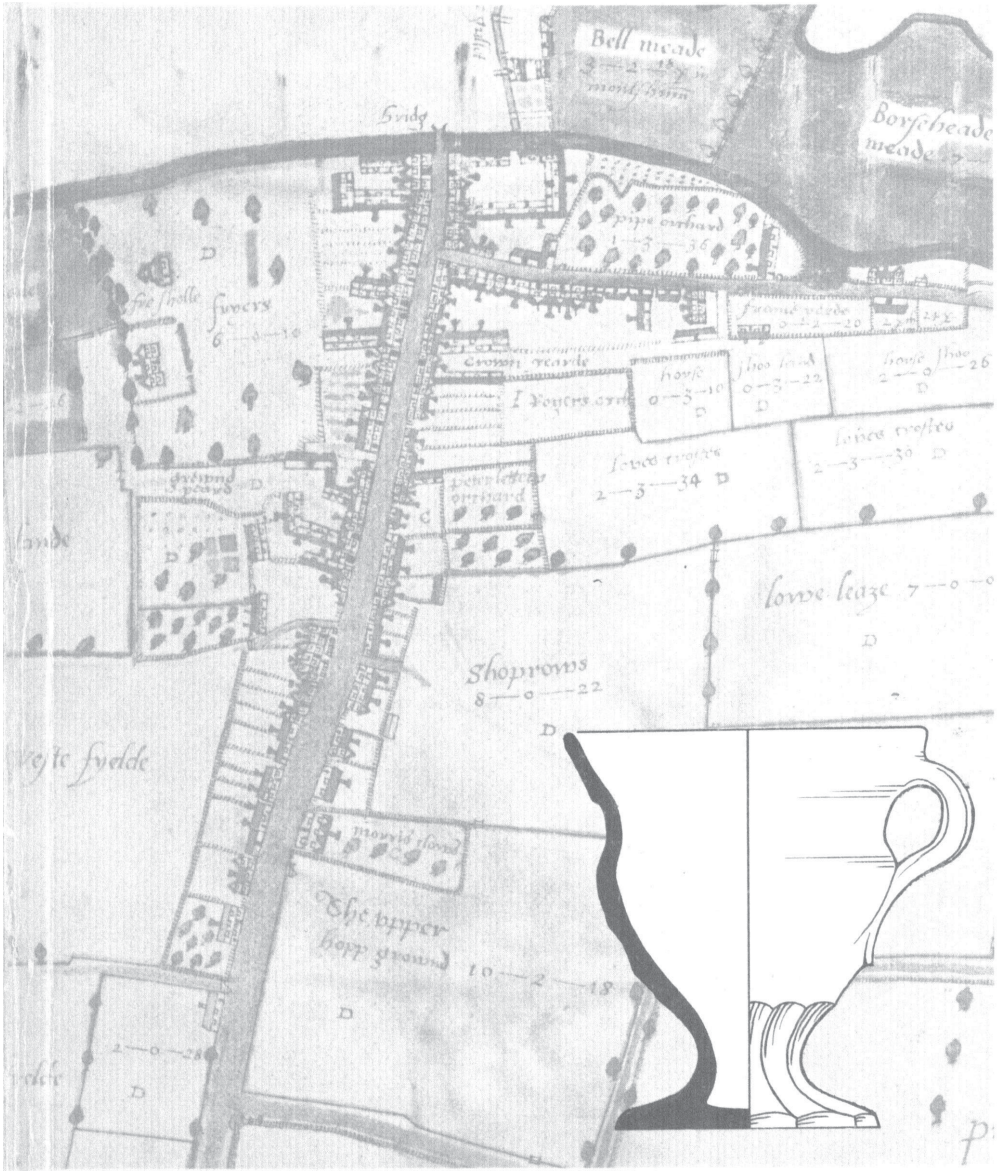
Chelmsford Archaeological Trust

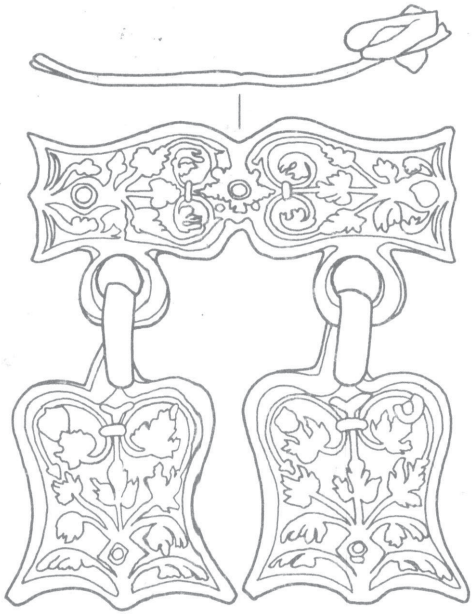
Report 5

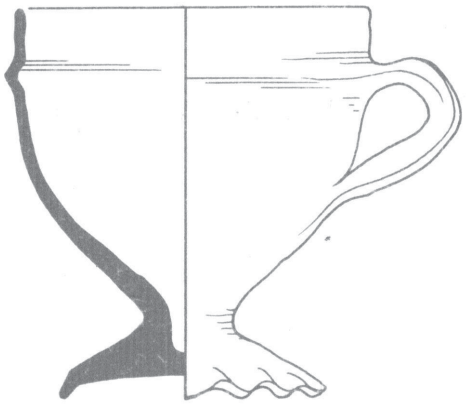
CBA Research Report 54

Post-medieval sites and their pottery: Moulsham Street, Chelmsford

by C M Cunningham and P J Drury







1985

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by
C M Cunningham and
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Published by the Chelmsford
Archaeological Trust and the
Council for British Archaeology

CBA Research Report 54

ISBN 0 906780 41 1

Published 1985 by the Council for British Archaeology, 112 Kennington Road, London SE11 6RE

The CBA wishes to acknowledge with gratitude the grant from. the Historic Buildings and Monuments Commission for England towards the publication of this report.

Printed by Henry Ling Ltd., Dorchester, Dorset

British Library Cataloguing in Publication Data

Cunningham, C.M.
Post-medieval sites and their pottery: Moulsham Street, Chelmsford.--(CBA research report, ISSN 0589-9036; 54-(Chelmsford Archaeological Trust report; 5)
1. Excavations (Archaeology)-England-Chelmsford (Essex)
2. Great Britain-Antiquities
I. Title II. Drury, P. J. III. Bayley, J.
IV. Chelmsford Archaeological Trust
V. Council for British Archaeology VI. Series
942.6'752 DA690.C4

ISBN 0-906780-41 - 1

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Summary

A typology for local post-Roman ceramics is given in outline, and described in detail for the period *c* 1450-1750. This is based on, and illustrated by, excavated material from the Moulsham suburb of Chelmsford. The results of the extensive excavation of a single plot, 59-63 Moulsham Street, occupied from c 1500 onwards, are described, together with smaller excavations at the rear of 179-80 and 195-6 Moulsham Street. A large assemblage of finds includes material specifically related to the occupation of the main site by a leatherworker in the late 16th and early 17th centuries, and its use as an inn late in the 17th century. Clay pipes were probably manufactured in the vicinity of the excavated sites *c* 1660-80 and *c* 1730-60. Late 16th century ceramic culinary moulds may also reflect an occupier's trade, rather than domestic use. Much of the pottery from the sites was produced at Stock: our current knowledge of this production centre is summarized.

I A typology for post-Roman pottery in Essex

by C M Cunningham

A system has been devised for the recording and publication of all post-Roman pottery in Essex, involving the definition of fabric groups, vessel forms, and rim forms. The fabric and vessel form series include brief listings of all types incorporated to date in the system; those in bold print occur on the post-medieval sites in Moulsham Street described in Part II. The classification applies irrespective of provenance, but analysis of the Moulsham Street material described in Part II below is of great importance to the dating, and therefore the understanding, of post-medieval pottery in the area. Pottery from other sites in the county has already been published using this system (Cunningham 1982).

The fabrics

Only those printed in bold type are considered further in this report.

1 Vegetable-tempered wares (Saxon)
2 Plain brickearth wares (Saxon)
3 Sand-tempered brickearth wares (Saxon)
4 Other Saxon fabrics
(For further details of Saxon fabrics see Drury & Wickenden 1982)
7 Maxey-type ware
8 Ipswich ware
9 Thetford ware
10 St Neots ware
11 Stamford ware
12 Sand- and shell-tempered wares
13 'Early medieval wares'
14 Pingsdorf ware
15 Badorf ware
16 Tating ware
17 Andenne ware
18 Blue-grey ware
19 Normandy (red-painted) wares
20 Medieval coarsewares
21 Sandy orange wares
22 Hedingham ware
23 Medieval white wares
24 Scarborough ware
25 Lincoln splashed ware
26 Oxford ware
27 Saintonge ware
28 Rouen ware
30 Beauvais ware
31 Low Countries redwares
32 Low Countries greywares
33 Highly decorated Low Countries ware
34 Unclassified buff wares
35 Mill Green ware
36 London ware
39 North Italian marbled slipware
40 Post-medieval red earthenware
41 **'Tudor Green'**
42 Southern whitewares
43 Martincamp flasks
44 German slipwares
A Weser ware
B Werra/Wanfried ware
45 Stoneware
A Langerwehe
B Siegburg
C Raeren
D Frechen
E Cologne
F Westerwald
G English
46 Tin-glazed earthenware
A **English delft**
B Hispano-Moresque lustrewares
C South Netherlands maiolica
D Spanish
E Italian (Montelupo)
47 Staffordshire-type salt-glazed
48 Porcelain, etc
50 Staffordshire-type slipware

Local coarsewares

Fabric 21

This is a hard, coarse earthenware, containing quartz sand and with pimply surfaces. In Chelmsford, its sources are unknown, but definately local, much of it probably coming from the Ingatestone/Stock area. It is the second most common fabric in Moulsham Street (below, Fig 39), occurring mostly in the 15th century, and largely residual after the mid 16th century. The almost untempered earthenwares, Fabric 40, occur concurrently with Fabric 21 in the later 15th and earlier 16th centuries, but later entirely supersede it (Fig 39C, D). Fabric 21 is therefore the dominant local transitional type, bridging the gap between the medieval coarsewares and the post-medieval red earthenwares. At Colchester (Cunningham 1982, 367-71) it takes the form of 'Colchester slip-painted ware: but there Fabric 40 is uncommon before the mid 16th century- At Norwich, a corresponding transitional type is attributed to the period between the mid 15th century and the late 16th (Jennings 1981, 61).

The range of forms is limited in comparison to mid 16th century and later types.

Fabric 40

This is a uniform, light red, smooth earthenware, with very fine sand tempering. The fabric varies only slightly, usually in the amount and coarseness of the sand inclusions. Some larger vessels and flat forms like the dripping dish (All) are, of necessity, much more heavily tempered. Some thicker profiles have a reduced core, and overfired examples are virtually grey throughout, but the majority are in a consistent light red fabric. These variations are not chronological.

Bowls, jugs, and cisterns are the most numerous forms, and conform largely with the products of English earthenware kilns generally in the 16th and 17th centuries (see below).

In Chelmsford, much of Fabric 40 is plain and undecorated; many of the vessels are completely unglazed. Some jugs have only a bib of glaze below the pouring lip, but increasingly in the later 16th and 17th centuries many have a plain lead glaze internally or throughout. Much of the coarse ware was made at Stock, which must be considered the major supplier of domestic earthenware to Chelmsford and indeed most of central Essex, lying only 9.5 km (6 miles) south of the town (see Part III, below).

Whitewares

Fabrics 41 and 42

Fabric 41 is the fine whiteware known as Tudor Green (Holling 1977). It is normally dated to the 15th and 16th centuries (Moorhouse 1979, 54-5), and on the Moulsham Street sites 80% of it occurs in late 15th century contexts. Much of the rest is presumably residual. Fabric 42 represents the coarser whitewares known as 'Surrey white ware' or 'Southern white ware: which were contemporary with Tudor Green but which outlived it. The distinction is here made on the basis of fabric and form, and to some extent glaze. The fabric of 41 is fine and near-white, whereas 42 has a thicker, often sandier fabric, off-white to buff in colour. Any form which is thin-walled and included in Brears' type series (1971, 24; Holling 1977, 66, fig 1) is considered to be Fabric 41. These include fine tablewares, lobed and unlobed cups, pierced vessels, and lids. Fabric 42 is represented by dishes (A2), pipkins (C9 and especially C10), and colanders (X12). Both types tend to be glazed on the inside, and only near the rim on the outside. Fabric 41 has a green, or occasionally yellow glaze. There is more variety in Fabric 42, with a much increased use of yellow (plain lead) glaze.

Rim form

Figure 1 shows the range of post-medieval rim forms present at Chelmsford. As the series is designed to include earlier medieval pottery, some categories are omitted. Where possible the extreme range of each rim type is shown, so that most examples of each type would fall in the middle of the group. This means that the last example of one group may resemble the first example of another.

A Plain:	1 Round-topped; 2 Flat-topped; 3 Internal bevel; 4 External bevel
B Thickened:	1 Plain rounded; 2 Flat-topped, thickened on both sides; 4 Pointed thickened
C Bead:	1 External bead or rounded flange; **2** Large grooved bead
D Cavetto	
E Flanged:	1 Everted; 2 Hollowed everted; **3** Beaded below; 4 Beaded above; **5** Plain flat; 6 Downturned
F Bifid:	1 Lid-seating; 2 Hammer-headed
J Scalloped:	1 Pie-crust; 2 Scalloped
K Collared:	1 Simple; 2 Reeded or cordoned
L Composite	

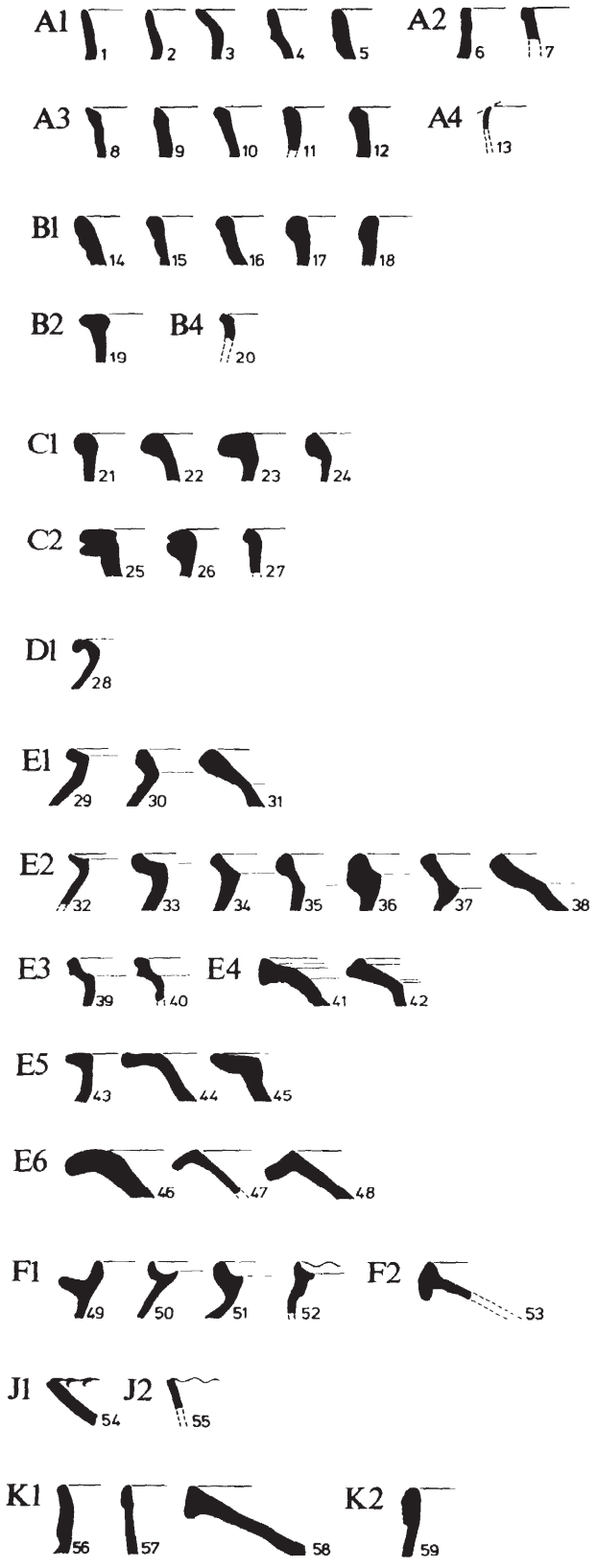

Fig 1 Rim forms used in the analysis of post-medieval pottery. Scale 1:4

Vessel form

In any group of 16th and 17th century earthenwares where there is almost no significant variation of fabric, only vessel form can provide a reliable framework for classification. A typology has been created based entirely on shape, without reference to fabric type, chronology, or vessel function, although function will dictate form in many cases. Variations in rim form do not normally affect vessel classification, which is based on general shape only, except in the case of significant details.

It has previously been thought, in view of the ubiquitous nature of the fabric, that coarseware vessels could not be closely dated (eg Jennings 1981, 157). In phasing Chelmsford Site S, it became obvious that between the late 15th century and the 18th century most coarseware vessel forms do evolve and can be dated according to vessel form (see Table 5, p 68). It is possible therefore to offer a chronology of vessel form development, at least for central Essex.

Only those forms printed in bold type are considered further in this report.

A Dishes

A1 **Plates**
- **A Flat base tapering smoothly to a flanged rim** (Fig 2.1)
- **B Slightly concave base, short curved sides, and wide everted rim, often slightly hollowed; angular profile. Often moulded**

A2 **Flat base, convex sides, and flanged rim** (Fig 2.2,3)

A3 Simple or thickened rim; no change of angle in profile

A4 **Press-moulded dishes in combed slipware with flat base, simple profile, and scalloped rim** (Fig 2.4)

A5 **Simple dish with kicked-up base** (Fig 2.5)

A11 **Dripping dishes: rectangular or oval hand-made dishes with skillet-type handles, and, often, pouring lips** (Fig 2.6-9)

A12 **Dutch oven: semicircular hand-made vessel, with one handle on the curved side** (Fig 2.10)

A13 Frying pan

B Bowls

B1 **Hemispherical, with footring** (Fig 3.11)

B2B **Rounded sides and sagging base, of height more than one-third width** (Fig 3.12)

B3 **Pantheons, with rounded sides and flat base**
- **A steep, well-rounded sides** (Fig 3.13)
- **B less steep, less rounded sides** (Fig 3.14)

B4 **Straight sides and sagging base** (Fig 3.15,16)

B5 **Straight or concave sides and flat base**
- **A wide mouth and narrow base** (Fig 4.17)
- **B steeper sides** (Fig 4.18)
- **C steep sides and small diameter** (Fig 4.19)

B6 **Small bowls or cups, often carinated**
- **A with one or two horizontal loop handles** (Fig 4.20)
- **B with one or two trefoil handles** (Fig 4.21)

C Jars and cooking pots

C1 Completely rounded

C2 Wide globular body with sagging base

C3 Squat body with sagging base

C4 **Fairly narrow high-shouldered jars, neckless**
- **E the base tends to be greater than 70% of the height**
  - **A flat base** (Fig 4.22,23)
  - **C flat base, with angle at shoulder** (Fig 4.24)
  - **D sagging base, with angular profile** (Fig 4.25)

C5 Bag-shaped, with everted rim and sagging base

C6 Bar-lip

C7 **Small bowl-shaped pots with everted rims, beads or grooves on body, and a skillet-type handle**
- **A with flat or concave base** (Fig 5.26)
- **B with tripod feet** (Fig 5.27)

C8 **Pots with a pouring lip and skillet-type handle springing from the body** (Fig 5.28, 29)

C9 **Pots with flat bases and horizontal loop handles** (Fig 5.30)

C10 **Large pipkins with tripod feet, a hollow rod handle, grooves on upper body, and lid seating** (Fig 5.31,32)

C11 Pipkin with upright neck, globular body, and tripod feet

C12 **Cauldrons with rounded bases, tripod feet, and pinched angular handles** (Fig 5.33)

C13 **Cauldrons with flat bases, tripod feet, and everted, slightly hollowed rims for internal lid seating; one or two cauldron-type handles not rising above the rim** (Fig 5.34)

C14 Dutch-type cauldron with narrow base and three large pulled feet

C15 **Cisterns with short upright necks, one or normally two handles, high shoulders, a flat or slightly sagging base, and usually a bung-hole near the base** (Figs 6.35-37, 7.38)

C16 **Large storage jars with two horizontal handles, without a bung-hole**
- **A Flat base and loop handles** (Fig 7.39,40)

C20 Bucket-shaped, with upright pierced lugs

C21 Thetford-type storage jars

D Jugs

D1 Saintonge-type with parrot-beak spout and strap handle

D2 Tubular spout

D3 Baluster jugs

D4 **Squat jugs with narrow necks and wide bases** (Fig 8.41,42)

D5 **Plain jugs with flat or concave bases and simple profiles**
- **A slack S-curve** (Fig 8.43,44)
- **B gentle carination in lower body** (Fig 8.45)

D6 **Jugs with bulbous bodies, and distinct angle between shoulder and neck**
- **A cylindrical neck and high shoulder**
  - **A flat or concave base** (Fig 8.46)
  - **B footstand base** (Fig 8.47)

B slacker profile
A flat or concave base (Fig 8.48)
B footstand base (Fig 8.49)

D7 Cylindrical jug with slightly everted neck
D8 Baluster jug with conical neck, imitating stoneware

The remaining jug types are all stoneware forms, mostly imported. For a full discussion see below, p 65.

D9 Jacobakanne
D10 Very small jugs or cups with a narrow mouth and bulbous body
A rounded base and thumbed footring (Fig 9.50)
B cylindrical neck (Fig 9.51)
D squat, with footstand base (Fig 9.52)
D11 Bellarmines (Fig 9.53)
D12 Biconical jug with slightly sagging base.

E Cups, mugs, and tygs

E1 Lobed cup with handle (Fig 9.54)
E2 Unlobed cups or bowls, with a wide rim, upright neck, and pedestal base
A one handle (Fig 9.55)
B without handles (Fig 9.56)
E3 Standing cups with pedestal bases and composite bodies
A plain base (Fig 9.57,58)
B fluted base (Fig 9.59)
C thumbed or frilled base (Fig 9.60)
E5 Mug with outward-sloping sides and pedestal base
E11 Bipartite cups with two or three handles (Fig 9.61)
E12 Cylindrical or conical mugs or tygs
A tygs, with two or more handles (Fig 9.62)
B mugs, with one handle (Fig 9.63)
E13 Large elaborately decorated mug with multiple handles (Fig 9.64)

F Costrels

F1 Barrel-shaped
F2 Cylindrical with strap handles
F3 Cylindrical costrels with pierced lugs (Fig 10.65)
F5 Flattened spherical costrels with a flat back and domed front
AA with two handles and flat base (Fig 10.66)
F6 Flattened spherical costrels, with both faces flattened equally, and with pierced lugs set transversely across the shoulders (Fig 10.67)
F7 Bottle-shaped costrel without flattening
A with pierced lugs on either side of neck (Fig 10.68)
F8 North Italian marbled slipware costrels (Fig 10.69)
F9 Martincamp flasks

X Miscellaneous

X1 Chafing dishes: open bowls on pedestal bases with three or four spurs or knobs rising from the rim
A local chafing dishes (Fig 10.70,71)
X2 Albarellos or drug jars with straight or slightly waisted sides and narrower base and neck (Fig 10.72)
X3 Candlestick (Fig 10.73)
X4 Lamps
X5 Inkpots
X6 Money boxes
X7 Whistle (Fig 10.74)
X8 Aquamanile (Fig 10.75)
X9 Lids (Fig 10.76-78)
X10 Chamberpots (Fig 11.79,80)
X11 Urinals
X12 Pierced vessels
A colanders (Fig 11.81)
B perfumeries (Fig 11.82)
X13 Condiment cups: small shallow bowls luted together in groups of three (Fig 11.83,84)
X14A Flower vases, with bulbous bodies and two circular handles on either side of neck (Fig 11.85)
X14B 'Altar jug' with trefoil mouth and one handle (Fig 11.86)
X15 Flower vase with three 'spouts' and a pedestal base (Fig 11.87, found in the River Can: CHMER 1978:144:20)
X16 Teapots
X17 Posset-pots
X18 Louvers

Discussion

The vessels classified above in bold type are the household wares associated with modest suburban dwellings in Moulsham Street, and it is on this evidence that the following discussion is based. They were used for the storage of food, its preparation and cooking, table service of food and drink, and for minor household functions such as lighting, ornament, and hygiene.

Storage and preparation

Many vessels could be used for the storage of foodstuffs, but the large storage jar, C16, is best suited for the purpose. The thumbed or decorated raised band below the *rim* is a characteristic feature (cf Jennings 1981, fig 73), and is useful for lifting or moving them. The rilling on the upper body common to so many storage jars likewise aids grip. Jars of this type can be tentatively dated back to the earlier 16th century (Nelson 1981, fig 1.1819). The smaller jars without handles, C4, were probably used to store smaller quantities in the kitchen. The pancheons, the larger variants of B3 and B5, were used in dairy or kitchen primarily as milk pans, in which the milk was left to separate, to make butter, cheese, cream, curds, whey, buttermilk, etc. Most of the other vessels used in the storage and preparation of food would probably have been in materials other than pottery (see fiche l.C1-4, C6).

The most common vessel type found in Moulsham Street is the cistern, C15. The more complete examples are uniform in size and normally hold two gallons. Although it could be used for the storage of any static liquid, its main use must have been for brewing. Throughout the medieval period, ale, the most important liquid in the diet, and later, beer, were brewed at

