-Rivers report, in favour of a pre-Roman date. In 1921 the Royal Commission on Historical Monuments (Essex, II, 63) recapitulated the above information, commented on the possible internal water supply and hinted that the SW entrance was the only genuine one.

A further excavation was carried out by the Essex Field Club in 1933 under the direction of the late S. Hazzledine Warren. The report on that excavation is un-published but its findings are incorporated in this text.

In the summers of 1956 and 1958 two fortnight-long excavations were carried out by the Department of Extra-Mural Studies of the University of London. In 1956 the direction was shared by Mrs. M. A. Cotton and Drs. J. Alexander, I. Smith and J. Butler, and in 1958 by Dr. J. Alexander and Mr R Robertson Mackay. This paper is an account of their work and follows interim reports by Cotton (1957, 43) and Warren (1932-4, 267).

In 1968 permission was given for a further small sampling of the old land surface under the rampart bank and of the stream-bed in the southern part of the interior. It had been hoped to return and continue the work here but, after many delays, it has been felt better to publish the evidence so far obtained.

3. The Excavations

The evidence from all the excavations (Site 1, 1933; Sites A to E and H, 1956; Sites F and G, 1958 and Site J, 1968: Fig. 1) can be considered together since it falls conveniently into three periods: before the building of the enclosure; the period when it was first built and in use; and the period when it has lain ruined and largely unused.

3.1. PERIOD I: BEFORE THE ENCLOSURE WAS BUILT

This could only be identified stratigraphically under the bank of the Period II 'camp', although some of the artefacts found in the make-up of the bank and in the associated ditch siltings might belong here. No features belong to this period at Sites A, B and F, where *c.* 8 sq. metres of the surface of bed-rock were exposed. From the excavations in the interior (para. 3.2h) it seems unlikely that the pre-enclosure land surface survived elsewhere than under the bank.

Although no soil profile could be identified under the bank (in spite of deliberate searching of the relevant area in 1968), the distinction between the bank material and the underlying geological deposits was clear at sites A, B, and E. At site B six small abraded sherds of handmade flint-tempered ware, and, at site A, four similar sherds, came from below the bank (Appendix A1) on the surface of the geological deposits. The geological bedrock of the whole site proved to be 'Claygate Beds', here much contorted and disturbed by glacial action. As a result, local variation was very great and patches of pebbly or clayey gravels capped, in places, by boulder clay were found.
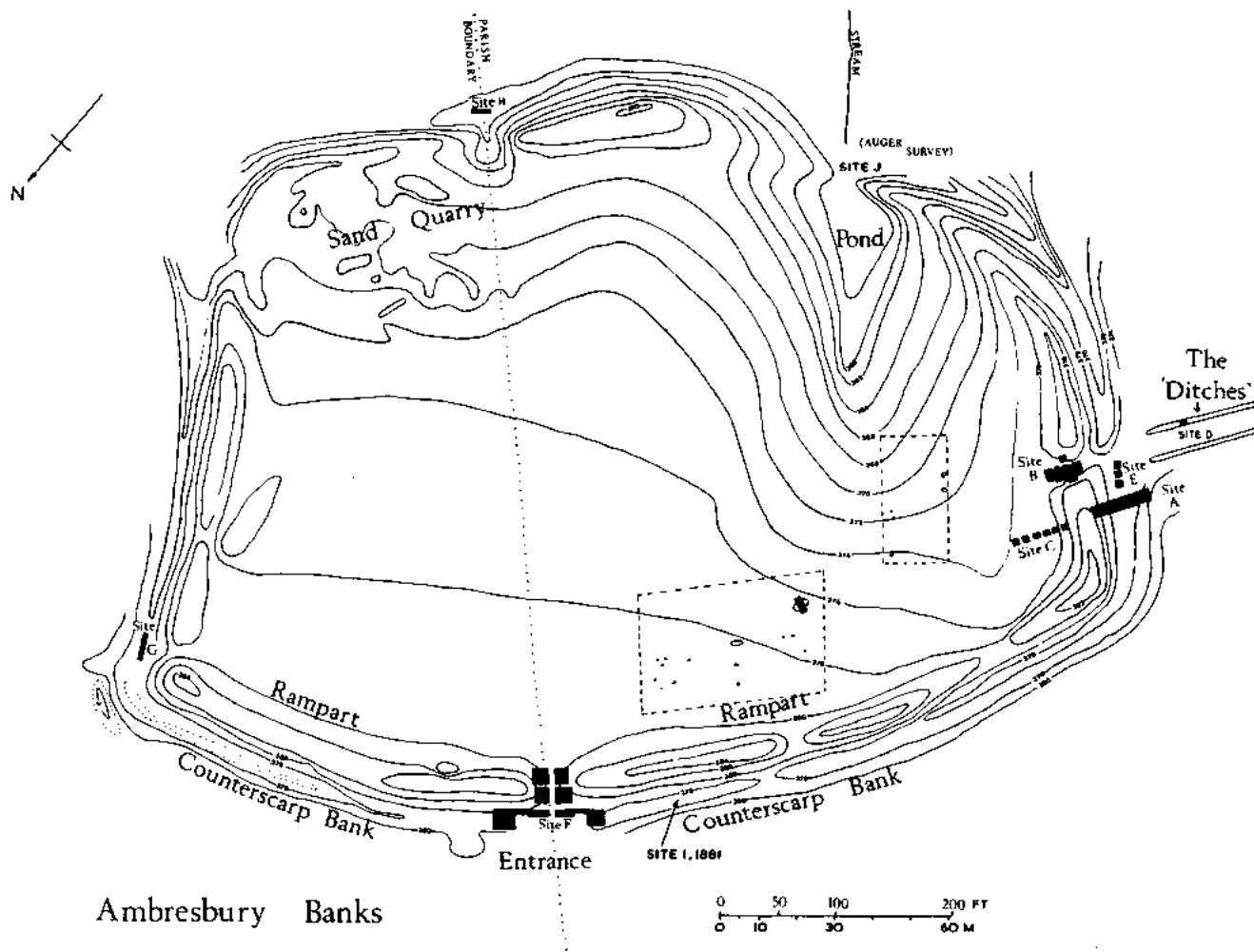
FIG. 1. AMBRESBURY BANKS, ESSEX.
Contoured plan showing sites of excavation A to J; heights are in feet.

From the tips of the bank itself came other artefacts which could belong to this period. At Site B four abraded sherds came from the centre of the bank, and five more from the bank debris which lay on the berm beside the ditch. At Site 1, 1933, ten sherds came from the centre of the bank. The fabric of these sherds is similar to those found beneath the bank. Thirteen flints, not certainly of human workmanship, and five more, certainly so, came from the bank core at Site I, 1933, and Site F.

It is also possible that some of the artefacts found in the lowest siltings of the enclosure ditch belong to this period. At Site B, a tanged flint arrowhead (Fig. 5/10 and Appendix A2) and, at Site I, 1933, a hammerstone, are typologically early.

3.1a Comment:

It would appear that some human activity took place on the site before the bank and ditch of Period II were constructed. It is not possible to say how long before, but the tanged flint arrowhead could well be of early 1st millennium BC date and the sherds and flint flakes could be contemporary with it or date from later in the same millennium.

3.2. PERIOD II: THE ENCLOSURE

A substantial penannular ditch was dug around a roughly ovate area of *c.* 12 acres. The N and E corners turned sufficiently sharply, with a straight line of ditch between them, for the whole to be called subrectangular (Fig. 1). The spoil from the ditch was thrown up on its inner side to form a bank. The single causeway and entrance to the enclosure were almost in the centre of the north-western side.

3.2a The Entrance

The original entrance was located in 1956 by testing, by auger and excavation, all six causeways at present to be seen across the ditch. Only one, Site F, proved to be of undisturbed geological deposits; the remainder were of bank material thrown down upon ditch siltings. At Site F, an 8 m. wide gap through the bank aligned with the causeway; the whole area was examined (Fig. 2). The original axis of the entrance proved to be slightly north of but parallel to its present centre.

3.2b The Causeway

This had been left as a solid roadway across the ditch and was, in its surviving form, a trapezoid 5.6 m. (18 ft. 6 in.) wide at the inner edge of the ditch and at least twice this width at the outer edge. Its cleanly cut sides sloped very steeply for 1.5 m. before sloping downwards more gently to the ditch bottom. The surface of the causeway was much more gravelly than the land surface under the bank and some 5 cm. of gravel had probably been added to it. The surface of this gravel was slightly cambered, being thickest in the centre of the causeway and petering out *c.* 1 m. from its edges. It was un-rutted, except for a much later feature belonging to Period 3 (Fig. 2) and there was no sign of wear or use although a thin layer of silty mud lay on it. There were no traces of postholes or other revetting along its sides.

The gravelled surface of the causeway continued and became the level surface of the entrance between the banks where it was well preserved under bank-slip at the NE corner. From this sealed area came five sherds, four struck flint flakes, fire-cracked flints and small lumps of burnt clay (Appendix 2).

3.2c The Gateway through the Bank

This lay almost at the centre of the gentle convex curve of the NW rampart so that the bank-ends approached each other at a slight angle but were not stopped or inturned in any way.

The passage-way through the bank appears to have been marked out originally by two shallow trenches 10 cm. deep × 30 cm. wide and *c.* 9 m. long, in which stone revetting walls were set, with posts at each end (Fig. 2), which were 5.7 m. (18 ft. 9 in.) apart at the junction with the causeway, and at

the interior end, thus continuing the causeway and demonstrating that the entrance was conceived as a whole. At the causeway, *c.* 1 m. from the lip of the ditch, the trenches and walls turned at near right-angles and continued parallel to the ditch, towards the south-west for at least 7 m. and to the north-east for at least 3.5 m. (collapse made it impossible to tell the true length here). On the SW side the wall appeared to turn into the bank as it terminated, but at least one stone had fallen into the ditch and the end was uncertain.

The SW wall of the passage-way was well preserved for 6.8 m. (22 ft.) but the NE wall had been mostly destroyed by a later (Period III) trackway and by the collapse of the wall into the ditch (see Plate 2). The walls were continuous, with no spaces for horizontal timbers, and, only at the corners, were holes for vertical timbers seen.

The south-west wall was still four courses high and the 240 stones were all roughly rectangular blocks of conglomerate (locally called Essex puddingstone), the largest being 80 × 50 × 20 cm. They were skilfully laid without mortar. There was no evidence that the revetment was originally very much higher than its surviving 1.3 m., for very few stones were found lying loose in the entrance or in the ditch-siltings and there was no sign of deliberate robbing. The NE wall of the passage survived only in its bottom course which consisted of 70 stones, some of them unshaped flint nodules. Along the ditch-lip, this too had tumbled into the ditch before it had filled with silt. At the interior end of the NE wall a dump of clay and pebbles appeared to be a deliberate revetment to the bank. No matching dump was found on the other side. Although the paralleloid passage-way between the revetting walls was completely cleared, no timber structures other than two pairs of postholes were found.

The Outer Gate, near the ditch (Fig. 2), consisted of a western square posthole 60×60 cm. cut 63 cm. into bedrock and an eastern hole which was much slighter, being *c.* 18 cm. diameter and 70 cm. deep. There was no central post in the space between them. The Inner Gate consisted of a western square posthole 50 × 50 cm. and *c.* 1 m. deep and an eastern one 60 cm. diameter and 1 m. deep; the latter had been used for a small (25 cm. diameter) post. There was no central post in the 5.8 m. span between them. There was no evidence of decayed timber or packing in the other postholes.

3.2d The Counterscarp Bank

The spoil from the cleaning out of the enclosure ditch was probably dumped along its outer lip forming an intermittent counterscarp bank which still exists in places (Fig. 1). This bank was sectioned at Site A and consisted of a light clayey silt, similar in texture to the middle siltings of the ditch (Fig. 3); no finds came from it.

3.2e The Ditch

A resistivity survey of the disturbed area on the NE alignment showed that the ditch still existed below the disturbed surface, and an auger survey showed that it existed under the stream bed at the south. Since all the causeways across the ditch, except at the north-west (Site F), were proved to be dumps on existing ditch siltings, the original enclosure ditch was penannular. Its nature is known from sections cut through it in 1881, 1933, 1956 and 1958 (Fig. 3). The later excavations agree that it had a broad V-profile, was 8-9 m. wide at the old land surface and was cut 2-3 m. into bed-rock. Its width at the bottom varied considerably. Its variations are suggested by the dimensions given from the different sections. At Site I, 1883, it was described as 22 ft. (6.7 m.) wide and 10 ft. (3.0 m.) deep. At Site I, 1933, it was 23 ft. (7.0 m.) wide and 9 ft. 5 inches (2.9 m.) deep with a wide flat bottom 7 ft. 6 in. (2.3 m.). At Site A it was 27 ft. (8.2 m.) wide and cut 10 ft. 6 in. (3.2 m.) into bedrock.

In all the ditch cuttings, a distinction was observed by the excavators between the lower and upper siltings. This showed most clearly in Sites A and F where the earliest silt was iron stained and rather clayey, and contained a tanged flint arrowhead (Fig. 3) and three sherds of flint-tempered ware (Appendix 2). At Site I, 1933, a similarly described lower silting contained a few sherds which can no

Causeway

Ditch

Rampart

Cart Track

N

AMBRESBURY BANKS

0   5   10   15   20 FT
0 1 2 3 4 5 6 M
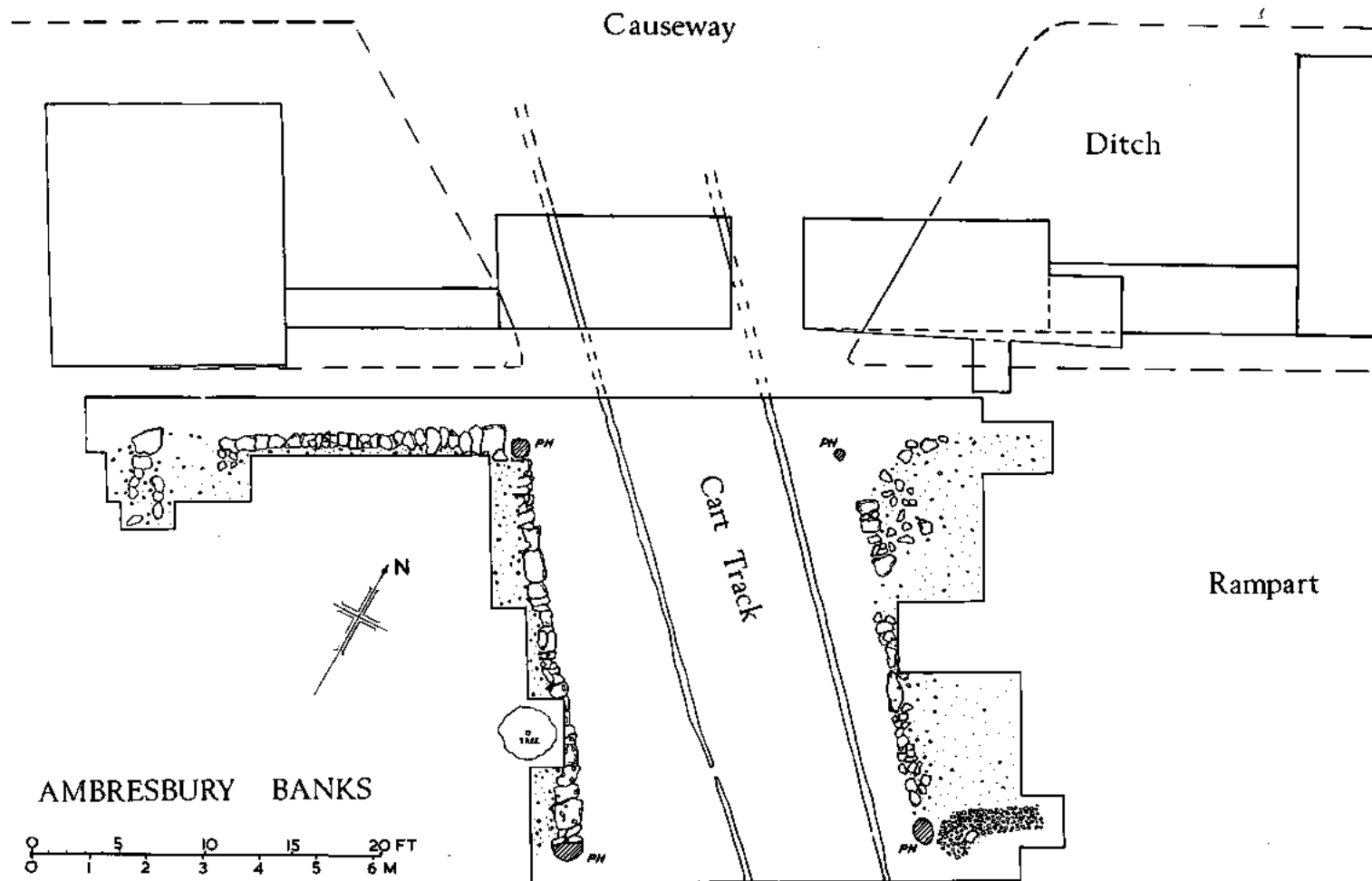
FIG. 2. AMBRESBURY BANKS, ESSEX.
The north-west entrance, site F, showing causeway and stone revetted passage-way.

longer be identified but were held by Warren to be of Early Iron Age 'A' type. At Site I, 1881, a bottom silting was also distinguished; pebbles thought by Pitt-Rivers to have been sling-stones, came from it.

By far the most detailed study of the siltings was made at Site A (section, Fig. 3). Here the rapid silt consisted of an orange-stained grey clay (level 7). Overlaying this was a similar clay (6) which contained pebbles, then a solid fibrostained grey clay (5), a brown-stained clay (4), and a pebbly clay level (3). The whole was sealed by a deep sandy layer (2) derived from the slip of the top bank levels and a surprisingly thin layer of leaf mould. The total depth of the present silt was some 2.4 m.

The buttends of the ditch beside the entrance causeway were sampled at Site F. Although damaged by later recutting, the ditch terminals had probably been cut square to the causeway and sloped steeply down to a wide-profile ditch which was 8.2 m. wide at the old landsurface; the terminals were cut 2.4 m. into bedrock. The buttends of the ditch at the entrance also provided evidence of the period of initial use of the enclosure. Here in the SW butt, the bottom filling of grey clayey silt seemed to have accumulated steadily to a depth of *c.* 1.5 m.; pebbles and roots lay along the junction of the strata and from it came three sherds of flint-tempered ware. The passage of a number of years should be represented by this sediment.

The SW buttend also provided the best evidence for a partial cleaning out of the ditch. A new and shallower butt was cut through the old; it might be that the final trapezoidal shape to the causeway was given at this time. It was *c.* 2 m. wide and 1.3 m. deep. Four layers, from their angle of slope, accumulated when the ditch was open. From the causeway the ditch had been cut almost vertically to a depth of 1.5 m. and pebbles and roots lay along the junction of the natural clay and the silt. The earliest silting was a grey/brown sand probably washed from the top of the causeway; it contained nothing. Above this was a yellow clay, a water-deposited stratum formed when the ditch was open and the greyish layer which topped it may have represented a developing soil. It this were true, then the ditch had silted some 70 cm. before the bank and wall of the enclosure collapsed into it.

The NE buttend was augered to a depth of 2.02 m. Its upper filling was somewhat different from the SW butt being a water-logged yellow clay *c.* 1.65 m. thick. Below this was a drier, sandier, heavily iron-stained silt; the bottom was not reached.

Cleaning out and recutting the ditch was also suggested from the other ditch sections. At Site A a cleaning out seemed represented by the middle siltings, especially the solid iron stained grey clay (Fig. 3, level 4). Warren also interpreted the upper levels in his ditch section at Site I, 1933, as a recutting. It is of interest that Pitt-Rivers considered the sherds (which no longer exist) from the upper levels of the ditch at Site I, 1881, to be of 'Romano-British' type.

3.2f The Bank

The bank was proved to have been made by dumping the ditch-spoil inside but well back from the ditch. It was sampled at Site I, 1933, and sectioned at Sites A, B and F. Its original dimensions must have been about 3 m. high and *c.* 10 m. wide.

The nature of its construction was best shown at Site A (section, Fig. 3). Here there was an initial dump of soil 1 m. high and 2 m. wide, parallel to, and 1.3 m. inside the ditch lip. This berm was covered by bank material in the final 'glacis' form of the bank. Further tips were added on the inner side of the bank, these were small dumps of gravel, sand and clay which matched those found in the sides of the ditch and which had been piled as they had been dug. An area of 12 sq. m. cleared to bedrock, immediately inside the bank at Site C, showed that no quarrying scoops or pits had been made on the inside at that point, and no surface indications of pits or scoops were noticed elsewhere inside the bank.

At Site F, the bank at the entrance was cut back 1.7 m. from the revetting wall on the NE side to study its composition (Fig. 1). An irregular tip of mottled clay lay 1.6 m. inside from the lip of

SITE B:1956 E.FACE
1 LEAF MOULD AND HUMUS
2 GRAVELLY MUD (TRACK SURFACES)
4 ORANGE SAND
5 ORANGE GREY SAND AND GRAVEL (BANKSLIP)
6 HARD CLAYEY SAND (CLAYGATE BEDS)

18th C. TRACK CUT THRO' BANK

CART RUTS

OLD LAND SURFACE

SITE A:1956 W.FACE

BANK X'

FINE SAND
SAND & HUMUS

COUNTERSCARP

RE-CUT OF DITCH

FINE SANDY SILT

SAND WITH SOME
PEBBLES
CLAYGATE BEDS: SAND OVER CLAY

PEBBLY CLAY

RABBITS
IRON-STAINED SAND
STONY SAND OF OLD
LAND SURFACE

CLAY WITH
SOME STONES

BROWN STAINED CLAY
BROWN GREY CLAY
BROWN SILTY CLAY

ARROWHEAD

STICKY GREY CLAY

FIG. 3. AMBRESBURY BANKS, ESSEX.
    Section XX' through bank and ditch at Site A and section YY', showing bank cut through by 18th-century track
    at Site B.

the ditch and behind the revetting wall. On and behind this were dumped small tips of grey/yellow sand and clay and the whole was sealed by a thick stratum of gravelly brown sand. This evidence is supported by other sections. Site I, 1881, reported a series of tips in the bank matching the layers in bedrock and at Site I, 1933, the partial excavation of the bank showed similar tips.

From none of the bank sections was there any evidence of timber revetting in the bank or of timber posts or a pallisade trench in the old land surface beneath it. This problem was studied with particular care at Site A where a 2 m.-wide area beneath the bank was cleared. It seems unlikely therefore that there was ever a timber facing to the bank or any strengthening timbers inside it. Nor, except at the entrance (Site F) was there any evidence of a stone revetting wall or of a foundation trench to hold one. A possible revetting bank was found at the back of the rampart on the NE side of the entrance; it was 60 cm. high, more than 2 m. long and made of clay. No matching bank was found on the SW side.

3.2g   Other Evidence of Refurbishing

The only other sign of refurbishing the enclosure was the renewal of the SE post of the inner gate. The new post was smaller (25 cm. diameter) than its predecessor.

3.2h   The Interior

The 11.7 acres enclosed by the bank comprise, in the north and centre, a level zone. In the south there is the head of a small steep-sided valley where a spring rises and flows eastwards through the bank and across the ditch. This gap through the bank is only 60 cm. wide at its base, so that the bank acts as a dam with a marshy area of *c.* ½ acre inside it; in wet weather this becomes a pond. Augering along and across the ditch at the gap under the present stream bed showed it was likely that the defences were complete in ancient times on this side and that the spring, if it existed, was ponded up inside the enclosure. Any overflow would have to be accommodated by a pipe or channel through the bank, the present stream bed is a breach not a deliberately left gap.