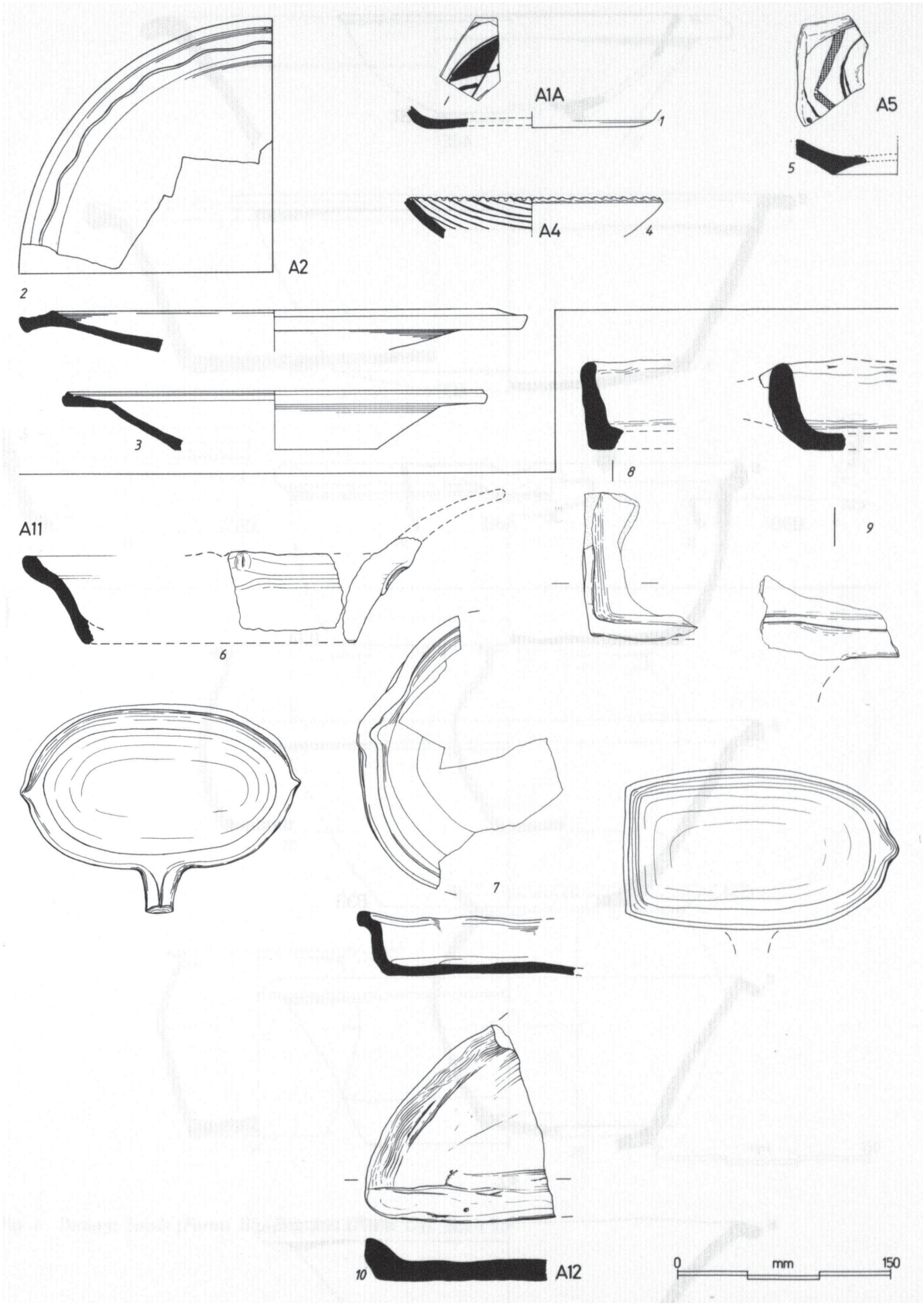

Fig 2 Pottery: dishes (Forms A1-A12). Scale 1:4

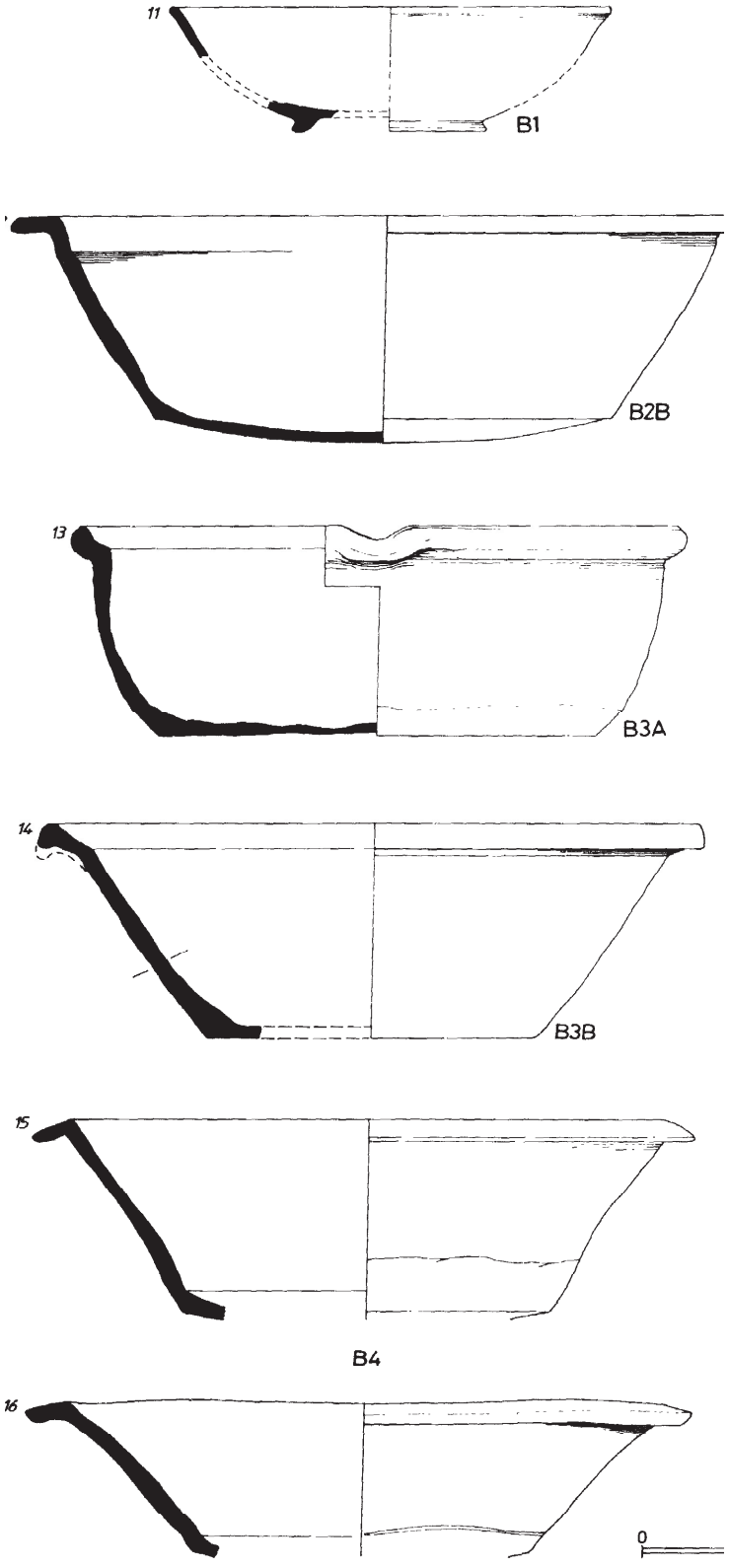

Fig 3 Pottery: bowls (Forms B1-B4). Scale 1:4

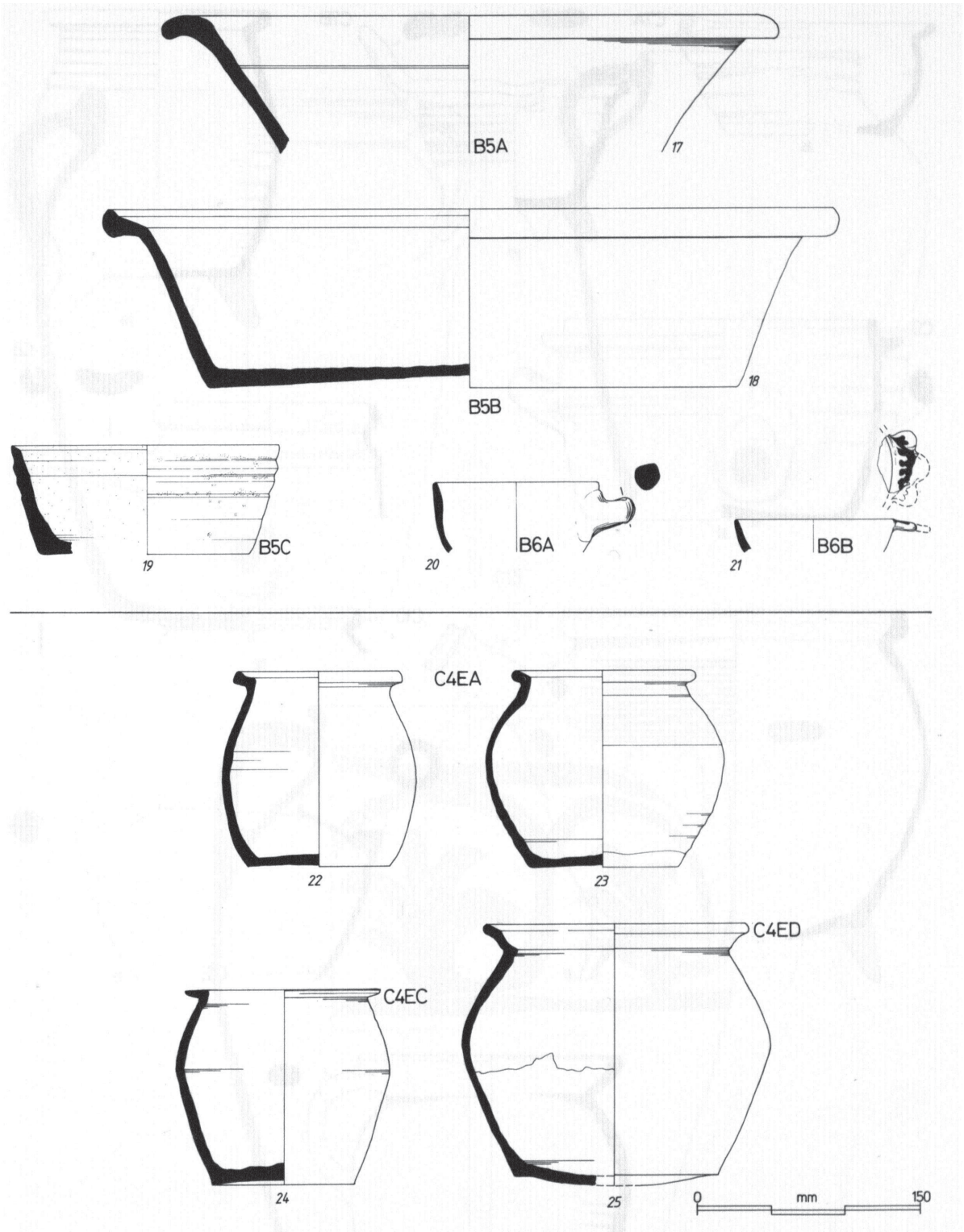

Fig 4 Pottery: bowls (Forms B5-B6); jars (Form C4). Scale 1:4

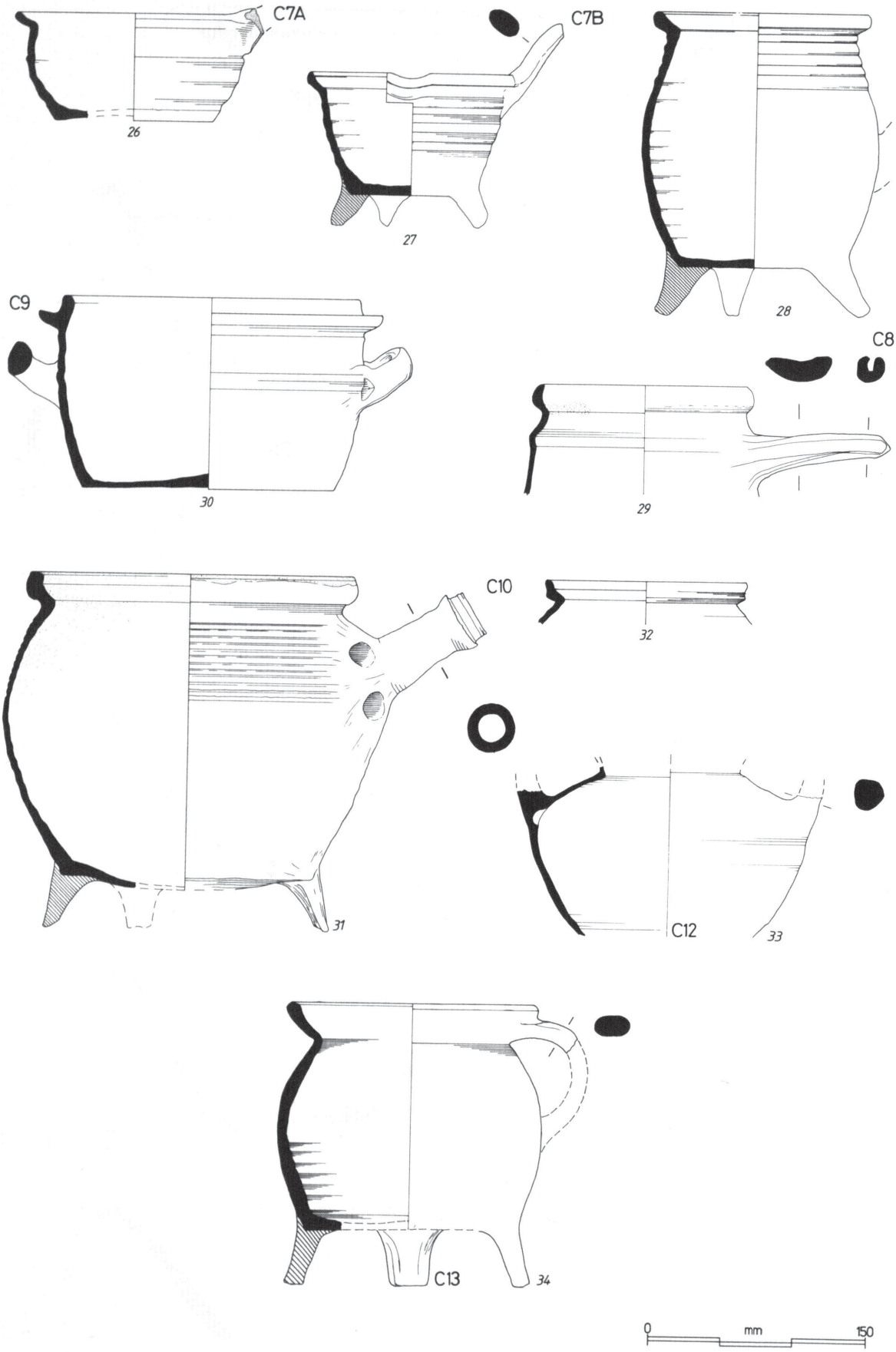

Fig 5 Pottery: cooking pots (Forms C7-C13). Scale 1:4

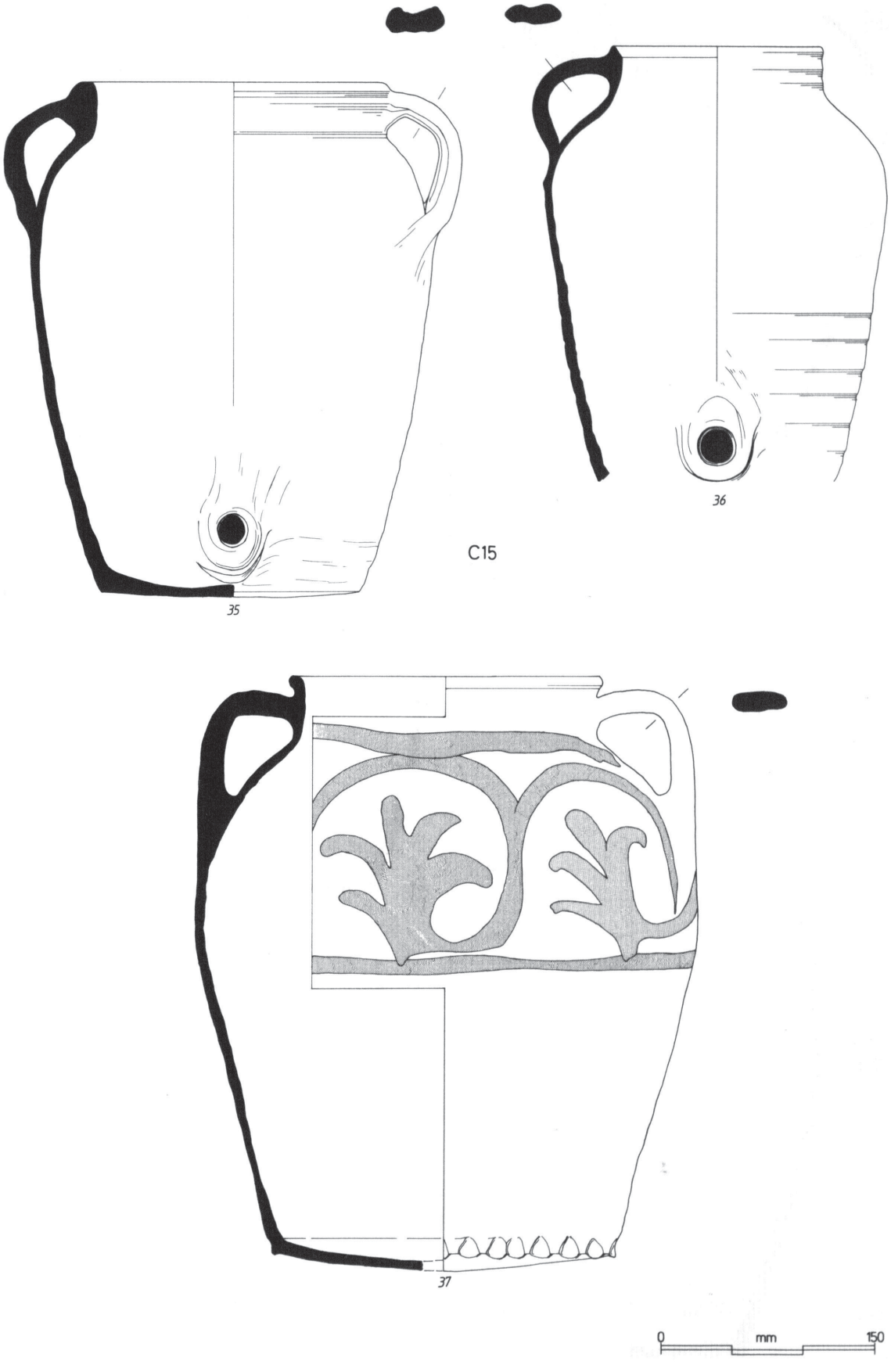

Fig 6 Pottery: cisterns (Form C15). Scale 1:4

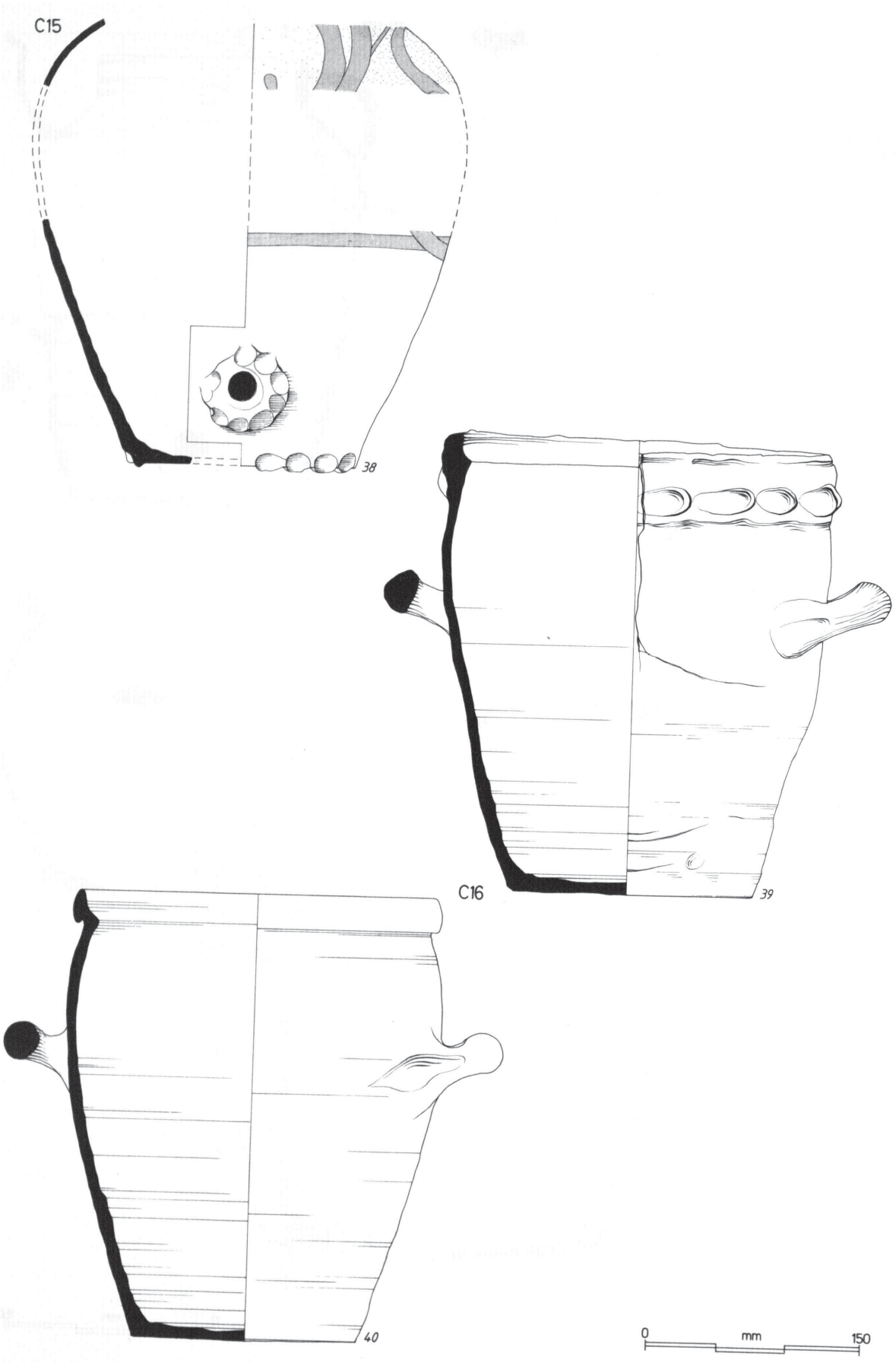

Fig 7 Pottery: cistern (Form C15); storage jars (Form C16). Scale 1:4

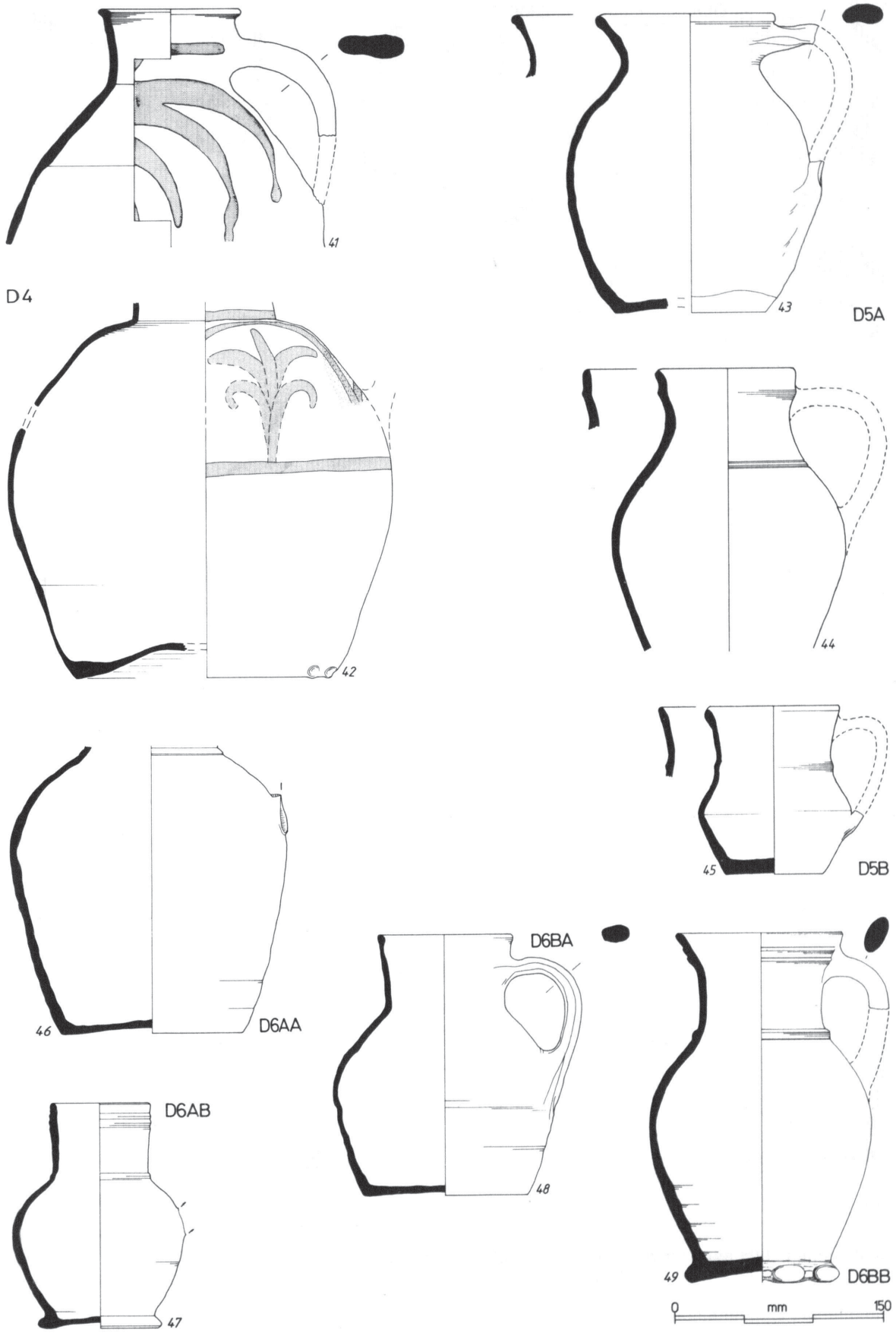

Fig 8 Pottery: jugs (Forms D4-D6). Scale 1:4

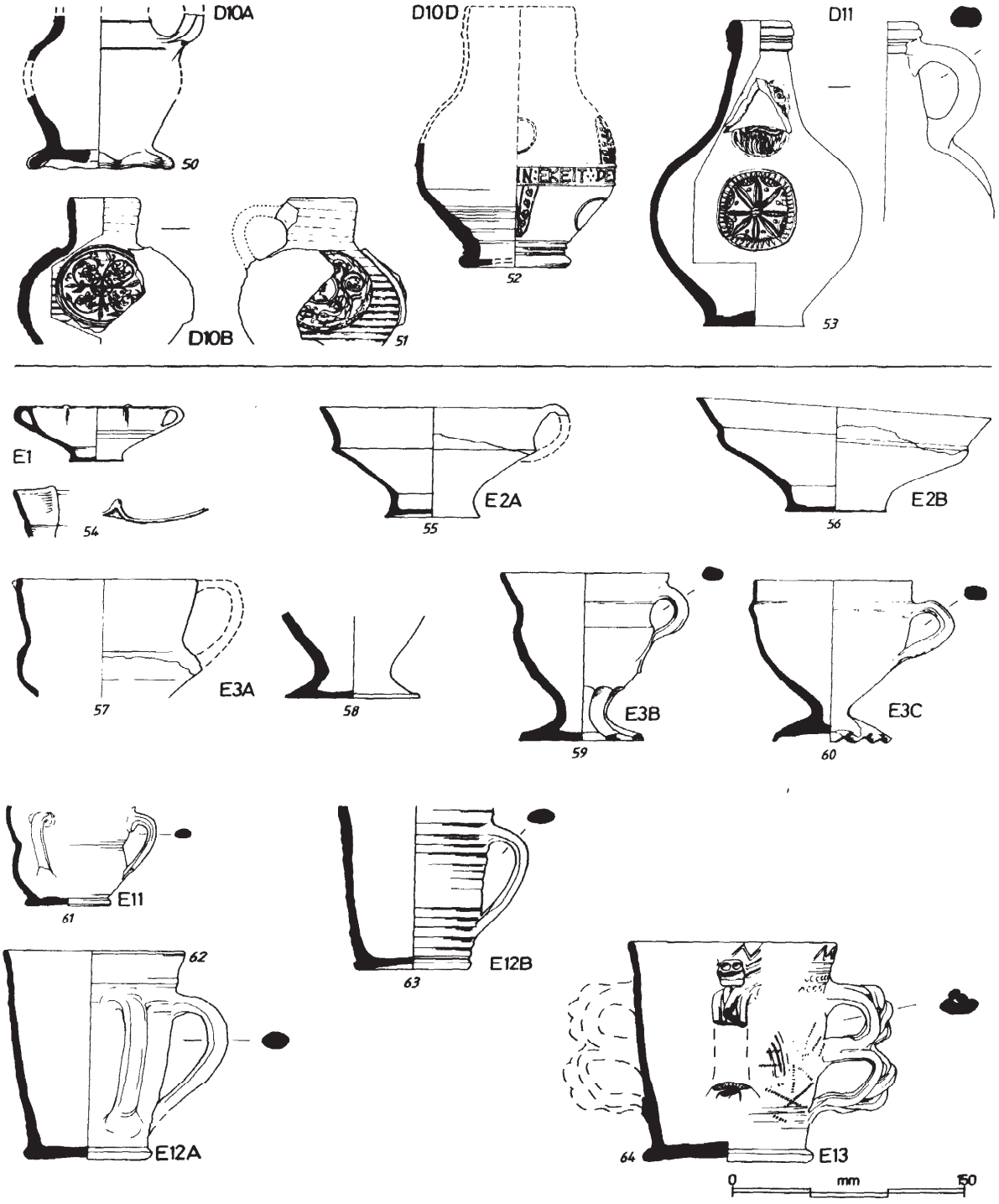

Fig 9 Pottery: jugs and drinking vessels (Forms D10-.E13). Scale 1:4

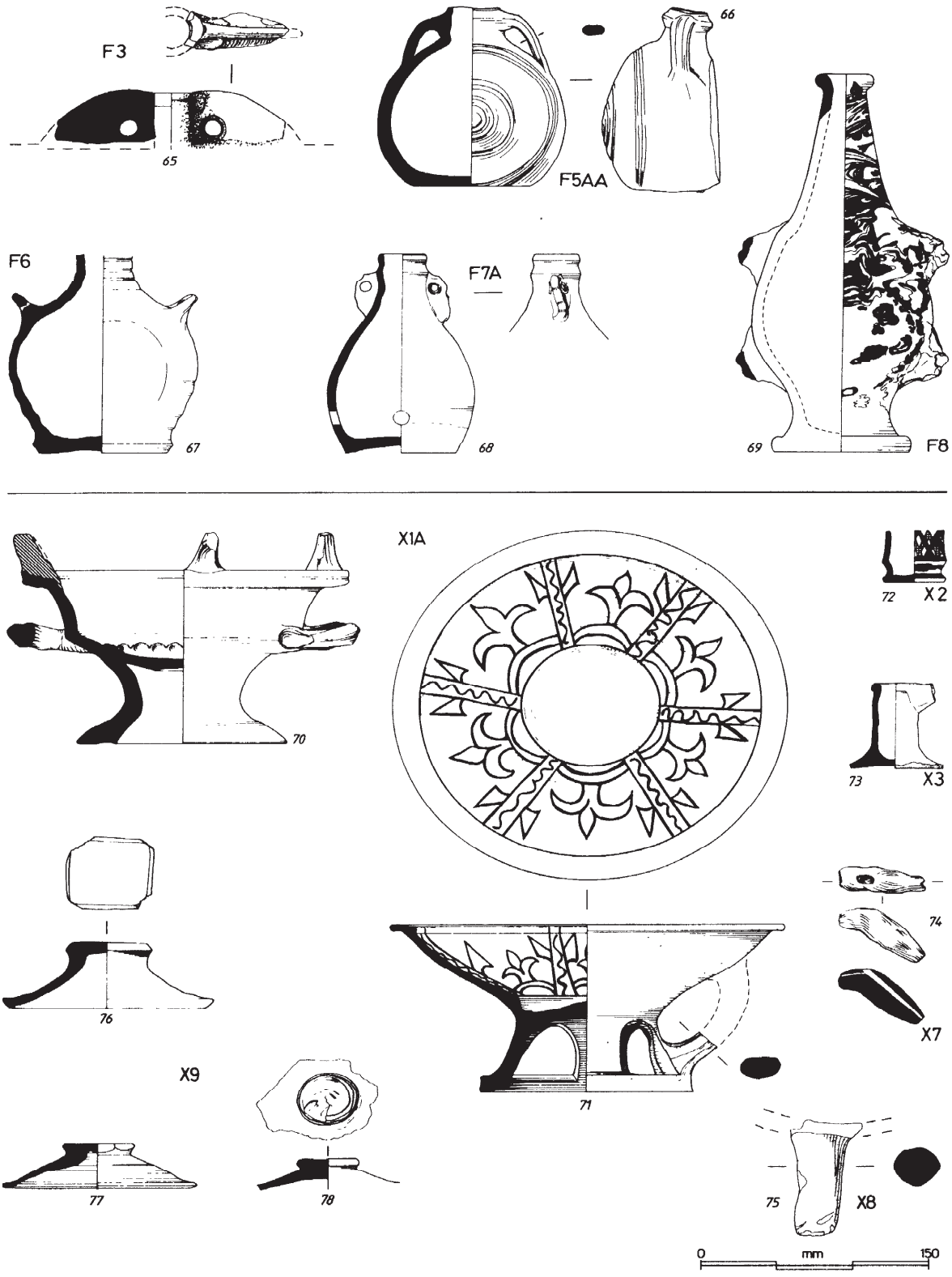

Fig 10 Pottery: costrels (Forms F3-F8); miscellaneous (Forms X1-X9). Scale 1:4

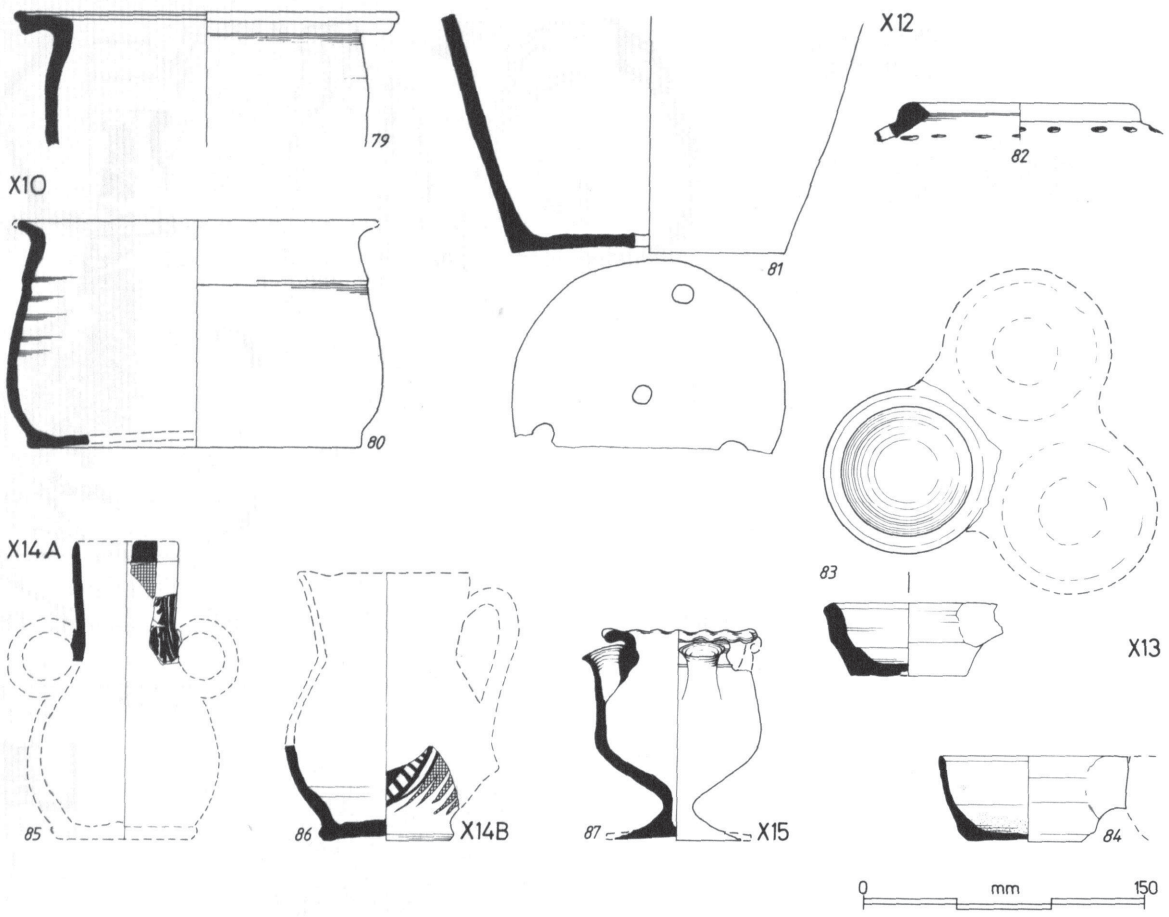

Fig 11 Pottery: miscellaneous (Forms X10-X15). Scale 1:4

home by the housewife, as well as in taverns and by common brewers. This practice continued until the end of the 18th century (Wilson 1973, 332, 344), but it was periodically restricted, for example in 1637 when alehouse keepers and cooks etc were forced to buy their beer from common brewers, and in 1643 when a beer duty was imposed, even on home brew. The building on site S was a tavern between *c* 1670 and 1700, but the incidence of cisterns then is not particularly high: 13.5% of all cisterns as opposed to the period 1560-1630, when 48% are found. Many of the later examples must be residual.

Cooking vessels

The plain bag-shaped cooking pot is one of the most common types of medieval pot. It prevailed into the 13th and 14th centuries and suffered a steady decline throughout the 15th century, so that by *c* 1500, when site S was developed, it had virtually disappeared in its old form. In the early Middle Ages metal cooking pots were relatively rare, but by the end of the 14th century they had superseded the old earthenware cooking pot.

Metal cooking vessel forms diversified. As well as the great three-legged cauldron with angular handles, there were also long-handled metal skillets, kettles, and gridirons (as before). With the advent of the grate came toasters for bacon and bread, sometimes wafering irons, griddle plates, long-handled frying pans associated with the open fire, or hanging frying pans, and toasting forks (Lindsay 1964).

Nevertheless, cooking was still carried out to a great extent in pottery vessels, although in a proliferation of new forms with more specific functions. All possessed-handles, and many had tripod feet (Forms C7, C8, C9, C10, C13, and C14). Importation of vessels from the Low Countries increased (Forms C7B, C12), but less so to Chelmsford than to many other parts of East Anglia with better access to ports (Brooks & Hodges 1983,234). English imitations of these, or of metal cauldrons which they resemble, can however sometimes be found. No definitely imported examples of the dripping dish have been recognized from Chelmsford. The frying pan is a much more characteristic Dutch export, and no examples of this are known. It is interesting to note that both dripping dishes and a frying pan (presumably of metal) are listed in the late 15th century inventory of the goods in Moulsham Mill (fiche 1.C1-4), while earthenware dripping dishes are present in Moulsham Street in the 16th century (Table 5, p 68).

Metal versions became quite common in the post-medieval period (Wilson 1973, fig 17; Lindsay 1964, fig 93). The better households would always have favoured metal pans, while the poorer ones may have used wooden trays when pottery was not available, or perhaps spit-roasted very rarely, preferring to boil, as it is much more economical of fuel and meat. In fact, the rectangular drip ping dishes from Moulsham Street show no evidence of sooting, but limescale deposit on the inside of one fragment, as on many of the jugs and bowls which contained water, suggests that it may have been used for poaching.

The intense sooting on some of the oval dripping dishes is not confined to one side, suggesting that they could have been used directly as frying or roasting pans, for example. The Dutch oven, A12, fulfilled a slightly different function, and was always set immediately before the fire.

It is thought that Saintonge chafing dishes were first imported *c* 1500, achieving greatest popularity during the 16th and 17th centuries (Hurst 1974, 234). Metal chafing dishes, however, are known from the 14th century (Lewis 1973), and in East Anglia pottery dishes are also present by then. There are fragments from at least three medieval chafing dishes from Essex (Cunningham 1982). Form XlA is a post-medieval type, typical of the Essex and Cambridgeshire area in the 16th and 17th centuries (cf Addyman & Biddle 1965, fig l9.S28/5). This has good parallels in metal (cf Lewis 1978, fig 43), with three narrow spurs, a flanged rim, and two jointed horizontal handles below the rim. There is no doubt that most early post-medieval earthenware chafing dishes were made in conscious imitation of these metal vessels, none more so than a fragment from North Woodham Ferrers (see Fig 10.70). It has a pronounced carination at the base of the bowl, exactly like that of the metal ones.

The two horizontal handles are the closest possible version in pottery of the hinged metal handle, in contrast to the upright handles found on most earlier types. Similar dishes, with the thumbed inserted base, were made at Stock (cf Fig 50.28). This type of chafing dish first occurs at Moulsham Street at the end of the 15th century (p 71), and its presence is nicely confirmed by the contemporary Moulsham Mill inventory, *c* 1480-1500 (fiche l.Cl-4), which lists 'a yerthyn chawfying dish'. Contemporary recipes and references show that the chafing dish could be used for a wide variety of culinary purposes: the presence of one in the isolated windmill at Mucking (Cunningham forthcoming a) suggests that it was also useful in fairly spartan surroundings.

Many cooking pots were designed to take lids, but pottery vessels often had lids in a different material. Stoneware jugs and mugs frequently had pewter lids attached to the handle. Wooden lids would also have been very common, particularly for the cistern C15, whose rim is not designed to take a simple pottery lid. Wooden lids survive from the 13th and 14th centuries at Southampton (Platt & Coleman-Smith 1975, nos 1636, 7) and King's Lynn (Clarke & Carter 1977, fig 172.64,67), and would have been suitable for use with such vessels. Spigots similarly would often have consisted of a wooden bung wrapped in a cloth, before the common advent of cork. The Braintree Ringers' jug (below, p 86), however, has a spigot of glazed body-clay still in situ. Anything to be preserved from the air would first have to be sealed with wax. Cheap and unbreakable wooden lids, therefore, were preferred for most vessels which had no contact with fire. The sootmarks on most of the pottery lids confirm that they were mainly used in association with cooking pots.

Tablewares

Flatwares

Plates (Al, A2, A3, A4) comprise a very small proportion of the assemblage, and entirely postdate the mid 17th century. The deeper bowls may previously have fulfilled a similar function. Ceramic plates succeeded pewter plates, like those mentioned in the inventories (fiche l.Cl-4, C6). These had replaced wooden trenchers (Garner & Archer 1972, 22), which in turn had superseded bread trenchers (Wilson 1973, 219).

Porringers, like plates, are also closely related to metal vessels. Pewter porringers vary in form, size, and the number and decoration of the ears. Those with fleur-de-lis handles and plain trifoliate ears (Masse 1971, opp p 144, *c* 1660-70, and *c* 1675-80, p 91), correspond to Form B6B in pottery. Very similar porringers were also made in silver (Ash 1964, pl 17a, 1660-85). Normally it can be suggested that innovations in vessel forms were first developed in silver and other fine materials, quickly imitated in pewter, etc, and eventually affected pottery forms. The more organized potteries, like those producing Deiftware, were particularly geared to meet changing tastes (Ray 1968, 27).

It has been suggested that bowls with two handles were mainly porringers (for serving pottages which would have been eaten by every class), and that those with one handle are more likely to be bleeding-bowls, although the forms were interchangeable (Garner & Archer 1972, 14-15). These bowls were often designed to be hung up on hooks, hence the hole commonly found in at least one of the handles. It has also been claimed that silver ones, particularly, could have been used as drinking vessels (Ash 1964, 118-9).

Pewter porringers are known in Britain from the mid 16th century, but there are earlier references (Michaelis 1969). Porringers were made in England in tin-glazed earthenware throughout the 17th and into the 18th centuries (Garner & Archer 1972, 13), and in other pottery types both here and on the Continent.

Drinking vessels

Cups could be of wood (few of which survive), horn, or leather, although this latter is more suitable for the costrel than the open cup. Pewter was becoming particularly accessible by the end of the 16th century, and drinking vessels of this metal and of silver were favoured by the wealthy. Glass cups were also highly fashionable. Apart from these, pottery was commonly used. Lobed and pedestal Tudor Green cups were available throughout the 15th century. Mugs and jugs were imported in quantity from the Rhineland, particularly Raeren, from the beginning of the 16th century. Black-glazed mugs and tygs were extremely important throughout the 17th century, and to some extent in the later 16th.

The pottery standing cup, Form E3, with its pedestal base and single handle, is much less familiar. It has no obvious antecedants in metal. Metal drinking vessels with one handle are rare before the mid 16th century (and afterwards are confined to tankards and jugs, the equivalents of D6 and E12), although odd examples of two-handled cups occur. The medieval long-stemmed silver wine cup was almost entirely superseded by glass in the 1670s and in silver by squat two-handled cups. In pottery, similar shapes are found at Southampton (Platt & Coleman-Smith 1975, fig 166.711) in a red earthenware, dated 1550-1600, and in various white wares, the closest of which is the type 3 cup from the late 15th century kiln at Farnborough (Holling 1977, fig 1).

There is, however, a local precedent for this form of cup in Essex. Examples have been recognized at Rivenhall (Drury forthcoming b), Kelvedon (Cunningham forthcoming b), and Maldon, characterisically with a fluted base. The fabric, a fine light orange micaceous earthenware with a honey-coloured glaze, is reminiscent of Hedingham ware. Much more work needs to be done on this little-studied industry, but its peak of production was during the 13th century; it is not clear whether there was further activity at Hedingham in the late 14th or 15th century when these vessels could have been made. It is apparent, however, that this form was adopted by other Essex potters working in red earthenware in the later 15th and 16th centuries, although Fig 9.59 is unusually micaceous for this ware.

A characteristic feature of the black-glazed mugs and tygs (Form E12) is the 'footstand' base, a flat base with a pronounced ring around the outside. Footstand bases are typical of the 17th century throughout England, particularly on mugs and jugs, and with few exceptions are not standard before the mid 16th century.

Jugs

In Chelmsford the footstand base is completely absent from the Dominican Priory before 1560 (Drury 1974), as at Writtle down to 1521 (Rahtz 1969). It first appears in Moulsham Street towards the end of the period 1560-l590, and becomes very common subsequently. The exceptions are the Tudor Green or Surrey ware jug (Holling 1977, fig 2), which is believed to occur in the late 15th century kiln as well as the 16th *(ibid,* 63), and the Cistercian wares of the 15th and early 16th centuries (cf Mayes & Pirie 1966). Jug form D6AB demonstrates this type of base. Rhenish, particularly Frechen, jugs of this type were imported in great quantity during the second half of the 16th century, particularly after 1560 (Hurst 1964, 142). It is difficult, however, to find a securely dated example before 1550-60. As the 'Malling' jugs (below, p 70) were first made *c* 1549-50, it cannot be taken for granted that they copied the form of stoneware vessels imported into Britain. But imported stonewares were definitely copied elsewhere (Matthews & Green 1969, 8; Gamer & Archer 1972, 12-13) and there is no doubt that the earthenware examples of D6AB are part of this tradition.

The obvious function of most jugs was the storage and service of liquids. Many jugs from Moulsham Street, however, particularly Forms D5 and D6, have prominent soot marks on the front, and this implies that they were also used to heat their contents, or keep them warm.

Other functions

Many vessels found have functions unconnected with the preparation of food and drink, but these always occur in small quantities. They include containers of various substances, such as drug-jars and ink-pots, flower vases, and chamber pots.

Most medieval and post-medieval candlesticks appear to have been of metal (cf Lindsay 1964, figs 262-286), but one of stone was found at site S (below, Fig 38.14). The more common type of late and post-medieval pottery candlestick has a flanged pedestal (cf Matthews & Green 1969, fig 7H).

Perfumeries are described on p 72. The perfumery, or pomander, was known in Italy by the 14th century, and was popular there and in France; in England it became fishionable during the 16th century. It was generally spherical in gold and silver, but was also made in bottle shape. The pouncet-box served a similar function, usually containing a sponge soaked in aromatic oil, and survived from the mid 16th to the mid 18th centuries (Savage 1970). An example of a ? 17th century perfumery comes from Waltham Abbey (Huggins 1978, fig 17.96).

II The excavations in Moulsham Street, Chelmsford

by P J Drury

Introduction

The Moulsham suburb of Chelmsford occupies the site of the Romano-British 'small town' of *Caesaromagus,* which was deserted at the end of the Roman period. Thereafter, occupation was probably concentrated on the manorial sites of Moulsham Hall and Bishop's Hall, the centres of estates to the south and north of the river Can, held at Domesday by the Abbot of Westminster and the Bishop of London respectively. Around 1100, the bishop rebuilt the bridges on the London-Colchester road at Chelmsford, thus reinstating it as a major route. This stimulated the development of a settlement on the northern part of the old Roman town site during the 12th century, with associated fields (including *Shoprows* and *Weste fyelde:* P1 I) to the south-west.

The new settlement in Moulsham might have developed into a town, had Bishop de Ste Mere Eglise not obtained, in 1199, 1200, and 1201, grants of a market, free tenure for burgesses, and a fair respectively. His new town of Chelmsford was laid out on the spur of land between the rivers Can and Chelmer (Fig 12B). Moulsham was eclipsed, becoming a satellite settlement and ultimately a suburb of Chelmsford, and gradually expanding south-westwards along the main road.

On John Walker's map, 1591, of which Pl I shows a detail, there is considerable contrast between the generally well-spaced buildings on the frontage of *Shoprows* and *Weste fyelde* and the more tightly-packed frontages to the north-east, behind which lies a complex pattern of small closes. The latter area clearly represents the medieval core of the suburb. Some buildings lay on the fronrages beyond its limits by the late 14th century, expansion and infilling over the following two centuries producing the layout mapped in 1591 (Drury 1981a). Later development was confined almost wholly to the street frontages until the mid 19th century, when the backland began to be used for industrial housing. A full study of the development of Moulsham must await the completion of reports on the many sites excavated in recent years, and documentary and topographical research currently in progress.

The sites reported here were all excavated in advance of redevelopment by the then Chelmsford Excavation Committee (and earlier Chelmsford and Essex Museum), primarily because of their potential contribution to our knowledge of the Roman town. Site S, 59-63 Moulsham Street (Fig 12C; TL 70730621), was excavated in 1972-3; site AA, at the rear of 179-80 Moulsham Street (Fig 12C; TL 70730629), in 1968; and site X, at the rear of 195-6 Moulsham Street (Fig 24; TL 70820636), in 1972. The Roman levels on sites S and AA will be published in Drury forthcoming a, the medieval (pre-1500) agricultural features on site S are described in Drury 1981a, and the Roman and medieval levels on site X will be published in due course. The research archive, including context summaries, for all post-Roman aspects of sites S, AA, and X is currently held by the Chelmsford Archaeological Trust, and will be deposited in Chelmsford and Essex Museum with the artefacts and field records. A copy is held by the National Monuments Record, from which further copies are available.

The division of the occupation on each site into periods follows a convention established for the publication of the archaeology of the town in general. Period X is *c* 1200-1400, XI *c* 1400-1600, XII *c* 1600-1700, and XIII *c* 1700-1800. For each major site these periods are divided into phases, unique to that site and based on its internal development. The subdivision of site S is as follows:

Period	XI	Phase	1	*c* 1400-1500
			2	*c* 1500-1550
			3	*c* 1550-1590
	XII	Phase	1	*c* 1590-1630
			2	*c* 1630-1670
			3	*c* 1670-1700
	XIII	Phase	1	*c* 1700-1730
			2	*c* 1730-1800

The post-medieval features on the minor sites AA and X have as far as possible been related to these subdivisions or combinations of them.

Acknowledgements

We are grateful to Mr M G Godfrey, of H and T C Godfrey Ltd, for permission to excavate at 59-63 Moulsham Street (Site S) and for allowing us to make use of his photographs of the now-demolished buildings (including Pls II-IV), to the Midland Bank Executor and Trustee Co Ltd, their architects the Tooley and Foster Partnership, and their contractors, Tom Green (Ingatestone) Ltd, for permission to excavate at 179-80 Moulsham Street (Site AA), and to K Orrin Ltd for permission to excavate at 195-6 Moulsham Street (Site X). The work was funded largely by grants from the Department of the Environment, supplemented by funds from local sources, especially Chelmsford Borough Council; further aid from the DoE has enabled this report to be produced.

The documentary evidence for Moulsham Street is taken from the work of Steven Freeth, Gillian Sheldrick, and Sarah Welch, the two latter being successive Historical Researchers employed as part of a STEP scheme funded by the Manpower Services Commission.

We are particularly grateful to Chris Caple (University of Bradford) and Justine Bayley and Neil Pratt (Ancient Monuments Laboratory) for metallurgical analyses, and to B M A Ellis, A C Edwards, G Egan, R Hildyard, J G Hurst, S Jennings, J P C Kent, J F Macaulay,

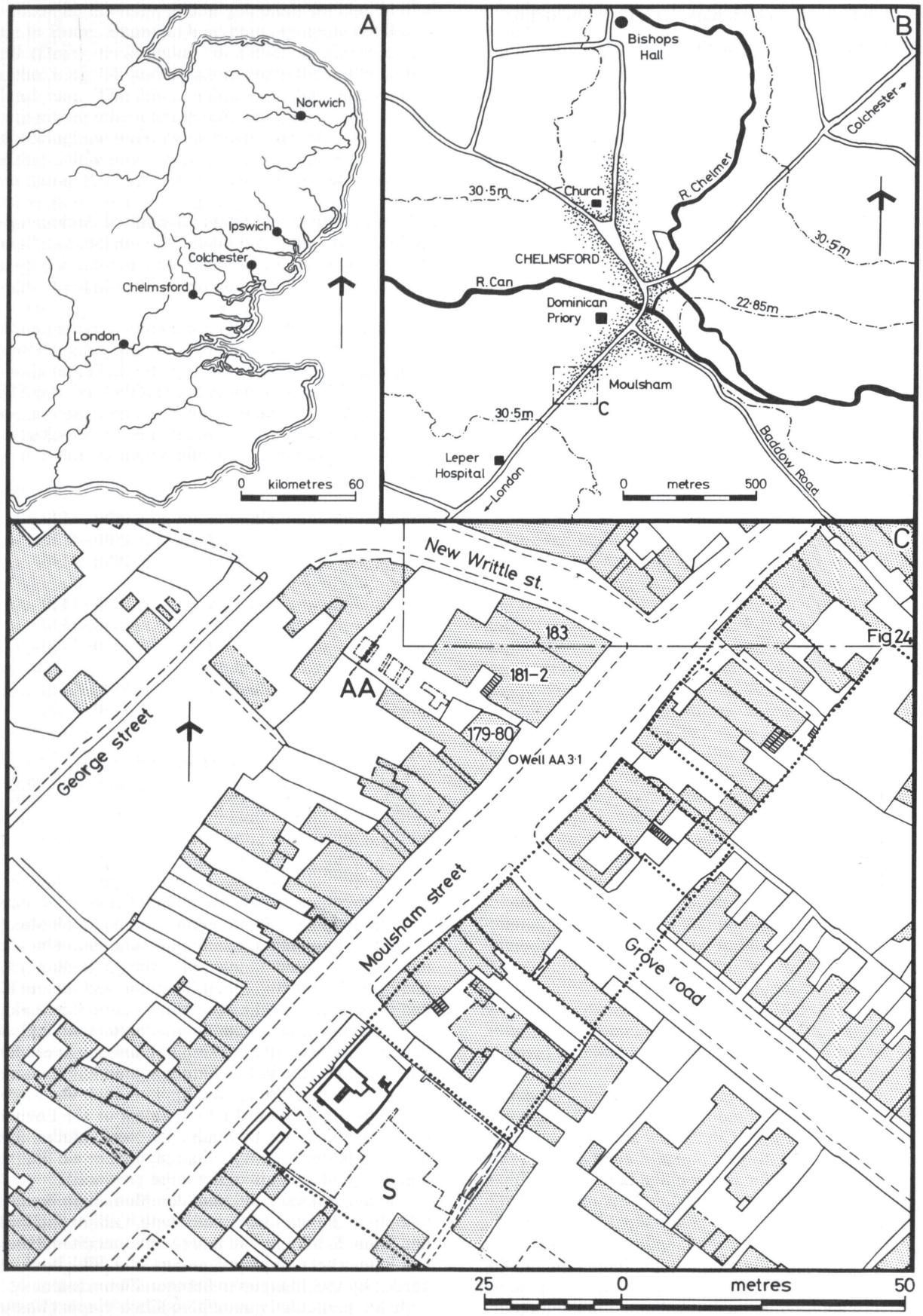

Fig 12 A, The location of Chelmsford; B, The town in the later medieval period; C, Chelmsford sites S and AA in their modern topographic context (compare with Pl I). Map C is based on the Ordnance Survey Map; Crown Copyright Reserved

A V B Norman, A R E North, E C Norton, M Owen, the late S E Rigold, G J Rimer, B Spencer, and P Walton for commenting on various artefacts. The figures were drawn by John Callaghan, with assistance from Sue Holden and Ann Rotheram (all formerly of Chelmsford Archaeological Trust). The mould from Fenstanton (Fig 48.6) was kindly made available by John Hurst and Philip Rahtz, and that from Hatfield Peverel (Fig 48.4) and some pottery vessels from Chelmsford sites are published by courtesy of Mr D L Jones, Curator of Chelmsford and Essex Museum.

Site S: 59-63 Moulsham Street

1 Methods of excavation, recording, and analysis

Loose demolition rubble and remaining modern concrete floor slabs left on the site of the recently-demolished buildings were cleared by machine, as was cultivated garden soil from the rear of the plot. Excavation then proceeded by hand in large open areas divided by a minimum of baulks, most of which were ultimately removed. The volume of spoil generated made it necessary to excavate the north-western area of the site before the other two were tackled.

In recording, separate series of feature and general layer numbers were used. These have generally been retained in this report, although a single sequence has been produced by adding 1000 to the original layer numbers. Multiple fills or arbitrary spits in discrete features were distinguished by Roman numeral suffixes; otherwise a single number served to identify a feature and its filling.

Post-medieval activity on the site, despite continuous occupation over more than four centuries, did not generate a substantial depth of stratified deposits except in special circumstances, most notably where the filling of the deep early pit 104 had subsided steadily over a long period, and where the edge of the hollow-way which Moulsham Street occupied in the medieval period had been filled. Moreover, these areas, and other shorter sequences, were not related in any useful way to one another. The attribution of excavated contexts to phases, and the dating of those phases, therefore proceeded approximately as follows. The major stratigraphic sequences were calibrated using datable contained artefacts (clay pipes, imported pottery, coins, etc), and on this basis related as far as possible to one another. Phases were normally defined by reference to the sequence of structural features. The remaining features were then assigned to these phases using all the available evidence, both artefactual and stratigraphic. Of great value was the presence or absence of particular artefact groups, whether intrinsically datable or not; bricks of the type used to build the cellar, for example, appeared in many features, providing a relative *terminus post quem for* them. The process involves subjective judgement, especially with smaller features like postholes, where there may be little more evidence than their alignment (if subrectangular) and the nature of their filling to link them to other features and thus to a particular phase. In the course of this analysis both the dating and the limits of the preliminary phases were revised.

The method is no more than an amalgam of those used on deeply stratified sites with those used on largely rural, non-intensive settlement sites where contained artefacts, occasional stratigraphic relationships, and more general ones of alignment and spatial relationship must be used to extract plans of features likely to have been in more or less contemporary existence. That the results of the analysis are in agreement with all the available data does not necessarily mean that they are correct; but given an extensive excavation and reasonably prolific datable artefacts, it is likely that the resulting picture will be generally valid. The results of this analysis are summarized in Figs 13-21 and Section 2 below.

The documentary evidence became available only when the archaeological analysis had been completed and dates assigned on artefactual grounds to the structural phases. The degree of correlation between the two, therefore, provides some confirmation of the general validity of the archaeological analysis, especially during Period XII. For this reason, and because the documentary and topographic evidence is not easily treated in a strictly chronological form, the two have been united in Section 3, in which an attempt is made to produce as coherent a history of the property, its buildings, and its occupiers as all the available sources of information will allow.

2 The excavated features

Period XI:1 and earlier (not shown on plan)

Probably during the 12th century, the Roman strata were levelled and ploughed, creating the soil 1004. Cultivation produced a pattern of narrow ridge-and-furrow, evidenced in excavation only by the furrows (274-6), since the land surface had been levelled or destroyed in Period XI:2 and later (Fig 15, Sl). The ditch 265 on the road frontage was contemporary with the cultivation of the field, becoming filled probably by the beginning of the 15th century. Its relationship to later features and the present level of Moulsham Street (Fig 15, Sl) shows that much of the hollowing of the roadway occurred after the ditch was dug, and indeed filled. The only other medieval features encountered were four disparate postholes and a slot on or adjacent to the ditch edges.

The medieval agricultural features and associated material are described and discussed in Drury 1981a. The slot (224), ditch filling (1027), and buried soil (1004) produced sherds of apparently unused Colchester Ware louvers, and eight other sherds were found in post-medieval contexts (Cunningham; 1984; p ,25 below). A small amount of medieval pottery was also residual in later contexts: nine sherds of sand- and shell-tempered coarsewares, 41 of sandy greyware, two of Hedingham ware, and four of sandy whitewares (probably Surrey ware). Their presence is consistent with 12th-15th century agricultural use of the site.

Period XI:2; c 1500-1550 (Fig 13)

This is the first phase of post-agricultural activity. The rear boundary of the plots was defined by a shallow ditch, 325, if indeed this was not established earlier. By *c* 1500 the hollowing of Moulsham Street seems to have been complete. There was now no roadside ditch, but the fill of the features in the hollow was very silty, suggesting that rainwater drained along its edge. It was evident that the slot (?) 130 had filled to the level of the adjacent natural brickearth, showing that the hollow had reached its maximum depth by this time.

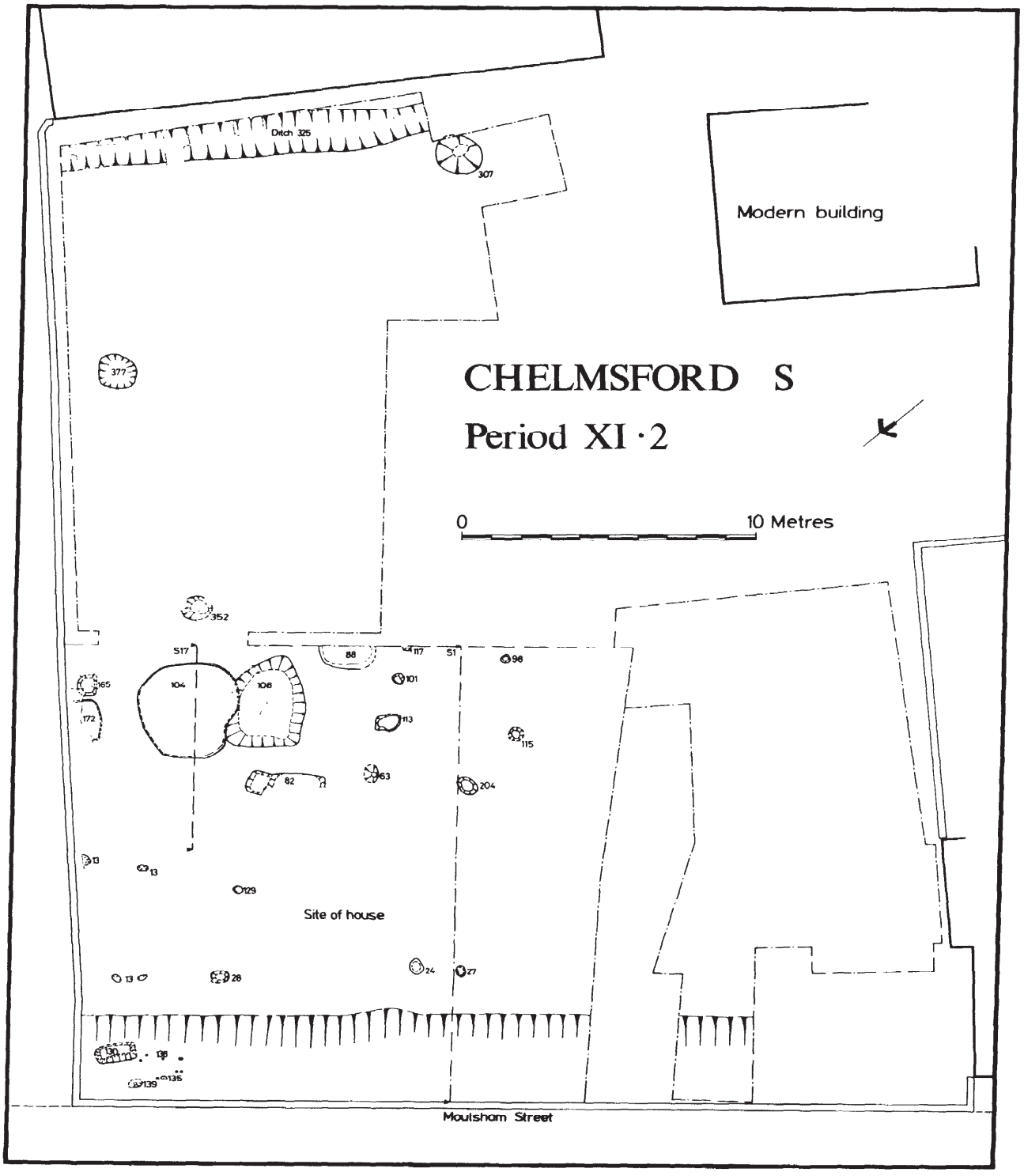

Fig 13 Site S: features of Period X1:2. Scale 1 :200

A zone *c* 8m deep alongside the hollow-way was occupied only by four small, shallow postholes (24, 27-8, 129), and the hollows 13, *c* 50mm deep and filled with brickearth. This seems to indicate the site of a timber-framed building on the road frontage, the postholes being associated with its rearing rather than permanent structural features. Section 1 (Fig 15) shows this part of the site levelled, and *inter alia* largely stripped of the topsoil 1004, probably during the primary phase of development, to form a house platform.

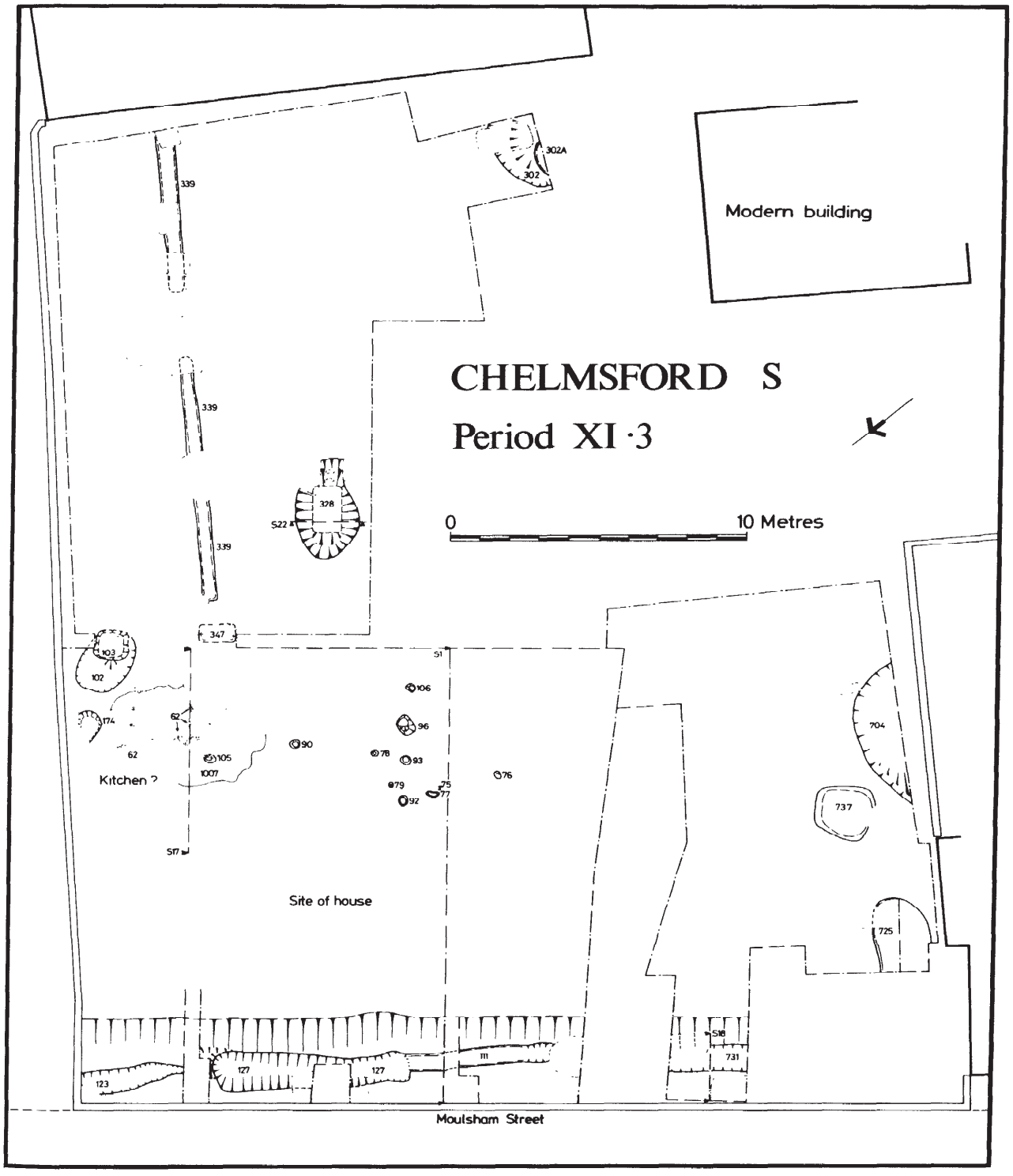

Fig 14 Site S: features of Period XI:3. Scale 1 :200

In the zone immediately behind this putative building were several pits and postholes. Pit 108 was *c* 0.9m deep, filled with grey silty loam; it was apparently cut by 104, 2.1m deep and filled with brown silty loam with brickearth lenses (Fig 15, S17). Both contained little domestic debris and may have been dug primarily to provide brickearth for daub, being filled largely with topsoil from the site of the house. The sequence between them is indeed probably false, due to the settlement of the filling of 104; in which case 108 may be the puddling pit

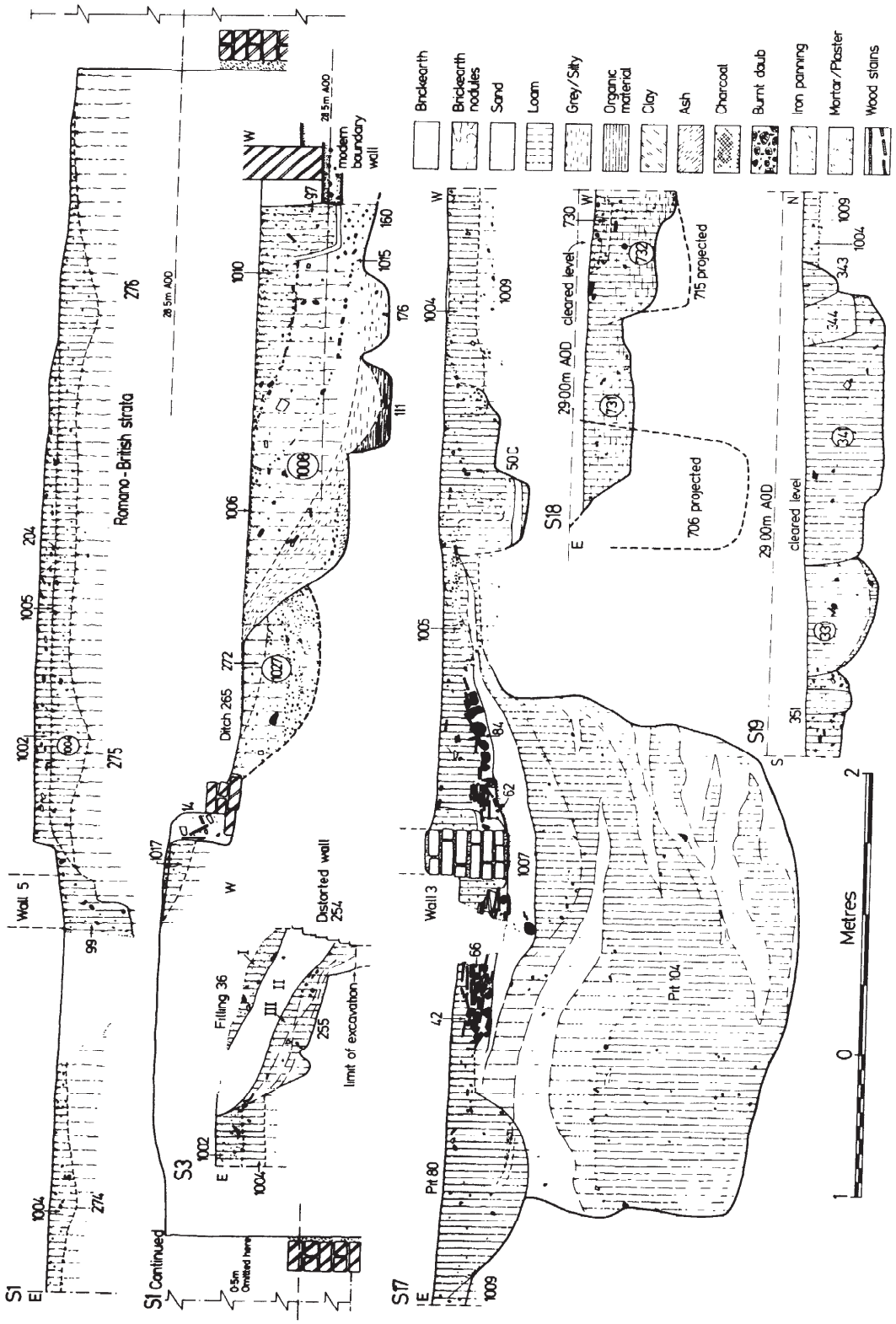

Fig 15 Site S: sections 1, 3, 17–19, showing post-Roman levels only

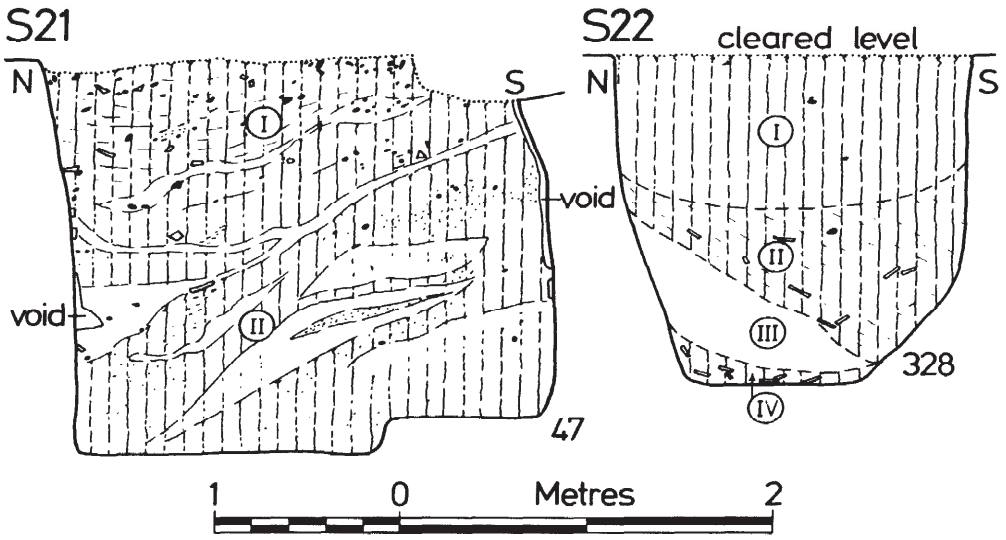

Fig 16 Site S: sections 21-2, through pits 47 and 328. For key to sections, see Fig 15

alongside the quarry pit 104. The smaller, shallower pits (82,88, 117, 165, 172) like the larger ones contained only modest amounts of domestic debris. The line of postholes 63, 101, and 113 may be part of a fence subdividing the plot but the remainder have no obvious relationships. In the rear of the plot there were only two shallow pits (307, 377).