No excavation of the pond area was carried out but augering with a trap-auger at Site J, 1968, gave some details of its history. At the point augered more than 1.6 m. of silt had accumulated in the small valley; it was homogeneous clayey silt. That it had existed for a considerable time is suggested by the preliminary analysis of pollen samples from it, which showed at a depth of 1.6 m. a complex of forest trees quite different from those at 1 m. and the present.

The interior around the marshy area was studied in some detail since it was felt that if the valley head (and perhaps its spring) was deliberately included, a settlement may have been nearby. One area of 24 sq. m., Site C, between the pond and the rampart on the W side was completely excavated (Fig. 4) in an attempt to identify occupation layers inside the bank, but none was found. The area was of interest in showing the different stages of soil formation here. Professor Zeuner observed: 'Soil formation on Site C shows the A_0 horizon of semi-decomposed plant matter, the A_1 horizon with structureless humus, and below it the A_2 which is grey and spotted. The brown iron-humus B horizon was clearly developed below. There is evidence of gley formation which indicates frequent water-logging. It is unusual to find such a profile under deciduous forest. It must be accounted for by the extreme base deficiency of the subsoil (Claygate Beds)'.

A further four acres around the spring (plan, Fig. 1) were subjected to a resistivity survey in 1958 and eight small anomalies were located. One such anomaly was completely excavated and proved to be a shallow depression from which no finds came; the others were augered and shown to be similarly shallow.

3.2i   Comment

The enclosure seems to have been laid out and completed as a single operation. The construction was as simple as possible, the bank being an unrevetted pile of earth for most of its length. Only
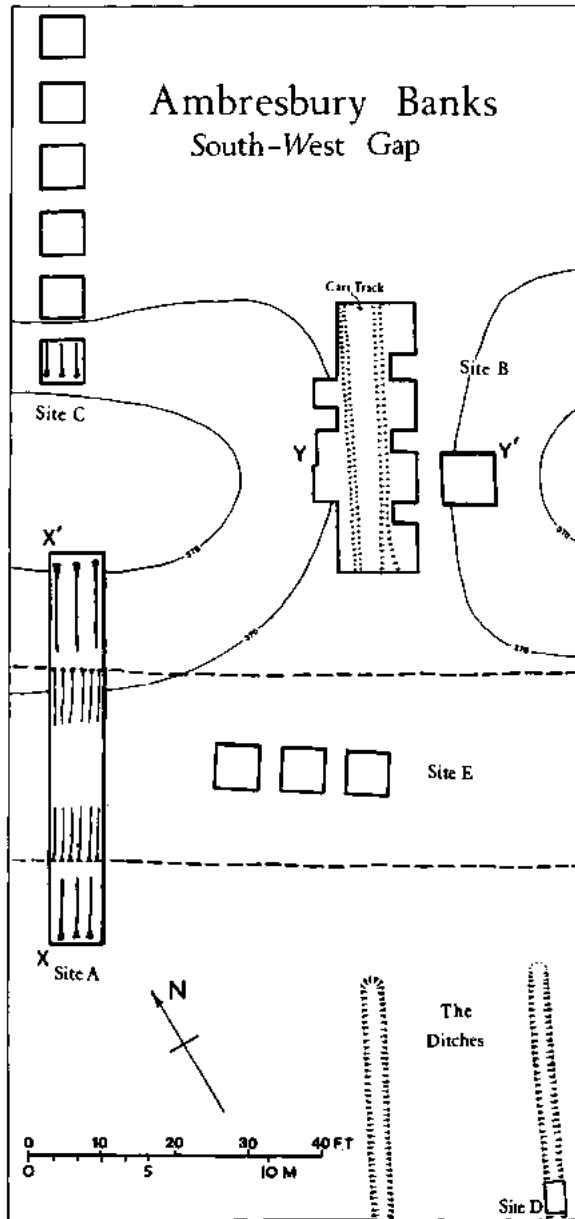
FIG. 4. AMBRESBURY BANKS, ESSEX.
    Plan of excavations at the south-west gap, Sites A to E. The ditch was filled and the bank cut through for an 18th-century track.

on the entrance was care lavished and here the stone-revetted rectangular passage through the bank was barred by inner and outer gates. The absence of central postholes rules out easily swinging gates, for single gates or hurdles must have been *c.* 5.7 m. long. The postholes suggest two such gates, both hinged on the strong western posts. Only the inner gate had a strong enough eastern post to make a formidable defence. The recutting of the rear NE posthole is the only evidence of repair or replacement.

The orientation of the enclosure and its single NW entrance suggests that it was laid out along the NE/SW axis of the ridge and deliberately included the valley head and its spring. It is tempting to suggest that a trackway already existed along the ridge.

3.3. PERIOD III: THE LATER HISTORY OF THE ENCLOSURE

No evidence of occupation of the site during the Roman period has been found.

3.3a   The Entrance

The collapse of the revetting wall on the NE side of the passage-way provides an interesting stratigraphical comment on the later history of the enclosure. The collapse of this wall released a considerable quantity of bank material and stones which spilled into the butt-end of the ditch and across the entrance. That which fell into the ditch sealed the siltings there, showing that they had accumulated to within 1 m. of the present land surface.

The remainder of the spoil and stones spread out over the entrance leaving only a small part clear. It sealed *c.* 30 cm. of soil accumulation above the original land surface of the entrance so that a considerable passage of time since the original use of the entrance is also suggested. This accumulation is probably why 18th-century writers did not notice the entrance.

There is little doubt that the Epping/Waltham Holy Cross parish boundary deliberately chose the enclosure and its entrance as a marker, and it may be that if the parish boundary here dates, as has been suggested, to the Saxon period (para. 2) a trackway along the boundary was already in existence. This parish boundary track cuts diagonally across the original entrance to the enclosure. It was a straight trackway worn by use to some 50 cm. below the top of the bedrock, although there was no sign of it on the present land surface; it was traced for 20 m. In its final form it was 2 m. wide and, in wet weather, was very muddy. Mud had obviously been a problem in the past for pebbly gravel had been added to it at least five times, thin spreads of gravel being interspersed with lenses of puddled clay. One certain wheelrut (3 cm. deep) and several probable ones could be seen and were traced for the whole length excavated. From the lowest ruts came 13th-century sherds, iron nails and a buckle; the post-medieval pottery is discussed in the Appendix. The trackway was developed after the collapse of the revetting wall for it used the narrow entrance gap left after the collapse, and its hollow-way is worn through the bank spoil.

As Warren has pointed out 'many trackways that have been made by generations of huntsmen, woodmen, herdsmen and gravel- and clay-diggers can be seen over the uncultivated area of the Forest, some of which are hollow-ways, some still used, others disused. In wet places there are sometimes several parallel hollow tracks close together, making an impressive sequence of loop-ways evidently in the quest for firmer ground'. It seems likely that the camp and this track were being used by those with lopping rights in the forest during these centuries. The establishment of a market at Epping in the 13th century (VCH, Essex, V, 129) may also have increased its use. The settlement of Epping Street also increased at this time.

3.3b   The SW-NE Track

Two of the present breaks in the ramparts, and a ditched approach road to the SW one, can be assigned with some probability to an 18th-century trackway, although nothing is visible in the interior today. The causeways and approaches of both entrances were tested in 1956 (sites B, D, E and G).

3.3c   The south-western gap

At Site B the trackway was sampled where it passed through the gap in the bank. Here the natural subsoil had been worn away to a level *c.* 1 m. below that of the land surface on which the rampart was based (Fig. 3). This hollow-way was 5 m. wide and had a thin gravel metalling, intermingled with a sticky grey mud. In it were two cart ruts, the wheel gauge of the carts using them appearing to be about 1.7 m. The metalling was covered with mud and a thick layer of leaf mould which contained only 19th-20th century objects.

In order to check whether this had been an original entrance, three test trenches were sunk outside the gap in the ramparts in the causeway across the ditch. These (Site E) showed, at a depth of 1 m., a succession of ditch silts similar to those of Site A, indicating that the ditch was continuous at this point and no solid original causeway existed. Two successive gravel spreads had been laid over the ditch silts, resembling those of the surface of the causeway of 'The Ditches' (see below); a glazed stoneware sherd of 17th-century type came from below the gravel. The ditch (at Site E) was not completely excavated, and the only finds were a faceted whetstone, two pieces of iron from the later gravelling, and a clay pipe stem from the leaf mould.

3.3d   'The Ditches'

The approach road from the south-west was auger-tested and a small section was cut through the eastern boundary ditch at Site D. This showed a ditch of U-shaped profile some 1.7 m. wide and not more than 60 cm. deep. The outer side suggested that it had been cleaned out and re-cut at some time after it was dug, and that the earth had been thrown inwards to bank up the level of the causeway. Presumably these were drainage and quarry ditches for the track. There were no finds.

3.3e   The north-east gap (Fig. 1)

Here a trench laid along the axis of the ditch opposite the gap in the bank (Site G) tested the causeway. The ditch was again shown to be continuous under a 1.5 m. thick sandy level, which was probably part of the thrown-down bank. Its gravelled surface contained the neck of a flagon of a red paste with a dark grey core, somewhat soft in texture, smoothed red inside and with a grey-brown wash outside; it has a moulded rim and a handle which was possibly two-ribbed, with a thumb impression on top, and, like the sherd from Site E, should belong to the 16th century. This gravelling spread out over the sticky clay formed by 'ponding' in the ditch at the side of the causeway. A second stratum of gravel and sand had been added to raise the causeway surface and its edge had again been overlapped by further silt from 'ponding'. It is noticeable that even today this area tends to be one of the wettest parts of the site. The last repair and the silt above it produced a piece of red tile or brick and a larger iron horseshoe.

3.3f   The NW-SE Trackway

This old trackway along the Epping/Waltham boundary is still in use as a footpath. At the NW entrance (Site F), the middle strata of metalling in the trackway seems to belong here, for three glazed stoneware sherds of the 17th or 18th century, clay-pipe stems and a horseshoe came from the cart ruts.

The SE gap in the rampart (Site H) appeared more complex. Here the ground starts to slope down fairly steeply to the south-east, and at the NW side of the gap the material from the quarrying (see para. 3.3g) seems to have been dumped so as to form a false intern to the gap. No excavation was carried out here, but a resistivity survey showed that the ditch was continuous and that no solid causeway existed.

3.3g   The Destroyed area of the bank

In the SE corner (Fig. 1) some 40 m. of bank has been removed, the ditch filled in and the area left as a series of small mounds and pits. Although no literary evidence of sand and gravel digging at this spot has been found, the area has the appearance of a disused small-scale quarry.

4.   Conclusions

There is no evidence from the site that it was used by man before the 1st millennium BC. In the earlier part of that millennium some occupation took place, since a scatter of flint and pottery artefacts preceded the building of the large enclosure known as Ambresbury Banks.

This enclosure, sited on one of the highest areas of the forest, covered *c.* 12 acres and probably included a spring of water. It was thrown up from a large penannular quarry ditch of variable profile, the only entrance being near the centre of the NW side on the main watershed. The bank was of simple dump construction without stone or timber reinforcement.

The only sophistication of the structure, apart from some rectangularity in plan, was at the entrance where stone-revetting walls joined with a well-designed causeway which provided a trapezoidal trackway narrowest at the outer edge of the bank. This was barred by gates at each end of a rectangular passage through the ramparts.

Pottery from the ditch siltings suggests that the camp was in use in the second half of the 1st millennium BC, and that the period of use lasted long enough for parts of the ditch, especially those beside the causeway, to need to be cleaned out. Sherds in the secondary ditch silt near the entrance show that the camp was used, or perhaps re-used, by the 'Belgae' in the pre-Conquest years of the 1st century AD.

No evidence of occupation during the Roman period was found, but in medieval and later times several tracks passed through the earthwork and it was used for quarrying sand and gravel, and possibly as an enclosure for cattle on their way to the London market.

Appendix: The Finds

A1   POTTERY

From sites A and B, under rampart or within its soil.

Thirteen sherds were of a thick ware with a red or black fabric, with flint temper, red or brownish surface (type 1 below). There was only one very small rim sherd with flattened top which may have been finger-printed (G. C. Dunning compared it to one from Danbury (Dunning, 1933, Fig. 2.2)). There were also seven sherds of thinner ware, finely tempered, harder and with smooth surfaces of red or brown, but not haematite coated (type 2).

From site F, entrance.

Four sherds of flint-tempered soft red ware (type 1) were found and eight sherds of finer ware (type 2) without flint temper, red surfaces. A rim and base sherd of similar soft fabric with black core and red surfaces (Fig. 5/1 & 1A) and the rim (Fig. 5/2) of type 2 fabric with fingernail decoration on top were also found. A sherd of type 1 and another of type 2 ware came from postholes of the gateway.

From site F, butt end of ditch at causeway.

The lowest level of silt contained two sherds of coarse, hand-made black ware and two tiny fragments of reddish ware of type 2.

The secondary silt contained a small group of sherds of which eight were of grey ware with black 'grog' specks, grey or black surfaces (Fig. 5/4-8); two sherds were of 'vesiculated' ware with cavities from some organic temper, probably shell, (Fig. 5/9); and a sherd with horizontal grooving

in a black ware without obvious temper (probably from a pot like that from Nazeingbury (Huggins, 1978, Fig. 12/12) and elsewhere in Late Iron Age contexts). There were also two sherds of type 2, three sherds of a coarse handmade black ware, and a rim (Fig. 5/3) of a rough gritty handmade fabric with finer grits and of harder fabric than type 1, with brown surfaces. All these were taken to be derived in this context.

Discussion. Although the quantity of pottery found was small and much of it was eroded, it constitutes the main group of small finds and is therefore of value. The small quantity itself suggests that the camp was never extensively used for permanent occupation, the ditch at the entrance would have been an obvious place to throw rubbish, but even here it was not found in quantity.

Six pottery fabrics can be distinguished:

Type 1. Red ware with flint grit temper, soft and hand made.
Type 2. Red ware with finer sandy temper and fingernail decoration on the rim (Fig. 5/2).
Type 3. Hand made black ware, soft and with no obvious temper.
Type 4. Grey ware with black 'grog' inclusions, grey or black surfaces, wheel made (Fig. 5/4-8).
Type 5. Black 'vesiculated' ware, probably shell-tempered, rim (Fig. 5/9) and one sherd only.
Type 6. Black ware with horizontal grooving.

Dating. Fabrics 1 and 2 occurred under the rampart and must precede or be contemporary with the building of the enclosure. The excavations of Pitt-Rivers (1881) also produced a few sherds described as 'of uniform red colour throughout . . . with small grains of sand in its composition' and two rims are shown of simple, slightly out-turned, plain type; there were also sherds 'tempered with quartz' from the rampart. These sherds cannot now be located; it seems however that fabrics 1 and 2 were both represented and they may be contemporary with each other.

Fabric 3 occurred with sherds of fabrics 1 and 2 in the primary silt of the ditch but not elsewhere, it is probably pre-'Belgic'.

Fabrics 4-6, from the secondary ditch silt, have been examined by Miss Isobel Thompson who considers the group to show no Romanising influence, fabric 4 being of the ordinary 'grog'-tempered fabric of 'Belgic' pottery often found associated with fabrics 5 and 6 in Essex, N. Kent and Hertfordshire in the late pre-Roman Iron Age; compare with a group from Nazeingbury (Huggins, 1978, Fig. 12).

Post-medieval - From Site F, entrance, upper levels.

One thick sherd of red ware with a greenish brown glaze; 4 red ware sherds with brown glaze outside; 8 sherds of another vessel, red ware, brown glazed. These sherds are all typical of local wares of the 17th or 18th century.
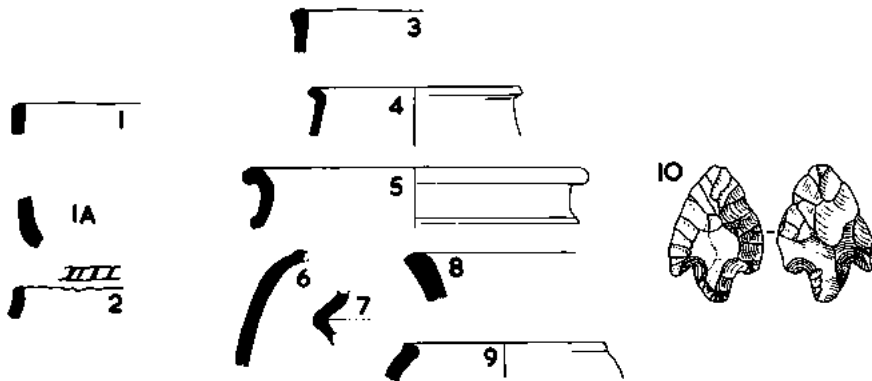
FIG. 5. AMBRESBURY BANKS, ESSEX.
Finds of flint (Sc. ½) and pottery (Sc. ¼).

A2   FLINT

From Site A, level 6 of the ditch: a tanged and barbed arrowhead (Fig. 5/10) made on a flint cortical flake, a patch of cortex remains on the dorsal side which was carefully retouched all round. On the flake surface the retouch was restricted to the tip and the tang. It was heavily patinated on both sides.

From Site F, entrance: 8 humanly struck flakes and 8 of doubtful human work were found including one possible core fragment.

From Site F, ditch silt and fill: 10 humanly struck flakes including 1 core fragment, and 9 flakes of doubtful human work were found.

Comment: The collection suggests that flint pebbles from local deposits had been knapped on this site. Although patinated, the scars were still fresh. The paucity of evidence does not show any intensive use of flint here; no retouched artefacts were found and only one blade flake seemed to have been utilised. Most of the flakes were long (in excess of 5 cm.) and only four might have been struck from prepared blade-cores.

The barbed and tanged flint arrowhead at Site A suggests an early 2nd millennium presence at the site, and the flakes could well belong to that period.

A3   IRON

From site G, ditch infill.
   A large iron horseshoe.

From site F, entrance, upper levels.
   Fragment of horseshoe, 10 cm. wide. Buckle 51 × 46 mm. of rectangular shape with pin on one side; probably a harness buckle. Large staple 56 mm. wide × 84 mm. long; fragment of smaller staple found with it. Large ring-disc, 38 mm. dia. Several nails.

   All these iron objects are taken to be post-medieval.

A4   PIPES

From site E level 2, site B level 1 and site G level 2.
   Fragments of clay pipe stems of post-medieval date.

A5   ANIMAL BONE

   None survived on the site.

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NOTE

A Mesolithic Industry from Hill Wood, High Beach, Epping Forest

by R. M. JACOBI, H. E. MARTINGELL and P. J. HUGGINS

Investigations have been carried out intermittently at the upland site of High Beach in W. Essex since 1913. Three pages of flints from excavations of 1959 and 1961 are illustrated. The flint material has been analysed into categories proposed by the 'Lithic Studies Group'. The material includes: 37 microliths, representing 6 sub-categories; 4 scrapers; 2 burins; and 15 notched pieces from amongst a total of 71 essential tools. There are 7 microburins, 1 adze sharpening flake, 34 cores and 1 piece of a sandstone disc.

The greatest part of the mesolithic activity falls within the 8th millennium bc, but an element, represented by 2 scalene triangles, extends the use of the site into at least the 7th millennium. This suggests that more than one chronological stage within the mesolithic is represented; the debitage is analysed and may support this proposition.

1. Introduction (by PJH)

High Beach, or Beech, is a scattered hamlet on the borders of Epping, previously Waltham, Forest. The site in Hill Wood, now covered by mature beech trees, is on Eocene sands and gravels over London Clay at 294 ft. (90 m.) O.D. It lies between the Lea and Roding valleys in the far west of Essex.

The site was apparently discovered by S. Hazzledine Warren following the digging of a clay pit, he referred to it (1913, 292) simply as 'Epping Forest' and Clark (1932, 62-3) used the same reference. It was not listed by Rankine (1956) in his discussion of sites in southern England. The site is 10 km. SSE of Broxbourne (Warren *et al*, 1934) and 4 km. SE of Waltham Abbey (Huggins, 1970, 9-14).

Warren's flint collection is now in the British Museum. His notebooks suggest that material coded EF (Epping Forest) and PD (pit dwelling) is from the same Hill Wood site. In the 1950s the edge of the clay pit was being dug into by school children under the leadership of their teacher who had permission to dig 'for educational purposes'. Material in the Warren collection with the appellation 'F. J. Speakman, Hill Wood', is likely to have resulted from these activities.

The site was listed by Wymer (1977, 91-2), in fact two sites with the same general grid reference were given, viz: 'Loughton: clay pit, Hill Wood' and 'Loughton: Hill Wood', the latter being the unsubstantiated pit dwelling. These two entries clearly refer to the same Hill Wood, High Beach site which is in the parish of Waltham Holy Cross not Loughton. The site must not be confused with two entries for 'Loughton Camp, High Beach', here is meant the iron age camp which is in the parish of Loughton, 1 km. east of High Beach; here also work was carried out by Warren and Speakman in the 1950s.

In 1959 and 1961 the Hill Wood site was excavated by West Essex Archaeological Group under the direction of John Gordon, who kindly made the records and material available for study. The late Ken Marshall, Curator of the Passmore Edwards Museum, Stratford, supervised the campaigns and summarised (1959, 43-4) the first season's work; the late A. D. Lacaille was in consultation. The area to the west of the clay pit was set out in 3 feet squares, those excavated are shown in Fig. 1 (see also Pl. 1B). The flints were recorded three-dimensionally. Marshall, a geologist, noted (1959,

43-4) that the humus was extremely thin, being only ½ to 3 in. thick, below was a stratum of brown loam, 8 to 9 in. thick, in which the flint material occurred and immediately below was the yellow Claygate Beds, the brown loam apparently being weathered material from these Beds.

The flints from the 1959 and 1961 excavations have been analysed (by RMJ) and a selection drawn (by HEM) for illustration as Figs. 2-4.

In 1977 the Group excavated further squares under the direction of Frank Clark, these are also indicated in Fig. 1. A few possible post or stake holes were noted in 1958/61 and in 1977 and these, together with a survey made in 1977, will be included in a forthcoming report of the most recent material. The position of a nearby spring will also be indicated.

2.   Artefact material (by RMJ)

For the sake of overall clarity the finds of flint artefact material from the edge of the clay pit at High Beach will be dealt with in two separate papers, the quality of the samples being considered to diminish as one proceeds. Thus the artefacts to be discussed in this article are those recovered by J. Gordon during his excavations of 1959 and 1961, while in a subsequent paper will be considered the finds made by Warren from the infill of a 'pit dwelling', whatever precisely may be implied by this term, at High Beach, together with the residue of his collection which is *believed* to be from this site.

The scheme used in presenting this material, together with the tool and debitage categories recognised, are those proposed and discussed at a meeting of the 'Lithic Studies Group' held on the 17th January, 1979, at the Institute of Archaeology, London, and chaired by M. W. Pitts. It is intended that these categories should form the basis of a 'type-list' for the British mesolithic and presentation of the report in this format may thus be described as experimental.

The system is comparable to the type-list system used on the continent: approximately 50 types are recognised and this allows the classification of the whole range of stone material found on mesolithic sites in Britain. These categories take in retouched tools, biproducts and debitage, imported pebbles, worked and utilised pebbles and objects of adornment. The system is deliberately designed to make early and later mesolithic assemblages directly comparable, and it is intended that the structure of the list should also allow comparison with a similar type-list being prepared for the neolithic and later periods.

The numbering system, with the implication that the material should be presented in a fixed order, is designed for the display of the data as counts, or percentages calculated from these, as cumulative graphs and for transference to computer storage systems. Where sub-numbers are used, e.g. 1.1, 1.2, etc., this is to suggest that it is possible to recognise within a major tool grouping (in this case backed artefacts/microliths) sub-types distinct in terms of size or shape. While these latter sub-types are clearly essential to defining cultural or chronological groupings they may be irrelevant when making functional comparisons only. The overall category number therefore suggests the grouping into which it would appear appropriate to combine these sub-types for the purpose of functional comparison, obviously a simple mechanical task if the data is intended for computing. The system thus deliberately allows, or is designed to allow, the maximum splitting or combination of finished tool types, debitage or stone objects.

We have preferred to describe and discuss individual tool types and their potential significance at length since, to our knowledge, this is the first report on a specifically mesolithic flint assemblage to be published for the county.

At this stage the system is experimental and while the concepts behind it and the ordering of the different parts of the assemblage for publication will almost certainly remain unchanged, there may eventually be some increase in the numbered categories, certainly among the finished tools, to accommodate forms overlooked in the initial design of the type list. Workers in Essex may care to use the format suggested here but might perhaps, at this stage, be advised to regard the numbering system as provisional.
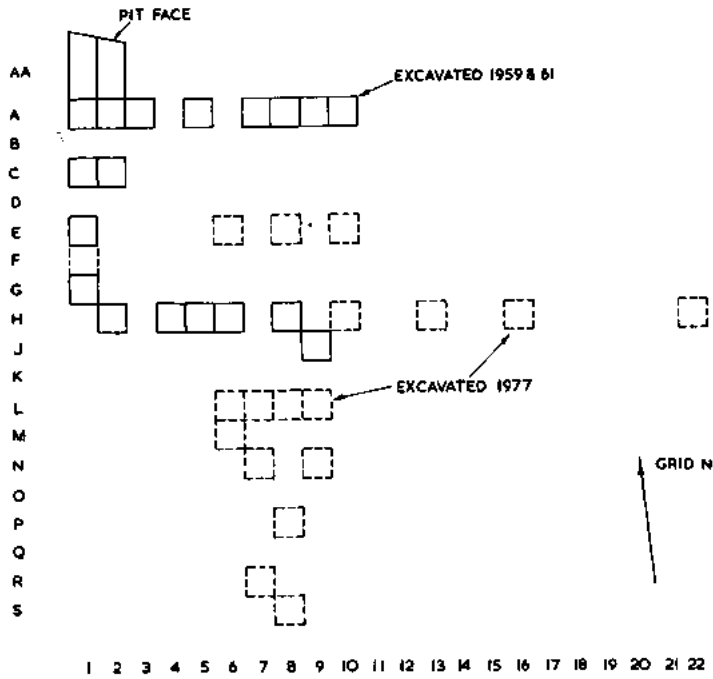
SQUARE	FULL/PARTIAL EXCAVATION	TOTAL FLINTS RECORDED	MICROLITHS	SCRAPERS	BURINS	TRUNCATED PIECES	SERRATED PIECE	NOTCHED PIECES	RE-TOUCHED PIECES	ROD	MICROBURINS	ADZE SHARPENING FLAKE	BLADES	CRESTED PIECES	CORES	CORE TABLET FLAKES	BURNT FLINTS	SANDSTONE DISC
AA1	F	117				1		3					13	2	1	2	12	
AA2	F	128	3									1	9	3	3	2	2	
A1	F	103	4									1	14	4	3		6	
A2	F	108	2		1			1					7	7	4		1	
A3	F	157	3	1				1	1			1	9	4	1	1	10	
A5	P	15	1	1									1				2	
A7	F	54	1					2				1	3		1		3	
A8	P	37	1										1	1				
A9	F	107	4					2					6	2	3		5	
A10	F	83	1						1				12	2			6	
C1	P	63	1							2			3	2		2		
C2	P	119	3			1		2	1				9	1	1		7	1
E1	F	75		1	1								7	4	3	1	1	
G1	F	56				1							4	4	1	1	3	
H2	P	60	2			1			1				6	1			1	
H4	F	62	1			1		2					11	1	3		2	
H5	F	56	1				1		1			1	8	2	1		4	
H6	F	97	4					1	2				12	1	1	1	10	
H8	F	61	2					1					9	2			3	
J9	F	74	2										5		3		3	
STRAY		73	1	1					1				12	5	3	1	8	

FIG. 1   HILL WOOD, HIGH BEACH, 1959 and 1961
Trench plan; list of main categories of flints.

2.1   The material from the 1959 and 1961 excavations

In total some 1,704 pieces of flint were recovered (but see below) and one piece of quartzitic sandstone. All except a few flakes were made in relatively poor quality black and grey flint derived ultimately from the chalk. The exceptions are a small number of flakes with a yellow or orange band immediately below the cortex which seem, instead, to come from more local pebble beds of Eocene date. There were no traded cherts or pieces of flaked rock. The nearest source of flint direct from the chalk would be some 15 km. NNW, in the Lea Valley near Stanstead Abbots. It is not impossible that some of the flint derives from the flood plain gravels of the Lea or Roding, but flint from such deposits tends to be full of incipient frost fractures and to flake badly. Given a choice, therefore, flint for implements would have been collected direct from the chalk.

The worked flints can be subdivided and briefly summarised as follows:

2.1a   ESSENTIAL TOOLS

TYPE LIST No.	CATEGORY	NUMBER
1	Microliths	37
2	Scrapers	4
3	Burins	2
5	Truncated pieces	5
9	Serrated piece	1
11	Notched pieces	15
13	Retouched pieces	6
16	'Rod'	1
	Total of essential tools	71

2.1b   OTHER CATEGORIES

TYPE LIST Nos.	CATEGORY	NUMBER
23-25 & 28	Biproducts	10
30-36, 38-41	Debitage	1509
45	Non-flint object	1
	Grand total of mesolithic artefacts *studied*	1591

Of the original flints recorded, 114 must be considered lost.

2.2   Essential tools — Discussion

2.2a   MICROLITHS (FIG. 2/1-13)

These are represented by 37 whole or broken pieces which can be roughly classified as follows: employing the scheme outlined in Jacobi (1978, Fig. 6)

SUB-CATEGORY		NUMBER	FIGURE
1.1A	Obliquely blunted points: complete or substantially complete	12	2/1-8
	Fragments of ditto	14	—
1.1B	Obliquely blunted points with additional retouch on the leading edge	1	2/9
	Fragments of ditto	4	—

SUB-CATEGORY		NUMBER	FIGURE
1.2A	Microlith with an oblique truncation at each end to give an isosceles outline	1	2/10
1.3A	Microlith with an oblique truncation at each end to give a rhombic outline	1	2/11
1.4	Mid-portion of a microlith apparently with blunting extending down the whole of the right hand side	1?	—
1.7	Elongated narrow scalene triangle	1	2/12
	Possible tip fragment of ditto	1	2/13
—	Totally unclassifiable burnt fragment of microlith	1	—
	Total of microliths	37	

While the microliths are unusually fragmentary, as indeed are those from Warren's excavation, 34 of those available for examination can either be seen to be, or can be potentially classified as, early shapes. The dominant form is of course the obliquely blunted point. The sub-categories Type list Nos. 1.1 to 1.4 (Jacobi, 1978, Fig. 6) can all be shown to have been innovated before about 7,000 radiocarbon years bc and all the microliths from Warren's excavation fit neatly into these four early sub-categories. There can thus be little doubt that the greater part of the prehistoric activity on this site fell within the 8th millennium bc.

Two microliths, however, a complete and a fragmented scalene 'micro triangle' Fig. 2/12, 13, are of a form innovated only during the 7th millennium bc. This is the first evidence for the use of the site by what we would term a later mesolithic group, re-use which only re-emphasises its attractive position above a permanent spring. The 'micro triangles' were found one each in squares AA2 and H4, their wide separation does not allow us to recognise a well-defined late occupation area. A leaf arrowhead and the record of beaker pottery (Warren, 1919, 103) could likewise hint that the area remained attractive to hunting groups during the earlier agricultural period.

2.2b SCRAPERS: TYPE LIST NO. 2.1 (FIG. 3/19-22)

There are 4 scrapers, each with a roughly convex edge. Two are made on the distal ends of elegant blades, the longer being 75 mm. in length, while the other pair are made on flakes, one being relatively thin and almost entirely cortex covered, the other thick with a carinated profile. The width of the scraper edges vary from 18-31 mm. The distinct rarity of scrapers, as compared to microliths, is again a feature noted in the older collections from the site and has been specifically commented on elsewhere (Jacobi, 1979).

2.2c BURINS: TYPE LIST NO. 3.4 (FIG. 3/23-4)

There are two burins, both of which are illustrated. The first is a narrow burin with a working facet 1 mm. wide, struck down the left hand side of the blade using a natural snap at its distal end as the point of origin for the burin blow. This artefact with its narrow working edge would be ideal for the working of antler and bone. The second burin (Fig. 3/24) is worked transversely across the distal end of a core tablet flake using the truncated flake beds around its perimeter as the point of origin for the burin blows. The working edge is irregular and 5 mm. in width.
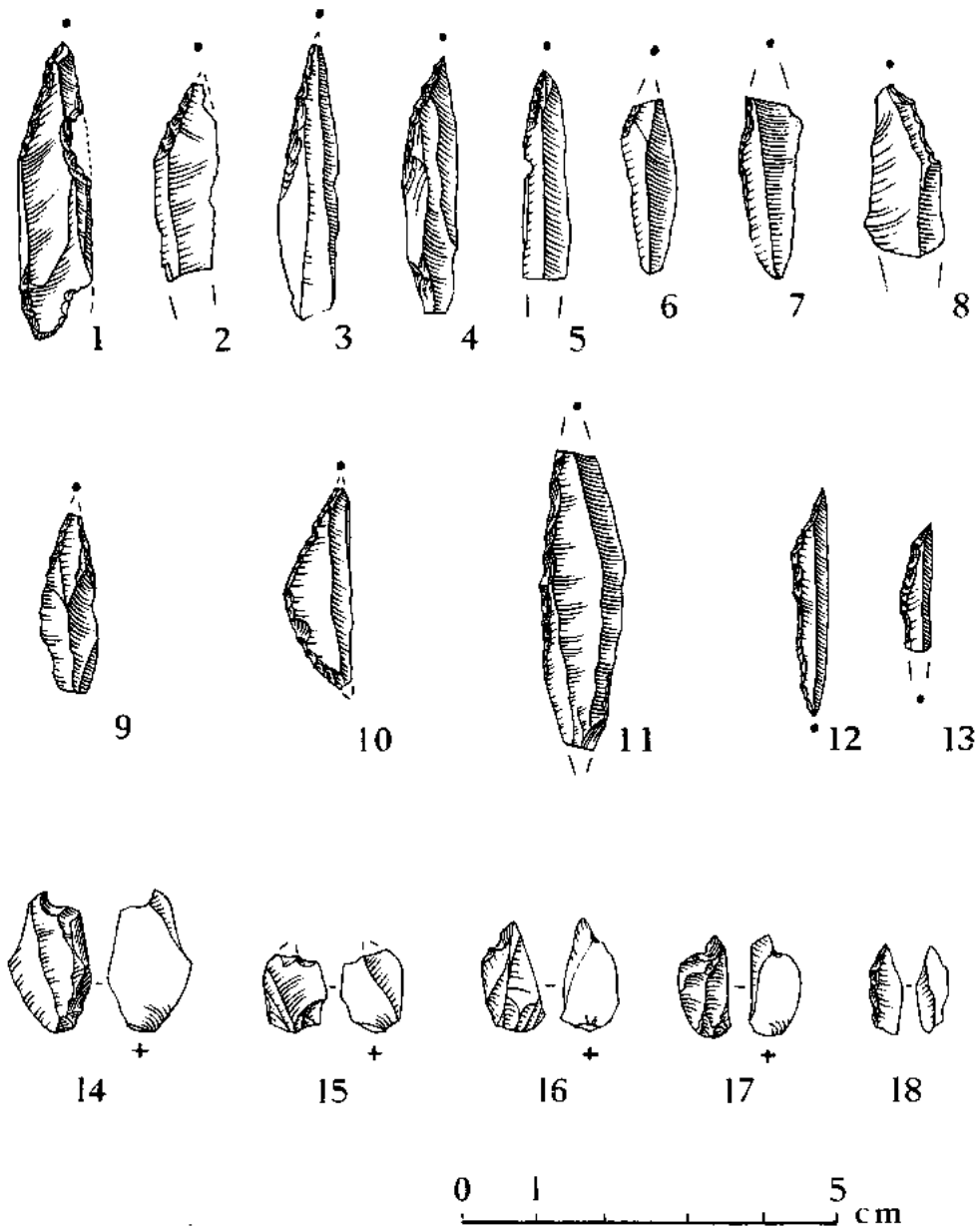
FIG. 2 HILL WOOD, HIGH BEACH, 1959 and 1961
Microliths, 1-13; microburins, 14-18.
* indicates that the original bulb of percussion has either been removed or destroyed by the retouch forming the tool or has been lost through accidental breakage.
+ indicates the survival of the bulb of percussion on the ventral face of a flake or blade subsequently converted into a tool and on the microburins.
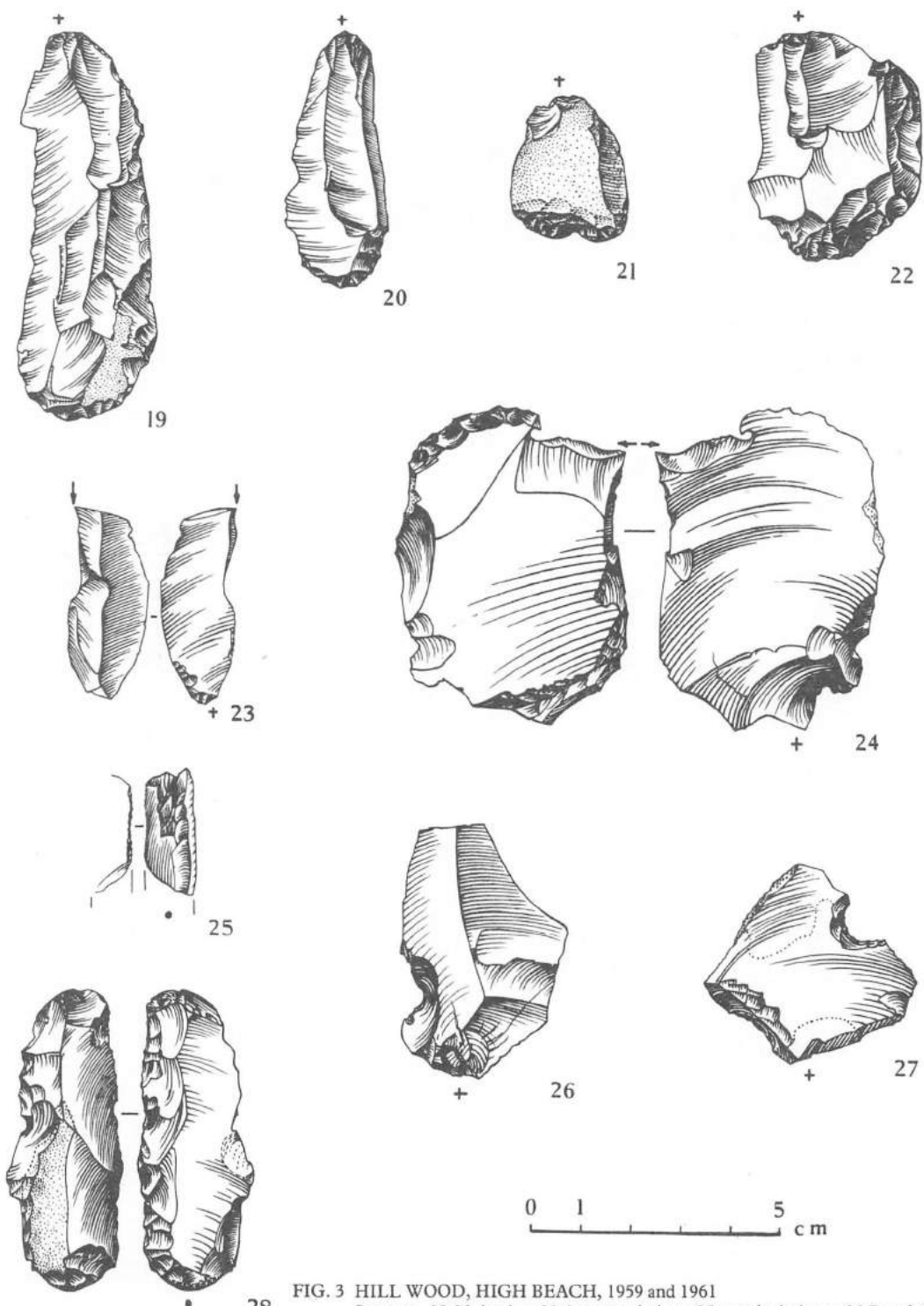
FIG. 3 HILL WOOD, HIGH BEACH, 1959 and 1961
Scrapers, 19-22; burins, 23-4; serrated piece, 25; notched pieces, 26-7; rod, 28.
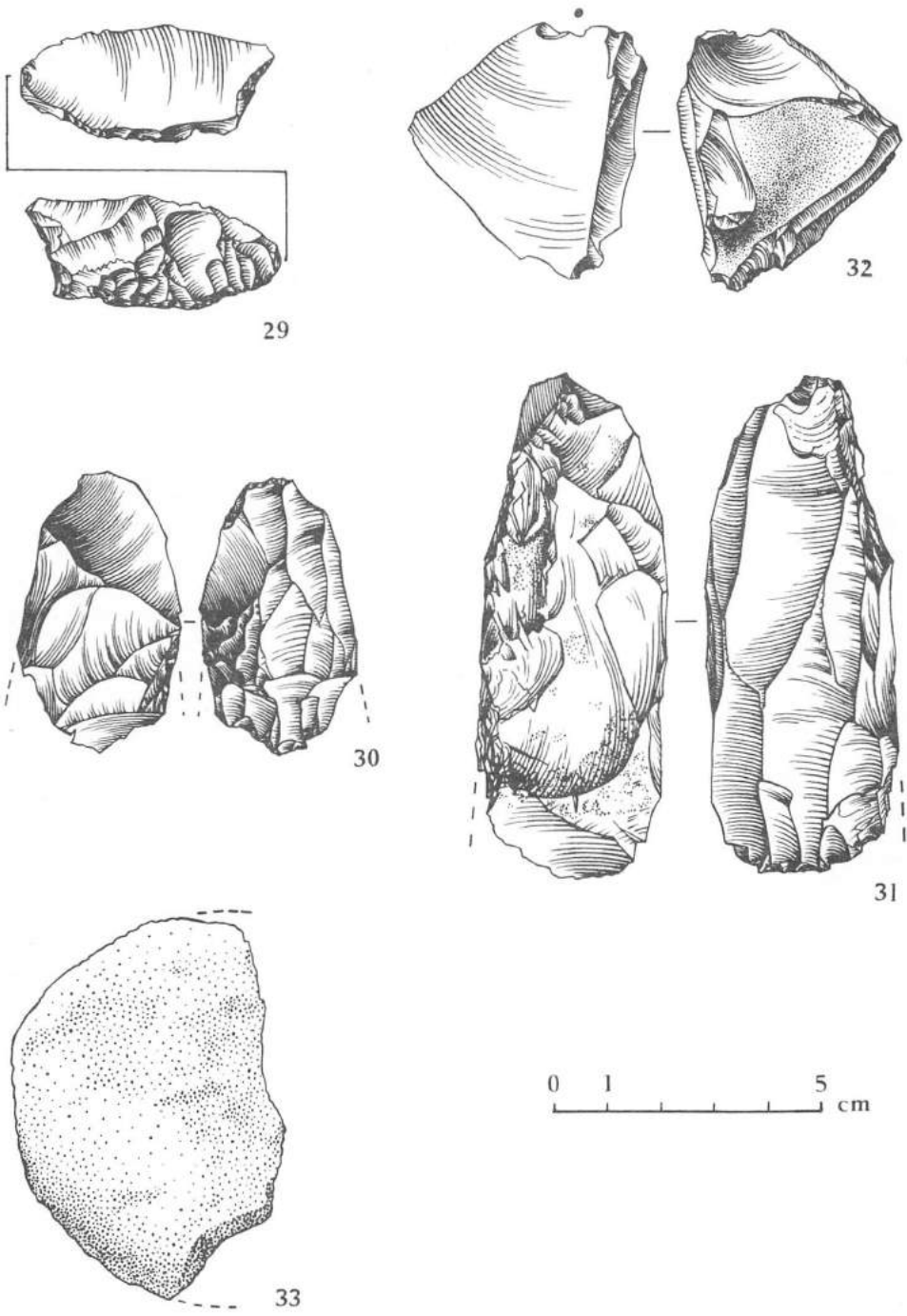
FIG. 4 HILL WOOD, HIGH BEACH, 1959 and 1961
Adze sharpening flake, 29; cores, 30-1; 'pseudo-burin', 32; sandstone disc, 33.

2.2d TRUNCATED PIECES: TYPE LIST NO. 5

These comprise pieces with vertical retouch passing across their distal ends. Five such items could be recognised which can be briefly divided as follows:

Oblique retouch:	Type list No. 5.1	2
Concave retouch:	Type list No. 5.2	2
Straight retouch:	Type list No. 5.4	1

In all cases this retouch travels right *across* the parent blank.

2.2e SERRATED PIECE: TYPE LIST NO. 9 (FIG. 3/25)

A single distal blade fragment has 14 mm. of fine serration along its left hand edge. As with the majority of the serrated pieces observed from mesolithic contexts, the serrated edge is gently concave in outline.

2.2f NOTCHED PIECES: TYPE LIST NOS. 11.1 AND 11.3 (FIG. 3/26-7)

Fifteen pieces carry single notches at one point or another on their edge. Of these, three are flakes, one a complete blade and the remainder broken blades. Of this last major group two can be almost certainly regarded as 'mis-hits' (Type list No. 11.3) that is, pieces which were being notched in preparation for the removal of the bulb of percussion, no doubt to produce obliquely blunted or related forms of microlith. The notches vary in width from 6-14 mm. with a mean value of just under 10 mm. It may be suspected, however, that in several cases this edge modification may be due to natural damage by, most obviously, traffic passing over the site, particularly vehicles used in extracting clay from the adjacent quarry. Many of the flints from High Beach show degrees of edge damage which appear highly improbable as the products of contemporary retouch or utilisation and the final total of notches identified may therefore be regarded as perhaps artificially inflated. It is, however, worth commenting that notched pieces are certainly to be identified from mesolithic contexts where the assemblage has been insulated from more recent causes of damage, and it is suggested, in the absence of grooved stone straighteners, that these were used in the preparation of arrow shafts. This suggestion is perhaps particularly attractive when one considers the large number of microburins recovered from the site (Jacobi, 1979) hinting at the preparation of new hunting equipment.

2.2g RE-TOUCHED PIECES: TYPE LIST NO. 13.2

One flake and five sections of broken blades show light continuous retouch along one edge. In each case this semi-abrupt trimming is particularly regular and consistent and thus appears to represent more than just accidental utilisation damage or more recent crushing.

2.2h 'ROD': TYPE LIST NO. 16.1 (FIG. 3/28)

A thick blade with a roughly triangular cross section has been steeply retouched along both sides in such a way as to give a lozangic section. Both extremities of this artefact, 60 mm. long and closely resembling a small cigar in outline, are heavily abraded. A small patch of cortex remains on its upper face. The function of these artefacts, which are relatively common in early mesolithic contexts in SE England, is unknown but it is suggested here that they served as carefully prepared strike-a-lights for use in conjunction with iron pyrites and tinder. These 'rods', which are particularly to be associated with early mesolithic industries of Thatcham-Oakhanger type, are almost certainly the functional equivalents of the 'abraded cores' recognised from early assemblages of Star Carr type. It may be suspected that strong cultural factors are involved in the selection of preferred fire producing

equipment and where such abraded flints are absent, most notably from later mesolithic contexts in western and northern Britain, it is possible that these groups made use of fire drills or fire troughs which, being timber, have not survived in the archaeological record.