The dating depends on the pottery. Hard, sandy earthenware, which went out of production in the mid 16th century (above, p l), comprises 13.5°, of all sherds from this phase as opposed to an average of 2% in later phases, where it is entirely residual. Correspondingly, there is a much lower than average percentage of the smooth, untempered earthenwares of standard post-medieval type, combined with a relatively high incidence of slip-painting, obsolete by the end of the 16th century. The vessel forms (below, p 67) are consistent with a date in the first half of the 16th century. These apart, examples of 'Tudor Green' (108), and some Surrey-type ware (108, 104, 88), indicate a relatively early date.

Period XI:3; c 1550-1590 (Fig 14)

Along the edge of the hollow-way, a number of irregularly-dug channels, 0.2-0.4m deep, coalesced to form a more or less continuous watercourse. The differences between 123, 127, 111, and 731 may be due in part to sporadic clearance. All were filled with greyish or greenish silt, often with very sandy or gravelly lenses (presumably from road metalling). The steep-sided profile of 111 (Fig 15, S1), which contrasts with that of 127/731, suggests that for much of its length its sides were retained by planks. This may indicate the point of access to the plot.

No features connected with the putative frontage buildings can be assigned to this phase. To the rear, however, the zone identified in Period XI:2 continued to be the focus of activity. A layer of brickearth 1007 was laid over the filled pits 104 and 108; in places its upper surface, and that of the adjacent levels, had been reddened by heat (62). It seems likely that 1007 is the floor of a timber building of which no structural trace survives; its position is consistent with its being a kitchen, quite possibly burnt down, since the areas of burning do not suggest hearths.

To the north were two pits: 174, c 0.6m deep, and 102, c 0.2m deep, with a deeper part, 103, extending to 0.9m. To the south was a cluster of post- and stakeholes, of which 96 (*c* 0.9m deep) was the most substantial, having contained a post *c* 0.3m in diameter. It ranges with 92-3 and 106, but no function for any of these postholes is evident from their plan or contents.

To the rear, the slot 339, 0.3m deep, with near-vertical sides and flat base, seems to have been dug to take the base of the wall of a timber building. It is approximately parallel to the north boundary of the site, which probably coincides with the line of the other long wall. A gap in 339 indicates an entrance near the centre of the south side. If, as seems likely, 347, also 0.3m deep, was connected with the structure, a second smaller entrance is indicated at the west end of the same wall. The building probably extended to the east site boundary, by now apparently sited to the east of the Period XII:2 ditch, probably on the line of the present boundary. If so, the overall dimensions of the timber building would have been c 5m x 20.5m. The weight of the roof would obviously be carried wholly on the long walls, the gables merely supporting their own weight. If so the lack of a foundation trench for the west wall is explicable.

To the south of this building lay feature 328, *c* 2.05m deep (Fig 16, S22), with a rectangular base 1.8 X 1m, and access facilitated by steps cut into the eastern end. It is tempting to see it as a saw pit; *cf* an early 15th century one at Barton Blount, Derbyshire (Beresford 1975, 44-5). Its filling produced a remarkable range of pottery and metalwork. The complex of pits 302, more than 1.5m deep and filled largely with dark pebbly loam, by contrast was almost sterile; they may be daub pits. Three pits were found adjacent to the southern boundary of the site. Features 725 and 737 were steep-sided (1.35, 1.5m deep), whilst 704 was larger, with more gently sloping sides.

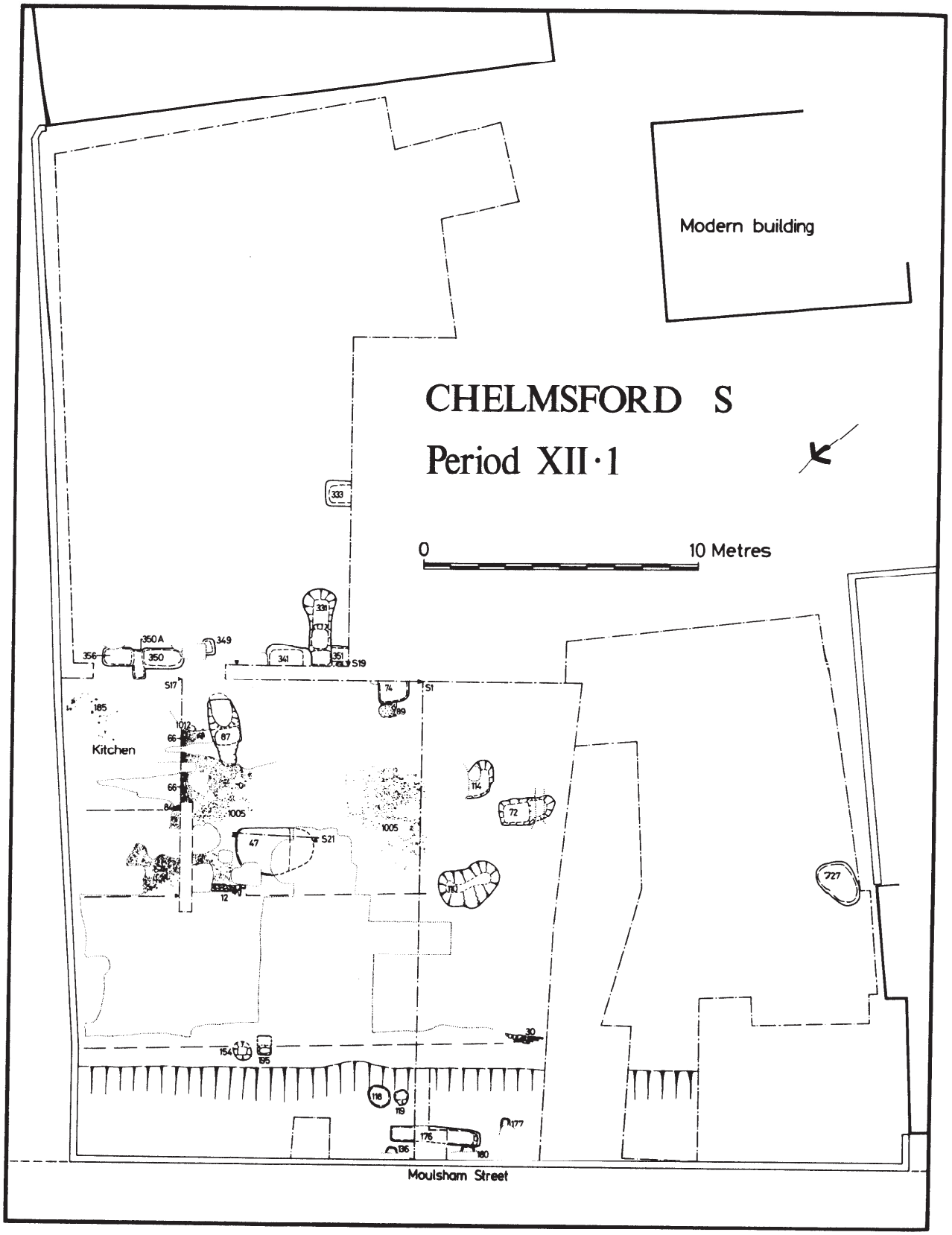

Fig 17 Site S: features of Period XII:1. Scale 1:200

The presence or absence of clay pipe fragments is crucial in distinguishing between features of Periods XI:3 and XII:1; they are absent from the former, eg 328, but generally present in the latter. The single glass vessel (339; Fig 38.1) is typical of the later 16th century. The deposition of the sword-belt fitting, stylistically of c 1540, in 328 (Fig 26.5-7) similarly supports a later 16th century date. The evidence of the pottery is consistent with the other finds. Frechen jugs with cylindrical necks are most numerous, at the height of their importation. Local coarsewares show that the sandy earthenware has given way completely to the smooth redwares, now appearing in an increasing variety of forms (p 74).

Period XII:l; c 1590-1630 (Fig 17)

The silted channels of XI:3 gave way to a group of features all filled with pebbly silt. The slots 176, 136, and 180 (0-l-0.4m deep) seem to define part of a structure; if so their silt filling could be explained by the fact that any feature left open on the edge of the hollow-way would rapidly fill with such silt during heavy rain. Slot 177 was similar to those adjacent; 119 was clearly a posthole but 118 merely a shallow pit.

As in earlier phases the site of the main building seems to be indicated by an area without evident features, save for two substantial postholes (154, 195) on the frontage. Finds suggest that they were filled towards the end of the phase; they may have held temporary supports connected with alterations to the building.

To the east, the remains of foundations for timber cills were found, built of tile fragments (66) on flint cobbles (84), all set in a brickearth matrix and *c* 0.3m wide (Fig 15, 517). They probably represent the south and west walls of a small building detached from the main house, a successor perhaps to the putative Period XI:3 kitchen. Similar foundations, 12 and 30, but of tile only, suggest extensions to the main building, whilst the area between the kitchen and house was sporadically metalled in gravel (1005), more solidly in places (1012). At the end of the phase the tile wall 66 was partly levelled, and the hollow above the subsiding Period XI:2 pits (to which it owed its survival) became filled with dark loam 42 (Fig 15, S17); the flint scatter 185 may be associated with this. The patch of brickearth and tile 89 resembled the tile foundations. A fragment of a Colchester Ware louver (Cunningham 1984, 211) was found in the filling of pit 47, and another in the Period XII:2 pit 50, to the south of this building, raising the possibility that it was used on the roof, despite its undoubted origin in the later 13th or 14th century. Other fragments of the same object were widely scattered across the site (1008, XII:3 and 1002, XIII:1, the former joining those from 47).

Feature 47 (Fig 16, S21) was 2.4m deep; very loose fill in the corners, and frequent voids of *c* 30mm between the filling and the sides, indicate that it was lined with timber. Pit 87, filled with loose brown clayey silt, had a curious plan, the main section being *c* 0.75m deep and the eastern, undercut section *c* 1.60m deep. Pits 72, 74, 110, 114, 333, and 727 varied from 0.3 to 1.5m in depth and except for 110 were all more or less regularly cut. Features 350, 350A, 356 (0.35, 0.25, 1.15m deep), and the successive 351, 331 (0.5-0.7m deep), and 341 (Fig 15, S19) fall neatly in a line and may be structural. The lack of any features further east attributable to this phase probably indicates the cultivation of the land at the rear of the plot.

The earliest occurrences of clay pipe fragments, including a bowl dated *c* 1580-1610, provide a *m-minus post quem* for Period XII:l. The three Nuremberg jettons from 47 are residual. The glass beaker bases, however (eg Fig 38.2) are consistent with an early 17th century date. The pottery assemblage includes early 17th century delftware. The local smooth red earthenwares show a marked decline in slip-painted decoration, and the occurrence of black-glazed drinking vessels is greatly increased. Seventeenth century southern whitewares also begin to appear, including the tripod hollow-rod handled pipkin (Form C10).

Period XII:2; c 1630-1670 (Fig 18)

Within the hollow-way, the silt-filled features 177A and 179 (*c* 0.2m deep) are assignable by their contents to this phase, as are the pits 715 (0.45m deep; Fig 15, S18) and 706 (0.85m deep). The pipes of large square posts (filled with loose loam) were discernible in postpits 207 and 223 (0.4, 0.65m deep).

A cellar, 8, was incorporated into the main building, although whether on the occasion of a major reconstruction or as a discrete operation it is impossible to say. This remained in use until the demolition of the buildings in 1968, and was at that time filled with rubble and its walls extensively damaged. Not all of this debris was removed during the excavation, so that the lower parts of the walls were not fully examined. The east and west walls were one and a half bricks thick, the remainder being one brick thick, all laid in Flemish bond in loam containing little if any lime. A significant construction trench was apparent only behind the north (11) and south (25) walls, the latter being partly filled with broken headers set in a deliberate fashion behind the wall proper. The main entrance 22 was apparently an original feature, although much repaired, especially the treads of the steps. In the west wall was an opening 0.93m wide, originally flanked by half brick return walls, cut off when the opening was blocked in Period XII:3. Its till and the base of the adjacent cutting extended to 0.7m below ground level. The base of the cutting (190) stepped upwards 0.3m at 0.35m from the face of the cellar wall, and was filled with brick rubble. It seems likely that the opening was a window, with a small light well in front.

The north and south walls of the eastern recess of the cellar were abutted to the main walls, but seemed by their similarity of construction to be contemporary with it; the opening in the main east wall showed no sign of having been cut through a completed structure. The recess walls continued eastwards to line the sides of a stepped opening 255, probably a light, blocked in Period XII:3 by wall 254 (Fig 15, S3). The pit 46 (0.55m deep) contained many brickbats, and seems to have been dug adjacent to or in connection with the construction of the cellar wall. Extending the line of the main cellar wall northwards was the brickearth bedding 256, probably the base for a brick plinth supporting the cill of the timber building above.

Activity behind the main building continued, but there were no surviving traces of a building on the site of the earlier putative kitchen. The pit complex 50 was generally *c* 0.3m deep; the deep (1.5m) section, 50a, had a very

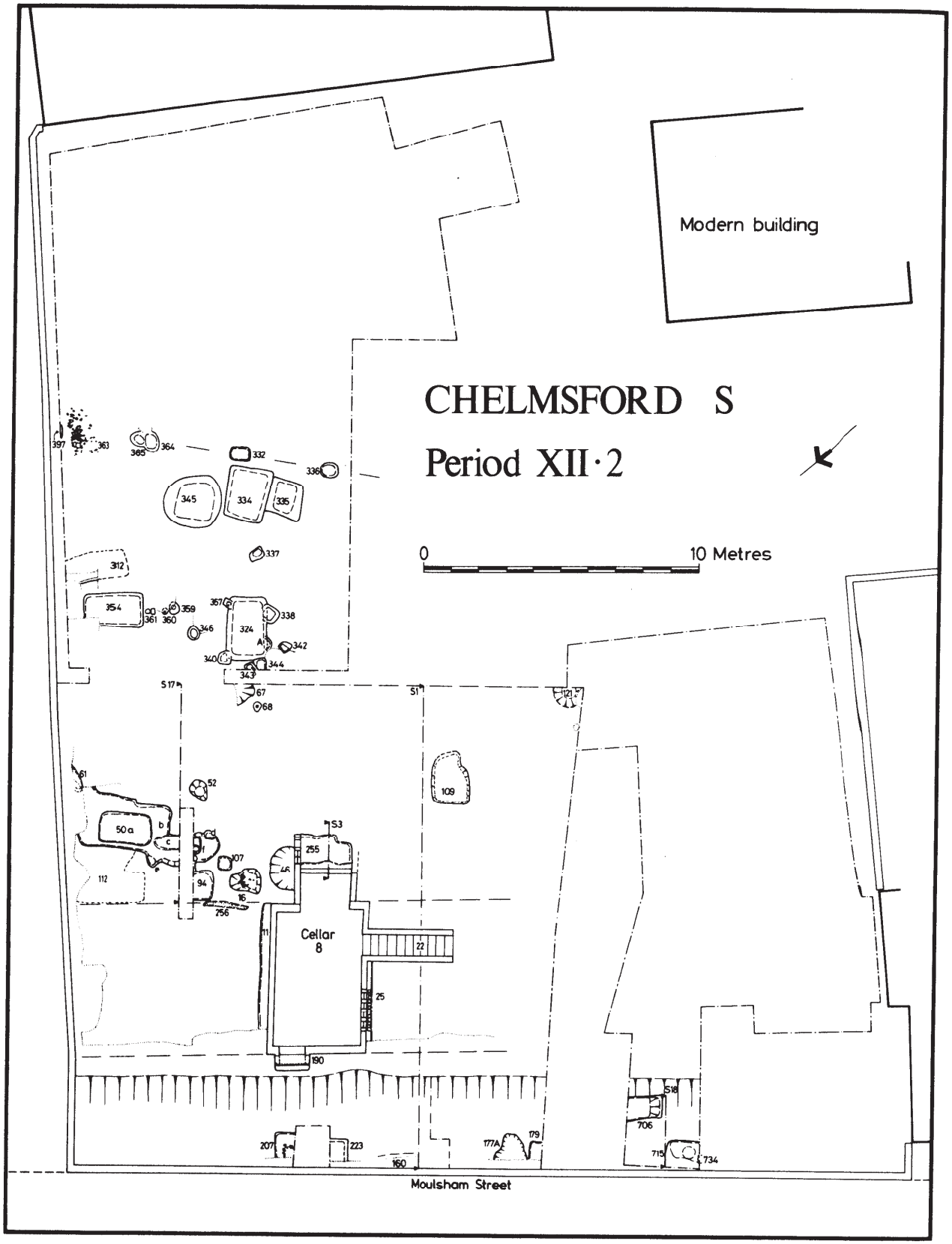

Fig 18 Site S: features of Period XII:2. Scale 1:200

soft filling in the corners, suggesting a timber lining. The slot 50c (0.55m deep; Fig 15, S17) probably held timber. It, and other parts of 50, probably originated when the gravel metalling 1005 (XII:I) was still in use; 50d-f were probably postholes. Features 94, 112, and 61 were probably associated with 50. Feature 16 was 0.25m deep, filled with brick and tile fragments, flints, etc in a loose silty matrix.

To the east lay a cluster of subrectangular pits (?67, 312, 324, 334, 335,345, 354, 0.7-1.2m deep) filled with brown loam, admixed with domestic and building debris, generally including ash and coal. They appear to lie along a fence defined by postholes 332, 336, 364-5, and 397, on an alignment first seen in Period XI.2, between postholes 63 and 117 (whose filling was quite different from the later ones). A concentration of flint cobbles, stone, and pegtile fragments, 363, between 365 and 397, seems likely to be metalling thrown down in a gateway. The southern part of the site showed little sign of activity, save for the pits 109 and 121.

Only a few clay pipes within this date range *(c* 1640-60) were recovered from contexts associated with this phase. The lack of substantial pit groups reduces the usefulness of the pottery as dating evidence, but the assemblage is entirely consistent with a mid 17th century date. The appearance of Weser and Werra wares, current until the mid 17th century, is relevant. The presence of Group IV bricks (p 37) in features of this phase, and many filled at the end of XI:1, provided a valuable horizon across the site.

Period XII:3; c 1670-1700 (Fig 19)

In this phase, the main building on the street frontage seems to have been reconstructed. The front was carried on a low brick sleeper wall, 14, one brick thick, set in a hard lime mortar. In the centre, this rose from the rebuilt top of the west wall of the Period XII:2 cellar, and was integral with the blocking of the light 190; to the north and south it was carried on a single course of footings set in a construction trench, backfilled with brickearth mixed with tile and brick fragments (Fig 15, S1). At the southern end it terminated in a one-and-a-half brick pier returning eastwards. On the east , the cellar light 255 was blocked by the insertion of wall 254, set on a ledge in the brickearth and once probably set behind an earlier east wall which extended only to the cill of the light, although if so it had been destroyed by the time of excavation. Subsequently the internal walls of the cellar were plastered, and the former light well filled with 36 (Fig 15, S3). The north wall of the light seems to have been utilized in the reconstruction, since its line was continued by postholes 26 and 81. To the north, the east wall of the main building was probably marked by 10, a partly destroyed single course of bricks and rubble like those of the cellar, set in a weak lime mortar.

The hollow-way in front of the building now began to be filled. A slight gulley on the frontage, 160 (Fig 15, Sl), became filled with a silty loamy gravel with much sand, 1015, which also formed a general deposit in the hollow-way. To the south, 730 was essentially similar, the filling of a shallow gulley continuing the line of 160. Above this, 1008 (Fig 15, Sl), consisting of brickearth, sand, and some gravel, was deposited (largely by dumping ?) and capped with sporadic gravel metalling. This abutted the gulley 97, in part probably plank-lined (Fig 15, Sl). The shallow postholes 83, 152, and 193 were cut into 1008.

A structure built primarily of massive posts, represented by the pits 71, 40, 55, 57, and 64 (0.45-0.7m deep), was constructed around a shallow well or tank 54, 1.6m deep and lined with mostly fragmentary Group I bricks (p 37). It was filled with loose brown loam with brick fragments and some ash, as were the postpits. Posthole 56 (0.5m deep) seems to be associated with the structure, although evidently not part of its wall. The building did not extend as far as the southern part of the excavated area. The filling of the features associated with it merged into a single deposit (53-58) filling a hollow overlying them.

In the immediate vicinity of the rear of the building there was only a broad shallow pit 80 (Fig 15, S17), and three postholes (65, 73, 85). Further east, features 321, 329, 330, and 348 seem from the plan to be related, and even connected with a structure, but their depths do not support this conclusion, since 348 is very much shallower (0.25m) than the others (0.64-1.0m). Features 398-9 were similar to 348, the latter being cut by pit 311 (0.9m deep). 316, 319, 366, and 375 seem to have formed part of a fence within the backland, and 315, 326, and 382 part of another on the east boundary.

This phase is more reliably datable than XII:2. Pit 330 yielded a group of wine bottles ranging in date from the 1670s to the 1690s. A large group of tobacco pipes from 54 and 53-58 is dated *c* 1660-80. This agrees with the evidence of the pottery, which shows that delftware and Surrey wares are common; the stoneware includes Westerwald of characteristic late 17th century type. Chamber pots also appear in this phase.

Period XII:1; c 1700-1730 (Fig 20)

In front of the main building, the hollow-way filling 1008 and earlier levels to the east were truncated to form a terrace approximately at the level of the footing course of the wall 14, with a slight fall towards the street. As part of the same operation the pebbly, silty loam 1010 was deposited, filling the Period XII:3 gulley 97. To the south, beyond the baulk, the place of the make-up 1010 was taken by the yellowish-brown clayey silt 1056, encountered immediately beneath modern disturbance. On the terrace a sporadic metalling of gravel with brick and tile fragments, 1006, was laid (Fig 15, Sl).

Few features to the east of the main building belong to this phase. The only pits were 313 and 317. The remaining shallow postholes form no evident structures, but are aligned differently from those of XII:3. Those which produced no significant dating evidence have been phased on the basis of their alignment.

The general deposit of light brown to grey silty loam 1002, which accumulated around the main building, above the Period XII:1 metalling 1005 and the buried soil 1004, contained little material later than the middle of the 18th century. However, it had clearly been accumulating since the beginning of Period XII:1, which should be borne in mind in evaluating the many artefacts found in it, which comprise the majority of artefacts attributed to this phase. The latest objects in 1002 clearly indicate a terminal date in the earlier 18th century. The two groups of tobacco pipes contemporary in this phase

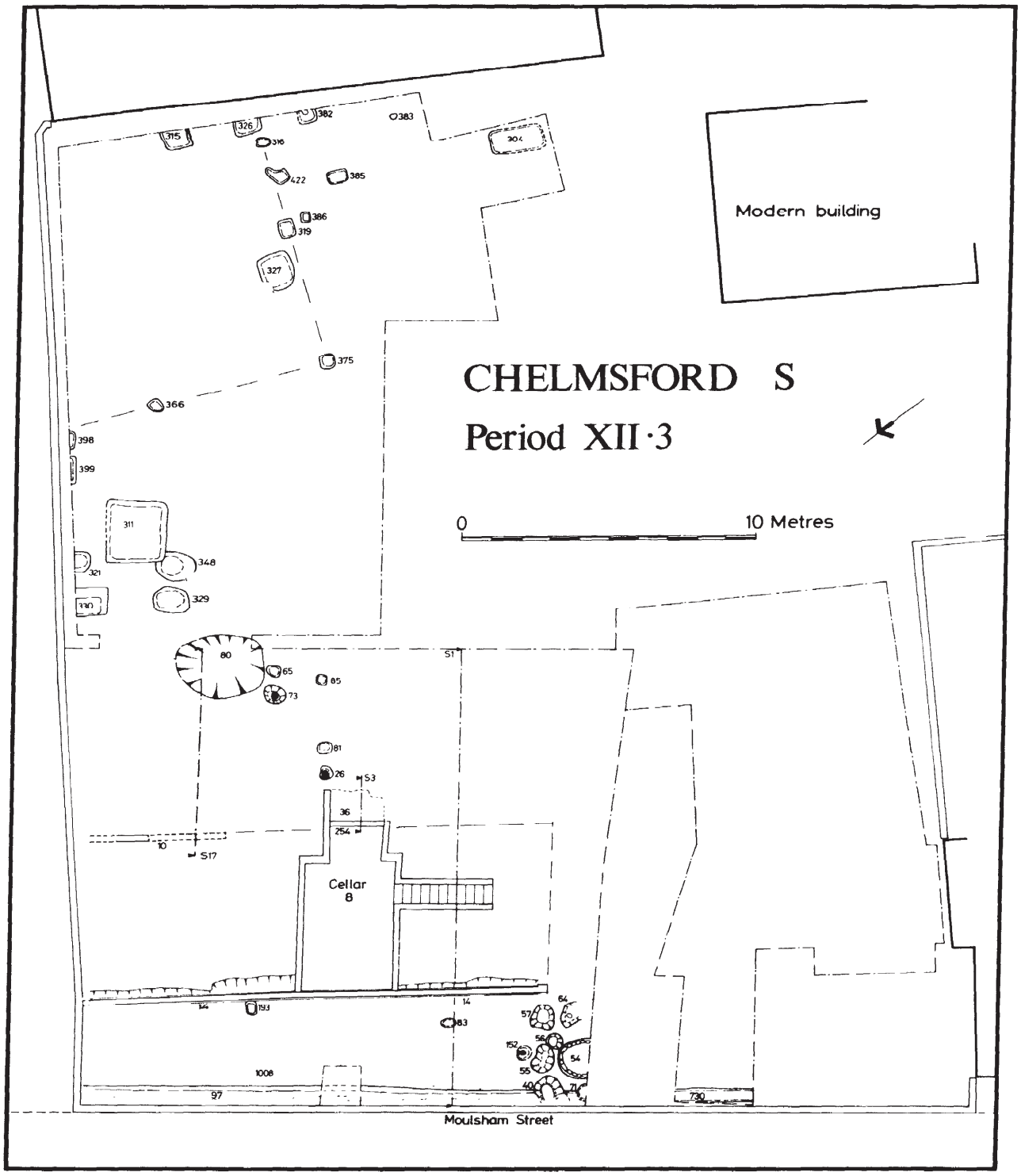

Fig 19 Site S: features of Period XII:3. Scale 1:200

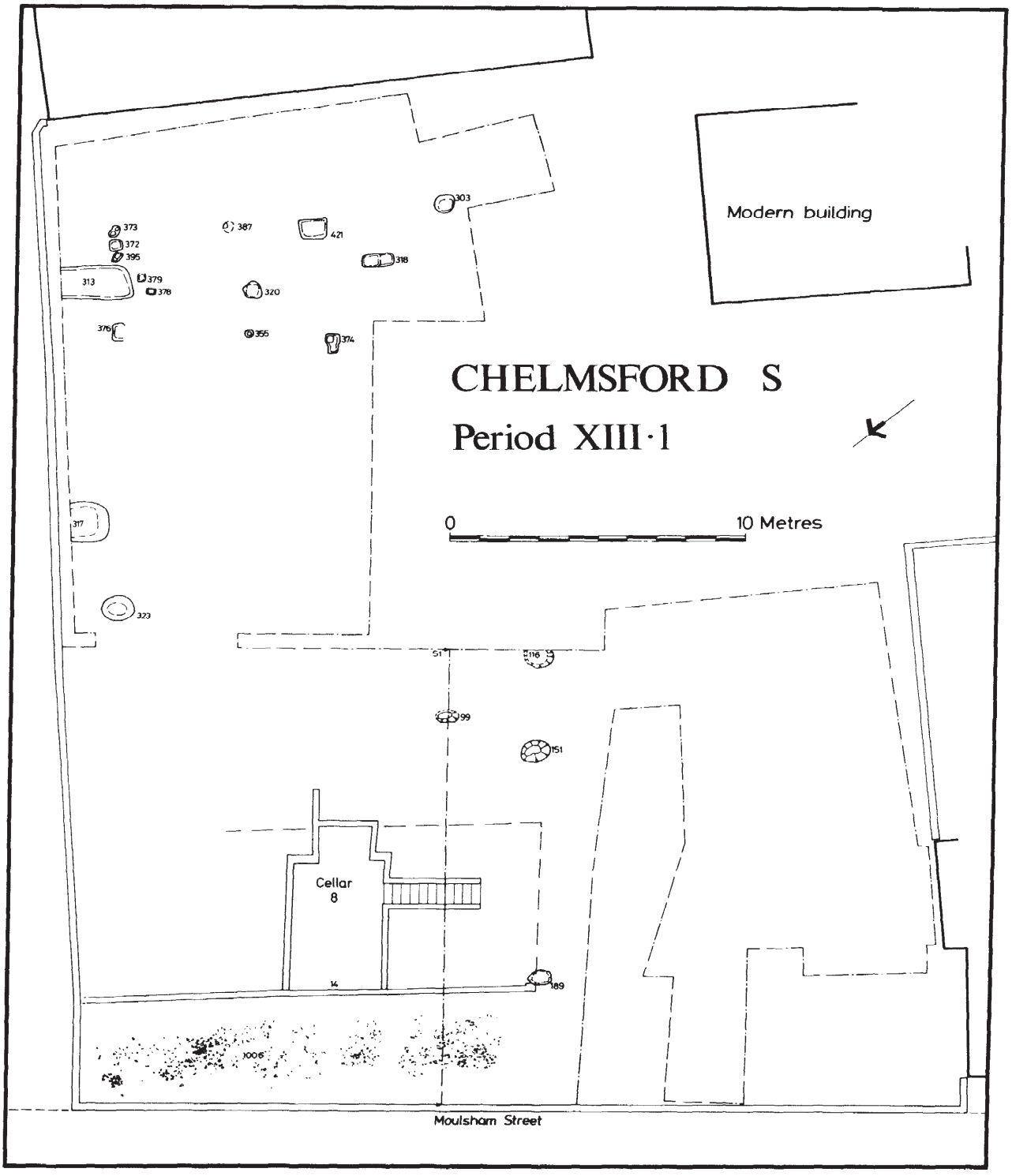

Fig 20 Site S: features of Period XIII:1. Scale 1:200

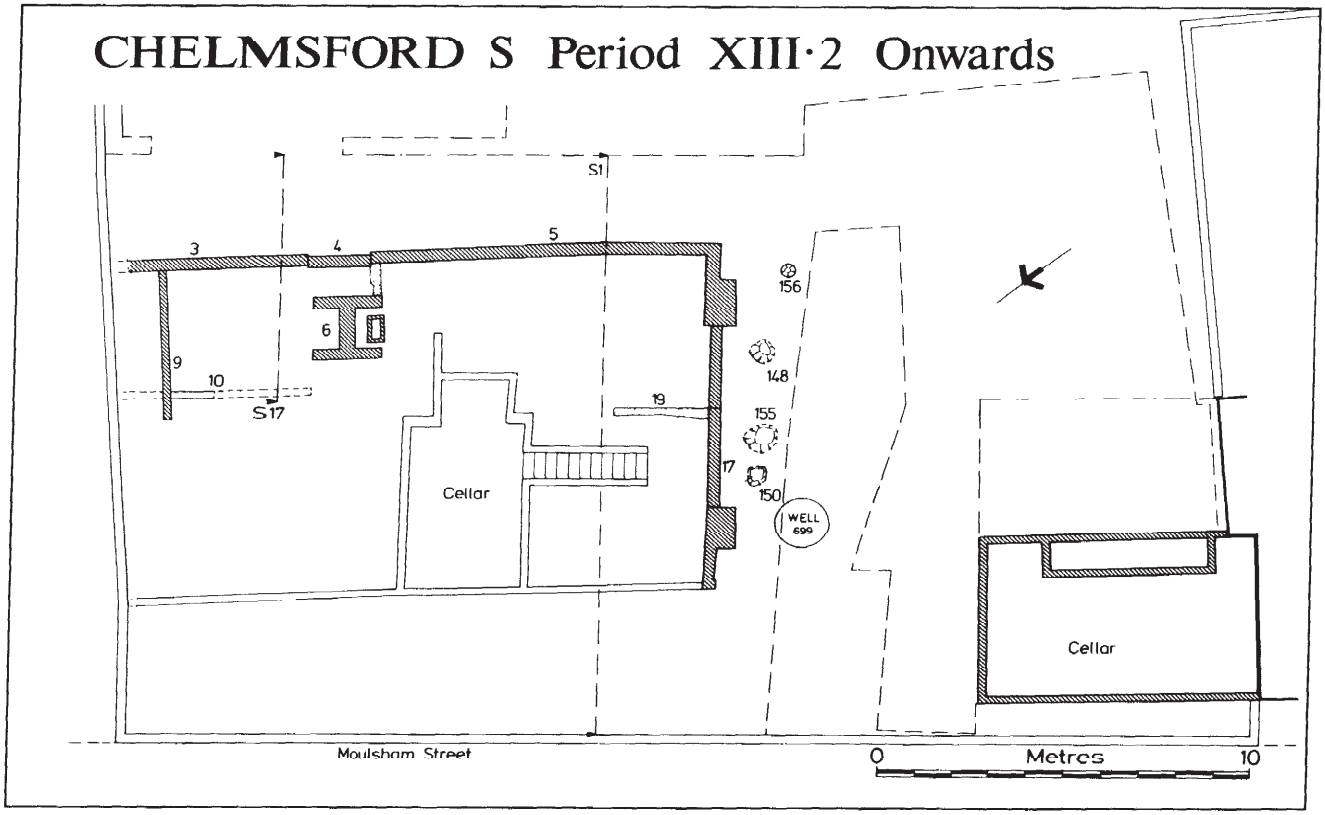

Fig 21 Site S: features of Period XIII:2 onwards. Scale 1:200

are dated *c* 1680-1710 and *c* 1700-40. The glass bottles have the shorter necks and dumpier bodies of the late 17th and early 18th centuries. All coins and jettons are residual, with the exception of the coffee house token (1006, p 40, 30) and a jetton (1002, p 40, 17) both of *c* 1700. A wide range of 18th century ceramics appears and flatware forms such as plates first become common-Gault clay floor tiles (Group III, p 39) occur for the first time.