2.3 Bi-Products—Discussion

2.3a MICROBURINS: TYPE LIST NOS. 23 AND 24 (FIG. 1/14-18)

Seven microburins could be recognised from the material collected, these are:

microburins with notch on bulb at right hand side: Type list No. 23.1 (Fig. 1/14,15)	2
microburins with notch on left hand side: Type list No. 23.2 (Fig. 1/16, 17)	4
Krukowski microburin: Type list No. 24.2 (Fig. 1/18)	1

Microburins call for little comment except perhaps to note that the Krukowski microburin is effectively a resharpening flake removed from the tip of a microlith, presumably to repoint it. It may be suspected that such resharpening took place when the microlith in question was still contained in its original haft. That the tip of the microlith was still exposed for resharpening indicates that it was serving as the tip piece for the projectile rather than a side barb where the tip and blunted edge would be inset into the shaft.

2.3b BURIN SPALLS: TYPE LIST NO. 25.1

Two very small burin spalls could be recognised, both are unretouched.

2.3c ADZE SHARPENING FLAKE: TYPE LIST NOS. 28.1/5.2 (FIG. 4/29)

A single adze sharpening flake, perhaps from a previously unsharpened tool, has a concave truncation (Type list 5.2) at the distal end. This should be added to the total of truncated pieces noted under the heading of essential tools. The surviving length of adze edge on this flake is 40 mm. It is perhaps worth noting that a pair of such flakes were recovered by Warren during his exploration of the site. The purpose to which such adzes were put must remain speculative, but it is probable that their function included the preparation of such significant wooden artefacts as bow staves and hunting spears.

2.4 Debitage—Discussion

Included under the heading debitage are all those pieces of flint which exhibit no trace of secondary modification as tools and the cores from which they were removed. Also included as debitage are core rejuvenation flakes ('core tablet flakes'). The distinctive bi-products from the production and resharpening of microliths, burins and adzes have already been listed above and are therefore considered separately from the debitage.

TYPE LIST NO.	CATEGORY	NUMBER
30	Blades (whole)	158
31	Flakes (whole)	401
32	Broken pieces	780
33	Burnt unclassified worked pieces	9
34	Crested pieces (whole or broken)	49
35	Cores	33
36	'Pseudo-burin'	1
38	Core tablet flakes	9
39	Split fragments/pebbles	50
40	Burnt unworked flints	12
41	Unworked nodules of flint	7
		1509

The debitage has been broken down into a number of distinct groups. Blades are parallel-sided pieces whose breadth is less than half the length. All pieces with a greater breadth:length ratio are defined as flakes. The bulk of the broken pieces listed above derive quite clearly from parallel-sided blades which may have broken either during use or during the actual knapping process. Core tablet flakes are flakes struck off at right angles to the principal axis of their parent cores to remove a heavily battered or undercut striking platform no longer capable of producing regular removals. These are the only type of core rejuvenation flake recognised since crested pieces are interpreted as the first removals from prepared blade cores.

Where fire-crackled pieces could not be attributed to any of the above categories these have been divided simply into pieces which show some evidence of human workmanship and those which appear to be burned flint nodules or portions of such nodules. Additional categories include fragments/pebbles, usually flint nodules which have split along lines of thermal weakness. There are also a small number of complete flint nodules which show no sign of human modification. There is no specific evidence that such nodules were necessarily introduced onto the site by human activity since flint pebbles occur naturally in the Claygate Beds upon which the site lies. Equally there is no reason to believe that all the split flint fragments counted are the result of unsuccessful knapping procedures as flint found near the surface may well have been weakened or shattered by periglacial activity.

The 'length' (greatest dimension along the axis of percussion) and 'breadth' (the greatest orthogonal dimension (Smith, 1965, 81)) were measured (by PJH) for each complete piece of debitage (Type list Nos. 30 and 31) and the ratio breadth: length was calculated for each artefact. The scores obtained for the 559 pieces so measured were divided into six ratio classes (as in Pitts 1978, 194) and the results compare very closely with the average percentages obtained by Pitts for assemblages of later mesolithic date.

TABLE 1 BREADTH:LENGTH CLASSES

	0.2	0.2—0.4	0.4—0.6	0.6—0.8	0.8—1.0	>1.0
No. of pieces	0	89	149	146	60	115
% of pieces	0	15.9	26.7	26.1	10.7	20.6
Average scores for later mesolithic assemblage	0.5	15.5	30.5	22	14.5	17

These results would appear to suggest, very strongly, that the debitage recovered from the portion of the site sampled by the excavations of 1959 and 1961 is of later mesolithic date and presumably is to be associated with at least the pair of scalene 'micro-triangles' then found. An alternative point of comparison could, however, be with samples of debitage recovered from excavated contexts at Broxbourne just a hundred metres over the county boundary into Hertfordshire, and only 10 km. to the NNW of High Beach. It may be suspected that closely similar raw material will have been available to the groups at Broxbourne and High Beach, and that any tendency towards broad flakes imposed by limitations in the flint used will be reflected at both locations. The samples of flakes measured from Broxbourne sites 104 and 107 appear to belong to before early pollen Zone VI and pollen Zone V respectively while that from site 105 is dated to just below the Zone VI/VII transition.

TABLE 2 BREADTH:LENGTH CLASSES

	0.2	0.2—0.4	0.4—0.6	0.6—0.8	0.8—1.0	>1.0
Broxbourne 104	1.0%	24	33.5	16	8.5	17.5
„ 107	0%	34.5	25	18.5	8	14
„ 105	0.5%	8	18.5	18.5	12.5	42
High Beach	0%	15.9	26.7	26.1	10.7	20.6

The result of this more local comparison is to suggest that the scores for High Beach fall intermediate between the earlier and the later Broxbourne sites, the only divergences being a rather higher percentage of flakes with a breadth:length ratio of 0.6—0.8 and a rather lower percentage than might be expected with a ratio of >1.0. This apparently intermediate position could be taken to suggest that occupation of High Beach falls intermediate in time. However, an alternative, and probably more realistic suggestion might be that the sample from High Beach represents a mixture of two populations of flakes, one early the other later mesolithic. Analysis of the artefacts recovered by Warren (Jacobi, 1979) suggested that all those could be early mesolithic, that is they could belong within the time range pollen Zone IV to earliest Zone VI while a subjective impression would also be that the bulk of the material recovered in 1959 and 1961 could fit into a similar context. The pair of 'micro-triangles' identified from this excavation would, however, not have been innovated earlier than some point within Zone VI and could still have been current in technologies belonging to the immediately succeeding Zone VII. Consideration of the finished tools would not *per se* contradict any hypothesis that the population of flakes measured included material of more than one chronological stage within the Mesolithic, and in fact the results obtained from examining this debitage could be seen as confirming what was suspected from the finished tools.

2.5 Cores INCLUDING 'PSEUDO-BURIN': TYPE LIST NOS. 35 & 36

There is a total of 34 cores all of which appear to have been aimed at the production of parallel sided flakes or blades, the majority were discarded when the flake beds consistently hit a knot in the flint and removals of sufficient length could no longer be assured. The cores may be described as follows:

Single platform, columnar, flaked around part of the perimeter	12
Single platform, conical, flaked around whole perimeter	1
Two platforms parallel and at opposite ends of the core, columnar, flaked around part of the perimeter	11
Ditto but flaked to a conical outline	3
Two platforms at right angles to each other	2
Fragment of flint, flaked around perimeter on one face to a flattened disc-like outline	1
Cores developed on portions of discarded adzes (Type list No. 35/13)	2
Core developed on side of flake ('pseudo-burin': Type list No. 36)	1
Burnt unclassified core	1
Total	34

Two of the cores found on the site appear to be manufactured on fragments of core adzes. The smaller and perhaps more convincing of this pair consists of a conical blade core worked on to what is clearly the butt fragment of an adze, originally with a symmetrical lozangic cross section. On its lower face this butt fragment carries a transverse flake scar (Fig. 4/30).

The second example (Fig. 4/31) is a very elegant blade core with a present length of 91 mm. worked from two opposing parallel platforms on to what appears to be a fragment from the mid portion of a core adze. Remains of the original flaking for the adze are visible on both faces of the core and the edge formed by the intersection of these scars has been heavily battered and blunted. The purpose of this blunting and battering as applied to the original adze was to allow it to fit, with minimum of damage while in use, into its enclosing helve, and is a feature seen on the great majority of mesolithic adzes. In some cases as, for example, with some of those from Colne Valley in eastern Essex (Layard, 1927), light polishing may supplement this battering. It is perhaps worth noting that a small complete transversely sharpened adze recovered from this site by Hazzledine Warren was manufactured in the same opaque yellowish white flint as the more substantial adze fragment discussed above.

2.5a PSEUDO-BURIN: TYPE LIST No. 36 (FIG. 4/32)

A thick flake has been converted into a bladelet core, with a single flake removed from its bulbar end to provide a striking platform. Five small blades have been removed running down its left hand side of which the longest would be some 42 mm. It must remain questionable whether the intention was to produce narrow blades, perhaps for conversion into microliths, or a burin with a convex gouge-like working edge some 15 mm. across. The artefact is thus described as a 'Pseudo-Burin'.

2.6 Non-Flint Object: TYPE LIST No. 45 (Fig. 4/33)

A roughly semi-circular fragment of coarse quartzitic sandstone may derive from an originally circular piece, roughly 70 mm. in diameter. Now 16 mm. thick at its thickest point, it appears to have been artificially trimmed around its perimeter to produce its present outline. If indeed we possess only half the original object, there appears no reason to doubt that the original was circular. Too thin to be a hammerstone, and lacking all traces of abrasion around its perimeter, the disc could be interpreted as the blank for a drilled pebble of a type well known from mesolithic contexts and which served as centrifugal weights for bow and pump drills.

2.7 Non-mesolithic objects

Heavily corroded iron nail.
Two sherds, ? Prehistoric; red surfaces, black core, larger one has possible grooving on outside surface, fine sand temper.
Two sherds, rim and small fragment; grey sandy ware, abraded, probably Roman.
Small sherd, blue and white printed Victorian pottery.
Five charcoal fragments (unidentified).
Beechnut (recent).
Thirteen fragments of ferruginous sandstone (natural).
Pebble of quartzitic sandstone (un-utilised).

2.8 Conclusion

All the flint material from the excavation of 1959 and 1961 appears to be mesolithic. While study of the material recovered by S. Hazzledine Warren suggested that it could all belong within an early mesolithic context (Jacobi, 1979; and report in preparation) evidence from the 1959 and 1961 seasons indicated also use of the site at some date within the later mesolithic. Clearly further excavations will be necessary to identify and define the areas of the various camp-sites at this obviously favoured location.

For a detailed survey of the mesolithic period in Essex, which will fit High Beach into its local context, the reader is referred to Jacobi (1979).

The flint material is the property of the Conservators of Epping Forest and will be kept with the records at the Queen Elizabeth Hunting Lodge at Chingford, London, E.4.

The impetus for the publication came from the Committee of the Waltham Abbey Historical Society because the site is within the parish of Waltham Holy Cross; the Society administers the Fund above and wishes to thank RMJ and HEM for their invaluable contributions.

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NOTE

Archaeological Notes

Uphall Camp by PATRICIA WILKINSON

The origins of Uphall Camp (TQ 437 851) in the old parish of Barking (VCH, 1966, 184-5 and 250-2) excited much debate in the past. Investigations by the late Kenneth Marshall, former Curator of the Passmore Edwards Museum have thrown some light on the dating of certain elements of the earthwork and are described here together with a brief account of the historical records.

The earliest extant record of the earthworks is the plan (ERO T/P93, photo TM 193) commissioned from John Noble by Smart Lethieullier *c.* 1735, reproduced here as Pl. 10 Lethieullier's manuscript History of Barking *c.* 1750 was destroyed in 1856 but is extensively quoted by Lysons (1796, 57) as follows: 'its form is not regular but tending to a square'. 'On the north, east and south sides it is single trenched'; 'on the west side . . . is a double trench and bank: at the north-west corner was an outlet to a very fine spring of water, which was guarded by an inner work, and a high keep or mound of earth'. Morant (1768, 1-2) describes only the topography of the site: 'Near the Road leading from Ilford to Barking, on the north west side of the Brook which runs across it, are the Remains of an ancient *Entrenchment:* one side of which is parallel with the lane that goes to a Farm called Uphall; a second side is parallel with the Rodon and lies near it; the third side which runs parallel with the Road itself has been almost destroyed by cultivation, though evident traces of it are still discernible'. Crouch (1893, 1899, 1906 and 1909) wrote a number of papers on the encampment illustrated by a measured plan he made in 1868, which indicates that by that date only the northern portion of the earthwork remained, running on the west side from the mound, hereafter referred to as Lavender Mound, and on the east side from Loxford Lane.

The site was acquired in 1897 by David Howard, President of the Essex Field Club and a member of the Essex Archaeological Society. Howards Chemical Works, later Laporte Industries Ltd., was built on the western half of the site with housing occupying the half to the east of Uphall Road. The parish boundary between Ilford and Barking follows the line of the southern rampart of the fort (VCH, 1966, Fig. on p. 250). Peter Huggins has provided the following information on the current condition of the site by personal communication. A remnant of the north bank remains at the rear of the properties on the south side of Baxter Road; in January 1979 a cutting into the bank next to St. Luke's Vicarage during building works indicated that loam some half a metre in depth had formed probably through the deposition of garden rubbish against it. The western slope of the camp is still clear, close to and parallel with the river, and its turn to the North is visible. To the west of the river Roding, one can walk on the man-made river bank and appreciate that the camp was some 20 ft. (Crouch, 1893) above the alluvial plain, being set on a patch of flood plain gravel terrace (Geological Survey one-inch drift map 257, Romford) angled between the Roding and its tributary Loxford Water, affording an uninterrupted view southward to the Thames.

In 1960 developments at Howards Chemical Works threatened the embankment at the north-west corner of the camp and Lavender Mound. This mound being the most prominent part of the site, was frequently referred to and illustrated principally by Ogborne (1814, 42) and Crouch (1893, 132). At the request of the then Ministry of Public Building and Works, Kenneth Marshall undertook a watching brief prior to the destruction of these features assisted by the West Essex Archaeological Group. He summarized the matter as follows: 'Sections cut in the bank and at its intersection with the mound showed clearly that the two structures were widely separated in time. The bank was well dated by a considerable number of potsherds of Iron Age B date and its construction was a simple one period upcast from both outside and inside. Probably this period of construction can be dated to the 1st or 2nd century B.C. However the mound postdated the bank by some 1500 years. The surface layer contained sherds of mid 17th century date and the main part of the mound produced

nothing dateable which was earlier or later than the 16th century. It seems likely that this was a beacon mound. It is a curious feature that the post-medieval mound was placed exactly on top of what appears to have been a palisaded entrance to the banked enclosure' (this form of entrance was postulated from the arrangement of the banks). Since Marshall's death in 1966 no other documentation has come to light (PEM correspondence file). The finds, however, are clearly labelled as 'Sherds of Iron Age 'B' type pottery from the bank which enclosed the camp' and 'Lavender Mount, surface cuttings 1 and 2'. For the Iron Age material (PEM Accession no. 4388) the range of fabrics consists of flint, quartz, shell, vegetable and grog-tempered wares mostly dark grey with some buff; none are particularly coarse, most being well-made with partially burnished surfaces; one sherd in micaceous fabric is highly burnished with vertical lines lightly scoring the shoulder. The rim forms are principally slightly everted but include one sherd with an upright rim thickened and flattened into a bead and an upright rim with slashed decoration on the top. The range is comparable with that illustrated by Drury and Rodwell (1973, Fig. 13, 4-24) dated Early and Middle Pre-Roman Iron Age. The material from the two cuttings into the mound (PEM Acc. no. 4389) is largely of 17th century date consisting primarily of metropolitan slipware sherds and clay pipes including two bowls dating to the later 17th or early 18th centuries (Oswald, 1975, Fig. 3G, 6 and 8). A fragment of green glazed tile and a vesicular redware sherd may be of 16th century date.

In conclusion it would appear that the construction of the portion of the embankment examined can be dated to the Early or Middle Pre-Roman Iron Age, rather earlier than Marshall suggested. It can be firmly stated that Lavender Mound is not part of the Iron Age camp but is a much later feature to be assigned to the 16th or 17th centuries. It should be noted that in the publication *Time on our side?* (TOOS, 1976) the camp is incorrectly included under the Roman period rather than the Iron Age.

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NOTE

Portingbury Hills or Rings by PATRICIA WILKINSON

The earthworks known as Portingbury Hills or Rings (TL 532 204), possibly dating to the Iron Age, are situated in Hatfield Forest in the parish of Hatfield Broad Oak. In 1964-5, excavations (Fig. 1) were undertaken by the West Essex Archaeological Group under the direction of Larry Luckett, the results of which are recorded in this note.

Portingbury Rings

N

0 10 20 30 40 50 FT
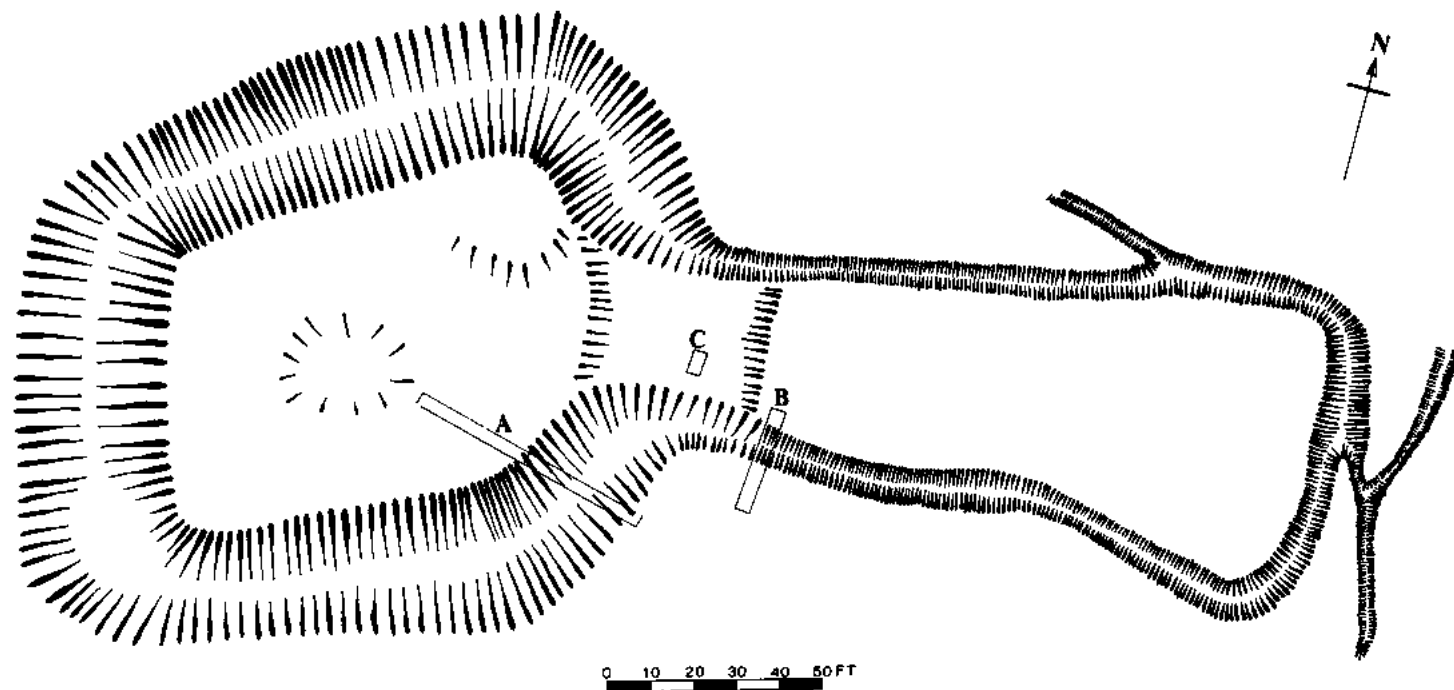
FIG. 1 PORTINGBURY RINGS, HATFIELD BROAD OAK, ESSEX
Site plan showing location of trenches A, B and C, 1964-5.
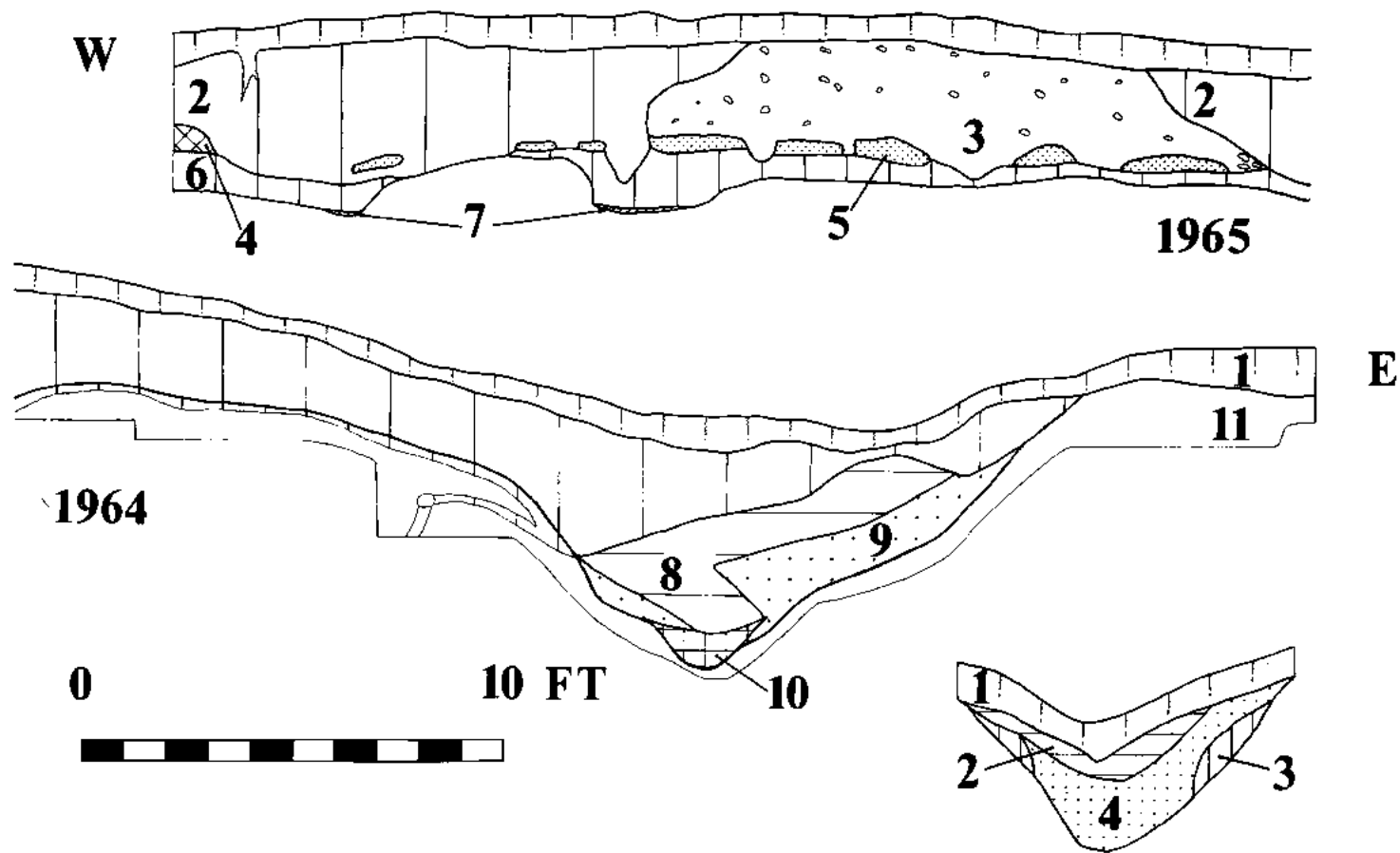
FIG. 2 PORTINGBURY RINGS, HATFIELD BROAD OAK, ESSEX

Top and centre; Continuous section of N face of trench A through the ditch and into the mound. *Key:* 1, humus; 2, brown clay with chalk, 3, clay with chalk and flints; 4, black and grey; 5, greyish-brown soil; 6, dark brown clay 1964, yellow brown clay 1965; 7, grey silt; 8, reddish-brown silt; 9, grey primary silt; 10, peat; 11, natural chalky boulder clay.