Period XII:2; The later 18th *century* (Fig 21)

Apart from a few very recent instances, the digging of substantial pits on the site appears to have ceased after the end of Period XIII: 1, and few artefacts were recovered in useful contexts. Indeed there were few disturbances which penetrated below modern garden levels, so here we are concerned only with the later structural development of the building.

The rear (east) wall was marked by a foundation generally one-and-a-half bricks thick, not well aligned and in three distinct lengths (3-5). Wall 3 was of Group V bricks (p 37) set in a hard white lime mortar. The foundation 9 was one brick wide and deep, of similar bricks and mortar as 3 and probably contemporary with it. It cut the foundation 10, which was rebuilt to the north of the junction. Wall 4 was of Group IV bricks (p 37) set in a soft brown mortar. The chimney stack to the west of it, 6, incorporating an ash pit, was of exactly similar construction, as was the mortar bed of a foundation linking it to wall 5. Wall 5 itself was of very mixed construction, as was the one-brick-thick wall 17 on the south, incorporating brick rubble and tile fragments, set in a weak lime mortar on a spread of sand. A similar spread, 19, marked the site of a contemporary internal partition.

It seems probable that the foundation walls 3, 5, 17, and 19 represent the piecemeal underbuilding of the cills or reconstruction in brick of a timber-framed structure. Foundation 9 may, from its severance of 10, mark a new internal partition. The stack 6 and the contemporary wall 4 may be the only sections of the eastern part of the building to have been built in brick from its inception; there was no clear sequence between 4 and 3 or 5.

Outside the building on the south was a well, 699, which remained in use until recent times. On the southern part of the frontage of the site, a substantial structure was built, over a cellar of 9in brick walls, which shares a common wall with the buildings to the south. A fence incorporating postholes 148, 150, 155, and 156 seems to have separated the two properties. The forecourt in front of the western building was further made up with orange hoggin which survived under the modern garden soil.

3 Documentary evidence and the development of the site

Entries in the court rolls of the manor of Moulsham show that sporadic development along the Moulsham Street frontage of *Shoprows* field (Pl I) had begun by the late 14th century. Probably by the middle of the 15th cen-

tury a continuous strip along the frontage had been enclosed and divided into plots (Drury 1981a, 54). Since the ceramic sequence on site S begins *c* 1500, we must assume that some plots remained undeveloped for a time, or that large plots were later subdivided. Unfortunately, it has so far proved impossible to trace the excavated plot in the Court Rolls before the early 17th century. John Walker's map of Moulsham, 1591 (Pl I; Essex Record Office (henceforth ERO) D/DM P2) shows the layout of the frontage at that date; the main boundaries have been transferred to Fig 12C, showing that the excavation encompassed the whole frontage and about three-quarters of the area of one plot. Walker shows the frontage as being largely occupied by a single house, but in reality the house in Periods XI:2 and XI:3 seems to have occupied only the northern part of the plot. Clearly the relative scale of the building is exaggerated, but studies suggest that, with the possible exception of some closely-packed urban frontages, Walker attempted to depict the buildings on his maps accurately rather than schematically (Newton 1969; 1980, 125).

The building shown on the excavated plot has a continuous ridge and is perhaps of three bays, with a door at the northern end and a single chimney stack a little to the south of it. Any stratified deposits relating to this house had been destroyed in demolition (if they ever existed), its site appearing essentially as a blank space on the plans of Periods XI:2 and XI:3 (Figs 13, 14). Clearly, therefore, it did not rely on earth-fast timbers for support; it was box-framed.

Hewett (1973a) has described a number of smaller medieval houses in Essex, having under a continuous ridge a two-bay open hall flanked at one or both ends by storied bays, the upper chambers probably being lit by a window in the gable end. Such an arrangement would seem to suit the building shown by Walker, with a hall to the north and a storied, parlour/chamber bay to the south. Hewett dated such buildings between the later 13th and 17th centuries, so it is reasonable to suggest that, despite alterations *c* 1590 (below), the house drawn by Walker was in essence that erected around 1500, when the site was developed. The map (Pl I) shows that buildings of this type formed a substantial proportion of houses on the southern fringe of Moulsham in 1591, interspersed with more substantial, fully two-storied buildings. That to the south of the excavated site survives encased in later reconstructions; a carved fascia, mounted on the modern elevation, bears the date 1579. The excavated building, however, was no hovel; finds from early 16th century, Period XI:2, features suggest that from the outset at least some windows were glazed (p 39), and some unglazed tiles were used on the floor (p 38). Like almost every building in Moulsham, its roof was tiled, at least by 1591, Walker distinguishing between thatch and tile by the use of red and yellow wash on the map. This agrees with the archaeological evidence (p 37).

The ditch 325 which initially separated the frontage plots from *Shoprows* to the rear was evidently filled by the mid 16th century and replaced in Period XI:3 by the fence shown on Walker's map. The clay floor 1007, extant in XI:3 and perhaps originating earlier, seems to have belonged to a detached kitchen (p 23; cf Hewett 1973b). The position of this area in relation to the house, making it easily reached from a rear door opposite that shown by Walker, and the concentration of small pits, are consistent with such an interpretation. In contrast to both house and kitchen, a shed with a floor area of *c* 90 sq m built against the northern boundary of the plot seems to have had cills set in trenches dug into the ground. Of note in connection with the construction of the Period XI buildings are the probable daub pits (104 and 108) and saw pit (328), the latter perhaps connected with the construction of the shed.

The shed seems not to have survived into Period XII:1, although it is possible that it was replaced by a framed building on the same site, this leaving no trace detectable in excavation, unless 350 and 356 are connected with it. A small building of similar construction, perhaps a booth or stall, about 3.2m wide, was erected in the hollow-way (Fig 17, Features 136, 176, 180). The putative kitchen was rebuilt, its cills now supported on low walls of flint pebbles capped with tile. The foundation (12) of a small projection to the rear of the house (perhaps the chimney stack), and another foundation 30, suggest the lines of possible front and rear walls of a house *c* 5.5m wide. The area to the rear was partly metalled, and the pit 47 may well have served as a garderobe reached from inside the house.

Brick fragments first appear on the site in Period XII:1 contexts (p 37), and Walker shows a brick chimney stack in a position which would suit the foundation 12. His depiction is probably accurate, for he distinguishes between brick chimneys (red, with enlarged capitals) and chimneys presumably of wood and clay, generally rising-from a thatched roof (yellow, with no capital, as in the south-westernmost house on P1 I). It seems likely, therefore, that there was some reconstruction of the house at the start of Period XII:1 *(c* 1590-1630) and that this involved the provision of a chimney stack on the east wall, probably replacing a central hearth. If Walker can be relied upon, the stack had been built by 1591, dating the reconstruction, using both the documentary and archaeological data, to *c* 1590. But since Walker shows only two windows and a door in the Moulsham Street elevation, the southward extension implied by the foundation 30 may have been carried out a little later.

Evidence for the trade of the occupier in Period XI:2, *c* 1500-1550, is sparse. The occurrence of the culinary mould (Fig 48.1) and what may be an oven component (Fig 48.7B) in contexts of this period, together with fragments of similar or related objects (Fig 48.2,3,5,7A,8) scattered through, and perhaps residual in, later contexts, may be significant. These objects are relatively rare in the town, and such a concentration may suggest professional use, by a pastry cook, rather than stray items from a domestic kitchen. Also possibly related to an occupier's trade is the tooth from a heckle, used to prepare wool or flax fibres (Fig 31.4). The relatively large number of jettons of this period (although most are from residual contexts; p 40) and the tile tallies (p 81) seem indicative of commerce of some kind.

In 1633, Thomas Monke, a cordwainer, acquired a tenement, which can be shown by its later descent to be the excavated one, from George Cooke, a shoemaker. It was then in the occupation of George Cooke senior, his father (ERO, D/DM M41). Grace Monke and her two daughters took over the property on the death of her husband Thomas in 1639; his will (D/ABW 56/126) describes it as 'my twoe Coppie hold Tenements'. The division may have stemmed from the evident southward extension of the house in Period XII:1. From the documents it is thus possible to state that during at least the latter part of

Period XII:1 the property was occupied by the father of a shoemaker. The archaeological evidence, principally in the form of copper alloy objects incidental to leatherworking, makes it reasonable to suggest that Cooke senior was also a shoemaker, that his business extended into associated fields, and that such a business had been undertaken on the site during most if not all of Periods XI:3 and XII:1, ie *c* 1560-1630.

The relevant tools comprise a stiletto for making eyelet holes (Fig 31.7), an awl (Fig 31.5), and an unusually large number of knives, although none are of specialized form (Fig 31.13-14, 16-17, 20, Fig 32.26-27, 29, 33 in XI:3; 31.15, 18, 21, Fig 32.23-24, 28, 30, 34-35 in XII:l). There is a substantial quantity of metal fittings associated with leather goods generally, for example buckles (Fig 26.9-11, 13-14; Fig 34.70, 73, 75, 77-78), buckle and strap-end plates (Fig 27.17-19), a belt hook (Fig 34.79), sword-belt fittings, evidently rather old (p 43), chapes and scabbard fittings (Fig 34.84-86), mail (p 57), and horse equipment (Fig 35.91-92, 94-95). There are also many offcuts of copper alloy sheet, used to make strap-ends and to bind leatherwork generally (p 50).

Manufacture, or at least repair, of leather personal and horse equipment, and probably dealing in such items, seems probable. Such trading seems to have extended further, to include items like purses (Fig 27.28-30; Fig 34.81-83) laces (p 47), and brass pins (p 47), lace ends and pins being especially common finds in contexts of Periods XI:3 and XII:1.Despite the occurrence of pinner's bones, it seems probable that the pins were manufactured elsewhere, since there are no offcuts of wire of comparable size or composition, although some manufacture of objects from wire seems likely. If so, the pinner's bones were presumably used for polishing or sharpening the pins. On balance it seems likely that the latter were sold, but as Mr Caple suggests (p 50), they could be indicative of a pin-using trade, like dressmaking or haberdashery. In this connection, the lead cloth bale seal (Fig 30.85) and the shears (Fig 32.38 from F47) could conceivably be significant. It is probable that many objects from later contexts also derive from activity in this period.

The archaeological evidence suggests that the nature of this activity changed somewhat during Period XII:2, from about 1630 onwards, perhaps corresponding with the acquisition of the property by Thomas Monke in 1633. There are fewer metal objects associated with leatherwork, and the number of lace ends drops to a level consistent with domestic losses. There is some copper alloy casting waste (p 50), though no real clue to what was being manufactured. The number of pins found is still much higher than one would expect were they not associated with a trade.

During Period XII:2 there were also changes in the layout of the site. The rear part of the plot was fenced off from the remainder. This, and the absence of any contemporary features (pits or postholes) from the southern or eastern areas of the site, may suggest that these areas were used for livestock, for instance pigs or chickens, or cultivated. Indeed, some cultivation of the ground within such a large plot is likely during the 16th and 17th centuries in general, and is probably reflected in the agricultural tools found (p 51)-a hoe (XI:3), a rake (XII:1), and a sickle (XII:2). A series of pits, both ranged along the eastern fence and nearer to the house, seem likely to be cess pits.

A brick cellar was constructed, almost certainly within an existing building in view of the curious misalignments of its walls. If so, there is no reason why it should necessarily be related in any direct way to the superstructure. However, the presence of lights to front and rear suggests that the walls containing them corresponded approximately to the lines of the front and rear walls of the building above. Moreover, the cellar is *c* 3.3m wide between wall centres, and its north wall is *c* 7m from the north boundary of the site. Thus it is possible to suggest that it was inserted directly under the parlour of our putative early 16th century, 3-bay house (p 31), whose north wall would then lie comfortably close to the north boundary of the site. The house would have been approximately 10m x 5.5m, with a floor area of *c* 70 sq m (allowing for one bay having an upper floor). As we have already noted, this had probably been extended southwards in XII:1, a situation evidently confirmed by the position of the stairs provided to the cellar in XII:2.

In September 1651, Michael Grove senior, yeoman, and his wife Susan were admitted to two messuages in the occupation of Grace Muncke and her daughters, on their surrender (ERO, D/DM M42). The property passed to Michael Grove junior on 13 September 1652 (ibid), and remained in the Grove family until the admission of Arthur Palmer of Chelmsford, coachman, and his wife Margaret on 9 April 1670 (D/DM M43). The property was then described as a new-built messuage, formerly two tenements, in the occupation of Michael Grove. By his will dated 27 September 1684 (D/ABR 12/34), Palmer, now described as an innholder, left the 'customary messuage or tenement known by the name or sign of the Crowne with the yard orchard garden and other appurtenances thereunto belonging' to his widow Ann, and Robert Burton, citizen and fishmonger of London. They inherited on his death in the following year. In 1695 it was in the occupation of Robert Greene (D/DGe M52). On 11 April 1705, Simon Eve of Moulsham, Webster, was admitted, upon the surrender of Ann Palmer and Robert Burton, to a messuage, 'formerly an inn called the Crown: in the occupation of Simon Eve (D/DGe M52). By the time of his death in 1712 it was divided into three tenements, in one of which he lived (D/ABR 16/302).

The documentary evidence therefore suggests a reconstruction *c* 1670, followed by use as an inn until about the turn of the century. The start of Period XII:3, dated on archaeological evidence to *c* 1670, is indeed marked by a reconstruction of the main house. The width of the block was increased to *c* 6.4m, its timber framing now being supported at the front on a low brick wall whose line accommodates the wall of the cellar, which was retained from the earlier phase. The forecourt in front of the building was partially made up and metalled, and a post-built structure erected around a brick-lined catch-pit 54. To the rear, the former light to the cellar was blocked. The collection of glass bottles from 330 (p 61), and the assemblage of clay pipes from 53-58 (p 58), associated with the building in the forecourt, seem to reflect the use of the property as an inn in this phase.

The property continued in the Eve family until the admission of Thomas Russe of Chelmsford, apothecary, in October 1740, when it was in the occupation of four separate people (ERO, D/DGe M54). It passed in 1742 to Thomas Bundock, and in September 1749 to Thomas Clapham, a merchant, who had been one of four occupiers in 1742 (ibid), but who was now the sole occupier.

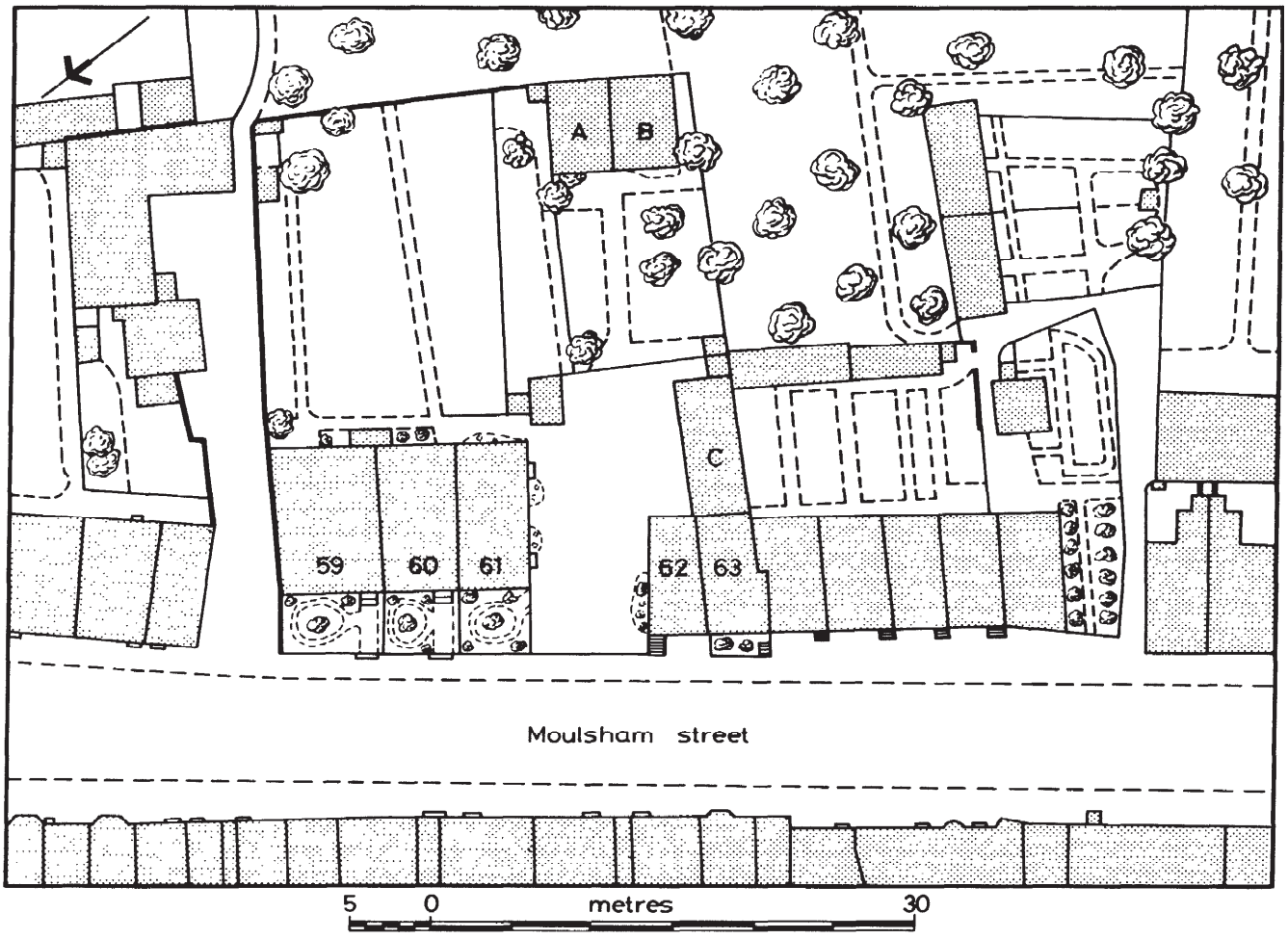

Fig 22 Site S: the site and its vicinity, from Ordnance Survey 120" plans 10 and 23, 1874

The archaeological evidence for this period is sparse, but suggests the continuing occupation of the main house with little significant structural change, despite its evident division into tenements. Early in the 18th century (XIII:1), the forecourt was further made up.

In 1768, the property passed to Jeremiah Armiger [Knight], in 1779 to his widow Margaret (D/DGe M54), and in 1790 to her niece Peggy Row (D/DGe M55), being occupied consistently by a single tenant or Margaret Armiger herself after Clapham's departure. In 1796 it was acquired by Mary Hungate *(ibid),* who was responsible for many changes. From the archaeological evidence it is clear that the messuage was almost doubled in size by the addition of a new range to the rear of the original one. Photographs taken before and during demolition (Pls II-III) show this to have been of two stories with attics, partly of timber framing on a brick foundation, but with the south gable wall built almost entirely of brick. Such structural details as are visible suggest that most of the front block was consistent with the date of *c* 1670 suggested by the documents, but the south bay was, in its roof construction at least, rather later (Pl III). By the time of demolition, and for long previously, the building had been divided into three tenements.

In the late 18th or early 19th centuries a building partially above a brick cellar was constructed at the south end of the plot. Before its demolition, this consisted of two tenements facing the street (Fig 22; Pl IV). Its construction was probably undertaken contemporaneously with the reconstruction of the adjacent property to the south, since its cellar wall served as a party wall (Fig 21).

The documentary evidence helps to date this subdivision. In February 1814, Hannah Evans, widow, was admitted to the southern third of the former Crown, together with 'the entire new erection or addition to the said messuage some years since made by . . . . Mary Hungate' (ERO, D/DGe M56). In April 1828, Susannah Drake was admitted to the 'messuage with outhouses, part of which was formerly used as a lodging house and the remaining part occupied by one Carrington' (ibid). Thus after 1808 the division of the house was clear. The entries in the court rolls relating to Susannah Drake's share of the house suggest that the 'new erection or addition' did not at that time extend across the whole of the original house, but only across the southern third of it. The archaeological evidence of a number of joins in the walls supports this inference. The lack of close correspondence with the documentary evidence is due to the fact that

many of the foundations are the result of underbuildings of timber cills or reconstruction of walls in brick, undertaken at various dates. In 1829 Susannah Drake acquired the messuage sold to Hannah Evans in 1814, on the latter's death (ibid), and reunited the three parts of the Crown. She was evidently a relative of Mary Hungate, and the property was still in the family when it was enfranchized by Thomas Hungate Preston Dennis in 1910 (D/DGe M59). However, it remained physically divided into three separate tenements until its demolition in 1968.

The remaining messuages, 62-3 Moulsham Street, were also separated from the main plot after the death of Mary Hungate. In 1823, Samuel Pulley was admitted to the two messuages (then tenanted) and the strip of land to the north of them (to be divided by a brick wall to be built for the purpose), and to 'two other messuages built by Samuel Pulley on part of the garden ground' of the Crown (D/DGe M56). This seems to suggest that 62-3 Moulsham Street had been built by Mary Hungate, since there is no record of her acquiring them, and that two more were added after her death by Pulley. The four cottages are clearly shown on the 1874 OS map (Fig 22: 62-3; A,B), together with another building between them (C), on the southern boundary of the site. In 1912, and again in 1920, the property was described as 'nos 62-3 Moulsham Street, and also two semi-detached cottages, and also one further cottage at the rear of 62-3 Moulsham Street' (D/DGe M60), explaining the purpose of the additional building. All fell victim to slum clearance legislation before 1960.

4 General conclusions

The history of the site falls into two distinct phases. During the 16th and 17th centuries, there seems to have been a single house within the plot, surrounded by outbuildings and a garden or orchard. The house served as the residence and place of business of an artisan, trader, or, in the late 17th century, innkeeper. Documentary evidence tells us that during the 17th century it was normally occupied by the copyholder or a member of his or her family, and sub&vision of the house into tenements seems to have occurred only to accommodate different generations, for instance when it was held by the Monke family. There is no reason to think that the situation was not similar in the 16th century.

However, after 1695 it was frequently occupied by a tenant or tenants of the copyholder, and the main building was permanently divided into three tenements around 1800, probably by Mary Hungate, who seems to have been responsible directly or indirectly for the erection of four other tenements within the curtilage, to which a fifth was added probably soon afterwards. She was the last copyholder to live in any of the tenements on the site. There is neither archaeological nor documentary evidence for the use of the premises other than as dwellings after 1705, save that one of the tenements divided from the main building served as a lodging house early in the 19th century.

The archaeological evidence is most prolific, and most useful, for the first of these two phases. It suggests that *c* 1560- 1630 the occupiers' trade extended to the repair and perhaps manufacture of many types of leather goods and their associated metal fittings, and dealing in such accessories as pins, laces, and purses. Unfortunately, we do not know what even the latest of these occupiers called himself, merely that his son was a shoemaker. Such a lack of narrow specialism also emerges from the records of a small proportion of the tradesmen of the larger towns in the early post-medieval period (Pound 1981; Patten 1977; Kerridge 1958, 76-7). Because of the lack of studies of the smaller, unincorporated towns, hampered by the lack of freeman's rolls, the situation in places like Chelmsford is uncertain; but one may suspect that multiple occupations or broadly-based trading of the kind evidenced here were proportionally more common.

Whilst the general layout of the plot and the details of some outbuildings emerge clearly from the excavation, evidence for the detailed plan of the main building was negligible, since by *c* 1500 box-framing had long been usual for houses in the area. The site well illustrates the problems of excavating, or indeed identifying, the remains of box-framed buildings set on insubstantial foundations-frequently, as here, no more than a levelled, de-turfed area of a former field. Undoubtedly, the insertion of modern floors in the buildings, and their removal during demolition and later site clearance, destroyed some evidence, but the remains of the probable detached kitchen, not affected by such activities, are barely less tenuous except where the subsidence of earlier pits ensured the survival of parts of a flint and tile till.

Cills laid in trenches supported the Period XI:3 shed (*c* 1500-1590), and posts set in pits the Period XII:3 building over the catchpit (*c* 1670-1700). The survival of building techniques involving earthfast timbers, even though here evidently only at a low vernacular level, during the later 16th and 17th centuries is significant in connection with 17th century practice in the southern American colonies of Virginia and Maryland. There such techniques were normal for houses, warehouses, and other buildings into the early 18th century. As Carson *et al* (1981, 138) have observed, since the techniques appear over a very wide area in fully developed form within a few years after the first settlements, they must have been imported from England, despite their paucity in the current archaeological record. These structures provide confirmation of the contemporary currency of these techniques here; and it seems that in crossing the Atlantic they rose up the vernacular scale in response to the relative scarcity of time, resources, and craftsmen. Charles (1981; 1982) has drawn a sharp distinction between post-construction and timber-framing. Whilst this is a useful concept in the interpretation of excavated plans, the American evidence suggests a much less clear-cut division. The surviving, fully framed, house at Cedar Park, Anne Arundel County, Maryland, built in 1702, has the undressed bases of its wall posts set more than a metre into the ground (Carson *et al* 1981, fig 4; reproduced in Hobley 1982, fig 12.24).

From the late medieval period onwards, many substantial timber houses were originally provided with masonry cills, and later most surviving timber buildings were provided with them, one or more walls often being completely renewed in brickwork as well, as vulnerable structural members decayed. Thus as here, surviving structural features at ground level are often of very late date, although preserving the lines of much earlier walls. Furthermore, all underpinnings had to be built in sections, to avoid the collapse of the building, and under-building of cills was often undertaken piecemeal as the timber decayed. Often, therefore, they show a complex structural

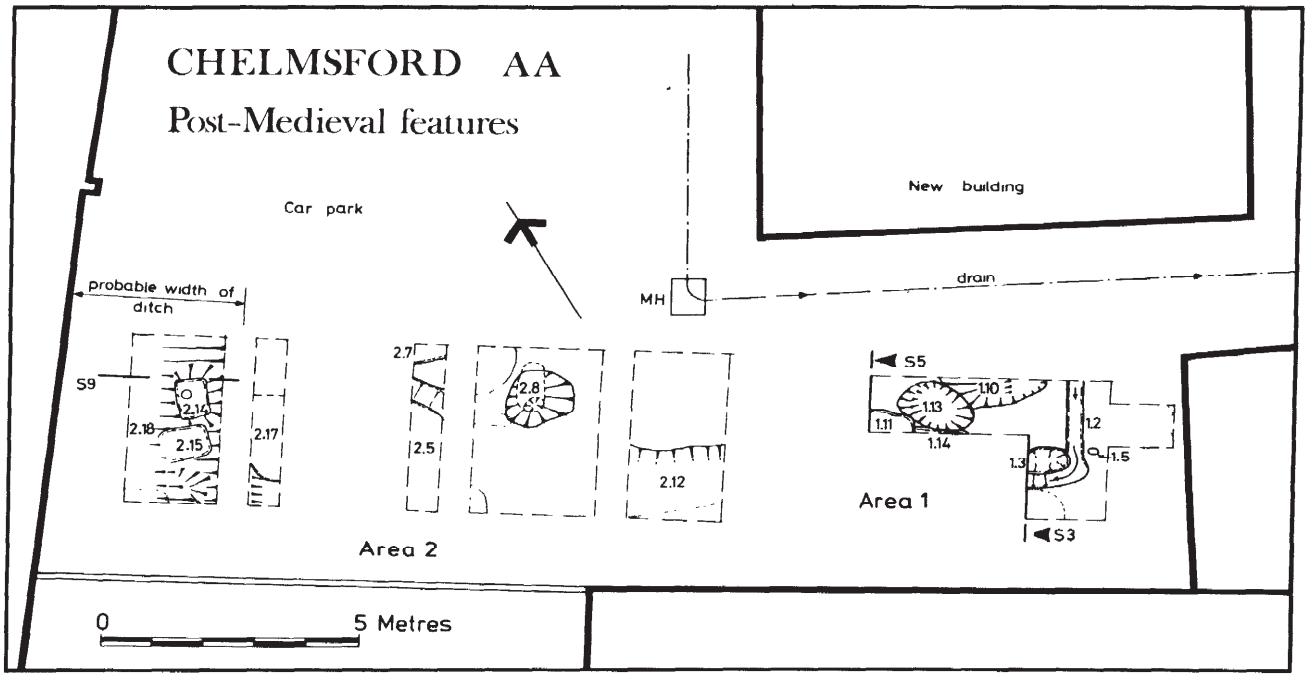

Fig 23 Site AA: general plan of the post-medieval features. Sections 3, 5, and 9 appear in Drury forthcoming a

sequence which is only incidentally related to the development of the building as a whole. For example, the straight joints in the foundation of the Period XIII.2 south wall of the main building had no equivalents in the brickwork above ground, as Pl III shows. Above ground level, temporary ends to the work would be left toothed for the next stage. The only connection between the joints in these structures and the building above lies in the fact that some will coincide, for practical reasons, with principal structural divisions in the building-as does one, for example, in the south wall of the building (Fig 21). The underpinning of cills may be tackled similarly, or more often by building sections l -2m long and the same distance apart; when the load has been transferred to these, the gaps are filled in.

Nonetheless, useful evidence for the date of various changes in building technique and the development of the use of some types of building material (p 37 below) emerges, which provides a valuable adjunct to the study of surviving structures of the 16th and 17th centuries. It also suggests, more clearly than most surviving vernacular buildings, where close dating of phases is often very difficult, a tendency towards substantial reconstruction on an approximately hundred-year cycle. The main house was probably built early in the 16th century (XI:2), much altered *c* 1590 (XII:1), rebuilt *c* 1670 (XII:3) and again *c* 1800 (XIII:2), with the cellar (XII:2) being inserted in mid-cycle.

Site AA: 179-80 Moulsham Street

(Figs 12C; 23)

Excavations in area 1 were undertaken in June 1968, and in area 2 in August and September 1968, on behalf of Chelmsford and Essex Museum, during the refurbishing of 181-3 Moulsham Street and the construction of a car park at the rear of nos 179- 183. Before excavation began, the contractors had lowered the level of the ground behind the buildings, and in so doing had removed virtually all archaeological strata. There remained only a number of discrete features cut into the natural brickearth. Those of post-Roman date are shown in Fig 23; sections of some appear incidentally in the report on the Roman features (Drury forthcoming a).

Sump 1.3 and its associated drain 1.2 were broadly contemporary with site S, XI: 2/13; 1.10, 1.13, and 2.17 with XII:2; and 2.5 with XII:3. Pit 2.12 is 18th century (XIII). Features 1.5, 1.14, 2.7, and 2.8 are of uncertain date within the post-medieval period. Pit 1.11 was filled with coal ash and cinders capped by dark brown loam; a layer of brickearth extending beyond the limits of the underlying pit was associated. The filling contained many clay pipes of *c* 1730-60 marked 'IT' (XIII:2, p 59) and pipeclay, together with overfired brick (Group IV, probably of XII:2 date; p 37) and pegtile fragments, all probably associated with clay pipe manufacture. Pit 2.14 was c 1.5m deep, with a possible post setting 0.07m deep in the bottom, filled with brickearth with intervening layers of dark soil. Mixed in this was clay pipe debris similar to that from 1.11. Pit 2.15 was *c* 1.10m deep, filled with loose greyish-brown loam with fragments of clinker as in 2.14 and 1 .11; greenish-grey stains on the sides suggest a wooden lining. Both 2.14 and 2.15 may have been latrine pits, contemporary with clay pipe manufacture in the vicinity.

The western boundary of the site is in line with that of other street frontage plots to the south-west, and feature 2.18 is clearly the ditch which defined that boundary until it was filled in the 19th century. Why it should have become so large-clearly after pits 2.14 and 2.15 had gone out of use-is uncertain.

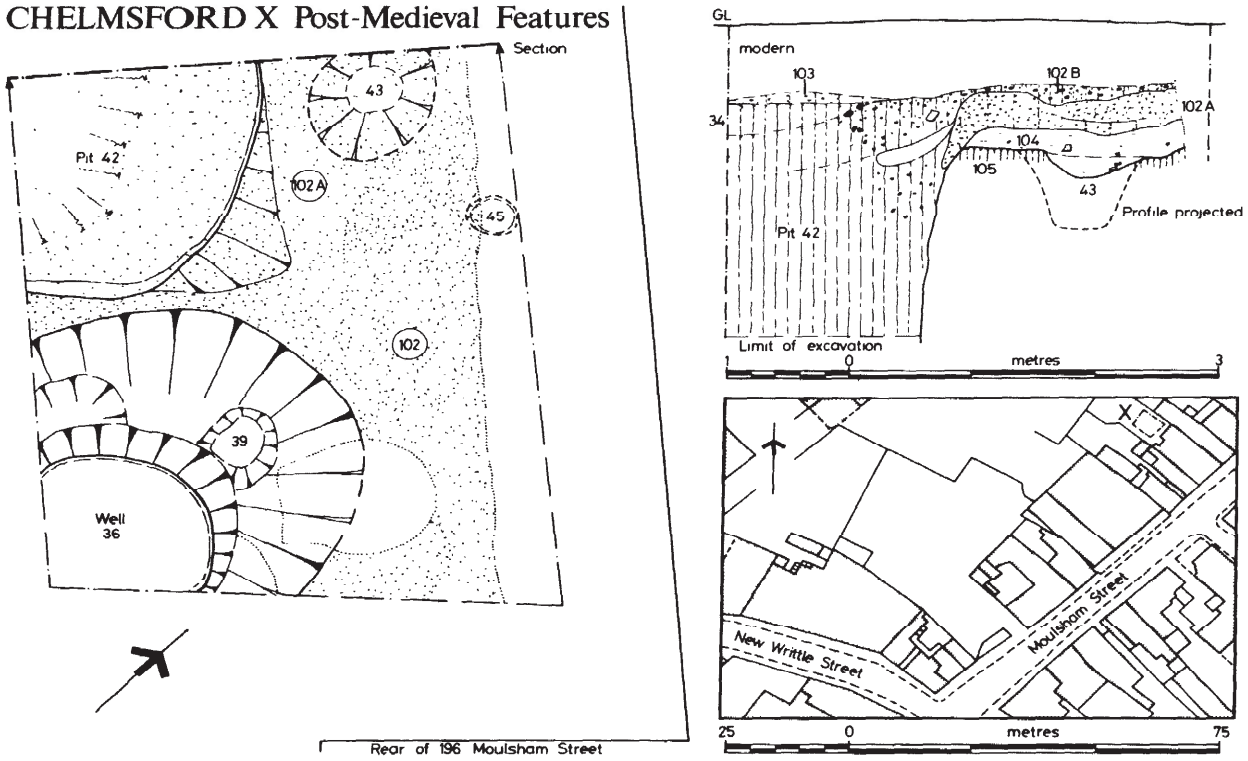

Fig 24 Site X: plan and section of the post-medieval features, with an inset showing the location of the site. For key to sections, see Fig 15, p 22. Inset based on the Ordnance Survey Map; Crown Copyright Reserved

The development of this site, on the limited evidence available, seems to reflect that of site S. There was no residual post-Roman material which need predate *c* 1500, save for a single sherd of late 14th-early 15th century sgraffito ware, so it seems that occupation of this plot (and probably the others to the south-west) separated from *Weste fyelde* (Pl I) began around the same time as that of site S opposite. Fig 12C shows that the plots on both sides of Moulsham Street were approximately the same depth. The rear boundary seems to have remained ditched until recent times, but otherwise the scatter of pits adjacent to one side boundary of the plot suggests a similar pattern of development. Walker's map (Pl I) shows that in 1591 the frontage was occupied by a house with a single-storied hall flanked by a jettied cross-wing on the north-east, with an apparently identical building adjacent to the south-west. These could well have originated early in the 16th century. From the court rolls, it has been possible to trace the holders of the property from 1604; by 1625 it was divided into two cottages (ERO, D/M M41) and was thereafter never occupied by its owners. No evidence for the trades of its occupiers emerges.