Bottom right; Trench B section, probably W side. *Key:* 1, humus; 2, brown clay; 3, brown with white; 4, grey brown silt.

Salmon (1740, 91) describes the topography of the site as follows: 'A Lane leading from Wallbury toward Hallingbury-Street, in the direct Way to Stane-Street, is called Port-Lane, and the adjacent Lands Port-Lane-Field. In Beggars-Hall Coppice on the Forest, in the Way to Stane-Street, is a small Spot of Ground called Porting-Hills, and Portingbury-Hills. At a little Distance from that, the Traces of a larger circular Entrenchment . . .'. This description, somewhat paraphrased, appears in Wright (1834, 324) in VCH (1903, 305) and in Anon. (1888, 207-27) The site is described (RCHM, 1921, 122) as: 'A low, nearly square mound about 100 ft. in diameter and 5 ft. high, surrounded by a shallow ditch'. A note by Titmus (1950) describes the site as 'an earthwork consisting of an oval-shaped, flat-topped mound 34. 0 m. long, 22.0 m. wide and 0.9 m. deep, surrounded by a ditch 10.0 m. wide and 0.6 m. deep. On the top of the mound there is an eccentric roughly circular depression approximately 16.0 m. in diameter and 0.6 m. deep. Adjoining the mound on the east side there is a small irregular shaped area approximately 40 m. long and 14.5 m. wide enclosed by a ditch 3.5 m. wide and 0.5 m. deep'.

The following account of the excavations is taken from the site archive deposited in the Passmore Edwards Museum by Larry Luckett, from which the descriptions issued in *Bulletins* 23 and 26 of the West Essex Archaeological Group are taken. Trench A, 59 ft. in length, was cut through the mound and ditch some 20 ft. south of the causeway, which 'showed that the ditch was 14 ft. wide and 6 ft. deep below the present surface. It was roughly U-shaped and had a 1 ft. layer of peat (10, Fig. 2 centre) in the bottom which was overlaid on either side by a grey primary silt (9) with a thick layer of reddish-brown secondary silt (8) . . . overlying this. Above was a layer of material (2) which had slipped from the mound. A thick layer of humus capped the whole. The natural proved to be chalky boulder clay'. The bank (3, Fig. 2 top) of the mound was formed from 'compacted boulder clay, 3 ft. 6 in. at its highest above natural, 15 ft. wide at the base and 9 ft. wide at the top. On either side was slip (2, Fig. 2 top). The bank lay over a layer of greyish-brown soil (5) which, in its turn overlay a thick yellow-brown band of clay (6) . . . which covered the natural boulder clay'. 'A second trench, B, was laid across the ditch of the enclosure, this proved to be 8 ft. wide and 3 ft. deep (Fig. 2 bottom right); V-shaped with slightly rounded bottom'. 'A further trench, C, was laid in the middle of the shallow causeway. At a depth of 9 in. natural was found; in the top surface of this were embedded a number of large stones but not enough to suggest a cobbled surface'.

Finds from the excavation were minimal, only four small sherds being retrieved together with some animal bone, calcined flint, charcoal and a small flint blade (PEM Acc. No. 4390). The pottery is all clearly Iron Age, but it would be unwise to put a closer date to the sherds. They consist of a heavily flint and quartz-gritted sherd, to be identified as the 'heavily calcite gritted' sherd found 'under the bank'. The other three sherds found 'under the slip' consist of two dark grey quartz-gritted fragments with smoothed surfaces and a lightly calcite-gritted sherd in soft, pale red fabric. The flint blade is 4 cm. in length with retouching along one edge.

On the minimal evidence obtained it seems possible to conclude that the main elements of the earthwork are of general Iron Age date; no dating evidence for the enclosure and causeway was found.

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Pappus and Portingbury by P. J. HUGGINS

Portingbury Rings is a three element, possibly iron age, earthwork in the parish of Hatfield Broad Oak, Essex. The major element at present takes the form of a sub-rectangular mound with a surrounding ditch. Calculation of ditch spoil, bank content and bank slip, using the theorem of Pappus, suggests that the bank was timber supported.

The theorem of Pappus allows the volume of a 'solid of revolution' to be assessed. In archaeology this includes the volume of beer barrels, earthen banks, barrows and ditches. The volume is calculated from the product of the area of cross-section of the feature and the perimeter of the centroid of the area. Details of the method were given in the C.B.A. Group 7 newsletter, Dec. 1978, or consult older books on useful mathematics.

At the earthworks known as Portingbury Rings or Hills there are three main elements. First is the mound and ditch, this is the western element. Second is a near rectangular enclosure with a surrounding ditch and probably an external bank; the internal size is about 200 ft. (61 m.) by 270 ft. (82 m.). The third element 'connects' the other two and has a pair of near parallel ditches indicative of a causeway between the first and second elements. The arrangement is shown on O.S. maps (e.g. 25 inch, 32.1, 1897).

A slightly oblique section through the ditch and into the mound is available in this volume (Wilkinson, 1978, Fig. 2). The sub-rectangular mound (*ibid*, Fig. 1) is now approximately flat topped but with a circular depression. The section shows that the mound includes the remains of a bank or rampart separated from the ditch by a berm. If the greyish-brown soil (5) is the remains of the loam of the old ground surface then the bank remains, including topsoil, to a height of about 3 ft. Note that the
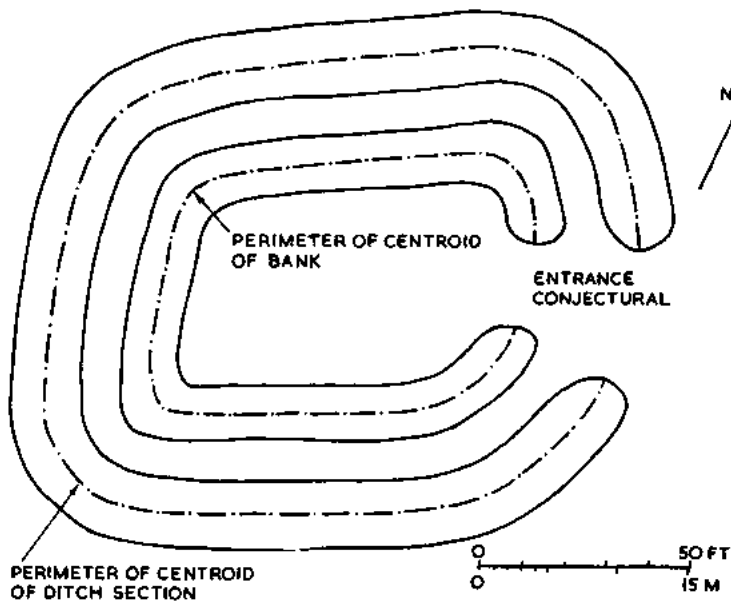
FIG. 1 PORTINGBURY RINGS, HATFIELD BROAD OAK
Conjectural arrangement of penannular bank and ditch of the 'mound', showing perimeters used in calculation of bank and ditch volumes.

real widths, and thus cross-sectional areas, are about 10% less than those shown on the section due to the angle of the trench.

The brown clay with chalk (2) is taken to be slip from the bank. This slip occurred towards the inside and outside. On the outside it covered the berm and extended into the ditch covering the silts there. On the inside it appears to have filled up the original banked enclosure; if this is natural weathering, it is an extreme case.

The volume of the remaining bank can be calculated. The area of cross-section, reduced by 10%, is about 29 sq. ft.; the perimeter of the centroid of the bank (see Fig. 1 here) is about 240 ft. Thus the volume of bank *remaining* is 29 × 240 or 7000 cubic ft.

If the sides of the bank are projected upwards to a summit, and if the bank is of simple dump construction, the additional area of the denuded top of the bank cannot be more than about 14 sq. ft. Thus the denuded or *slipped* bank top would have a volume of 14 × 240 or 3400 cu. ft. Thus the *total* bank volume, if it were of dump construction, would be about 10,000 cu. ft.

The bank would have been made from material dug out of the ditch. The area of the ditch cross-section, reduced by 10%, is about 52 sq. ft., this is based on a ditch depth of 6 ft. 6 in. The centroid of this section traces out the perimeter shown on Fig. 1 and this measures about 380 ft. so that the volume of material dug out from the ditch is 52 × 380 or 20,000 cu. ft. This is twice as much as that calculated for the bank. By the way, no bulking factors have been considered as the deposits have all had time to settle.

So the figures start not to equate but worse is to come. The area of slip inside the bank forming the mound top, is approximated to by a rectangle of area 50 × 68 or 3400 sq. ft. The depth of fill in the centre is at least 3 ft. (*ibid.*, Fig. 2), so that the volume becomes about 10,000 cu. ft.; this has to be reduced by that of the depression noted by Titmus and this leaves an internal slip deposit on the mound of 8,000 cu. ft. If the slip (2) outside the bank is assessed using Pappus, the cross-sectional area of slip is 52 sq. ft. and the perimeter (coinciding with the inside edge of the ditch) is 320 ft. so that the volume of external slip is 17,000 cu. ft. The total of slip, from the denuded bank of volume 3,400 cu. ft., is thus 25,000 cu. ft.; this is absurd.

However, the figures for the slip so calculated, 25,000 cu. ft., and the material dug out of the ditch, 20,000 cu. ft., are comparable. The discrepancy between these figures is worsened by the amount of silt in the ditch some of which, presumably, came from the ditch sides, if not from the bank, unless the occupants were compulsive ditch-orientated rubbish disposers.

The main suggestion of the calculations is that a great deal more material, than possible with dump construction, was contained in the bank. A timber strengthened rampart or one of box construction could contain more soil. A box rampart 13 ft. (4 m.) wide and 10 ft. (3 m.) high, for instance, would have contained 31,000 cu. ft. of soil and, of this, about 70% or 22,000 cu. ft. would have slipped away. Such a figure begins to compare with the calculated 25,000 cu. ft. of slip. However the rampart seems to contain more soil than could be dug from the ditch but extra soil could have been dug from anywhere around.

In conclusion, the sums suggest, if the slip is correctly interpreted, that a box rampart type of construction was employed enclosing an area of just over 3,000 sq. ft. (280 sq. m.). In this respect, breaks in the greyish-brown soil (5), although there is no record of their nature, are to be noted if a box rampart is considered. It might be claimed that such a small enclosure would not ape major hillforts, but defence requirements are surely not dependent so much on the area enclosed as on the importance of the function of the enclosure. Any future excavations should bear these possibilities in mind.

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Roman Burials at Little Shelford, Foulness, Essex, 1972

by D. J. and H. R. JAMES

Cremations with 2nd century AD Romano-British urns and accessary vessels were recorded from a contractors trench. The burials may be part of a larger cemetery associated with a small Roman town of which evidence is coming to light.

Until recently, relatively few Roman finds have been made on Foulness compared with the rest of SE Essex. All authenticated major Roman discoveries were at the extreme western end of the island, close to the site of the former Little Shelford House (Fig. 1). The first discovery was *c.* 1848, when Stephen Allen of Rayleigh Lodge levelled a mound on Loading Marsh at Little Shelford. At its centre was a large urn containing burnt bones, with seven or eight pots grouped around it, of which two were samian ware apparently of early 2nd century date (RCHM, 1923, 47). The finds were made between the house and the sea wall, and it was reported 'that there was another barrow in the marsh' (Shaw, 1848). The vessels, together with an archer's ivory bracer or wrist guard found with the pots and thought to be a unique discovery in this country, are now in Southend Museum. The position of the tumulus is marked on OS maps at TQ980905 (Fig. 1).

THE BURIALS

In 1972, workmen digging foundations *c.* 100 m west of the site of the tumulus found unusual sandy soil containing pottery, including five burial urns 0.3 m. below ground level (1.3 m. OD) and within an area of 2 m².
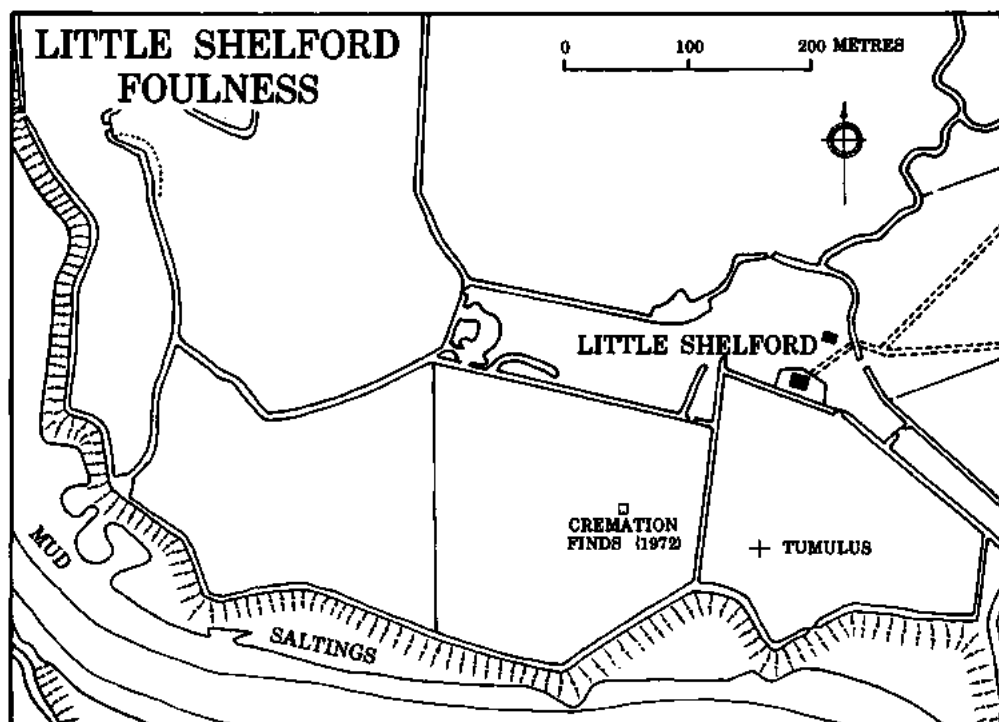
FIG. 1. ROMAN BURIAL SITES, Little Shelford, Foulness Island

The burials, all cremations, are probably part of a larger group, but no excavation to test this has been carried out since the area was scheduled as an Ancient Monument soon after the initial finds. The pottery was found after being disturbed by a mechanical digger and no observations were possible of the position of the burials in the ground or of how the accessary vessels (Fig. 2/4,5,9 and 10) were associated with the five urns (Fig. 2/1,3,6,7,8), except in the case of vessels 1 and 2, the latter being used as a lid to the former. Subsequent investigation of the trench revealed the following stratigraphical sequence — (1) topsoil; (2) a sandy/clay layer containing some charcoal, oyster shells and fragments of pottery; (3) a sterile sandy layer. Layer (2), from which the pots presumably come, showed no evidence of sub-division and consequently it is assumed that the burials were associated with each other.

Analysis of the cremations was extremely difficult, since even large pieces of bone were usually calcined and distorted. None can be related to specific urns, and only three yielded information:

CRANIAL SUTURE	APPROXIMATE AGE	COMMENT
1. 1 piece closed but not obliterated. 1 piece open.	16/17 - 23	Smallness of some identifiable bones could suggest female.
2. Open	Probably less than 23.	No sex identification.
3. Partly closed.	16-23	No sex identification.

POTTERY CATALOGUE (FIGS. 2 and 3)

Colours have been described, where possible, by reference to the Pottery Colour Chart prepared for C.B.A. and Rescue, by the Study Group for Romano-British Coarse Pottery. All the fabrics were micaceous.

1. Fairly hard, finely gritted fabric. Surfaces: black (neutral 3). Surface layers: brown. Core: dark grey. Upper body burnished in bands, with incised decoration on matt surfaces; lower body burnished.
2. Fairly hard, fairly sandy fabric. Grey (neutral 5).
3. Fairly hard, fairly sandy fabric with shell and sparse flint inclusions. Surfaces: light grey to pink (neutral 4 to yellow/brown 5A). Surface layers: brown. Core: dark grey.
4. Fairly hard, fairly fine fabric. Surfaces: light grey (neutral 5). Surface layers: grey. Core: light grey. Burnished on neck down to the shoulder; burnished line decoration on the body.
5. Fairly soft, fairly sandy fabric. Surfaces: orange-pink (brown 6A). Core: red-brown.
6. Fairly hard, fairly sandy fabric with grit inclusions. Exterior surface: black/pink (green/brown 1A to red/brown 5B). Outside surface layer: brown. Interior surface: buff/black. Interior surface layer: buff. Core: grey. Fine burnished lines on a matt body; burnished band on base.
7. Fairly soft, fairly sandy fabric with sparse flint inclusions. Exterior surface: red-pink on base (red/brown 4B), pink/black on body (yellow/brown 5A to green/brown 1A). Interior surface: black. Core: brown. Wheel-thrown with burnished line decoration. A grey ware copy of Gillam (1970) f144, dated in the north from the mid-2nd to the late-3rd century.
8. Fairly soft, fairly sandy fabric. Dark grey (neutral 4). Alternate burnished and matt bands on body, with burnished line decoration on the matt bands.
9. Fairly hard, fairly fine fabric. Surfaces: grey (green/brown 4A). Core: brown. Smoothed on outside. *Cam* f123 (Hull, 1958), there dated to the 2nd century.
10. Hard, fairly fine fabric. Surfaces: cream-buff (brown/yellow 7A). Core: white. Incised lines on body. Butt beaker, pre to early Flavian (SLAEC, private communication).
11. Sherd of samian bowl, Drag f37. The "philosopher" and leaf were used by both main groups of Trier potters and at Sinzig (Huld-Zetsche, 1972, M8a and 0.54, Fölzer, 1913, 470 and 764; Fischer, 1969, M.4 and 0.9); the parallels for the two motifs used together come from Trier Werkstat I(Huld-Zetsche, 1972, taf. 37, C.122; taf. 42, D.30). Probably early-mid Antonine.
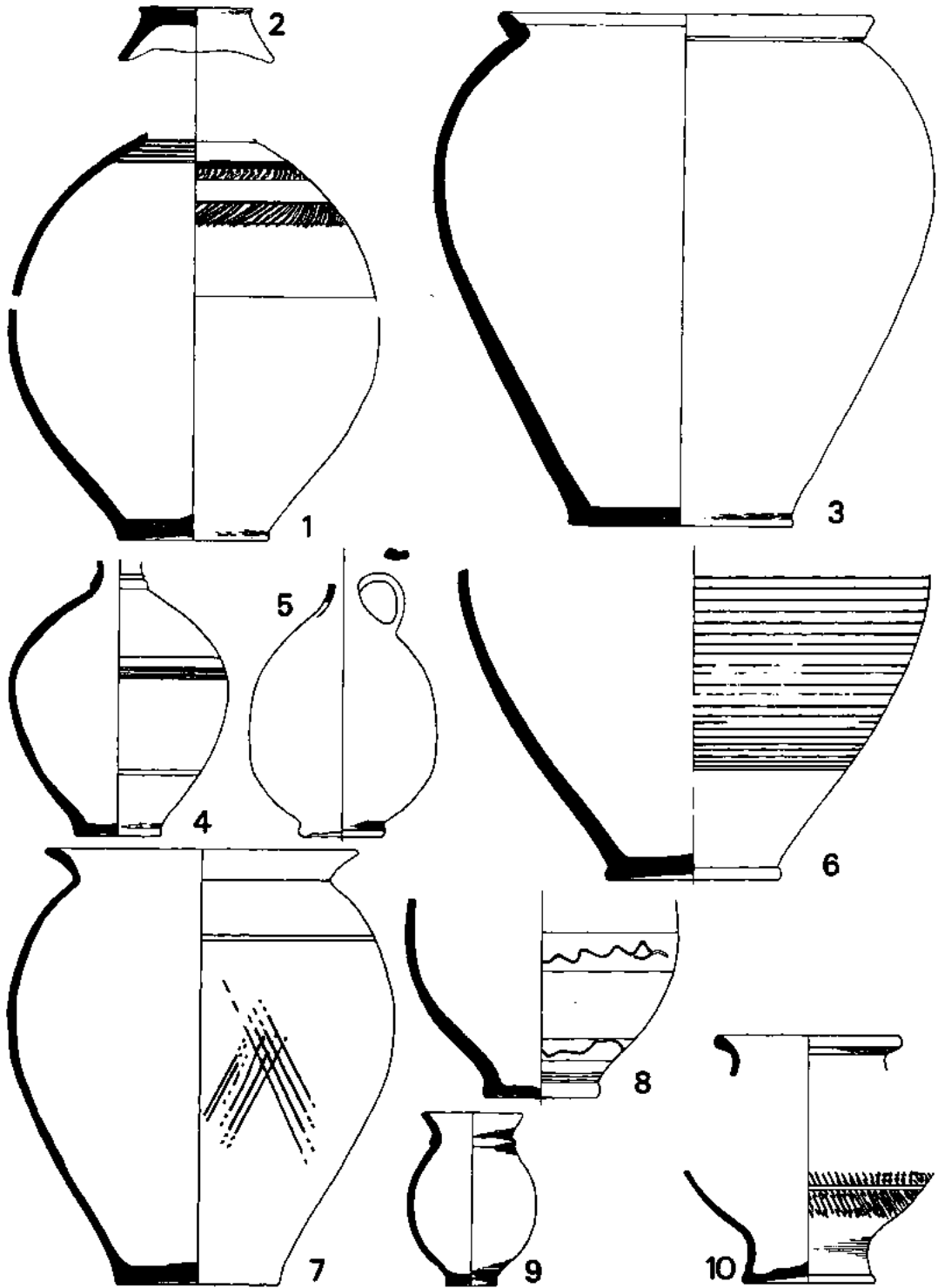
FIG. 2. ROMAN COARSE POTTERY. Sc 1:4, Little Shelford, Foulness Island, 1972
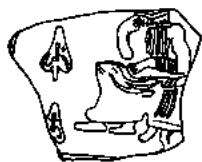
FIG. 3 SAMIAN WARE SHERD
Sc. 1:2 Little Shelford, Foulness Island, 1972

11

DISCUSSION

From the dating evidence available the cremations would appear to have been deposited in the 2nd century, ie at approximately the same time as those found in 1848. That these finds are part of a larger cemetery is quite possible. Since 1972, excavations by the AWRE (Foulness) Archaeological Society in the immediate area of Little Shelford have revealed evidence of a small Roman town covering at least 12 acres, and in existence from the late 2nd to late 3rd centuries. What is possibly an earlier defensive ditch, in which Roman domestic rubbish was deposited, has also been discovered. Whether this is of the same period as the cremations has not yet been established. A full report on the later discoveries will be published in due course.

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NOTE

The Society is much indebted to the A.W.R.E. Foulness Archaeological Society for a grant towards the cost of publication of this note.

Roman Pipeclay Statuettes in Chelmsford Museum, Essex
by FRANK JENKINS

Two fragmentary statuettes, one from the Chancellor Collection and one from Leigh-on-Sea, are described. One has characteristics suggesting a relationship with the cult of Attis, a god of vegetation. The other may represent Attis portrayed as a eunuch or be a representation of a child bearing offerings. Parallels are discussed.

In a letter written in 1952, the late Major J. G. S. Brinson informed the writer that, in 1949, a piece of a pipe-clay statuette was washed out among other rubble and debris, including Stuart wine bottles, from a breach in the brick-faced wall of a quay fronting on to Leigh creek at Leigh-on-Sea to the W of Southend-on-Sea. In view of this it is possible that the statuette was carried to the site

where it was found in more recent times, for large quantities of building rubble and soil were transported from London to be dumped on the Essex marshes for the construction of sea defence works. Equally, it may be of local provenance, since an apparently substantial Roman site is known on Leigh Hill, on the steep slope which rises from the north side of the creek (VCH, 1963, 154). The object is now in Chelmsford and Essex Museum (B 18029A).

The fragmentary statuette (Pl. 11A) is most interesting. All that survives is the front half of the torso of a rather plump, youthful male personage, standing nude except for bikini-like trunks, the front of which, covering the genitals, is in the form of a double petalled floral motif. He has both hands raised to clasp various objects against his chest. In the right hand is a pine-cone and three leaves, while in the left hand which is placed at a slightly higher level, is what seems to be a large phallus which is held in the downward position, with two leaves to the left of it.

The combination of the pine-cone and the phallus, together with the floral motif which conceals the genitals, strongly implies a relationship with the cult of Attis. He was fundamentally a god of vegetation whose birth, death and resurrection were analogous to the life cycle of the crops. He was also the youthful eunuch consort of Cybele, the great mother-goddess of Anatolia. The equinoctial spring festival centred about his death and resurrection. There was a preliminary observance on 15 March with the procession of reed bearers, because Attis was found by Cybele in a reed bed, and this was followed by a sacrifice for the crops. After a week of fastings and purifications the festival proper opened on 22 March when a newly cut pine tree representing the dead Attis, was brought to the temple. The next day was spent in mourning and lamentation for the dead god and was followed by the "Day of Blood" when the eunuch priests slashed and cut themselves and the novices underwent self-mutilation. The next day the Hilaria was spent in wild rejoicing to celebrate the return to life of Attis which symbolized the crops once again springing to life.

In classical art Attis is usually portrayed as an effeminate youth wearing the Phrygian type bonnet and trousers, the native costume of that part of Anatolia. Although the youthful personage portrayed by the clay statuette is not garbed in that manner, the head of course is now lost so that we do not know what kind of headgear he wore, if any; the combination of the pine-cone and the phallus strongly suggests that he is Attis. On the other hand he may be one of the youthful eunuch devotees of the god, of whom Attis was the prototype.

Another incomplete pipe-clay statuette (Pl. 11B) was discovered by Major Brinson in the Chancellor Collection (Chelmsford and Essex Museum B 18029). In 1952, it was thought that the statuette was found in the *mansio* baths at Chelmsford, excavated by Frederick Chancellor in 1849-50, but it is now strongly suspected that it and some other items in the collection come from London (Drury forthcoming). Chancellor was an architect with offices in both Chelmsford and Finsbury Circus, London (Box, 1973, 202).

All that now remains is the front and back of a youthful male torso. It was cast in a two-piece clay mould; the two halves were then luted together, and the joints were roughly trimmed by a knife or spatula. The surviving height is 70 mm. and the width 40 mm. The youth stands erect, clasping a cluster of objects in both hands against his chest. These objects are badly moulded and indistinct, but the one held in the right hand seems to be a pine-cone. There are leaves on his abdomen. The central object is very indistinct but there is a slight possibility that it is a phallus. The pose is very similar to the aforementioned fragmentary statuette from Leigh-on-Sea. A close examination of the genital region suggests that although the scrotum is indicated there is no sign of the penis, neither is there a fracture scar to suggest that one had existed, but had subsequently been lost through breakage.

The evidence it must be admitted is rather inconclusive, but if it is true that he bears the pine-cone and phallus as attributes, and the omission of the genital organ was intentional, there may be reason for thinking that this statuette is a slightly different version of Attis appropriately portrayed as a eunuch. It is equally possible that he could be an initiate bearing his offering denoting his sacrifice of self-mutilation.

In addition to its possible cult connexions this statuette is of interest because it is one of the few clay statuettes found in Britain which bears an inscription. Across the back in faintly inscribed carelessly cut semi-cursive lettering is a personal name which reads SVLPICI. This, according to Mr. R. P. Wright, may be intended to read SVLPICI[NI], and it is a cognomen or peregrine name of a potter of Gaul which seems to be unmatched.[1] It has, however, come to the notice of the author that the same name SVLPICINI is similarly inscribed on the base of a clay statuette found about one hundred years ago at Entrains Nièvre (Héron de Villefosse, 1876, 44). As both examples of this name were inscribed while the clay was still in the green state after the statuette had been withdrawn from the mould, that is before firing took place, it is more likely that the name is that of the potter, rather than that of the artist who created the prototype model whence the mould was made, or perhaps less likely, the name of the maker of the mould, assuming of course that three individuals were involved in the process.

The Chelmsford Museum statuettes are either products of the central Gaulish industry or of the Rhineland. At present no exact parallels have been traced in the large collections of clay statuettes preserved in the continental museums. There are however, two analogous clay statuettes of boys which have been found in Britain. One of these, found at Bootle-in-Cumberland, holds a cluster of objects, which have been identified as fruits, in his arms in the same manner as the two under discussion (Collingwood, 1930; present whereabouts unknown). The other example, found at Cowden (Kent), is also portrayed in the same pose but he holds a crested bird, perhaps a cockerel, and no other objects (Jenkins, 1971).

In discussing the significance of the Bootle example, and the identification of the personage it represents, the late Professor R. G. Collingwood (1930) remarked that the apron worn by the boy, and the fruits, was a combination which suggested that he was Priapus, but as the figure was not ithyphallic this was unlikely. Silvanus is also represented quite frequently holding fruits, but Collingwood preferred to think that a minor Celtic deity of strictly local origin in Britain was intended. In our view none of these identifications is tenable, for these statuettes although at present extremely rare, were mass-produced by the mould technique, so that any number of copies could be mechanically produced for widespread distribution, as objects of trade, to other places in the western provinces of the Roman empire. It is also virtually certain that these statuettes were not made in Britain but in some factory on the continent, central Gaul being the most likely region. Hence they can hardly be representations of minor Celtic deities of strictly local origin in Britain.

Evidence which seems relevant to our study is provided by a number of votive stone statuettes of children holding either birds, or animals or fruits, which have been found on the sites of temples in Gaul, such as, at the temple of Sequana at the source of the Seine, and at the temple of Mars-Lenus at Trier. The votive character of these statuettes is unquestionable. At Trier, as the inscriptions on them reveal, they were offered to Mars-Iovantucarus—whose epithet means "lover of children"—by parents concerned for the health and welfare of their children (Gose, 1955, S.43-45, Taf. 26-28, Abb. 45-50; S.40, Taf. 20. Abb. 36). It therefore seems preferable to think that the clay statuettes of boys bearing fruits or a bird do not represent either classical or local deities, but were intended to be symbolic representations of human children bearing offerings in the hope that the gods would bestow the benefits they so earnestly required. If what has been said is true, and if the boy in the Chancellor Collection is clasping *fruits* to his chest, then this statuette would fall into the latter category.[2]

NOTES

1. The author is indebted to Mr. R. P. Wright M.A., F.S.A., for his comments. The inscription will eventually appear in *The Roman Inscriptions of Britain* II edited by R. G. Collingwood and R. P. Wright.
2. There is an incomplete white pipe-clay statuette of which only the lower part from the waist down survives now in the Central Museum at Utrecht in Holland which is comparable with the example under discussion. It was found at s'Heerenburg, Utrecht (Accession No. G15,5616).

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NOTE

The Society is much indebted to the Curator of the Chelmsford Museum for a grant towards the cost of this note.

A possible new Late-glacial findspot in Essex

by H. E. MARTINGELL and R. M. JACOBI

It is always a suspect procedure to select flint artefacts from a larger assemblage and treat them in total isolation. The aim of this note, however, is to do precisely that and to publish illustrations of four artefacts picked up as separate items from the beach at Walton on Naze. Two of these artefacts (Fig. 1/1, 2) are from the Hassall Collection in the Cambridge Museum of Archaeology and Ethnology (Accn. No. 51.909), while the second pair are in the Laver Collection preserved in the Colchester and Essex Museum (Accn. No. 96.41) (Fig. 1/3, 4).

The finds from Walton are all of material washed out by the sea and scattered over the present beach. In date these artefacts seemingly range from Lower and Middle Palaeolithic (Warren *et al.,* 1936, 202) to the earliest Bronze Age with a particularly heavy representation of Early Neolithic flintwork—most notably leaf arrowheads. While the majority of the 'backed-tools' recovered fit easily into the various categories of microlith well known within the Mesolithic and may, in fact, represent a number of different stages within this period (Jacobi, 1978a), these four backed-pieces appear to stand distinct.

FIG. 1. WALTON ON NAZE, ESSEX.
Azilian points. Sc. 1:1.
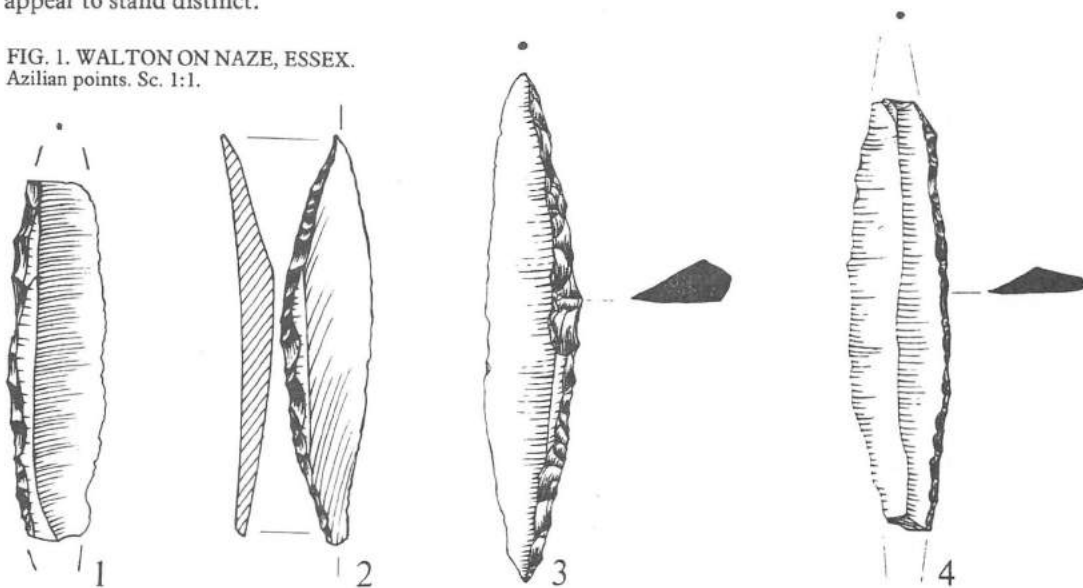
All four pieces are patinated a pale blue, and while it could be demonstrated that patination—although rare at Walton—is clearly no guide to relative age, the fact that all four are in a similar physical condition might suggest some original connection between them. Typologically, also, the four pieces form a close group. Two are complete and these come to points at either end, their outlines suggesting the rather elongaged segments of an orange. The other two (Fig. 1/1 and 4) have lost their tips but their remaining outlines again suggest that these too possessed a pair of points. Such bipoints could certainly be produced from Post-glacial contexts but the Walton examples are all notably broader and thicker than would be usual for the Mesolithic. Instead in their overall characteristics they resemble, more closely, backed tools of the Late-glacial.

Exactly comparable objects could be produced from a number of British 'cave sites', such pieces fitting into the category of 'Azilian points' as defined by Bohmers (1960, 32—5) and de Heinzelin (1962, 34) and strongly suspected within Britain, as in mainland Europe, to belong to the final stages of the Windermere Interstadial—that is to a little before 9000 radiocarbon years bc.

We suggest, therefore, that these four artefacts from Walton are Azilian points and that, together, they suggest the existence of a Late-glacial site on the present Essex coast. Walton would therefore join other suspected Late-glacial findspots such as Manningtree, Stone Point, and Widford near Chelmsford with their tanged points (Jacobi, 1978b) and Shoeburyness with its shouldered point. It still remains to find and excavate settlement sites of this age in Essex and it is worth noting that of 91 British Late-glacial find spots some 50 are open-air locations mainly within south-east England.

We would particularly like to thank the staffs of the Colchester and Cambridge museums who made these artefacts available for study and allowed us to illustrate them.

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A Saxon Loomweight and Medieval Tile-kiln at Blackmore

by P. J. DRURY

Early in 1979, Mr N Wilson found a Saxon loomweight (Fig 1) in a field south of Jerico Priory, Blackmore (TL604013). It was identified by Chelmsford and Essex Museum, and subsequently presented to the museum by Mr Wilson (accn. no. 1979: 163:1).

The object is in a red, micaceous fabric containing some small pebbles, sand grains, and dark red flecks. At the top of the hole, on one face, is a distinct wear mark caused by suspension from a cord. In section, it is noticeably thicker at the bottom than at the top, and there is a pronounced ridge around the hole on one face. It belongs to Hurst's intermediate type, dated by him (1959, 23-5) to the 7th-8th centuries.

Inspection of the field in April 1979, by the writer and Miss J F Macaulay of Chelmsford Museum, revealed a general scatter of pegtile, and some indication of gravel metalling on the line of the footpath which crosses the field from north-west to south-east. From the northern part of the field came a fragment of a medieval hearth tile or piece of kiln furniture of 13th-14th century date. It was 27 mm. thick, in a hard grey sandy fabric with orange surfaces, stabbed from one face before firing (1979: 163:2).
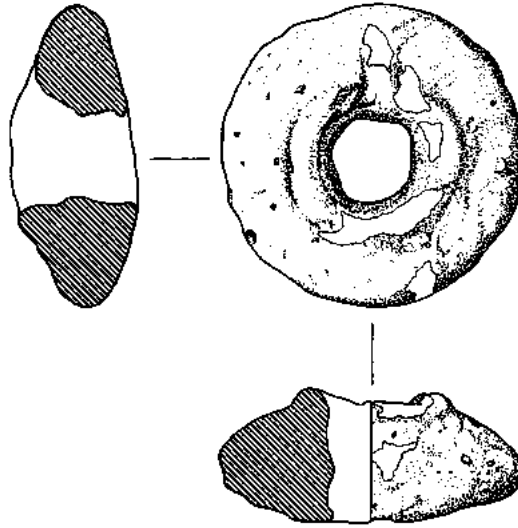
FIG 1. MIDDLE SAXON LOOMWEIGHT FROM BLACKMORE, ESSEX; SCALE 1:3

In the south-east corner of the field (at TL605012), an intense scatter of brick and tile fragments, interspersed with patches of charcoal and covering a slightly raised area c 13 m. square, indicated the presence of a late medieval kiln. A less dense scatter of similar material over a larger area in this corner of the field may indicate the extent of contemporary industrial buildings. Material present on the surface was as follows:

1979: 163:3 Fragments of *Bricks,* c 100 × 50 × more than 195 mm. long, moulded in an unsanded form, and with sunk margins on the long sides of the upper, struck, face. The fabric is ill-mixed, hard and orange-red; it contains some grog, a few small pebbles, but very little sand. Some fragments have vitrified faces, suggesting that they formed part of the kiln structure.

1979: 163:4 Fragments of *Floor tiles,* c 227 mm. square and 40 mm. thick, with slightly undercut edges. The bottoms show that, like the bricks, they were formed without sanding the moulding table. The upper surface has a rather sporadic plain lead glaze producing a brown finish. The fabric is similar to that of the bricks, but better mixed and generally harder fired, to a deep red colour.

1979: 163:5 Fragments of *peg tiles,* with both square and circular holes, c 15 mm. thick; the fabric and moulding techniques are similar to those used for the bricks, except for the use of sunk margins on the latter.

1979: 163:6 Fragment of a *ridge tile,* 18 mm. thick, otherwise similar to the pegtiles.

The floor tiles are local copies of the large Flemish tiles common in Essex and elsewhere during the 15th and early 16th centuries (see, for example, Drury 1977, 113), and lack the marks of the nailed board used on true Flemish tiles to guide the trimming knife. The sunk margins on the bricks also recall the probably imported Flemish bricks found, for example, at sites on the east coast of Essex (cf Drury and Rodwell 1978, 143). This might suggest a relatively early date, confirmed perhaps by the close resemblance in size between these bricks and Pleshey Castle type D bricks, used there in the mid-15th century, and other bricks of similar date (Drury 1977, 83-5). Close dating of medieval ceramic building materials is generally impossible, but a provisional date for the kiln in the second half of the 15th century seems reasonable, prior to an intended further investigation of the site in the autumn of 1979.

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Annual Contributions

Research in progress on Essex History and Historical Geography, 1978
compiled by NANCY BRIGGS

This list is based partly on *Historical Research for University Degrees in the United Kingdom List No. 39 Part II, Theses in Progress 1978* (Institute of Historical Research, May 1978). Other information, mainly relating to research for American degrees, has been taken from research cards filed at the Essex Record Office. Thirty titles previously listed in *Essex Archaeol. Hist.* **9** (1977) are not repeated although the work is still in progress.

Medieval
1. 'Demographic and economic history of Great Waltham and High Easter, 1327-1381'. L. R. Poos (Cambridge Ph.D.)
2. 'Noble households in the later middle ages.' Jennifer Thurgood (London M.Phil.)

Early Modern
3. 'Economic aspects of provincial towns, including Colchester, *c.* 1520—1670'. N. R. Goose (Cambridge Ph.D.)
4. 'Education and the gentry in the early modern period with special reference to the Petre family.' I. C. Mason (London M.Phil.)
5. 'Aylett Sammes, (?) 1636—(?)1679'. R. G. Watkins (Sussex M.A.)
6. 'Lands and estates of St. Paul's cathedral in the 17th century'. D. J. Johnson (London Ph.D.)

Modern
7. 'Women workers in the tailoring industry in 19th and 20th century Essex'. B. Westover (Essex Ph.D.)
8. 'Rural settlement in Dunmow Hundred, 1841—1971'. Anne Blazer (London Ph.D.)
9. 'Planned "Company-Built" Villages in East Anglia, 1919—1939'. Moira Coleman (University of East Anglia M.Phil.)

Miscellaneous
10. 'The evolution and geomorphology of N.E. Essex coastal marshes'. G. J. L. Leeks (London Ph.D.)
11. 'The archaeology, architecture and history of Rivenhall Church'. Warwick Rodwell (Birmingham M.A.)

Periodical Literature on Essex Archaeology and History, 1978
compiled by PETER B. BOYDEN, *Hon. Librarian*

For the criteria on the selection of material for this list see the introduction to the list for 1977. Included below are articles in serials published in 1978, or received into the Society's Library during that year, and available at the beginning of February 1979 when this bibliography was compiled. Abbreviations where possible follow the CBA conventions, or are self explanatory. S/R indicates a short report on an excavation at the site named in 1977. Unless otherwise stated, all volumes cited appeared in 1978.

16

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S/R, Roman *Mansio? Britannia*, **9**, 449.

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S/R, Roman defensive ditch and cemetery, *Britannia*, **9**, 451.

See FEERING

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S/R, Roman site at coast Road, *Brittania*, **9**, 452.

Grant, A. 'St. Peter's Well, West Mersea', *Mistral*, 9—10.

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NAZEING

S/R, Prehistoric Anglo-Saxon site at Nazingbury, *Current Archaeol.*, **6**, no. 5, 133.

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S/R, Prehistoric and Roman site at Moor Hall Farm, *London Archaeol.*, **3**, no. 6, 161; *Britannia*, **9**, 452.

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S/R, Iron Age and Roman cemetery, *Britannia*, **9**, 452.

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S/R, Sun Street site, *London Archaeol.*, **3**, no. 6, 163.

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Excavations in Essex, 1977

Edited by CHRISTINE COUCHMAN

This is the second round-up of excavations in Essex to be compiled by Essex County Council's Archaeology Section for the Advisory Committee for Archaeological Excavation in Essex. In 1977, thirty-one excavations were carried out in Essex and adjacent Greater London (Fig. 1). Most sites were rescue operations, whether large or small, long-term or summary, run by part-time archaeologists alone or in co-operation with full-timers. Sites are noted in alphabetical order. Directors of excavations and societies or institutions involved are named at the beginning of each report; present or intended locations of finds and place of final publication, where known, are stated at the end of each note. Contributors are thanked for supplying information for this compendium. Sites marked (cont.) have been recorded previously in *Essex Archaeol. Hist.*, **9**, 1977 and *Essex Journal*, **12**, no. 4, 1977-8.

1. BILLERICAY, Buckenham's Field (cont). TQ 675 934.

D. Buckley and S. Weller, Billericay Archaeol. Hist. Soc. and E.C.C.

A watching brief on the regrading of a field for a school playing field adjacent to the 1976 excavations resulted in the discovery and excavation of a Romano-British kiln. This was of Corder's Class 1: a single-flued updraught kiln comprising a circular furnace linked by a tunnel-like flue to a stoke pit, all sunk into the ground. The kiln had a central clay pedestal, and a continuous ledge moulded into the internal circumference of the wall, presumably to support a floor. Pottery included reduced burnished and unburnished wares, principally straight-sided beaded-rim dishes and ledged-rim jars, late 2nd to early 3rd century AD. Other features include a possible floor, a pit and ditches.

Finds: Billericay Archaeological and Historical Society.
Final report: Essex Archaeol. and Hist.

2. BRAINTREE, Marlborough Road (cont). TL 767 238.

T. Turner

Great Bradfords Estate, developed in 1976-7 in NE Braintree between Stane Street and the R. Blackwater, has produced much Roman material. An extended watching brief of trenches has resulted in the preparation of a plan of features revealed. Although not strictly an excavation, it is included here because of the interest of the site. There was evidence of at least two buildings, one with an *opus signinum* floor; there were also ditches and rubbish pits, and possible water-holes. Finds indicate late first to fourth century AD occupation. There were also a neolithic and a middle Bronze Age pit.

Finds: with T. Turner; probably eventually to Braintree Museum.

3. CHELMSFORD, 30, Orchard Street. TL 708 062.

P. Drury, Chelmsford Excavation Committee.

Excavation was carried out in advance of development. The earliest level was a buried ploughsoil containing Iron Age potsherds and earlier prehistoric flints. A mid-first century AD ditch was found; it had previously been located *c.* 80 m to the east, and is part of the S defences of a probably conquest-period fort. To the N were found traces of the rear revetment of the rampart. Further N, a number of features followed the alignment of the defences. By the late first century the military

features had been levelled, and a metalled road linking the *mansio* to the London-Colchester road was constructed on a different (but still E-W) alignment. A masonry building occupied the NE angle of the two streets, W of the *mansio*, a timber construction of the late first century being translated into stone early in the second; two subsequent phases of internal alteration were detected. East of the building was a gravel metalled lane. South of the road, remains of timber structures and gravel metalling were found, with features associated with a piped water supply for both the *mansio* and the adjacent masonry building. A well containing an apparently votive deposit of five complete horse skulls was excavated. At least three phases of trenches for wooden water pipes were found, the later two being associated with a large puddled clay base, probably a cistern foundation.

Finds: at present with Chelmsford Excavation Committee.

Final report: 'Chelmsford Excavations 3: the *mansio* and other sites in the south-eastern sector of Caesaromagus', C.B.A. Research Report, 1979, forthcoming.