The excavation of service trenches in the footpath outside 179-80 Moulsham Street revealed a well (Fig 12C, AA.3.1), of 1.80m internal diameter with a corbelled top, built of large red bricks of Group II, probably of c 1784-1850 (p 37). A 2" diameter cast iron pipe, which presumably fed a pump, remained *in situ*. Water level was some 6m below street level. The size and position of this well indicates semi-public use.

Site X: 195-6 Moulsham Street (Fig 24)

In January 1973, a trial trench was excavated at the rear of 195-6 Moulsham Street, a building of 17th century origin then threatened with demolition as part of a scheme for the redevelopment of 193-8 Moulsham Street (eventually begun in 1980). Since archaeological levels on the frontage had largely been destroyed by modern shop floors, and the trial excavation showed almost complete destruction of the Roman levels to the rear, no further work was undertaken on the site.

Above a dark loam layer 105, merging with the filling of medieval pits, a layer of brickearth 104 was deposited in the 15th century. This, which filled postholes 43 and 45, was probably the upcast from digging the large pit 42 and possibly the well 36. A deposit of hoggin, 102, formed the basis of metalling on the site, extended by the loamy gravel 102A, which, from the section, was evidently laid against a wooden lining of pit 42. The pit was filled in the 16th century, and more loamy gravel (102B) laid partly overlapping the filling. The subsidence hollow, 34, contained pottery of *c* 1590-1630, and was capped by a patch of gravelly loam, 103, containing sherds of the late 17th and 18th centuries. The well 36 was filled *c* 1670-1700. The large pit around the well-head may have been dug at the same time as the well, but if so its filling collapsed into the shaft later. Feature 39, and another less well-defined cut to the west, may have been associated with the well-head framing; their filling was indistinguishable from that of the feature generally, but included

a white ware pipkin, filled with solidified calcium hydroxide, probably whitening (see fiche 1.A4 for analysis). Features 36 and 42 were not excavated beyond 2.9m from ground level for safety reasons. The metalling 102 was overlain in the early 18th century by dark soil, later capped with concrete paving.

For convenience, the features can be broadly equated with site S phases thus:

XI:1	filling of 43, 45; 104, 102, 102A
X1:2/3	filling of 42; 102B
XII:1	34 (subsidence filling of 42)
XII:3	filling of 36, 39
XIII:1	103

The artefacts

Sites are distinguished by the appropriate letter as a prefix to the context number; for dates of phases (given after context numbers) seep 17. All contexts appear on the plans or sections, although minor ones may not be mentioned in the accompanying descriptive text.

Building materials

Stone

by P J Drury

Medieval and later levels yielded building stone rubble of the same types as the underlying Roman levels; most was probably residual. A single fragment of grey Jurassic limestone from S59; XI:1 (AM 748232, identified by F W Anderson) is the only addition to the Roman list, and this too may be residual in view of its isolation and medieval context. Large flint pebbles formed the base of the foundation S66 (XII:1).

Ceramic

by P J Drury

Unless otherwise noted, all were formed and struck in the usual way.

Bricks

Group I: c 120 x 60 x 215 + +mm, soft orange fabric with voids, rather rough surfaces. Used for the lining of S54, but none complete, so almost certainly reused; also from S1008; both XII:3. Compare Pleshey Castle type C, by implication pre *c* 1450-60 (Drury 1977, 83-6).

Group II: *c* 140 x 60 x 130+ +mm, fabric orange-red and similar to that of group I; used for the well, AA3.1. Either reused, like group I, or more likely in this context a reaction to the Brick Tax, in force 1784- 1850 (Harley 1974, 75).

Group III: c 110 x 50 x 65+ + (probably 215-230) mm, fine hard bright red fabric. Abraded fragment from X36; X11.3. Ungrouped fragments from S154; XII:1 (together with a few from XII:2 and later contexts on the same site), and from ml.2 (XI:2/3) are probably of this type. It seems to be the standard later 15th and 16th century brick size and fabric in the area (Drury 1977, 83-5).

Group IV: *c* 100- 15 X 50-7 x 220mm, generally with a convex struck top surface, retaining the sand from the form on the other faces, in a normally fairly soft red fabric with voids and some large pebbles. Many examples are overfired, to a deep purple-red or even to grey, and some fragments, especially from S16 (XII:2), have totally vitrified faces. These bricks were used in the construction of the cellar S8 (XII:2), and appear in features filled at the time of its construction (S47, 72, 74, 114, 195, 727; also in S1005), construction and other features of XII:2 (S50, 177A, 207, 706), as well as later phases, including S36iii (XII:3) and several 18th century contexts. Fragments used as pavoirs (ie with a worn face), came from S363 (XII:2), S193, 1008 (XII:3), S313 (XIII:1); all were overfired, these being the hardest burnt and thus the most suitable for the purpose.

Virtually identical bricks appear contemporaneously on site AA in XII:2 (AA1.10, 1.13; also in 1.11, 2.14, XIII:2) and in XII:3 on site X (X36). They were also used at the Stock kilns during approximately the 17th century (p 86), and it seems probable that they derive from that area.

Group V: *c* 110 x 65 x 23Omm, fine red fabric. Used for the wall S3, XIII:2.

Group VI: c 100 x 60 x 200mm, fine red fabric. Used for the wall, S4, and the chimney stack foundation, S6, XIII:2.

On this evidence, the earliest possible date for the use of bricks on site S is in Period XIII:1 ie *c* 1590-1630, and they do not seem to have been used extensively before the construction of the cellar (in group IV bricks) during XII:2. The material from sites X and AA confirms this pattern, although since these samples are small, the evidence carries much less weight than that from site S.

Roof tiles

Pegtiles

Pegtile fragments appeared in virtually all contexts of Period XI and later, and were used structurally in Period XII:1 foundations. Superficially, the fabrics show considerable variation in colour, quantity of sand tempering, etc, but no chronological trends can be isolated. None were found complete, but 22 samples gave widths as follows:

155- 157mm	S98 (XI:2); S123 (XI:3); S8, S12 (XII:2); S316 (XII:3); S14, S323 (XIII:1)
160-165mm	X43 (two examples, XI : 1); S 111 (XI:3); S12 (XII:1); S94, S364, AA1.13 (XII:2); 514 (XIII:1)
166-168mm	S302 (XI:3); S12 (XII:l); AA1.13 (XII:2)
171-172mm	AAl. 13 (two examples, XII:2)
175-177mm	S66 (XII:1); AA1.13 (XII:2)

The average thickness was *c* 12mm. It seems clear, particularly from the assemblage from AAl. 13, that peg-tile size does not vary significantly with date. All had two circular peg holes. There were no square holes, and no pegtile showed any sign of glazing.

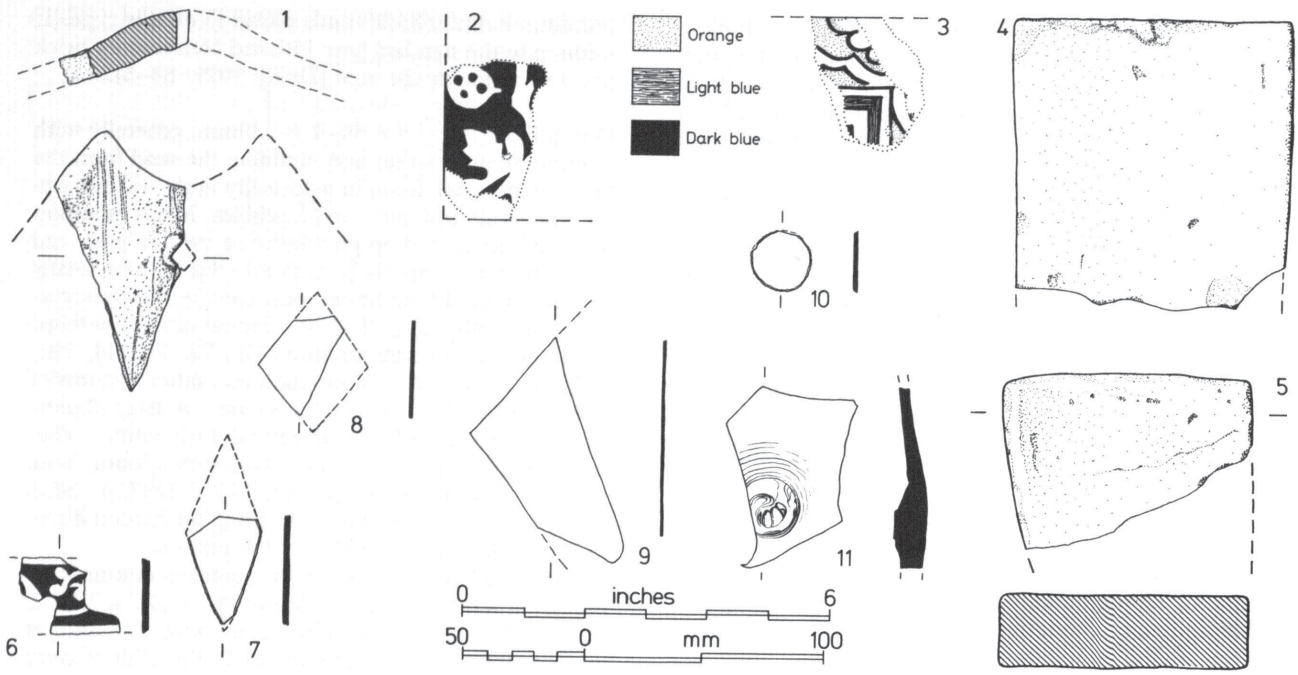

Fig 25 Building materials: hip tile (1); floor tiles (2, 3); Kiln material (4, 5); window glass (6-11). Scale 1:3

A number of over-burnt waster fragments were also present, some too distorted to be used on a roof but probably imported to the sites for use in foundations or as hardcore. Fragments of ridge tiles, generally similar to the pegtiles but slightly thicker, c 15-17mm, were present, as were three fragments of hip tiles (X42; XII:2/3, S111; XI:3, S73; XII:3), those from S having the points cut away; one (Fig 25.1, from S73) had a square peghole.

The pegtiles from sites S and AA should date from c 1500 onwards (although a few may have reached them as rubble from earlier buildings), making comparison with published material from earlier sites, or sites whose occupation began earlier, significant. There are no large or thick tiles, whether nibbed or otherwise, confirming the impression that these belong, in Essex, to the early phase of ceramic tile usage, probably during the late 12th-late 13th centuries (Drury 1981b, 131). The average width of the pegtiles from S and AA, at 162.65mm (6.4in), is fairly close to the 1477 standard of *c* 159mm (6.25in; Salzman 1967, 230), and the range of width, 155-177mm (6.1-7in), is not significantly different from that found at the late 13th to early 14th century factory at Danbury (150-175mm, or 5.9-6.9in; Drury & Pratt 1975, 111). Indeed the only significant difference between the pegtiles at Danbury and those from this site lies in the total lack of glazed pegtiles at the latter; by *c* 1500 they seem no longer to have been produced.

Pantiles

A single fragment only, in a bright orange fabric with a little sand tempering; made in an unsanded form. From 'the Period XIII:% foundation S3. Pantiles were never common in Chelmsford, and do not seem to have appeared there before the later 18th century, the date of this example.

Floor tiles (Fig 25)

Decorated

2 Fragment, 21mm thick, undercut edges, sanded base. Fine sandy fabric containing a substantial grog lump, burnt grey throughout; shallowly-inlaid vine pattern; S unstrat; worn. The design **suggests** a 14th century date and an affinity with one of the subdivisions of the Central Essex Group (Drury & Norton forthcoming).

3 Delft polychrome tile, in a hard pink sandy fabric with buff interior, undercut edges, sanded base; 18mm thick. Tin-glazed surface, with blue and orange decoration; substantial wear indicates use as a floor tile. Late 16th century. S54; XII:3

Plain

Group I: Plain cream-slipped and glazed tile fragment 45mm thick, slightly undercut edge, finely sanded base, fine orange-red fabric with darker red inclusions. The fab ric suggests a Flemish origin. X36; X11:3, *c* 1670- 1700; slightly worn.

Group II: Plain unglazed tiles, 215mm sq, 40mm thick, undercut edges, sandy base, hard red fabric with small voids and grog and pebble inclusions. Several unused fragments, cracked and overfired, came from S88, XI:2, c 1500-1560. Fragments of similar but not identical tiles came from S50, XII:2 (35mm, moulded splayed edges, soft), S107, XII:2 (45mm, hard, moulded splayed edges, unworn), S375, XII:3 (45mm, undercut edges, no sand on base, worn), and AA1.11, XIII:2 (worn, moulded slightly-splayed edges, made in unsanded form, bright orange fabric).

Group III: Plain unglazed tiles 37-40mm thick, more than 190mm square, in hard off-white gault fabric, undercut edges, sanded base, worn surface. S374; XIII:1, S3; XIII:2

Discussion

The Central Essex Group tile is almost certainly a stray which came to site S in a load of hardcore, and the single fragment of a Delft tile, from its very isolation, may have arrived similarly. Plain glazed Flemish tiles of our Group I, here represented by a single fragment from site X, are very common in larger towns in eastern England, for example Colchester and Norwich (Drury & Norton forthcoming) and their scarcity in Chelmsford (reflected in other excavations) emphasizes the differing standards which prevailed. These tiles (and English copies of them) are conventionally dated 15th-mid 16th century (eg Drury 1978, 152-4). They were succeeded by unglazed plain tiles of our Group II, which are much more common in the town. The assemblage of these from S88 probably represents material discarded by a pavoir at the time of laying, before *c*
to have established for their use, which evidently continued throughout the 17th century, and probably longer.

operation in 1600 (Sellers 1970). In the 18th century tiles made from the hard, off-white gault clay seem to have been preferred.

4 108 x 35 X 120+ + mm, hard red fabric, sanded base. S1005; XII:1
5 30mm thick, not rectangular, otherwise as 4 except for thick grey reduced core. Spots of plain glaze on curved edge; opposite edge knife-cut. S104; XI:2

These objects are probably furniture from a medieval kiln making decorated floor tiles. Figure 25.4 compares with Danbury class 7, and 25.5 with class 8B or C (Drury & Pratt 1975, 123-4), although since the dimensions and shapes are not exactly comparable, Danbury itself is not likely to be their source. Tile wasters found a ready market for use in, for example, culverts and the foundations of timber buildings, material being brought from Danbury to Chelmsford (some 8 km) for this purpose in the late 13th or early 14th century *(ibid,* 156-7). Furniture of this type seems only to have been used in kilns producing decorated tiles, so these objects should date before c 1400 (Drury & Norton forthcoming). Like the Central Essex Group tile, therefore, it seems likely that they reached the site as hardcore, from elsewhere in the town.

Window glass (Fig 25)

by C M Cunningham

A total of 177 fragments of window glass were found, 156 of which were from site S. The majority is crown glass, 1-1.5mm thick, in a very pale green metal, but a few fragments, 2-3mm thick, may be broad glass (Harden 1961, 41-3).

There were at least seven fragments of medieval glass in a pale green metal, 2-3mm thick, and badly weathered. Figure 25.6 (S74; XII:1), with two grozed edges, comes from a small rectangular quarry decorated in red paint, and probably derives from the Dominican Priory (cf Drury 1974, 59, fig 11.35). Other similar fragments indicate both rectangular and triangular or diamond-shaped quarries (Fig 25.7, S unstrat, cf *ibid,* fig 11.30).

Most of the crown glass seems to have been cut into quarries of similar geometric shapes, including the earliest contemporary fragments, from Period XI:2 (S104, S210, S352). It is noteworthy that some windows, at least, of a modest suburban house were glazed by the mid 16th century. Figure 25.8,9 (S50; XII:5 S330; XII:3) are panes from lattice windows, popular since the early 16th century (Harden 1961, 57). One quarry is a small circle of 24mm diameter with roughly-grozed edges (Fig 25.10, S1002; XII:1-XIII:1). Other fragments of crown glass also survive. Figure 25.11 (S47; XII:l) shows a crown bullion up to 11mm thick, in a very dark green metal *(ibid,* 39-40). A fragment in pale green metal with many pinhead bubbles, less than 1mm thick, is from the flame-rounded selvedge (S1005; XII:1). Another later example (S1002; XII:1 -XIII: l), in completely colourless metal, is 1.5mm thick and shows slight curvature.

Colour does not seem to be particularly significant: both colourless and deep green glass occur in very small quantities from Period XI:3 (c 1560-90) onwards, most commonly in the 18th century. Very pale green glass, however, is always predominent.

Fragments of lead window cames were found in S324 (XII:2), S327 (XII:3), S1002 (XII:1-XIII:1), and S1006 (XIII: 1).

The coins and jettons

by C M Cunningham

I am grateful to Dr J P C Kent and the late S E Rigold for examining the coins and jettons and allowing me to incorporate their comments. Abbreviations: im, initial mark; pm, privy mark.

English silver coins

1 Groat of Edward VI, martlet pm, retaining the portrait of Henry VIII. *c* 1548-9. X unstrat
2 Half groat of Elizabeth I, pm lost. 1582-1602. 51008; XII:3
3 Half groat of James I, rose pm, 1605-6. S46; XII:2
4 Threepence of Charles II, 1670. S unstrat

English copper coins

5 Farthing of James I, type 3b, flower pm on both sides. Unstrat
6 Farthing of Charles I, type 3b, lys pm on both sides, c 1634-6. S1002; XII:1-XIII:1
7 Farthing of Charles I, type 3b or 3c, pm uncertain. Sll; XII:2
8 Farthing of Charles I, type lc, pm lost. S unstrat
9 Farthing of George IV, 1825. S unstrat

Dutch copper coin

10 Duit of 1626. S1002; XII:1-XIII:1

Nuremberg jettons

11 22mm. Bust of a Turk wearing a turban, the head turned *r*, GLICK KVMPT VON GOT IST WAR/Reichsapfel in trilobe, HANS SCHVLTES ZV NVRNB (Barnard 1981, pl XXXIII, 90), c 1550-84. S47; XII:1

12 22mm. Manneristic-classical bust in winged helmet (Mercury), sixfoil im, HANNS KRAVWINCKEL IN N (but not his extremely common 'normal type')/Reichsapfel in trilobe, spandrels void, GOT'T ALLEIN DIE EERE SEI. Krauwinckel is first heard of 1586 and died in 1635 (Eklund 1978, 5). S1006; XIII:1

13 21mm. Three crowns and three lys, sixfoil im, HANNS KRAVWINCKEL IN N/Reichsapfel in trilobe, sixfoil im, GOTES REICH BLIBT EWICK (similar to Eklund 50), c 1610. S22; XII:2

14 21mm. Three crowns and three lys, sixfoil im, HANNS KRAVWINCKEL IN NV/Reichsapfel in trilobe, cross im, GOTTES GABEN SOL MAN LOB. Similar to Eklund 49 and Barnard XXXI,86. 1580-1615. S1002; XII:1-XIII:1

15 21mm. Three crowns and three lys, im missing [GO]TES SEGEN MACHT REICH/Reichsapfel in trilobe, im missing, [HJANNS KRAVWINCKEL IN NV[R]. Barnard XXXIII, 84. 1580-1615. S unstrat

16 25mm. Three crowns and three lys, cross? im, HANS KR[AVWI]NCKEL GOTESS/ im, RECHEN PFENI[NG NVR]ENBER. Barnard XXXIII, 85. S730; XII:3

17 19mm. Copied from a silver coin of Charles II. Bust of Charles II, CAROLVS II DE GRATIA/Cross of four shields, LAZA GOTTE. . .RECH. PFE. COVNTER. c 1700. S1002; XII:1-XIII:1

Nos 18-25 are Nuremberg jettons with three crowns and three lys on one side, and Reichsapfel in trilobe on the other, with blundered or garbled legends, ranging in date from about the 1520s to the 1550s.

18 21mm. S47; XII;1
19 25mm. S727; XII:1
20 26mm. S47; XII:1
21 24mm. S311; XII:3
22 24mm. S1002; XII:1-XIII:1
23 25mm. S unstrat
24 Fragmentary. S unstrat
25 26mm. X36; XII:3. Square hole pierced through centre.

French jettons

26 Official jetton, 24mm, earlier group with legends on both sides. Shield of France ancient with crown in chief, in double tressure, legend interrupted by crowns; -IES-IVS-DELETON, for 'je suis de laton'/quadrilateral cross flory with lys in centre, AVE MARIA: GRACIA: PN, double crosslet stops. Third quarter of the 14th century ('France ancient' was then obsolete in France). S706; XII:2

27 21mm. Shield with four quadrants (probably fictitious) within a tressure/'S: with a garbled legend. Late 15th-early 16th century. S1002; XII:1-XIII:1

English jetton and tokens

28 Uncertain jetton, imitating the extremely common late Nurembergers of 'normal type: especially H Krauwinckel's, but itself unusual and interesting. 20mm, thin fabric, not as well centred as the archetype but generally quite like it. 'Reichsapfel side', where HK usually has the motto, six-petalled flower im, five-pointed star stop, WILLIAM (star) HALLY./crown and lys side'. Six-petalled flower im and in centre, pellet stops, PAINES. BRINGS. GAINES. Presumably about or soon after 1610. It has been suggested that some William Hall jettons may have been struck at Nuremberg (Barnard 1981, 223), but the quality of this example suggests that it is an imitation. S unstrat (Pl V.1)

29 Token farthing of 1664, 17mm. Savage bearing a club (badly worn), SAMVEL CURTIS/SC. in centre, IN CHELNSFORD 64 (Judson 1973, W57). S unstrat (Pl V.2)

30 Coffee house token. 24mm, thick flan like a late Stuart farthing, stamped with separate dies, D over XII on each side, clearly for a shilling, coffee pot on one side. c 1700. S1006; XIII:1 (Pl V.3)

31 Cast lead token, 19mm. Cross and pellets, R probably blank. S3 construction trench; XIII:2 (Pl V.4)

Copper alloy objects and debris

Personal equipment (Figs 26, 27)

by Alison R Goodall, with Justine Bayley and Blanche Ellis

Brooches

1 Annular brooch frame, broken through narrow pin-bar. S42; XII:1
Not illustrated: Heavy oval-sectioned ring (maximum dia 50mm) resembling some medieval annular brooches, though it may have had other uses. S42; XII:1

2 Part of penannular brooch with rolled terminal. S1002; XII:1-XIII:1

Penannular brooches similar to no 2, but with traced zig-zag decoration on the upper surfaces, have been found in early to mid 12th century contexts at Castle Acre Castle, Norfolk (Goodall 1982) and Goltho, Lines (Goodall forthcoming). If this is of the same date, how it reached site S is unclear.

Finger-rings

3 Hoop of fine wire with ends pushed into cup-shaped setting containing a blue glass bead. S1002; XII:l-XIII:1

4 Cast floral decoration on hoop. S1002; XII:1-XIII:1

Part of a set of fittings for a sword-belt

by Blanche Ellis

Decorated in light relief on a sunken ground with scrolling vine foliage within plain borders. X-ray fluorescence analysis showed it was made from a quaternary alloy of copper, tin, zinc, and a very small amount of lead (JB; AM 817427-8, 30).

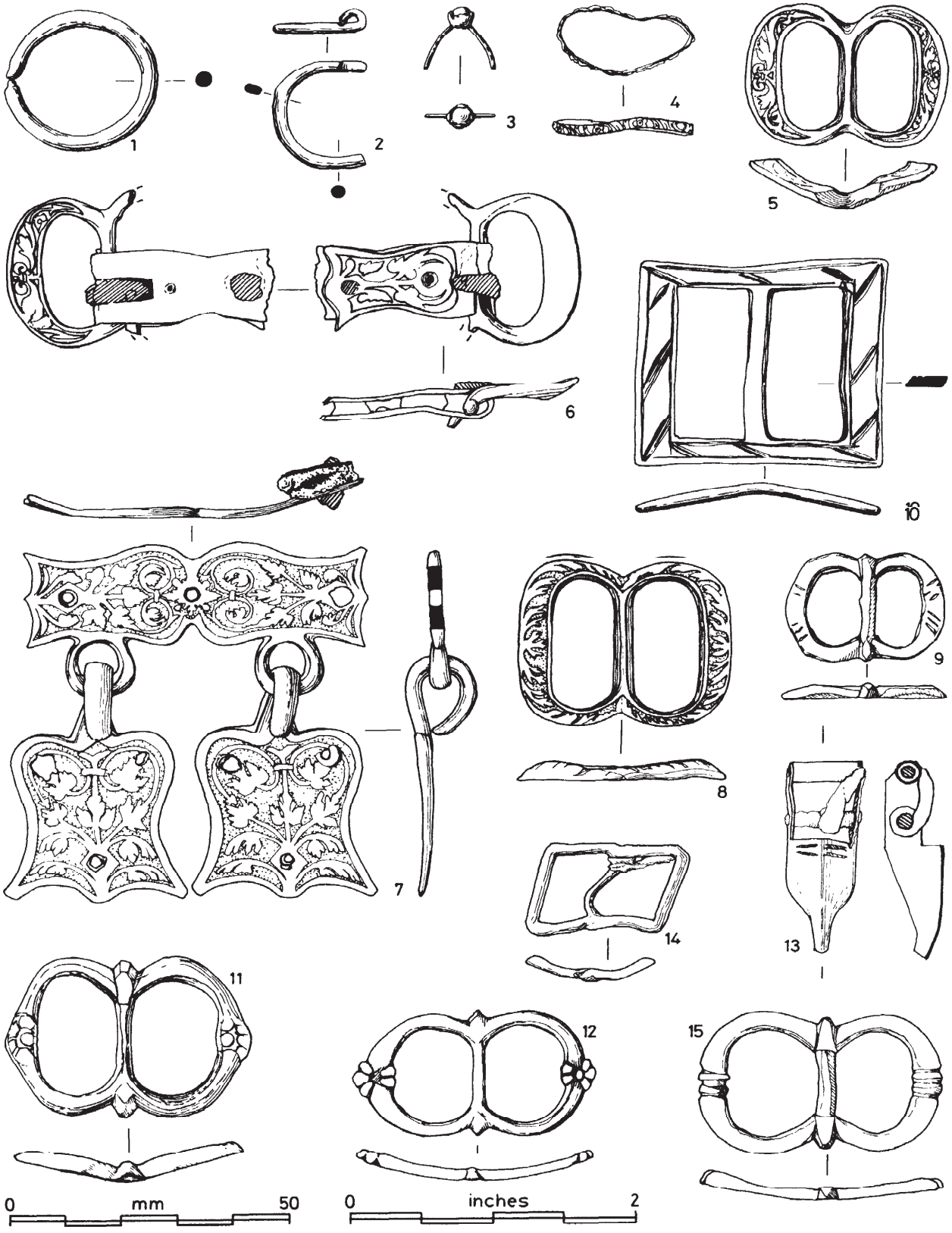

Fig 26 Copper alloy : brooches (1,2) ; finger-rings (3,4) ; buckles and strap-ends (5-15). Scale 1:1

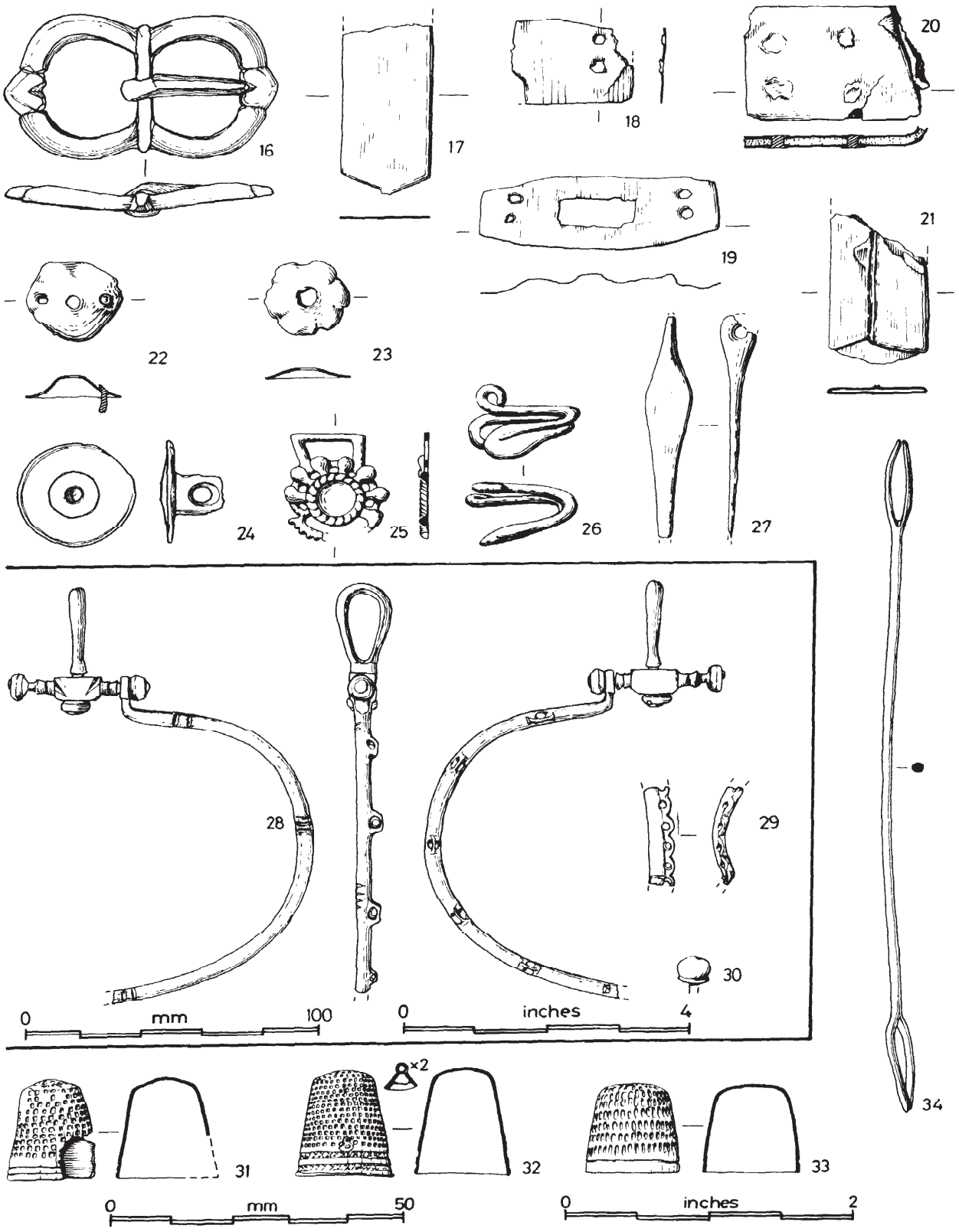

Fig 27 Copper alloy: buckles and strap-ends (16-21);- bosses (22,23); button (24); hooks (25,26); toilet implement (27); purse-frames (28-30); thimbles (31-33); needle (34). Scale 1:1, except nos 28-30, scale 1:2

5 Pair of similar buckle-like slides for adjusting a sword-belt. Both consist of two curved flat loops forming a D-shape with the central bar, from which the loops rise at an angle. The upper surfaces decorated as described above, the undersurfaces plain (one only illustrated). 35 X 29mm. S328; XI:3

6 Strap-end buckle. The double strap-end fitting loops over the buckle bar, dividing into a slot for the missing buckle tongue, the opposite ends parallel with the strap-end between them, originally retained by two rivets. The strap-end and rivets, except for a fragment of one rivet, are now missing. The buckle frame consists of two rounded loops each forming a D-shape with the central bar; most of one loop is missing. The outer surfaces of the loops are decorated as above, the undersides are plain. Traces of rust from rivets. Overall length 47mm. S328; XI:3

7 Fitting for a sword-belt, decorated as above. A cusped horizontal bar, slightly curved along its length to fit snugly when riveted to the sword-belt, is pierced with three rivet holes, one at the centre and one at each end. Two rings project from the lower edge, from which hang two strap-end mounts for the slings. These mounts are flat, with cusped edges, and hang from forward-curling round hooks. Both mounts are pierced with three rivet holes, two at the top and a central one below, for the attachment of the slings. Traces of rust surround all rivet holes, from iron rivets removed during conservation, together with a fragment of the belt shown on Fig 26.7 (bar viewed from edge). Bar width 63mm. Pendant mounts 48mm long. S328; XI:3

Mr A V B Norman has identified nos 5-7 as part of a set of fittings for a sword-belt, decorated in the style of *c* 1540. He has suggested comparison with a contemporary sword-belt shown in the pictorial inventory, 1546-655, of Archduke Albrecht V of Bavaria (Bayerisches National museum 8221; Hefner-Alteneck 1904, pl XLIII.508 (12)). Another was illustrated by the French goldsmith Pierre Woeiriot as one of a set of six engraved designs, the first sheet dated 1555 (V & A Museum, E.5649-1910; Norman 1980, 295). In both these examples the fitting equivalent to Fig 26.7 differs from it in having two slings linked by one pendant attachment to a single closed ring on the lower edge of the bar on the belt, instead of two separate pendant attachments. Both illustrations show belts with buckles, slides, and strap-ends.