4. CHELMSFORD, 51—57, New London Road. TL 708 065.

P. Drury, Chelmsford Excavation Committee.

The site was excavated in advance of office and shop development. The dorter undercroft, parts of the N range, reredorter (Drury, 1974, 40—81), cloister walk and NE corner of the chapter house of the Dominican Priory were examined. The buildings were constructed on *c.* 1.1 m of clay make-up over marsh deposits; the clay contained debris from a kiln producing nibbed roof tiles. During the late 15th—early 16th centuries, the floor of the northern 6 m of the undercroft had been lowered; within that area a complicated sequence of floors, divided by partitions, was recorded. Over most of the area of the chapter house excavated the floor had been destroyed by a post-Dissolution lime kiln. The foundation plan established in the later 13th century seems to have remained unchanged during the life of the buildings; but there is evidence of a major reconstruction above foundation level probably in the late 15th century.

Finds: at present with the Chelmsford Excavation Committee.

Final report: a future C.B.A. report on Chelmsford excavations.

5. CHIGNAL ST. JAMES (cont). TL 662 108.

P. Clarke, C. Couchman and M. Eddy, E.C.C.

Investigations are under way on the area adjacent to the Roman courtyard 'villa' scheduled as an ancient monument following its discovery in 1974 (McMaster, 1975, 7—8). The unscheduled area E, S and SW of the main building is threatened by gravel extraction; and recent aerial photography and ground observation have shown the presence of a multiple boundary ditch around the 'villa', and other buildings to the SW (Buckley and Going, 1977, 10—13). A trial trench excavated to locate the SW side of the enclosure revealed two large ditches of early Roman date with an internal bank, possibly revetted with a timber box construction. Evidence of a possibly early 2nd century structure was recovered from contractors' works in the southern corner of the field. Excavation on the flood plain of the R. Can revealed two parallel ditches of 2nd century AD date, probably for drainage, running towards the river. There was also enough slag to suggest industrial activity; though buildings were only represented by a post-hole and a drainage gully. Work continues throughout 1978.

Finds: at present with E.C.C. Archaeology Section.

6. COLCHESTER, Butt Road (cont). TL 993 248.

C. Crossan, Colchester Archaeol. Trust.

Excavations continued throughout 1977 on this large two-period Roman cemetery site. The surface features of the cemetery include a probable mausoleum, 4.4 m square. Elsewhere, family

plots are suggested by three timber 'vaults', distinctive concentrations in the distribution of graves, and the characteristics of certain burials. A temple was partially excavated; it was rectangular, with an apsidal E end, and seems to have been constructed after *c.* AD 250 and maintained until the late 4th century.
Finds: Colchester and Essex Museum.
Final report: Colchester Archaeol. Trust monograph series.

7. COLCHESTER CASTLE. TM 002 253.
P. Drury and W. Rodwell, for Essex Archaeol. Soc.

A small excavation was carried out, to assist in the interpretation of records of the excavations of 1930—2. Two areas were examined: (A) within the castle sub-crypt, a trench dug in 1930—2 was re-opened and a small additional area excavated; and (B) a trench was dug between the keep and the chapel foundations. Area A showed that virtually all the stratification in the sub-crypt was connected with Grey's late 18th century alterations; there was an earlier thin earth floor, overlying a raft of Roman tile in mortar which was weathered on the upper face and pre-dated the apse walls. The stratification in Area B had been largely destroyed in the late 17th century, but a small column of undisturbed material survived. The brick paving of the temple courtyard was located.
Finds: Colchester and Essex Museum.
Final report: Essex Archaeol. Hist., forthcoming.

8. COLCHESTER, Gosbecks. TL 968 224.
N. Smith, Colchester Archaeol. Trust.

An excavation was undertaken on Cheshunt Field to ascertain the condition of the archaeological remains. Two areas were investigated, one on the theatre mound and one across the line of the walls of the temple portico. No trace of a floor remained in the portico, and the wall foundations had been almost completely removed, probably in antiquity. Beneath the ploughsoil on both areas were plough marks and channels made by subsoilers. The age of these marks could not be established, but the fact that the theatre mound was not appreciably lower than when excavated in 1967 suggests that recent ploughing damage is not serious.
Finds: Colchester and Essex Museum.

9. COLCHESTER, Gryme's Dyke. TL 963 237.
P. Crummy, Colchester Archaeol. Trust.

A section, which developers had mostly removed by mistake, was dug across the bank. This was of sand and gravel, and had evidence of a timber revetment on its W face. At the base of the bank, a coin of either Germanicus or Claudius was found, dating the construction of this section of dyke to AD 37—43. Under the rampart was found a group of pits with pottery of *c.* BC 10 to AD 25. A trench dug in the adjacent footpath established that the ditch width was *c.* 9 m.
Finds: Colchester and Essex Museum.

10. COLCHESTER, Trinity Street. TL 996 251.
N. Smith, Colchester Archaeol. Trust.

A building survey and excavation were carried out during alterations to nos. 2 and 3, Trinity Street, and the erection of a new building on the site of no. 1. The earliest parts of the existing building were late 16th—early 17th century, when no. 3 formed the N wing of an H-plan house comprising nos. 3, 4 and 5. It was of brick in English bond with four-centred brick arches to the internal doorways. Two large semi-circular brick arches in the W wall of nos. 1 and 2, also of English bond brickwork, were of about the same date and probably formed an extension to no. 3.

Towards the end of the 17th century the whole block was given a new brick facade in Flemish bond, incorporating pilasters at first floor level and large rectangular mullioned windows, two of which survived at the back of no. 2. The building was divided into five separate units during the first half of the 19th century when the present doorways and sash windows were inserted.

In the excavation, the earliest post-Roman features were two pits containing Thetford-type ware. Two 12th century trenches had been dug to rob Roman foundations, and several pits dating from the 13th to 17th century were found.
Finds: Colchester and Essex Museum.
Final report: Colchester Archaeol. Trust monograph series.

11. CRESSING CHURCHYARD (cont). TL 795 205.

J. Hope, Bramston Archaeol. Field Unit.

1977 was the final season at this site. Evidence of extensive flooding of Cressing Brook was found, and the E end of the ditch discovered in 1976 was full of river-silt. This ditch turned N from its E corner. Into the upper silting levels had been built a timber structure of 2nd and 3rd century AD date, which had been burnt down. Also found were a series of very large post-pits, a female inhumation in an earlier storage pit, and a series of storage pits with evidence of roofing in the form of stake- and post-holes surrounding them. Saxon occupation in the area is attested by the discovery of a bun loom-weight and a small amount of grass-tempered pottery.
Finds: Bramston School, Witham, and Colchester and Essex Museum.

12. DUNTON/LITTLE BURSTEAD. Whitehall Manor (cont). TQ 651 910.

W. Davey, Billericay Archaeol. Hist. Soc.

Excavation continued from previous years, to determine the sequence for the construction of the kiln making nibbed roof tiles, and the construction of the clay mound on which the manor house was built. It was confirmed that the kiln had been sited in natural clay; the old ground surface had been removed before construction, and natural clay had also been exposed around the kiln to form a working surface. At the end of its life the kiln and working surface were covered by clay, the firing chamber first being consolidated with tile wasters in an attempt to avoid subsidence from the weight of the house subsequently built above.
Finds: Billericay Archaeol. Hist. Soc.
Final report: Essex Archaeol. Hist., forthcoming.

13. EASTWOOD, Marshall's Farm. TQ 877 890.

K. Crowe, South-East Essex Archaeol. Soc.

Excavation followed discovery over several years during farming operations of Roman pottery. A dark rich soil containing much late 3rd to 4th century pottery is interpreted as resulting from spreading domestic rubbish on the fields. The only structure of this date was a probable corn-drying kiln. Near the Prittle Brook, beneath water-laid levels, were several worked timbers; in the silt above these were a grain rubber and a few animal bones.
Finds: to go to Southend Museum.

14. HENHAM. TL 531 283.

W. Wright, Bishops Stortford Local Hist. Soc.

Observation of works for the M.11 motorway has resulted in the location and tracing of a ditch and three occupation sites with pebble floors, of 4th century AD date.
Finds: with Bishops Stortford Local Hist. Soc.
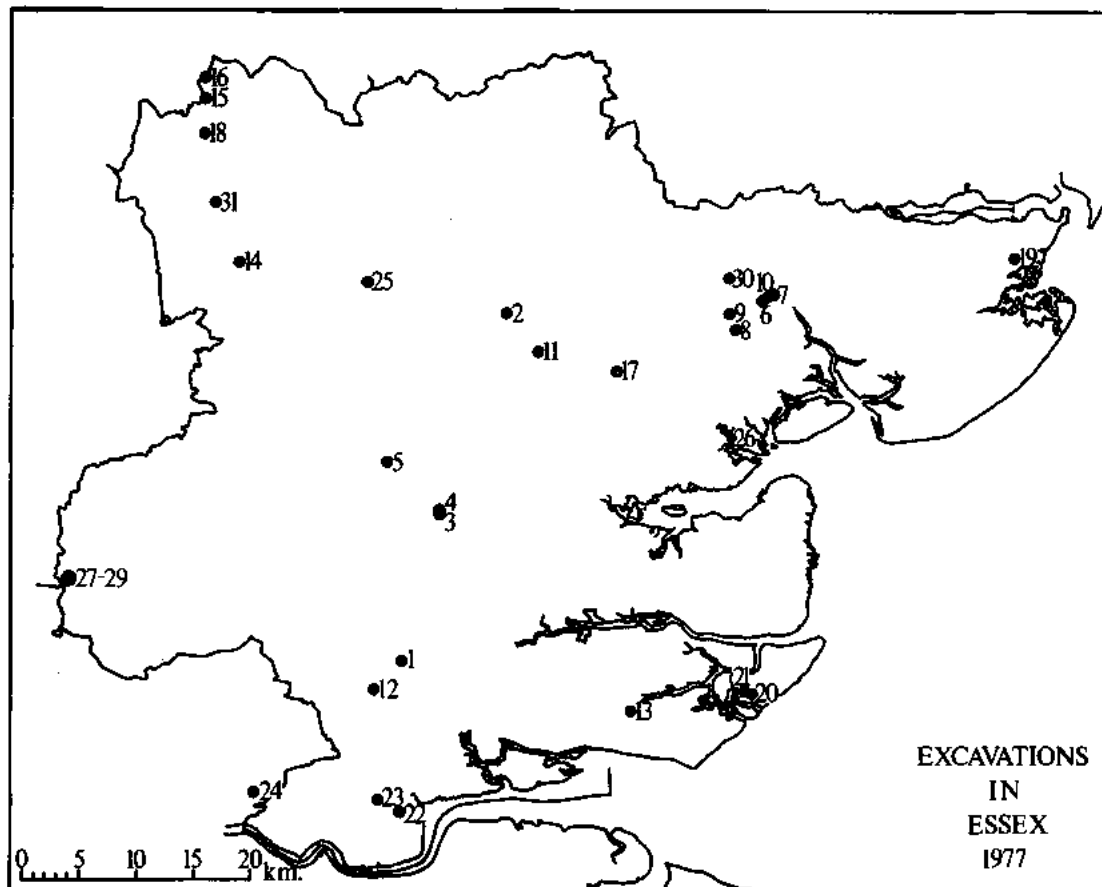
FIG. 1. EXCAVATIONS IN ESSEX, 1977

15. GREAT CHESTERFORD, Hollow Way. TL 501 425.

A. Collins, Great Chesterford Archaeol. Group.

Work in advance of the M.11 motorway confirmed the presence of a Roman fort road diverging from the Braughing—Great Chesterford hollow way section and linking up with the river crossing.
Finds: with Great Chesterford Archaeol. Group.
Final Report: Essex Journal, forthcoming.

16. GREAT CHESTERFORD, Sandpits. TL 501 433.

A. Collins, Great Chesterford Archaeol. Group.

Topsoil stripping in advance of gravel working for the M.11 north-west of the Roman town wall revealed a pit with a dog skeleton, a complete Roman pot and a pair of shoes; also the flint and chalk foundations of a building. Fifteen 1st to 4th century AD rubbish pits and an infant burial were examined along the course of the motorway at Great Chesterford.
Finds: with Great Chesterford Archaeol. Group.
Final report: Essex Journal, forthcoming.

17. KELVEDON. TL 864 186.

M. Eddy, E.C.C.

Four areas were excavated in advance of housing development. Trench A, on the site of the Black Barn, showed the postulated fort ditch to be a late Iron Age enclosure ditch, cut by a late 1st or early 2nd century AD town defence ditch. Other late Iron Age ditches and a brickearth pit were located, also Roman industrial pits. A gravel quarry had partially destroyed the town ditch not later than *c.* AD 225. Trench B, at the end of St. Mary's Road, located a small neolithic pit; and, notably, a sluice-gate with inlet and outlet ditches, presumably part of the water supply for the *mansio* (which probably lies beneath the school). Trench C, east of the school playing field, revealed an enclosed cemetery. Both cremations and inhumations were found, with a date range of 1st to 4th century AD. Trench D, north-west of Trench C, exposed a Roman road with timber buildings on both sides.
Finds: with E.C.C. Archaeology Section.
Final report: Essex Archaeol. Hist., forthcoming.

18 LITTLEBURY, Howe Wood. TL 502 396.

A. Collins, Great Chesterford Archaeol. Group.

Observation following topsoil removal for the M.11 motorway resulted in the discovery of two probable storage pits and four other pits, all of early Iron Age date, also three post-holes.
Finds: with Great Chesterford Archaeol. Group.
Final report: Essex Journal, forthcoming.

19. LITTLE OAKLEY, St. Mary's Church. TM 212 285.

M. Corbishley, Tendring Rescue Archaeol. Group and E.C.C.

Limited excavation was carried out in advance of conversion of the church to a dwelling. The nave, which has an early 12th century window, was built on an earth platform containing much charcoal and human bone. Under this platform a single post-hole suggests an earlier timber building; and a skeleton lay partially under the south wall of the nave. Set into the earliest floor levels was a burial of a priest holding a pewter chalice, of late 12th or early 13th century date. Above this were a number of earth floors, some sealed with lime-mortar; the uppermost floor was wood and tile set in concrete, dating to the 1902 restoration.
Finds: Colchester and Essex Museum.
Final report: Essex Archaeol. Hist.

20. LITTLE SHELFORD, Roman site (cont). TQ 983 906.

D. and H. James, AWRE (Foulness) Archaeol. Soc.

Fieldwalking and excavation have shown that the Roman occupation covered at least 30 acres. The defensive ditch located in 1976 was traced for 50 m; it was filled up in the 2nd—3rd century AD. There is evidence of flooding in the later 3rd century, followed by some further occupation. The small amount of silting in the Little Shelford area compared with other parts of Foulness Island suggests that it could have been continuously protected from the sea since Roman times.
Finds: with AWRE, Foulness.

21. LITTLE SHELFORD, mediaeval site (cont). TQ 976 908.

R. Crump, AWRE (Foulness) Archaeol. Soc.

Continuing work on the mediaeval timberwork excavation established that this was a framework built as a stabiliser and reinforcement of a dam across a tidal creek, with wattlework as a probable

temporary dam during construction. Dendrochronology gave a date of AD 1487, agreeing with the C.14 date of AD 1490±75 previously reported. The Society also started an investigation of Mediaeval Foulness, beginning with surveys of two 17th century buildings, Tree Farm house and Ridge Marsh Farm house.

Finds: with AWRE (Foulness).

22. MUCKING (cont). TQ 673 803.

M. Jones, Mucking Excavation Committee.

The twelve year programme of excavation was concluded. Two more ring-ditches (total seven) were found; they lay in an area of Celtic field ditches. More evidence for salt-making was recovered, also evidence of bronze-working. A circular univallate hillfort, like the previously excavated bivallate hillfort, was apparently late Bronze Age. Saxon sunken huts now total 208, with up to 30 ground-level post-hole buildings including four with double square plans.

Finds: Thurrock Local Hist. Museum and the B. M.

Final report: monograph.

23. ORSETT, Cock (cont). TQ 654 813.

H. Toller, E.C.C.

Total excavation of the area stripped in 1976 within the main enclosure ditches was completed in 1977. Evidence for five phases was established:—

1. An internally banked double ditched enclosure was constructed immediately to the north of a group of LPRIA domestic buildings, including at least two circular huts. Dating: BC 20—AD 20.
2. A double-ditched rectangular enclosure was built to enclose the huts; the N side coincided with the S side of the Phase 1 enclosure. A third outer ditch encompassed and respected the Phase 1 enclosure. This has in the past been diagnosed as Roman military work. It can now be demonstrated that the earthwork is a purely native construction, though the multiplicity of ditches indicates a military as well as a domestic nature for the site. Dating: AD 20—100.
3. An irregular enclosure of which the outer ditch of Phase 2 was the boundary. This may have existed as late as Phase 4. Four pottery kilns produced reduced coarse wares from *c.* AD 150—350. Dating: AD 100—350.
4. Saxon occupation is evidenced by three *grübenhauser.* These went out of use post *c.* AD 550.
5. The old Brentwood Road was laid out while the outer Phase 2 ditch was still a landscape feature. Mediaeval or earlier ditches parallel to the road traverse the site. There were post-mediaeval gravel pits.

Finds: to go to Thurrock Local History Museum.

Final report: Essex Archaeol. Hist. and *Mediaeval Archaeol.,* forthcoming.

24. RAINHAM, Moor Hall Farm. TQ 545 820.

P. Wilkinson, Passmore Edwards Museum.

Preliminary investigation was carried out on a cropmark site threatened by gravel extraction. The main cropmark feature, a triple-ditched enclosure, was examined in three sections across the ditches: The inner ditch was probably 1st century BC, and the outer two later, possibly during the early Roman period, but were extensively recut. On present evidence it appears that this part of the site was not in use much after the end of the 1st century AD. An area examined on the perimeter of the field revealed early Roman pits and a ditch, and some later Roman features.

Finds: Passmore Edwards Museum.

Final report: Passmore Edwards Museum monograph.

25. STEBBING. TL 64 26.

C. Going.

A ?LPRIA and Romano-British cemetery site discovered *c.* 1968 was partially excavated. Aerial photography and trial trenching suggest that it was contained in a ditched enclosure. Three rich cremation burials, ranging in date from pre-Flavian to 2nd century AD have been found. All were in wooden chests and contained fine glass vessels; two also included fine pottery. There was also a possible fourth burial.

Finds: to go to Saffron Walden Museum.
Final report: Essex Archaeol. Hist. forthcoming.

26. TOLLESBURY. TL 964 128.

Mrs. K. de Brisay, Colchester Archaeol. Group.

Excavation was commenced on a red hill site. Many superimposed working floors were found, also a clay-lined gully across the upper levels of which was a curved wall of flat slabs of briquetage. Briquetage included fragments of brine containers including some of 'pig-trough' type, 'pinch-props', a fan-shaped wedge and some wattling, also early type fire-bars of unusually fine manufacture. The small amount of pottery was Belgic and earlier.

Finds: to go to Colchester and Essex Museum.
Final report: Colchester Archaeol. Gp. Ann. Bull. 1979/80.

27. WALTHAM ABBEY, Chapter House. TL 382 007.

A. Havercroft, for D.o.E.

Excavation of the Chapter House was completed prior to display of the site to the public. The foundations previously recorded were found to be two-period, both of rectangular plan with five pairs of buttresses on internal and external faces. The second structure is identifiable with work of Henry II, 1180—1220, and contained ten conventional burials and one 'heart' burial. Pre-Chapter House remains consisted of a chalk footing and associated timber features, together with a large ditch containing domestic material. A light scatter of Roman material and some neolithic/Bronze Age flints were also recovered.

Finds: with D.o.E., Baldock.

28. WALTHAM ABBEY, Sun Street. TL 382 006.

P. Huggins, Waltham Abbey Hist. Soc.

Salvage excavation during car park construction within the monastic precinct revealed 14th century glazed floor tile fragments, apparently waste from floor laying. A dump of lime with 15th century pottery probably indicates a lime kiln. Part of the S abbey precinct wall foundations were observed.

Finds: collections of Waltham Abbey Hist. Soc.
Final report: Essex Archaeol. and Hist., forthcoming.

29. WALTHAM ABBEY, Town Centre. TL 384 006.

K. Bascombe and J. Camp, Waltham Abbey Hist. Soc.

Two trenches to investigate property boundaries on the N side of Sun Street showed no evidence of boundary ditches, but a 13th—14th and a 16th century pit, a late mediaeval waterhole

and an 18th century well. It is suggested that fences rather than ditches may have delimited properties.

Finds: collections of Waltham Abbey Hist. Soc.

Final report: Essex Archaeol. Hist., forthcoming.

30. WEST BERGHOLT, Bourne Road. TL 963 269.

P. Holbert, Colchester Archaeological Group.

A rectangular updraught kiln for manufacturing bricks and tiles was excavated. This had two phases of construction, both of brick. Its use is dated by documentary evidence to the period 1650—1830.

Final report: Colchester Archaeol. Gp. Ann. Bull., 1979.

31. WICKEN BONHUNT, Bonhunt Farm. TL 513 335.

K. Wade for D.o.E.

Five E-W orientated human skeletons, revealed in the construction of a slip road for the M.11 motorway *c.* 90 m NNE of St. Helen's Chapel, were recovered; a further skeleton was revealed in a test pit. No dating evidence was associated. An undated gully with two small post-holes was also found.

Finds: to go to Saffron Walden Museum.

Final report: with report of Saxon and mediaeval settlement as a Soc. for Mediaeval Archaeol. monograph, *c.* 1980.

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PLATE 1

Photo: J. D. Hedges

A. DANBURY CAMP

Aerial view from the SW; Site A and B trenches are seen just below and right of centre

B. HILL WOOD, HIGH BEACH, 1959

Mesolithic site in Epping Forest. The line of 'A' trenches are being excavated. On the right Mr. and Mrs. A. D. Lacaille and John Gordon, squatting. The 'clay pit' investigated by Hazzledine Warren is behind Rhona Huggins on the left.

A
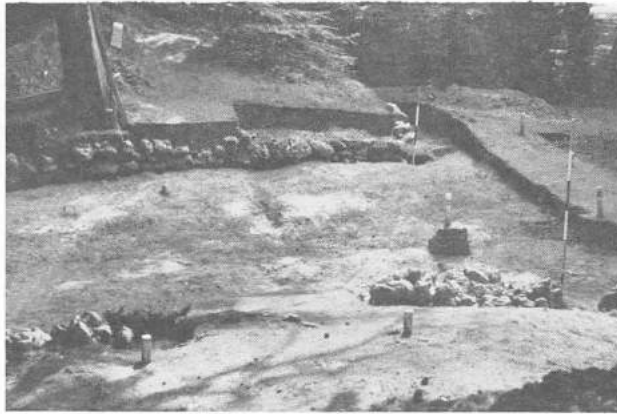
B

C

D
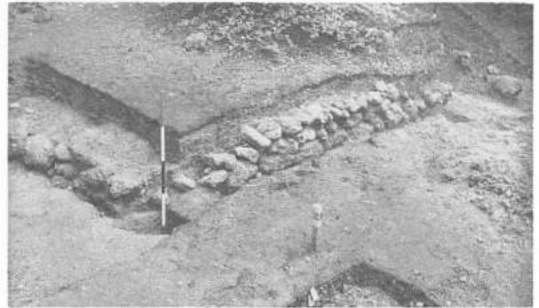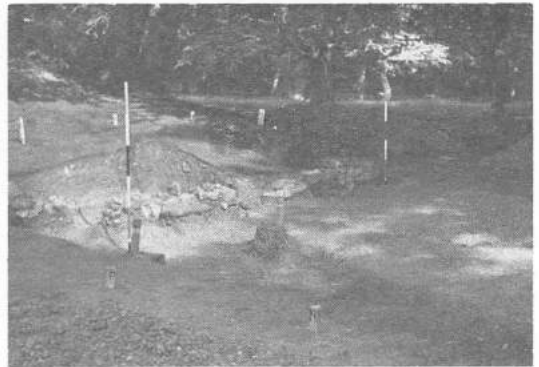
AMBRESBURY BANKS: THE ENTRANCE, SITE F

A. View across passage way through rampart revetted with puddingstone blocks; rods (marked in feet) in postholes of outer gate.