Buckle-like slide for a belt

by Blanche Ellis

8 Two rounded rectangular loops flanking a central bar. The upper surfaces of the loops are decorated in low relief on a sunken ground with a pattern of vine leaves springing from the outer edges. The back and bar are plain. 37 X 33mm. Of a type used on sword-belts and slings for their adjustment. Composition as 5-7, but with only a few per cent of zinc (JB, AM 817429). 17th century. S1002; x11:1-x111:1

Other buckles and strap-ends

9 Double-looped buckle with incised decoration on loops. S328; XI:3

10 Rectangular buckle with incised decoration. S704; XI:3

11 Double-looped buckle with rosettes on the loops. S328; XI:3

12 Double-looped buckle with rosettes on the loops and glossy black surface. S6 (construction trench); XIII:2

13 Buckle frame made from sheet metal with pin and pin-bar of iron. The pin rests on a sheet metal cylinder and the other end of the frame is folded to form a tapering point. S42; XII:1

14 Distorted rectangular buckle frame with remains of iron pin. S47; XII:1

15 Buckle with moulded loops and glossy black surface. S80; XII:3

16 Buckle with moulded hearts on loops. S1002; XII: l-XIII: 1

17 Strap-end plate. S1007; XI:3

18 Probable incomplete strap-end or buckle-plate. S72; XII:1. (Another not illustrated: S104; XI:2)

19 Buckle-plate. S72; XII:1

20 Strap-end or buckle-plates with four large rivets and retaining leather between the plates. S311; XII:3

21 Strap-end. S1002; XII:1-XIII:1

Figures 26.11,12, and 27.16 are of similar type to those, for example, from Basing House, Hants (Moorhouse 1971, 60, fig 25.169-170), where a date in the first half of the 17th century was suggested. The rectangular buckle 10 may be much earlier and resembles one from Norwich (Hurst 1963, 169, fig 14.12). The compositions of the buckles examined (9-11, 14, 16; AM 817422-6) were as 5-7, except for 9 which contained no tin. The strap-end and buckle-plates analysed were of more variable composition. No 17 (AM 817433) was a quaternary alloy containing a few percent of zinc, lead, and tin; no 19 (AM 817431) was a brass containing a little lead and no 20 (AM 817434) a quarternary alloy but with substantial zinc content (JB).

Bosses

22 Six-petalled boss with a pair of rivet holes for attachment to straps. A high zinc quaternary alloy (JB; AM 817435). S104; XI:2

Not illustrated: As 22, but flattened, probably deliberately, prior to reuse. S1002; XII:1-XIII:1

23 Six-petalled boss with central rivet hole. Brass with a little lead (JB; AM 817436). S1008; XII:3

Not illustrated: As 23. S104; XI:2

These bosses, probably belt ornaments, are medieval.

Buttons

24 Flat-topped, with recessed rings and central dot; perforated lug on back. S1002; XII:1-XIII:1

Not illustrated: Bun-shaped, possibly gilt; loop missing. s355; XIII:1

Hooks

25 Hooked fastener with rectangular loop on ornamental head. Sl010; XIII:1

26 Wire hook. S1002; XII:1-XIII:1

Toilet Implement

27 Probable nail-cleaner. S103; XI:3

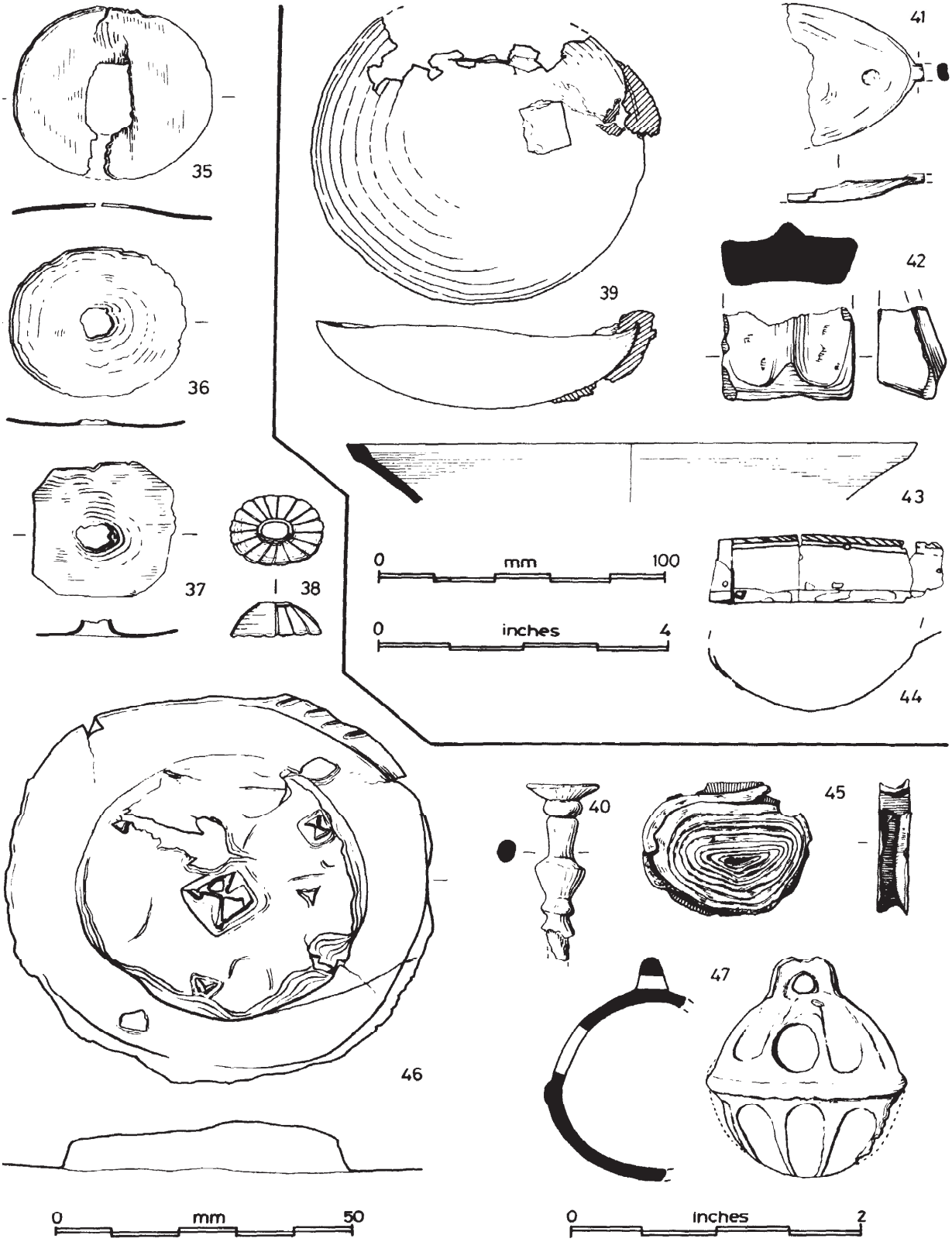

Fig 28 Copper alloy: knife end-plates (35-38); ladle (39) spoons (40,41), vessels (42-44); vessel patch (45); horse equipment (46,47). Scale 1:1, except nos 39, 41-44, scale 1:2

Purse-frames (Fig 27)

28 Frame consisting of a single hoop, with perforated lugs for attachment of the bag, pivoting on a short bar; swivelling suspension loop. Probably of brass, originally tinned all over (JB; AM 817437). S328; XI:3
This is very like one from Snodland, Kent (Grove 1974, 211-12, fig 2.1) which has been tentatively dated to the mid 16th century. It would have had a single fabric bag sewn onto the perforated lugs on the hoop.

29 Fragment of purse-frame with perforated flange for attachment of bag. S1002; XII: l-XIII: 1

30 Terminal, possibly from a purse bar. S737; XI:3

Household equipment (Figs 27-28)

by Alison R Goodall

Thimbles

31 Tapering sides and shallow conical top; pits arranged spirally. S47; XII:1

32 Tapering sides and slightly domed top. Two roulet-ted bands round base and maker's stamp. S324; XII:2

33 Slightly tapering sides and almost flat top. Slit-like pits arranged spirally above narrow groove. S1002; XII: 1-XIII: 1

Needles

34 Netting needle of wire split at both ends to make eyes. S704; XI:3

Not illustrated: Needle with triangular-sectioned tip. AA1 -3; XI:2/3

Knives

35 Handle-plate from large knife or dagger. S1002; XII: l-XIII:1

36,37 Knife handle end-plates. S1002; XII:1-XIII:1

38 Domed oval mount, possibly knife handle end-plate. X36; XII:3

Ladle

39 Patched bowl, with iron handle attachment. S328; XI:3

Spoons

40 Finial from a seal-top spoon. S87; XII:1

41 Part of bowl from large spoon with traces of white metal plating, maker's stamp on inside of bowl, and short rat's tail on back; flattened stem. S732; XII:3

Vessels

42 Cauldron foot with raised mid-rib. X104; XI:1

43 Fragment of vessel rim (although possibly from the base of a candlestick). S1002; XII:1 -XIII:1

Not illustrated: Vessel rim and body fragments. S1008; XII:3.

44 Piece of curved strip, probably from a box, with incised decoration and a hole adjacent to the top edge; solder and a rivet on the lower edge. S104; XI:2
This is very similar to a late 15th century box containing a folding balance from Roche Abbey, Yorks (Rigold 1978, 371-4).

45 Patch made from a large coil of copper alloy strip which has been hammered flat: a notch in one edge indicates where a rivet passed through. X36; XII:3

Horse equipment (Figs 28-29)

by Alison R Goodall, with a contribution by Blanche Ellis

46 Bridle boss of thin sheet metal with repoussé cable on border and repoussé motifs on raised central area. S111; XI:3
There is a similar boss in Salisbury Museum (accn no 26/1963), although slightly smaller and with a central pyramidal projection.

47 Cast rumbler bell. S80; XII:3

48 Crescent, possibly a harness ornament, consisting of raised front part with rivet holes, and flat back section. S104, S108; XI:2

Spur rowel

by Blanche Ellis

49 Small rowel of eight sharp points; traces of gilding. Dia 27mm. S1002; XII: l-XIII: 1
It is seldom possible to date detached rowels typologically; small gilded star rowels occur from the 15th to the 17th century and, though less often gilded, during the 18th century.

Miscellaneous (Fig 29)

by Alison R Goodall, with Justine Bayley

50 Pointer from balances, clock hand, etc. S1002; XII:1-XIII:1

51 End from a wooden ruler with copper alloy binding. S1002; XII: l-XIII:1

52 Book clasp. S47; XII:1
This is a common 16th century type, which can be paralleled at Basing House (Moorhouse 1971, 59, fig 25.162).

53 Corner mount from book-binding with raised central boss and incised zig-zag border. The pins indicate the thickness of the boards. Brass containing a few per cent of lead (JB; AM 817438). S81; XII:3

54 Sheet metal bell retaining an iron pea. S1002; XII: l-XIII: 1

55 Swivel loop with ornamental boss on side opposite pivot. S1002; XII:1-XIII:1

56 Perforated disc with central rivet or stud passing through small washer; incised radial lines and concentric rings. S1008; XII:3

57 Fragments of rectangular plate with one iron rivet and another of rolled copper alloy sheet. Shallow repousse decoration within raised border. AA2.12; XIII

58 Fragment of repoussé decorated sheet. S12; XII:1

59 Decorated fragment. S1002; XII: l-XIII: 1

60 Mount with claw-like terminal and clenched shank at back. S1002; XII:1-XIII:1

61 Fragments of rectangular plate with rivet holes within repoussé border. S104; XI:2

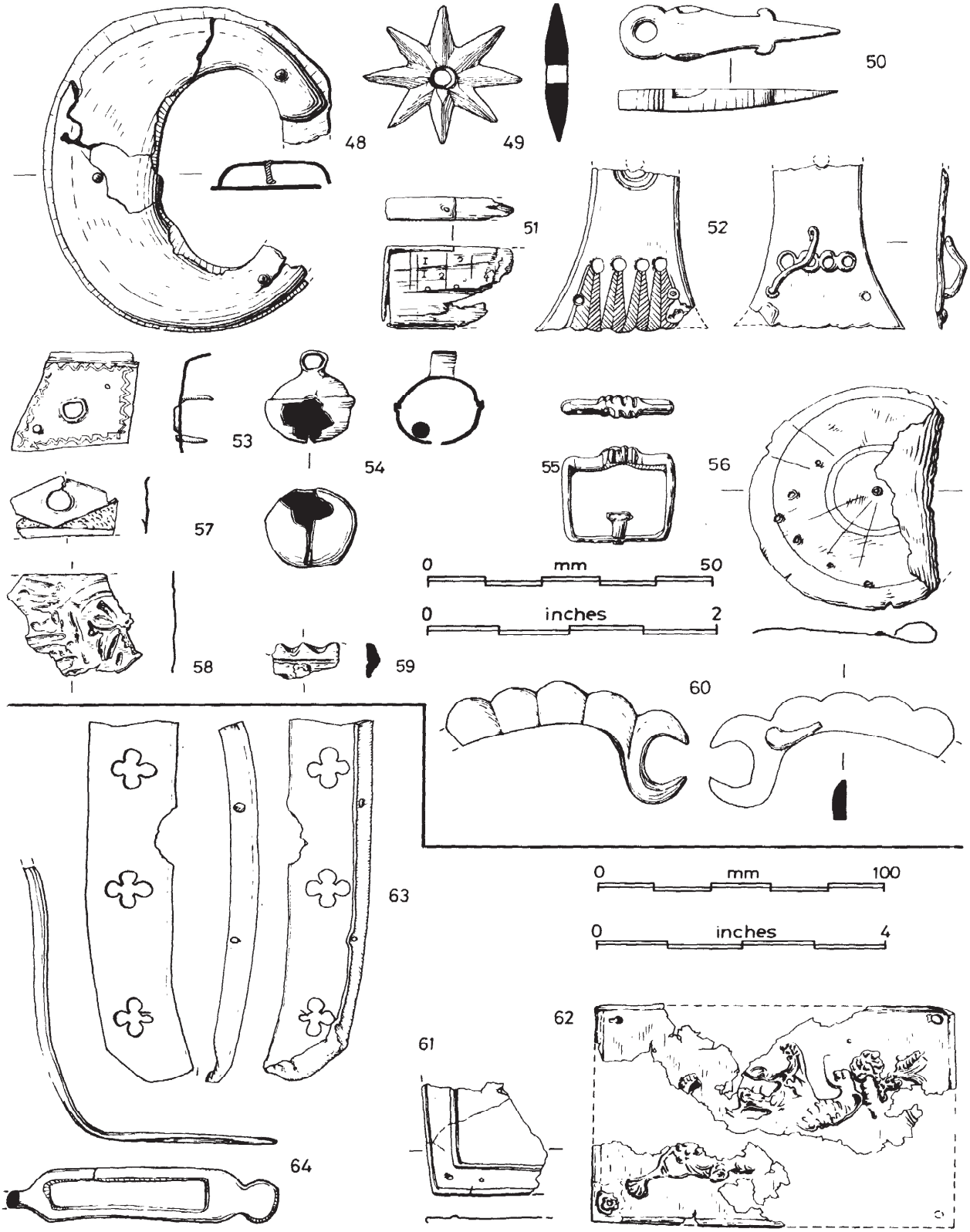

Fig 29 Copper alloy: horse equipment (48,49); miscellaneous objects (50-64). Scale 1:1, except nos 61-64, scale 1:2

62 Decorated fragment. High zinc quaternary alloy (JB; AM 817439). S331; XII:1

63 Binding with openwork quatrefoils. S104; XI:2
Mr A R E North suggests that this is part of the strapwork edging for a small casket. The small holes are for pins by which the strap was attached to the wood or leather base. The pierced quatrefoils may have been intended to go over some form of textile covering. Several early 16th century Spanish cabinets known as *varguenos* have this feature.

64 Object resembling a hasp. S54; XII:3, S1002; XII:1-XIII:1

Not illustrated: Length of V-sectioned binding strip with two pin holes. S103; XI:3
Two lengths of triangular-sectioned strip, widths 3.0 and 3.5mm. X104; XI:1, S328; XI:3
Undecorated stud-head. S87; XII:1
Two irregular-sectioned rings. S1008; XII:3, S737; XI:3
Staple, length 4mm. S345; XII:2

Lace-ends (Fig 30.65-75)

by Justine Bayley, CM Cunningham, and Alison R Gooadall

There are 128 lace-ends, which would have been used to bind the ends of leather or textile laces. Several examples still contain fragments of the lace; 65 (S1002; XII:1 -XIII: 1) has been identified by Penelope Walton as a golden-brown silk braid made from a rolled-up flat diagonal plait (see also p 57) and 66 (Sl0l0; XIII:1) appears to contain a leather thong. These would not normally be used for footwear, although the 'high shoe: worn *temp* Henry VIII, was sometimes laced (Northampton Museum 1975). Lacing was, however, essential in clothing. In the case of men, the doublet was usually laced up, and also laced to the breeches at the waist (Waugh 1964, 17, 25, 49). In women's dress, the basqued bodice, for example, developed in the late 1620s, was laced tightly across the front (Waugh 1968, 28).

The two types identified at Northampton (Oakley & Webster 1979, 262-3) are present here. Seventy-five are of type 1, a small sheet rolled simply around the lace with butting (67) or overlapping ends (68), usually tapering to a point, and ranging in length from 14 to 42mm, and in diameter from 1 to 4mm. To secure the lace more firmly a tiny rivet (occasionally of iron) was inserted a few millimetres below the lace-end top. In ten cases there are two rivets (69). Only five of these can be shown to lack rivets; alternatively, the top may be pinched to grasp the lace (70).

Type 2 lace-ends are made from a sheet rolled into a cylinder with the edges folded inwards to pierce the lace (71). This has a strong grip and normally needs no other securing device. Only two of the 51 examples may have had a rivet. They tend to be larger and less delicate than the type 1 lace-ends, often without tapering, and varying in length from 16 to 40.5mm, and in diameter from 2 to 4mm.

Figure 30.72 (S328; XI:3) is decorated with punched rings, and several have traces of transverse grooves (73: S1002; XII:1--XIII:1), either ornamental or the result of pressure from ridged pliers. Another has a glossy black surface (S331; XII: 1).

At Northampton a chronological distinction was found between type 1 and type 2 lace-ends, type 2 postdating the mid 16th century *(ibid,* 263). No lace-ends were found in early-mid 16th century contexts at Moulsham Street, so the two types run concurrently from Period XI:3 onwards (Table 1).

Table 1

	XI:3	XII:1	XII:2	XII:3	XIII:1*	XIII:2+
Type 1	15	22	4	4	27	3
Type 2	4	19	4	1	22	1

*(including S1002, XII:1-XIII:1)

In line with the Northampton evidence, type 2 lace-ends form a greater proportion of the total from XII:1 (1590- 1630) than from XI:3 (1560- 1590). The typological differences in the lace-ends may also imply a difference in the type of lace. While type 1 could be bound round a leather thong or rolled braid, type 2 would be most easily folded over a flat, ribbon-like lace.

All the lace-ends analysed by x-ray fluorescence (AM 817397-414, from XI:3 and XII:1) were of brass (copper with around 10% zinc, and a small percentage of lead). No tin was detected (JB).

A third type of lace-end is made from a wire or narrow strip bent in the middle to form an eye and with the two ends tightly twisted together (Fig 30.74, S42; XII:1 and S1002; XII:1 -XIII:1, 36 and 38mm long; Fig 30.75, S330; XII:3, 34mm long). The type is shown terminating a ribbon lacing the front of the bodice in the late 15th century portrait of Costanza Caetani (National Gallery 2490).

The pins and wires from site S (Fig 30)

ly C Caple

Site S yielded 747 items, comprising pins (65%), pin fragments, mainly broken shafts (22%), pieces of wire (8%), and pieces of wire twisted into loops (5%). The number of pins varies from period to period, and for comparative purposes can best be expressed as the average rate of pin deposition per year (Table 2), despite the approximate nature of phase dates and the probability of differential survival rates of deposits.

Of the 490 complete pins, all but ten have a wound wire head, made by twisting a thin wire around the top of the shaft in a spiral manner (Tylecote 1972). These can be grouped into three major and several minor categories.

Type A Fig 30.76, 77. The head is stuck onto the top of the shaft, using an undefined black glue or flux.

Type B Fig 30.78. There has been some deformation of the wound head wire, though not sufficient to make it into a round-headed, type C, head. Often the type B heads appear to have originally been stuck onto the top of the shaft, in the type A manner.

Type C Fig 30.79,80. The head has been stamped onto the top of the shaft, using a pair of hemispherically-hollowed punches, distorting the head wire into a round shape.

Further minor types, D-J, are wound wire heads stamped into various shapes, eg an inverted cone or polyhedron.

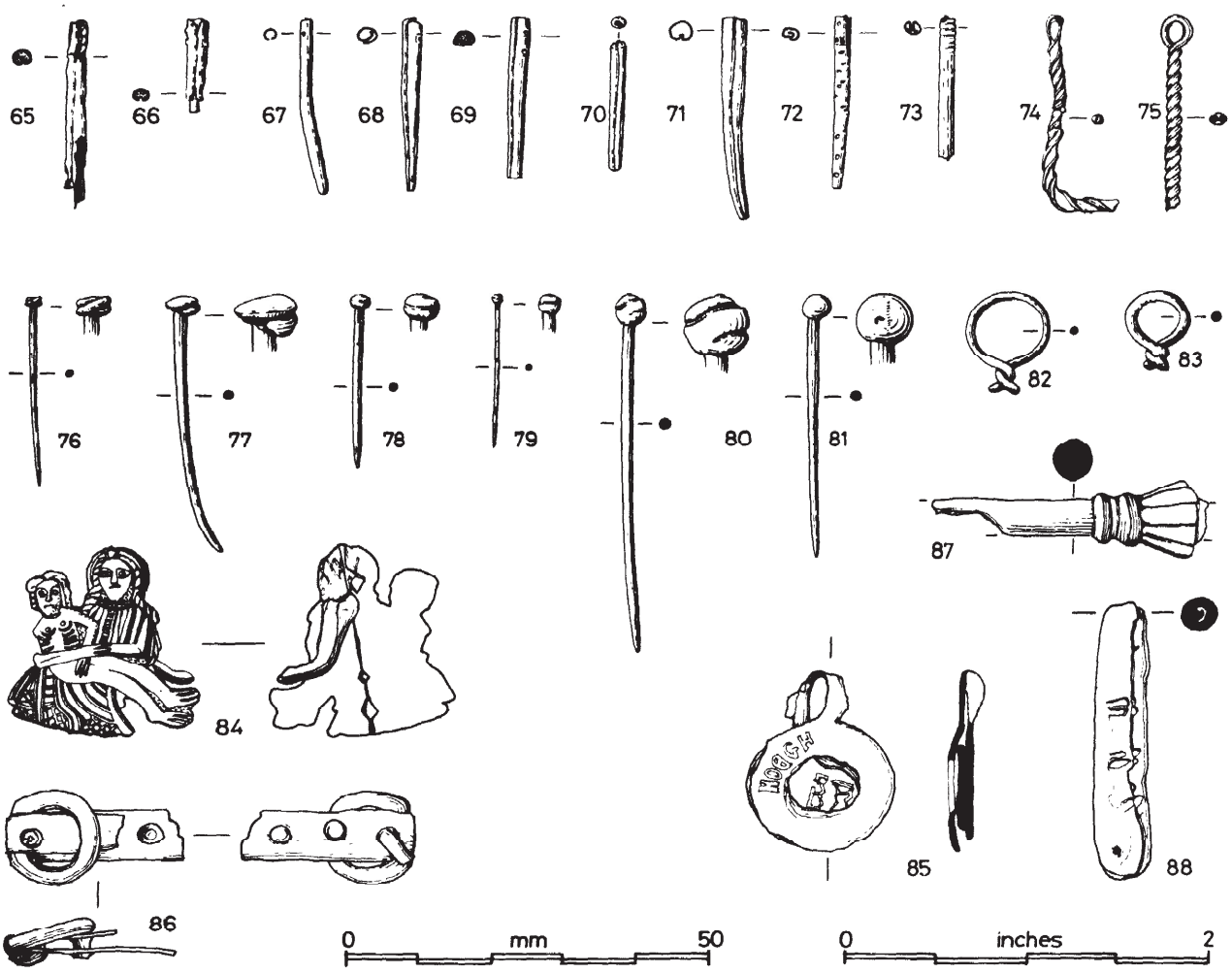

Fig 30 Copper alloy: lace-ends (65-73); twisted wire (74, 75); pins (76-81); twisted loops (82, 83). Pewter and lead: pilgrim badge (84); other objects (85-88). Scale 1:1; pinheads, scale 2:1

The remaining ten pin heads are made from D-sectioned wire, wound once ariound the top of the pin shaft, with the two ends butted together to give a round- or ball-shaped head, type K (Fig 30.81). These pins are usually slightly larger. (Percentages in Tables 2-4 are calculated to the nearest ½%.)

Table 2 shows that the types are unevenly distributed through the periods. Type A is the most common pin head in Period XI:3. In Period XII:1 the type B head, and in Period XII:2 the type C head, predominate. Bearing in mind the limitations of the evidence, it would appear that there is a gradual change in the form of the pin head attachment during the 16th and 17th centuries.

The other types of wound wire pin head, D-J, make up only a small percentage of the total in any phase, and none is specific to one phase or period. Type K heads, however, only occur in S328 (*c* 1560-90) and modern contexts, and so can be specifically attributed to the latter half of the 16th century.

The variation in shaft diameter, length, etc in each phase was expressed in histogram form. This showed that there was a greater percentage of longer thicker pins (average shaft diameter 1.03mm) in Period XI:3 compared to the later periods (average shaft diameter 0.94mm). A similar decrease in the size of pin shafts during the 16th and 17th centuries has been suggested for the pins from both St Peter's Street, Northampton, and Sandal Castle (Caple 1983).

X-ray fluorescence analysis of these pins and some of the wire and twisted loops showed the exclusive use of a low-leaded brass for the manufacture of the wire used to make them. The alloy contained 15-33% zinc and less than 5% lead, with no systematic variation corresponding to any context or phase nor with any use of the wire.

Analysis of the surface of some pins which have a grey or white metal coating revealed that this is an alloy of tin and lead. Table 3 shows that such pins are present from the 16th century onwards, and always represent a substantial proportion (16-46%) of the total from any phase. The difficulty in detecting traces of this coating, due to variable corrosion conditions, means that little significance can be attached to these percentages.

The twisted loops (Fig 30.82, 83) are thinly scattered through the phases and are too few for their distribution

Table 2 Number and percentage of pin head types by phase

Phase	*A*		*B*		*C*		*D - j*		*K*		*Total*	*Rate of deposition (per Year)*
	No	%	No	%	No	%	No	%	No	%		
XI:2	-		-		1		1		-		2	0.03
XI:3												
excluding S328	6		5		5		-		-			
S328 only	8		5		5		-		7			
Total	14	34	10	24.5	10	24.5	-		7	17	41	1.37
XII:1												
excluding S47	20		32		21		10		-			
S47 only	4		16		10		1		-			
Total	24	21	48	42	31	27	21	10	-		114	2.85
XII:2	4	7.5	14	27	30	58	4	7.5	-		52	1.3
XII:3	1	7.5	6	46	4	31	2	15.5	-		13	0.43
XIII:1*	29	15	59	30.5	80	41.5	25	13	-		193	6.43
XIII:2+	17	22.5	22	29.5	28	37.5	5	6.5	3	4	75	-
Total	89		159		184		48		10		490	

*(including S1002, XII:1-XIII:1)

Table 3 Number of wires, twisted wire loops, and pins with lead-tin alloy coatings by phase, also expressed as a percentage of total pin and wire assemblage

Phase	*Wire*		*Twisted loops*		*Coated pins*	
	No	*8*	*No*	*%*	*No*	*96*
XI:3						
excluding S328	1		1			
S328 only	29		Text			
Total	30	37.5	1	1.5	13	16.5
XII: 1						
excluding S47	15		11			
S47 only	-		2			
Total	15	8	13	7	64	34.5
XII:2	-	-	-	-	31	45.5
XII:3	3	13.5	4	18	4	18
XIII:1*	6	2	10	3.5	92	33
XIII+	4	3.5	9	8	33	29
Total	58	8	37	5	237	31.5

*(including S1002, XII:1XIII:1)

to be significant, with the possible exception of Period XII:3, where they form a relatively large proportion of the assemblage. Their function is unknown.

The scraps of wire resemble that used to make the twisted loops and pins, though on average they have a slightly larger diameter, 1.52mm, as opposed to 0.95mm for the pin shafts. The wires are usually short and have the appearance of offcuts. Half of them came from S328, which also contained two of the four 'pinner's bones: deeply-grooved bones probably used to sharpen the points of pins (p 58, Fig 36.11, 12). The assemblage from S328 also contained all the stratified examples of type K pin heads. The filling of this pit may be a deposit arising from the manufacture of pins. In the 19th century pin-makers are recorded as further drawing the wire they received before making it into pins, thus giving rise to a number of thicker offcuts of wire as seen in this deposit. The absence, however, of partially-made pins suggest that it was connected with pin usage, rather than manufacture.

Throughout the country, sites of this period produce large numbers of pins, which are too frequently neglected, hence our lack of understanding of pin assemblages. In this case, it may be that many of the pins found their way into rubbish deposits from loss by the wearers of pinned garments, which were much more prevalent in the 16th-19th centuries than they are today. Alternatively, in greater numbers, they may mark the sweepings from a business or trade involving the use of complete pins, eg dress-making, haberdashery, or lace-making, which may be represented, on this site, by the high concentration in the late 16th century, and especially in the early 17th century (Period XII:l). The relatively uniform alloy composition and the minor changes in pinhead type and dimensions indicate that both the metal for narrow-gauge copper alloy wire and its subsequent products were kept constant. Though the demand for pins, as represented by their rate of deposition, might have fluctuated, the pin types changed little.

Metallurgy

by Justine Bayley and C Caple

Site S yielded evidence of metalworking, in the form of waste scraps of sheet metal, and droplets and dribbles of cast metal. The concentration of the cast metal droplet waste from XII:2 and XIII:1, when seen in comparison with the total of copper alloy metalwork from the phase (Table 4), suggests metalworking at or near the site during at least XII:2; the later material is probably residual. One of the pieces of cast waste, from XII:2, is probably a casting sprue, ie the metal which solidified in the funnel mouth of the mould.

The casting debris consists of alloys of copper and lead with small amounts of zinc, tin, antimony, and arsenic present alone or in combination. It is unlike the sheet metal or pin alloy compositions, resembling rather the compositions encountered by Dr Brownsword in his analyses of medieval cast copper alloy objects (Brownsword & Pitt 1981, 184-5).

Sheet metal debris includes 61 offcuts, cut from larger sheets with shears. Many are triangular, or thin tapering strips, with some rhombi, trapezia, and other quadrilaterals, many less regular. X-ray fluorescence analysis showed that two fragments (XI:3) were bronzes, with a small amount of arsenic present. This is slightly unusual as bronze is not the alloy usually used to make sheet metal in the medieval and post-medieval periods. From the limited number of analyses available, it appears more often to be made of either brass, leaded brass (Cameron 1974, 215-38), or a quaternary alloy of copper, zinc, tin, and lead (Caple forthcoming), all of which are more easily worked than bronze.

Table 4 Cast waste and skeet offcuts expressed in numbers and as a percentage of all copper alloy metalwork in phase

	Cast waste		*Offcuts*	
	No	*%*	*No*	*%*
XI:2	-	-	-	-
XI:3	1	0.5	14	9
XII:1				
excluding S47	-		10	
S47 only	2		1	
Total	2	0.5	11	3.5
XII:2	3	3	4	4
XII:3	-	-	6	9
XIII:1*	11	2.5	22	5
XIII+	3	3.5	4	4.5

*(including S1002, XII:1-XIII:1)

All scrap sheet examined from XII:1 (AM 817415-21) is of quaternary alloys containing copper, zinc, lead, and tin, though in varying proportions. Most of the samples are of similar composition to the lace-ends, but with the addition of a few percent of tin. One example (AM 817416) contains significantly more tin, while another (AM 817418) contains only a few percent of zinc. The lead levels are, on average, somewhat lower than for the lace-ends.

Other fragments of sheeting are mostly from square or rectangular plates with rivet holes or rivets, presumably for attaching the plates to leatherwork. These are composed of either brass, leaded brass, or a quaternary alloy. This variable composition contrasts with the alloy used for the sheet metal cf which the lace-ends are composed, which is invariably brass or low-leaded brass of similar composition to the pins.

The objects made of sheet include three of composition comparable with that of the lace-ends (AM 817431, 817436, and 817438, XII:1 and XII:3), three comparable with the offcuts (AM 817434-5 and 817439, from XII:2, XI:2, and XII:3, including Fig 29.62), and two (AM 817432-3, from XIII:1 and XI:3) of quaternary alloys containing only a little zinc.

The variable composition of the alloys from which the larger pieces of sheet metal are made may suggest a less controlled or intermittent metalworking or metal supply for these larger products than for the lace-ends or small wire products with their consistent alloy composition. It seems likely that much of the waste is associated with small-scale metalworking incidental to the production of leather goods.

Pewter and lead objects (Fig 30)

Lead pilgrim badge

by Brian Spencer

84. 572; XII:1. This leaden pilgrim badge depicts the Pieta (Cur Lady of Pity), the Virgin with the dead Christ

in her lap-a concept that gave rise to a widespread cult in the 15th century. Devotees ensured that many churches procured images or paintings of Our Lady of Pity, to stand in poignant contrast to existing figures of Our Lady of Grace, the Virgin with the infant Christ on her lap.