B. View across passage way to revetment of SW side and rampart beyond; rod (marked in feet) in posthole of inner gate.

C. North corner of SW side of passage way showing, on right, revetment returning parallel with the rampart on the ditch side.

D. View of NE side of passageway through entrance, rods in postholes of inner and outer gates; interior of camp beyond.

PLATE 3   251

A

C

B

Photos: J. H. Littlefair

D

NAZEINGBURY, ESSEX, 1975-6

A: View to SE across ditches 11 and 12 showing, on R, a few graves of the Saxon cemetery and the 1934 stokehole

B: View to NW showing secondary burials at east end of Church 2 (by now scraped away)

C: View to E along S side of enclosure A at position of section H (Fig. 3) showing ditch 12 on L, ditch 14 (with 6ft. rod), ditch 16 in shadow on R. Nursery Road is just beyond gravel heaps

D: View to W along S side of enclosure A at position of section G (Fig. 3) showing ditch 12 on R, ditch 11 on L with butt end in shadow. Vertical foot scale shows the unexcavated ditch 16. The river Lea is just beyond the factory; the drum is close to well 3.

PLATE 4
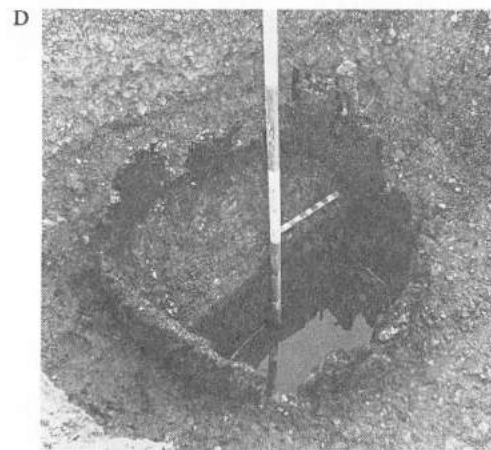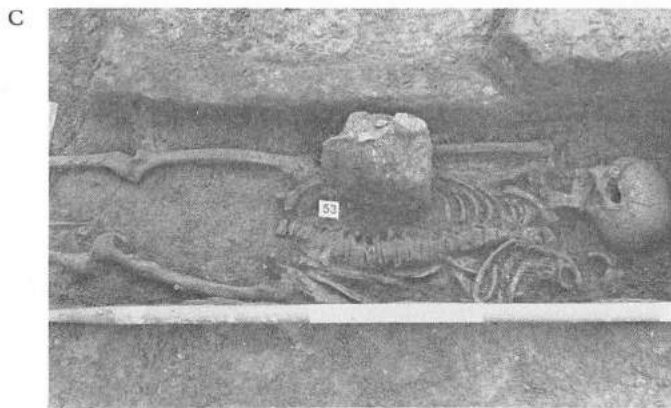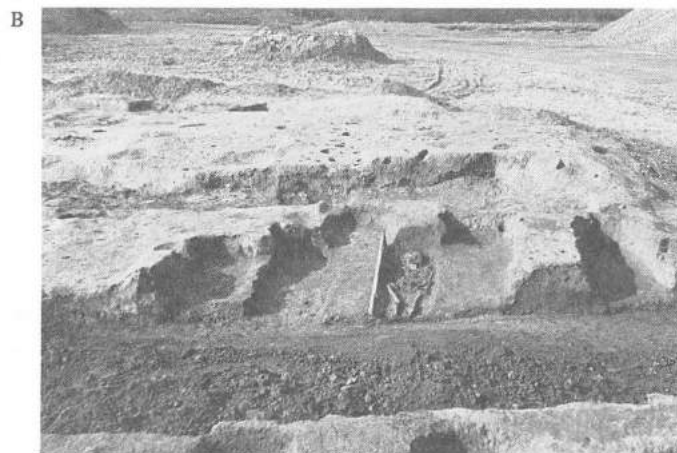
NAZEINGBURY, ESSEX, 1975-6

A: View to W showing the unusually deep secondary burial 52 at the east end of Church 1; grave 64 has been dug on the L; graves 53, 54, 55 are marked in the section. At top L some of the staggered postholes of Church 1; vertical foot rod marks the deep door posthole.

B: Same as A with the last primary burial 54 in the east end of Church 1; beyond, the brickearth is very weathered. This was the most concentrated area of deep burial.

C: Burial 53, fragments of skull of child 53A on top of earth pillar. Note bowed legs (see Pl.3D). Scale in feet.

Photos: J. H. Littlefair

PLATE 5   253
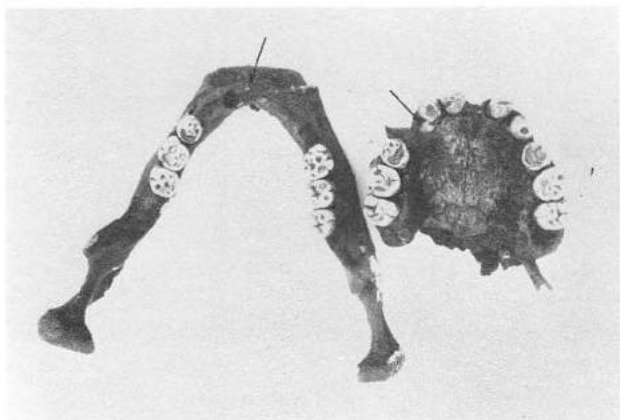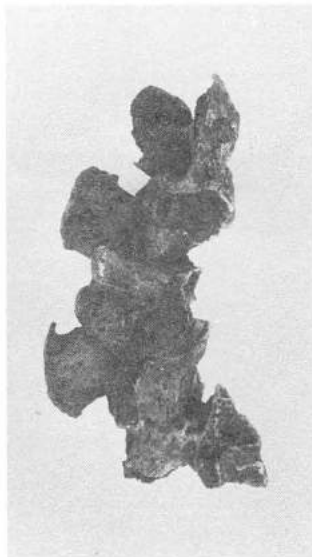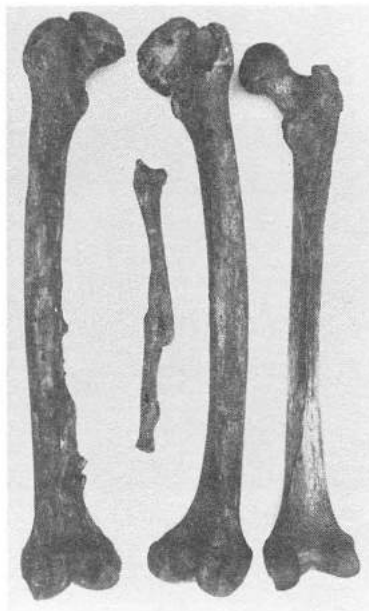
Photos: J. H. Littlefair

NAZEINGBURY, ESSEX, 1975-6

A: BURIAL 96: teeth showing Down's syndrome; note retention of deciduous molars, presence of peg canines and misplaced teeth (arrowed)

B: BURIAL 100: showing fatigue fracture of R. metatarsal II, length 76 mm.

C: BURIAL 168: bent spine, four fused vertebrae showing typical tupercular collapse.

D: BURIAL 53: bowed femurs (length 457 mm) compared to modern specimen (on R.), note virtual lack of femur necks and osteoma or osteosarcoma on L. femur. Also L. radius with healed but un-reduced fracture.
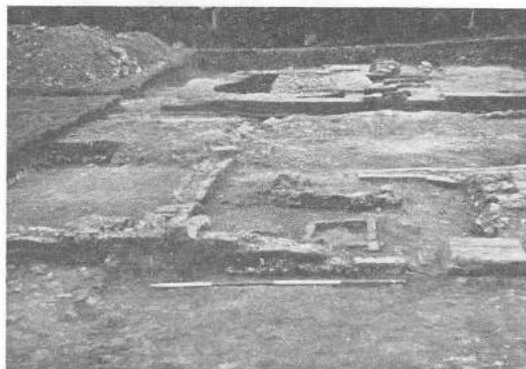
Photos: A. E. S. Musty

WALTHAM ABBEY, ABBEY MEAD, SITE 1, 1972 (Scales, ½ m.)

A. Building 5, stepped brick foundations, from SE (Fig. 2, para. 4.1b).
B. Hearth of building 1, rod on wall of building 2; curved wall of building 5; view from W (Fig. 2, paras. 4.1d, c, b).
C. Buildings 3 (foreground) and 5; from W (Fig. 2, paras. 4.1c, b).
D. Building 3, stone stylobate and medieval brick post-plate ground wall, W side of building; view from E (Fig. 2, para. 4.1c).

PLATE 7   255

A

B

C

D

Photos: A. E. S. Musty

WALTHAM ABBEY, ABBEY MEAD, SITES 2-4, 1972

A. Site 2: 12th century pits and gullies dug into natural; view from N (Fig. 7, para. 4.2).
B. Site 3: angle of N corner of building 8, stone and tile; view from S (Fig. 8, para. 4.3a).
C. Site 3: floor tiles, stylobate and wall footings of building 9; view from S (Fig. 9, para. 4.3b).
D. Site 4: precinct wall and probable pits, view from E (Figs. 11, 12, para. 4.4).

A

B
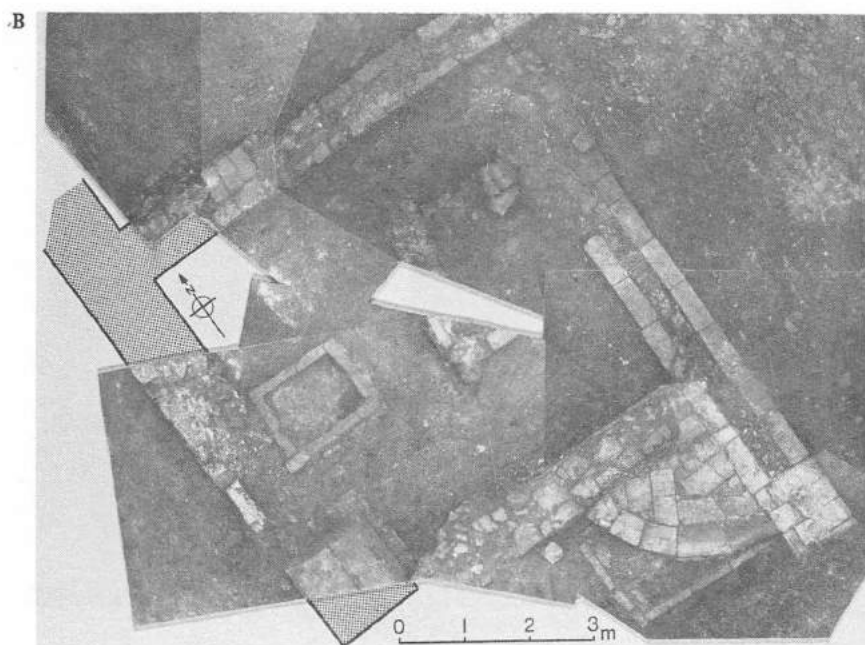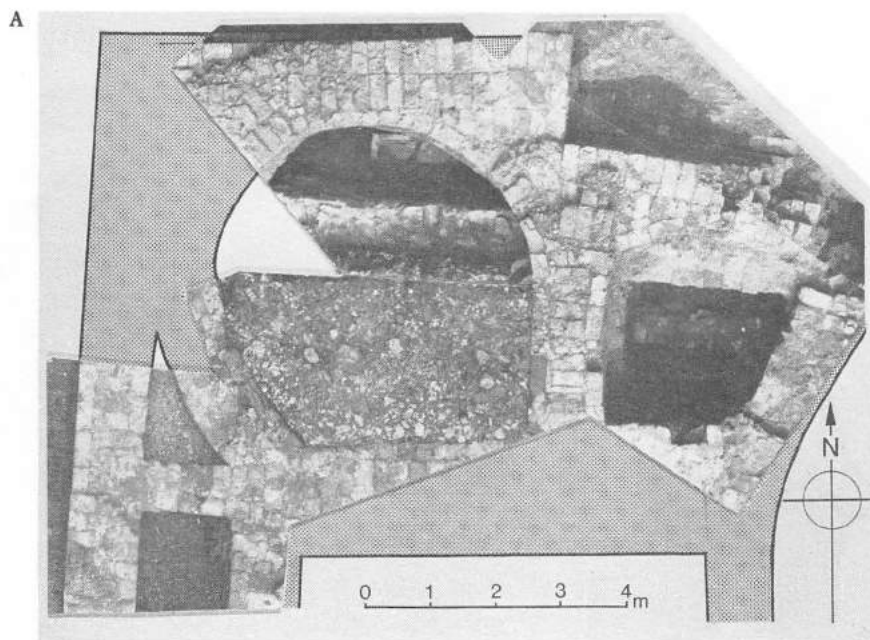
WALTHAM ABBEY, ABBEY MEAD, SITE 1, 1972

A. Composite vertical view of buildings 1, 2 and 5 (Fig. 2, paras. 4.1b, c, d).
B. Composite vertical view of part of building 3, showing one of the small rooms into which the aisles were divided.

PLATE 9
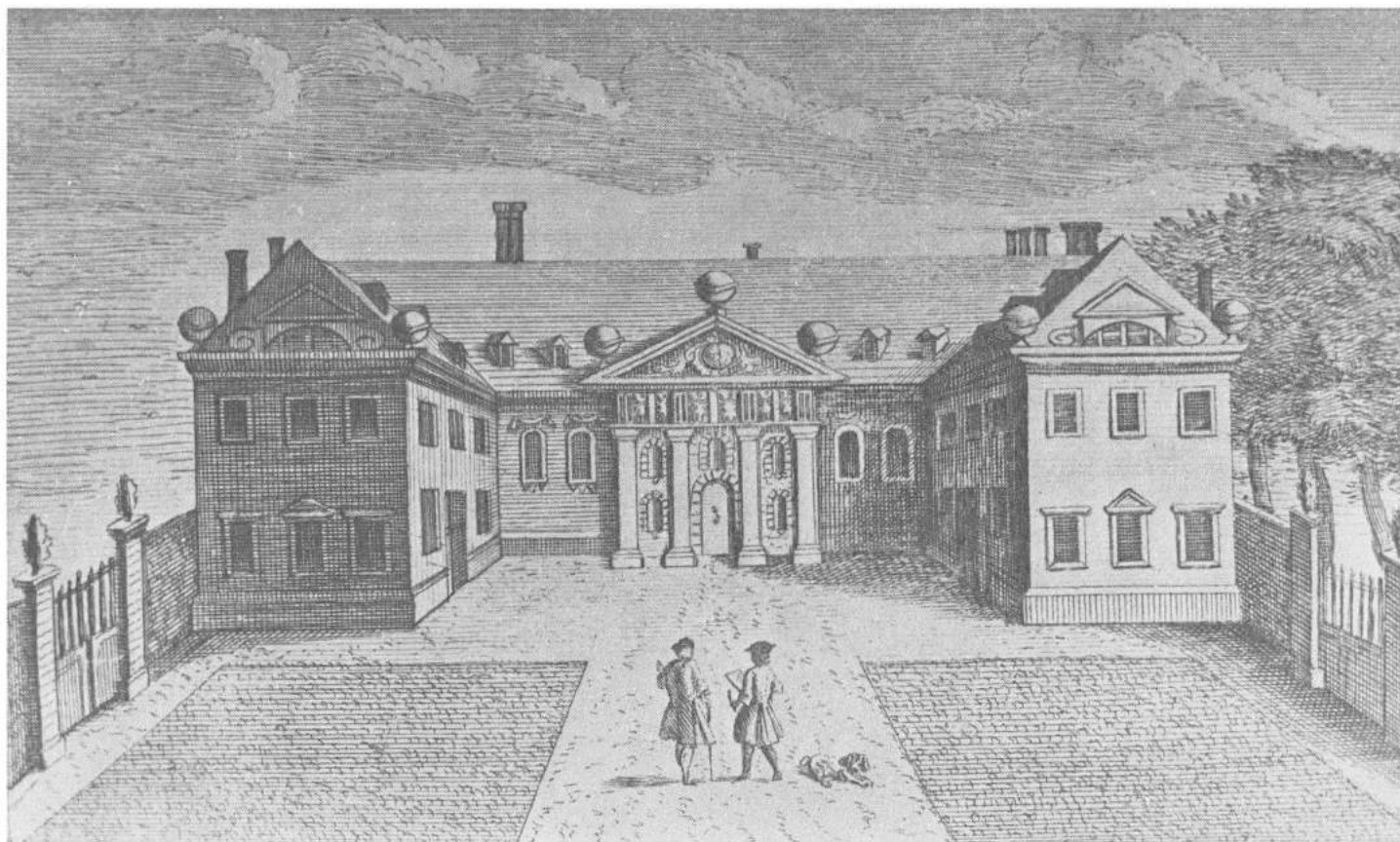
Photo: J. H. Littlefair

WALTHAM ABBEY, ABBEY HOUSE, *c.* 1735. Building 9; view from the E (para. 4.3b, App. 13, Fig. 30).
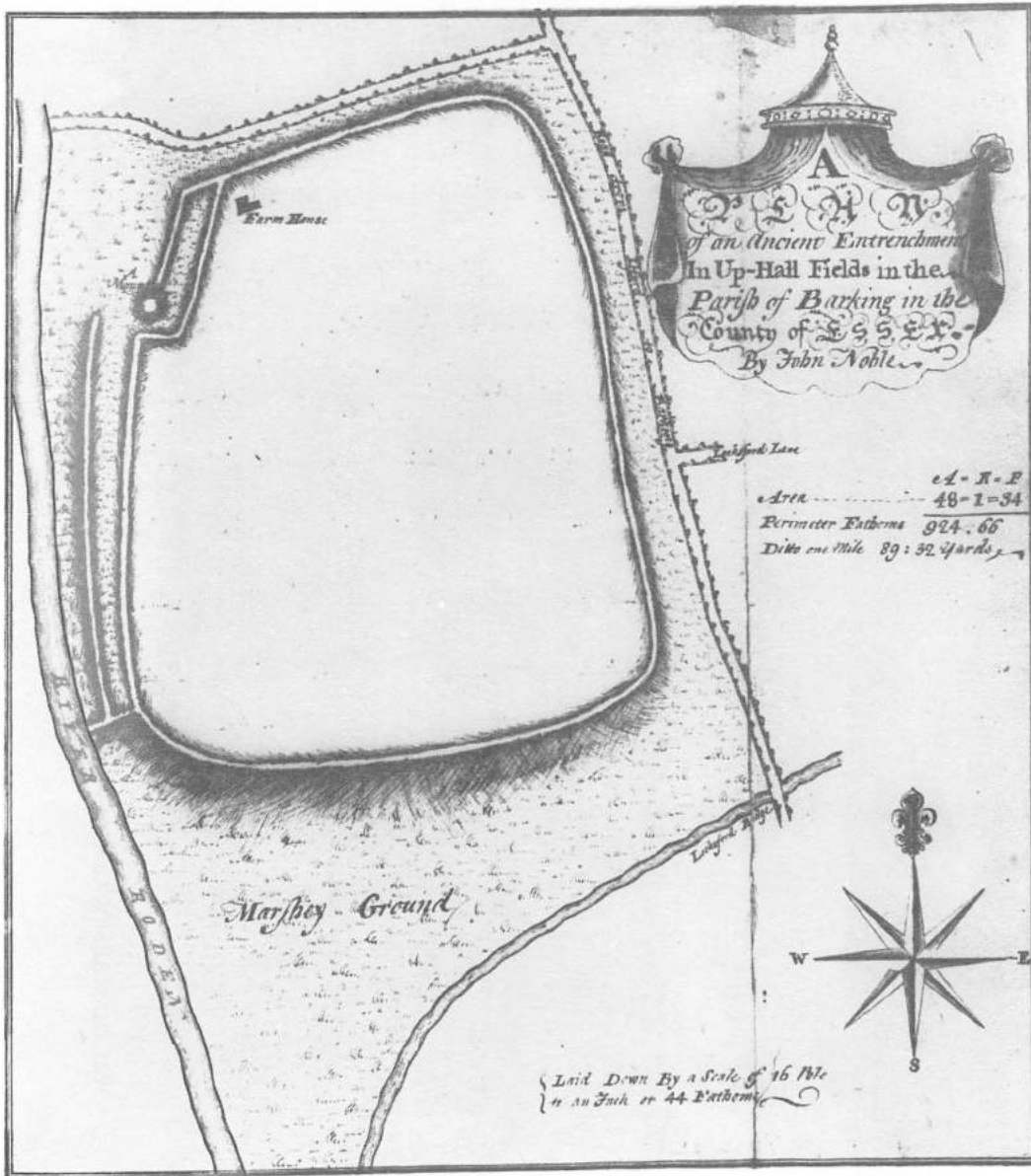
Photo: Essex Record Office

Plan of Uphall Camp by John Noble c. 1735

PLATE 11   259

A

B
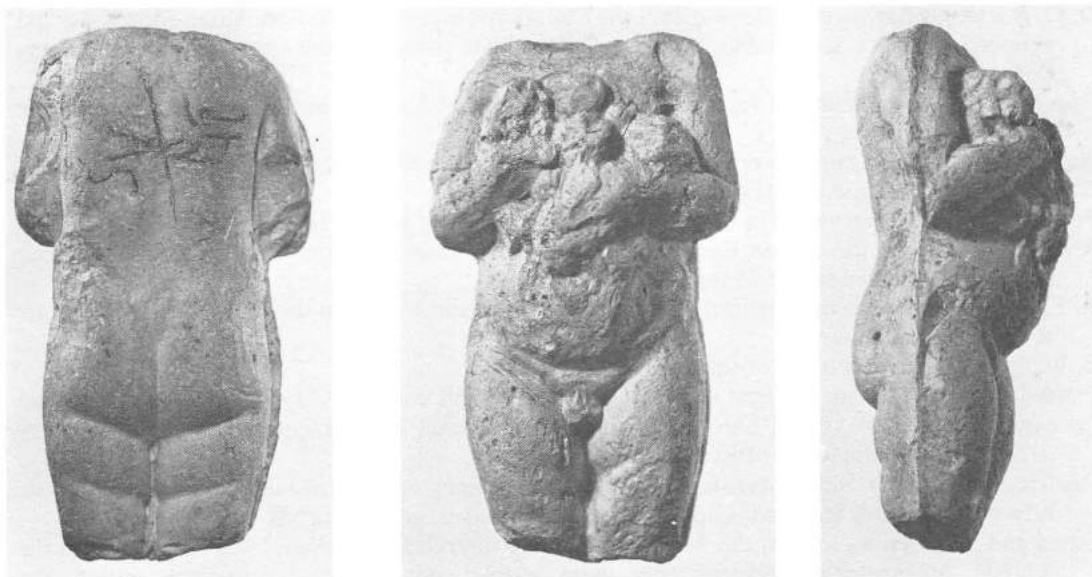
ROMAN PIPECLAY STATUETTES IN CHELMSFORD MUSEUM, ESSEX
A (top): found at Leigh-on-Sea in 1949.
B (bottom): in Chancellor Collection, probably from London.
Both illustrated full size.

OUR CONTRIBUTORS

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NOTES FOR CONTRIBUTORS

These notes are under review. Intending authors should contact the Editor at the Castle Museum, Colchester, before preparing their scripts.

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CONTENTS