Two badges very similar to the Chelmsford specimen were found in 1978 in late 15th to early 16th century deposits on the former Thames foreshore at Bankside, London. Another has recently been excavated at Towtester, while a fourth was found in the 1920s beneath the mid 15th century stalls in the Beauchamp Chapel of St Mary's Church, Warwick. Which particular miracle-working image or images of our Lady of Pity these badges commemorated cannot now be established for certain, but it is tempting to associate them with the pilgrimage to Walsingham Priory, Norfolk. Aside from Windsor and possibly Canterbury, Walsingham was the only English pilgrim-centre in the early 16th century with enough appeal to support a souvenir trade that mass-produced momentoes not simply of its principal attractions, but of seven or eight additional subjects of minor interest.

Among the latter was a figure of Our Lady of Pity. Thus when John Benett of Raunds, Northants, arranged in 1531 for a Walsingham pilgrimage to be undertaken on his behalf, he singled out for special regard not only the famous statue of our Lady of Walsingham but also the priory's phial of Our Lady's Milk, its chapel of St Laurence, and its image of Our Lady of Pity (Serjeantson & Longden 1913, 262-3), all of them subjects that appear to be well represented in Walsingham's prolific output of leaden pilgrim signs (Spencer 1980, 10-17). A St Laurence badge was found some twenty years ago in the river near the Stone Bridge, Chelmsford (Spencer 1968, pl 111.3; now in private hands).

Reinforcing this suggested attribution to Walsingham, three other pilgrim signs of the Pieta should be mentioned, one from Bull Wharf, London (1979), the others from Dunwich and Ipswich, all of them appearing to date from *c* 1520-40. In these, however, the subject has been embossed with a die on to paper-thin flans of brass, a technique developed in the late 15th and early 16th century at shrines in the Rhineland and the Low Countries. But it is now clear that pilgim badges of known Walsing ham origin were also produced by this method.

Lead cloth bale seal

by Brian Spencer

85 County ulnage seal, stamped with a portcullis at the centre and an inscription round the edge. The name of the county concerned has not survived. 542; XII:1

Other objects

by Alison R Goodall

86 Small pewter buckle with pin and narrow buckle-plates of copper alloy. S1002; XII:1-XIII:1
87 Part of pewter spoon handle with baluster moulding. S80; XII:3
88 Rolled lead object, possibly a weight. S223; XII:2
Not illustrated: Lead bar of approximately rectangular section, c 91 x 15 x 7mm. S329; XII:3

Ironwork

by Ian H Goodall', with contributions by Blanche Ellis and Graeme J Rimer

Tools (Fig 31)

The tools are mainly associated with woodworking, leatherworking, and agriculture.

1 Saw blade fragment. S72; XII:1
2 T-shaped auger with broken bit, the handle of unusual form with opposed recurved terminals and a central hole. S737; XI:3
3 Claw hammer with burred face. S328; XI:3
4 Tooth from heckle used to prepare wool or flax fibres for spinning. S102; XI:3
5,6 Awls, both with iron-impregnated wood from former handles. No 5 has a curved, possibly distorted blade with a flattened tip, 6 a collar and broken tip. S47; XII:1, S50; XII:2
7 Stiletto with a short riveted tang, knop, and tapering blade, used to make eyelet holes through which cords or laces were threaded. S328; XI:3
8 Rake prong, similar to others from Kettleby Thorpe, Lines and elsewhere (Goodall 1974, 34, fig 19.35). The clenched tip which secured it in the wooden stock is now broken. S72; XII:1
9 Hoe, blade and tang broken. S328; XI:3
10 Sickle(s), blade(s) and tang incomplete. S334; XII:2
11 Pitchfork, similar to others from the forge used during the 1645 siege at Sandal Castle, W Yorks (Goodall 1983, 242, fig 5.57-9). AA1.3; X1:2/3

Knives, shears, and scissors (Figs 31, 32)

Whittle and scale tang knives such as 12-28, with a medieval ancestry, continued in use during the post-medieval period alongside knives 29-35 and 37 which have the characteristically later bolster between blade and tang. The bolster was developed during the 16th century (Hayward 1957,4) as an alternative to separately applied non-ferrous shoulder plates like those on 17, 22, 23, and 25. No 37 has inlaid decoration of a type occasionally found on 17th century knives, whilst 12, 23, 30, 35, and 36 have cutlers' marks, mostly inlaid, struck on their blades.

Whittle tang knives

No 12 has an inlaid cutler's mark, 17 has solder on the blade from lost shoulder plates, and 19 is a handle with a tang and a copper alloy collar abutting the former blade. 12 S104; XI:2, 13 S127, 14,16 S328; XI:3, 15 S331; XII:1, 17 S347, XI:3, 18 S72, XII:1, 19 S1002; XII:1-XIII:1
Not illustrated: Two examples from S102: XI:3 and s1005: XII:1.

Scale tang knives

20 S737; X1:3,21 S331; XII:1
22 Solder from former shoulder plates. AAl,3; X1:2/3
23 Shoulder plates; inlaid culter's mark. S1005; XII:1
24 Bone handle with iron rivets and oval end cap; blade broken. S47; XII:1
25 Solder from former shoulder plates; non-ferrous metal along tang edges and around holes. S1008; XII:3

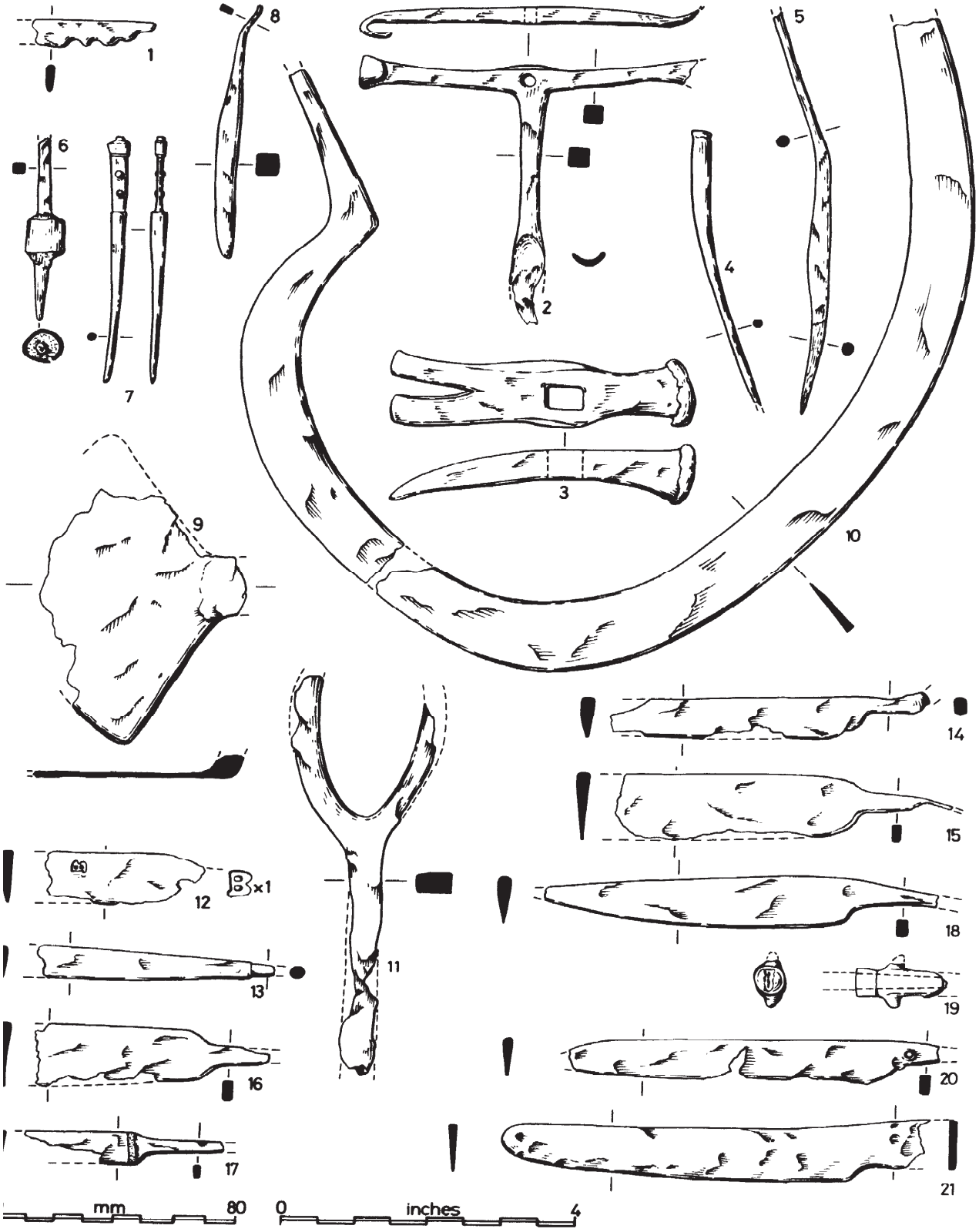

Fig 31 iron: tools (1-11); knives (12-21). Scale 1:2; cutler's mark, scale 1:1

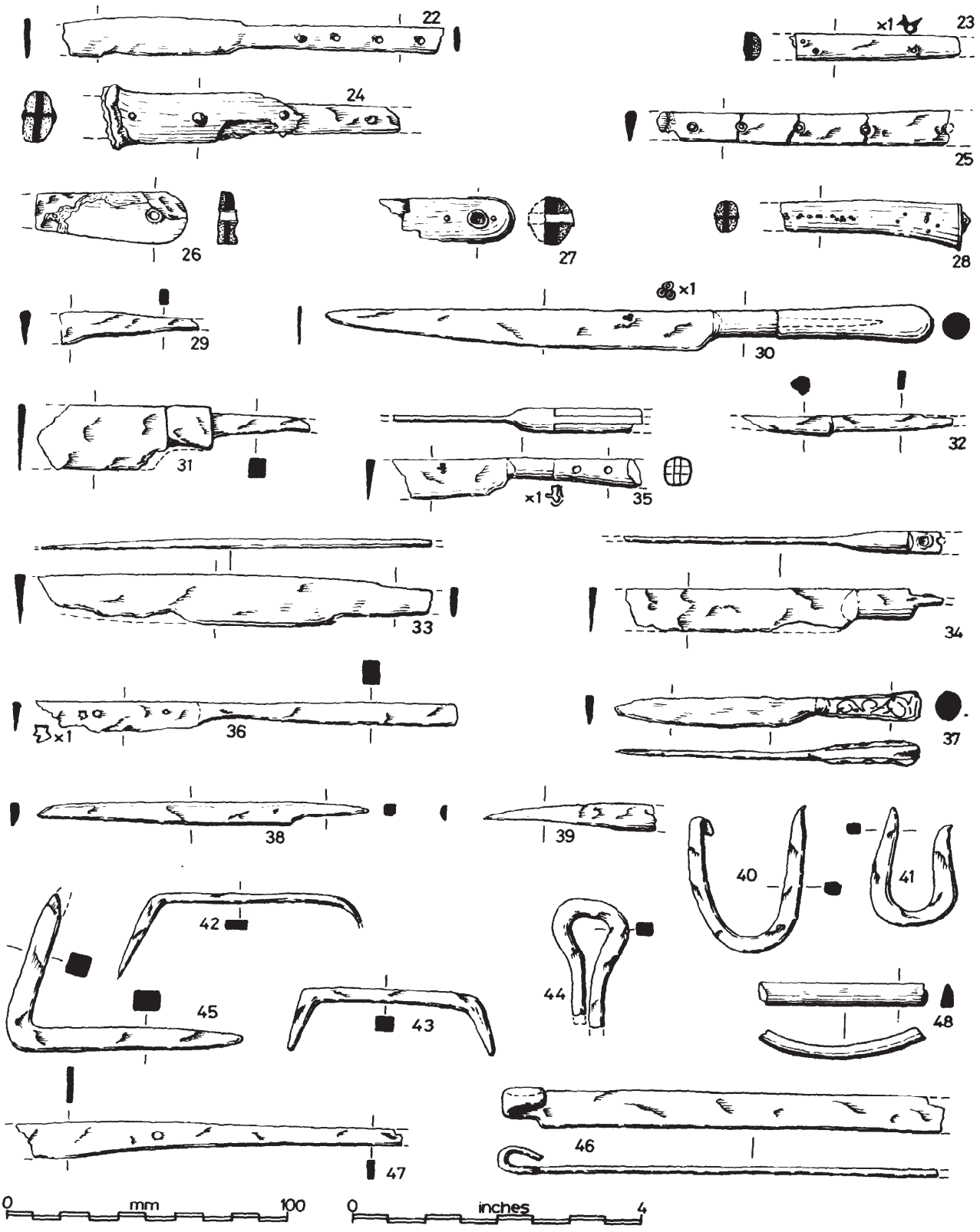

Fig 32 Iron: knives (22-37); shears (38); scissors (39); building ironwork (40-48). Scale 1:2; cutler's marks, scale 1:1

26 Tang tip with copper alloy lining to hole and traces of wooden handle. S737; XI:3
27 Tang tip with bone scale, copper alloy end-plate, and hole lining. S302; XI:3
28 Tang fragment with copper alloy pins, rivets, and end cap, and wooden handle. S 1005; XII:1
Not illustrated: Tang and blade broken. S1004 knife with copper alloy shoulder plates. Sl00l; XIII
Tang fragment. S104; XI:2
Tang fragment with non-ferrous metal along edges;
iron rivet. 5302; XI:3
Solder from former shoulder plates. S89; XII: 1

Whittle tang knives with bolsters

No 30 is complete with cutler's mark, ? inlaid, and bone handle.
29 S328; XI:3, 30 S47; XII.1, 31 S80; XII:3, 32 S1002; XII:1-XIII:1

Scale tang knives with bolsters

33 S328; XI:3
34 Tang atypically at right angles to plane of blade. S47; XII: 1
35 Cutler's mark. S341; XII:1

Knife with solid handle

36 Blade broken; inlaid cutler's mark. S160; XII:3

Decorated knife

37 Complete blade and bolster, with inlaid silver wire decoration on bolster. S1002: XII:1-XIII:1

Not illustrated: Four blade fragments. S104; XI:2, S1008; XII:3, S1002; XII:1-XIII:1

Shears

38 Plain blade with ground edge and broken handle. s130; XI:2
Not illustrated: As 38 but blade also broken. S47; XII:1

Scissors

39 Broken blade. Sl0l0; XIII:1
Not illustrated: Handle fragment with centrally-set oval finger loop. X36; XII:3

Building ironwork (Figs 32, 33)

40, 41 U-shaped staples. S47; XII:1, S189; XIII:1
42, 43 Rectangular staples. S328; XI:3, S356; XII:1
44 Ring staple. X42; XI:2/3
45 Hinge pivot. S74; XII:1
46 Hinge with looped eye and broken strap. S328; XI:3
47 Tapering strap fragment with thickened tip. S328; XI:3
48 Parallel-sided strap fragment. 5328; XI:3
Not illustrated: Six fragments, as 48. S104; XI:2, S328; XI:3, S72; XII:1, S302; XI:3, S1002; XII:1-XIII:1
Binding strip, 233mm long, rectangular section. S1002; XII:1-XIII:1
49 Angle bracket with expanded terminals. S334; XII:2
50 Figure-of-eight hasp, broken. S1002; XII:1 -XIII:1
51 Latch hook. S85; XII:3

Lock furniture (Fig 33)

Barrel padlocks such as 52, more familiar in the Middle Ages, continued in use in the post-medieval period alongside such later types as the globular padlock 53, itself comparable with two from Chingley Forge, Kent (Goodall 1975, 73, fig 35.102-3). The mounted lock 55, its mechanism complete, was opened by a key with a hollow-tipped stem. It is not unlike a lock with a dished case from Oxford Castle moat (Goodall 1976, 300, fig 28.59).
52 Barrel padlock with plain case and broken shackle; bolt missing. S737; XI:3
Not illustrated: Fragment of plain barrel padlock case. S328; XI:3
Padlock bolt with flat, round headand three spines with double leaf springs, of the type used with padlocks such as 72. S unstrat
53 Globular padlock with hinged shackle partly outside case; L-shaped bolt; hole in case opposite keyhole for projecting key stem tip. S47; XII:1. For an X-ray, see Pl VI
54 Padlock shackle, broken. S328; XI:3
55 Mounted lock with damaged plate retaining most of mechanism. S328; XI:3
56 Key with solid stem and heart-shaped bow. S50; XII:2
57 Key with hollow stem, broken bit, collar next to oval bow. S36; XII:3

Household ironwork (Figs 33, 34)

58 Tripod, one leg broken. X36; XII:3
59 Bucket handle. S328; XI:3
60 Base of bucket handle. X42; XI:2/3
61 Side escutcheon to attach handle to bucket. S328; XI:3
62 Handle with lozenge-shaped terminals. S103; XI:3
63 Chain link and fitting. S47; XII:1
64 Broken link. S335; XII:2
65 Pair of swivel rings. S114; XII:1
Not illustrated: As 65, but incomplete. S330; XII:3
66 Swivel hook. S339; XI:3
Not illustrated: Two rings of 16mm and 61mm dia. S50; XII:2, S1002; XII:1-XIII:1
67 D-shaped collar. S42; XII:1
68 Circular collar. S1002; XII:1-XIII:1
Not illustrated: As 68, 23mm dia, 16mm deep. S72; XII:1
Four sheet fragments. S328; XI:3, S737; XI:3
Wire, 42mm long. S72; XII:1

Buckles and personal equipment (Fig 34)

Buckles 69-78 are likely to have been used on dress and harness, the revolving cylinders of 75, 76, and arm of 77 being particularly suited to the latter purpose. Belt hooks 79-80 were slipped onto a belt and the central loop of a purse such as 81 placed over the hook. The purse frames 81-83 are variously incomplete, but the form is indicated by complete late medieval examples from London (*LMC* 1967, 158-71).

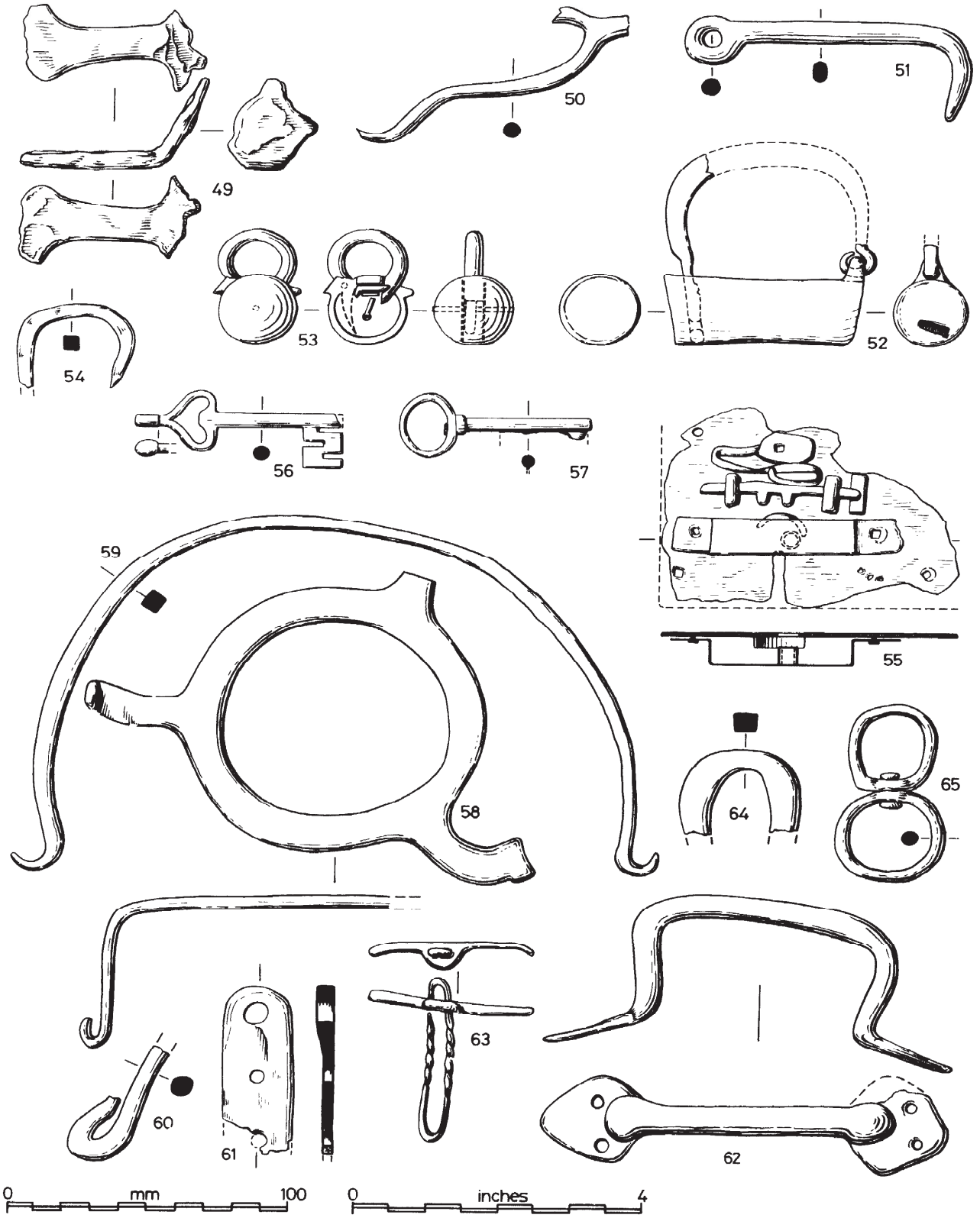

Fig 33 Iron: building ironwork (49-51) lock furniture (52-57); household ironwork (58-65). Scale 1:2

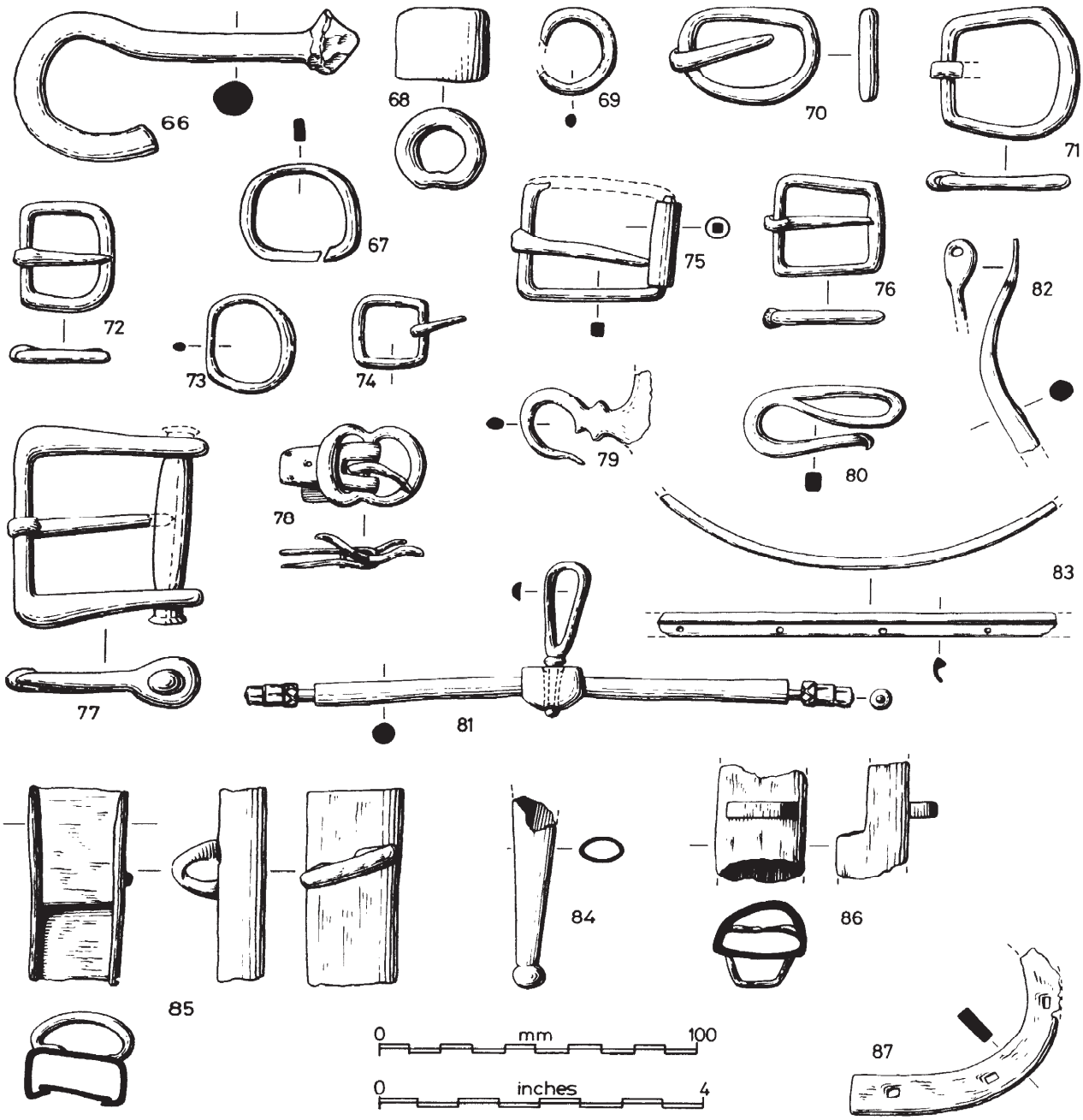

Fig 34 Iron: household equipment (66-69); buckles and personal equipment (70-87). Scale 1:2

D-shaped buckles

69 Frame. S104; XI:2
70 Frame and pin. 572; XII:1
71 Frame and pin loop: S80; XII:3
72 Frame and pin. S1002; XII:1-XIII:1
Not illustrated: Broken frame. S1007; XI:3
Frame and pin. S23; XIII

OvaI buckle

73 Frame with non-ferrous plating. S102; XI:3

Rectangular buckle

74 Frame and pin. S1002; XII:1-XIII:1

Trapezoidal buckles

75 Frame with pin resting against cylinder. S356; XII:1
Not illustrated: As 75 but pin broken. S331; XII:1
76 Frame and pin. S unstrat

Rectangular buckle with revolving arm

77 Frame and broken pin; non-ferrous plating. S704; XI:3

Figure-of-eight shaped buckle

78 Frame, plate, and pin with non-ferrous plating. S328; XI:3

BeIt hooks

79 Hook broken. S96; XI:3
80 Loop broken. S80; XII:3

Purse frames

81 Purse bar, arms missing, of iron with copper alloy shaped and moulded end-pieces; non-ferrous plating. S737; XI:3
82 Arm terminal. S72; XII:1
83 Arm fragment with holes for attachment of bag. S737; XI:3
Not illustrated: As 83. AA1.13; XII:2

Chape

84 Knobbed tip, expanding body. S47; XII:1

Scabbard fittings

85 Mount with flat back and D-shaped loop. S328; XI:3
86 Fitting with two divisions and mount. S328; XI:3

Mail

by Graeme J Rimer

Two fragments of European iron mail. S328; XI:3
Although badly corroded, X-ray photographs show that they were originally composed of rings *c* 10mm (3/8in) in diameter, of comparatively thick iron wire. No indication of the method of construction of the rings is visible. It is generally difficult to date a piece of mail accurately; the size of the rings suggests some time between the 15th and the early 17th centuries, and the context provides a *terminus ante quem* in the late 16th century.

Heelirons

87 Incomplete. S40; XII:3
Not illustrated: As 87. S unstrat

Lace-end

Not illustrated: Length 22mm. Contains the remains of a thread or cord, 1.25mm in diameter, too decayed for identification. S328; XI:3

Horse equipment (Fig 35)

The horseshoes, similar to some from Basing House, Hants (Moorhouse 1971,45-7, fig 20.73-75,77), all have rectangular nailholes punched through moderately wide iron with a smooth outer edge and U-shaped inner outline. Figure 35.88-90 are representative, near complete horseshoes; there are some thirteen other arm fragments and eight tips. The bits and stirrup are of unexceptional type-

88-90 Horseshoes. 88,89: S328; X1:3,90: S737; XI:3
91 Pair of mouthpiece links and fragment of ring cheek-piece of snaffle bit. S737; XI:3
92 Mouthpiece link from bridle bit. S737; XI:3
93 Flat rectangular tread from stirrup. S1002; XII: 1-XIII: 1

Spurs

by Blanche Ellis

94 Rowel spur. The sides commence a gentle curve under the wearer's ankle but their front (terminal) ends have rusted away. They seem to have been of D-section and some incised diagonal lines decorate the outer surface of one of them. The short neck appears to have had a slight downward curve but is now a little twisted. It is divided for most of its length by the rowel box. Star rowel of six broad points. Overall length of spur 90mm; length of neck 26mm; diameter of rowel *c* 23mm. Typological date: 16th century. S328; XI:3
95 Fragment of a rowel spur, very severely rusted. The one remaining slender side is almost straight, its terminal missing, and a stump remains of the other side. Short neck divided for two-thirds of its length by the rowel box, one side of which is missing, the other probably almost complete. Overall length *c* 113mm; length of neck 25mm; length of side 95mm. Typological date: post-medieval. S339; XI:3

Bone objects (Fig 36)

by C M Cunningham

1 Simple double-sided comb, undecorated. S47; XII:1
Not illustrated: Fragments of two combs, as 1. S80; XII:3, S339; XI:3
2 Short, simple double-sided comb, undecorated. S50; XII:2
3 Die. Each unit is represented by a large dot, evenly spaced. Cube of 8mm. S unstrat
4 'Jingle' or lace bobbin for making fine lace. Beads on wire were threaded through the hole to weight the thread (Wright 1971, pls 9,l0). Decorated head, broken tip. AA unstrat
5 Handle terminal, attached to an ivory plate between two discs of copper alloy, possibly brass, and held together by an iron tang. S47; XII:1
6 Hollow eight-facetted handle. The remains of the iron tang penetrate 29mm into the socket, with iron staining on the face of narrow end. The wider end is decorated with three raised ridges, and there is a socket and deep scoring on the end face, probably to seat a handle terminal. S47; XII:1

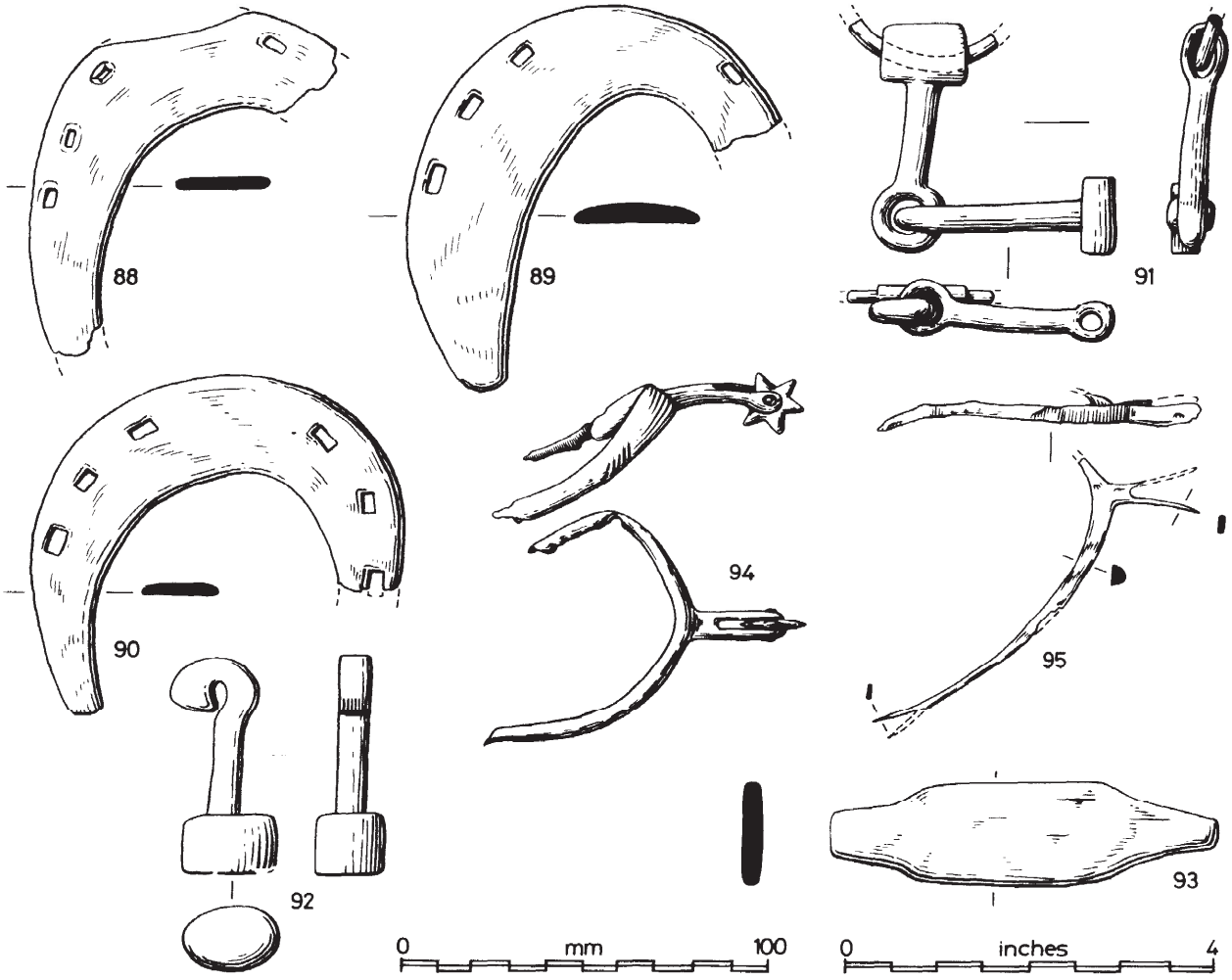

Fig 35 Iron: horse equipment (88-93). Scale 1:2

7 End of worn handle from scale tang knife. Iron tang attached to bone plate by an iron rivet. Incised decoration in the form of lines, and ring and dot. S3 (construction trench); XIII:2

8, 9 Plain, rounded handles, broken, with remains of iron whittle tang. S54; XII:3. S1002; XII:1-XIII:1

10 Shaped handle possibly for whittle tang knife. S1010; XIII:1

(For related iron knives, see above, p 54.)

Not illustrated: Pin or tooth-pick, head missing, surviving length 49mm. X42; X1:2/3

Pinner's bones

Four bones, varying in length from 50mm (36.11) to 93mm (36.12). Their surfaces are grooved and facetted as a result of the sharpening or resharpening of the points of pins. Two of them also have green staining, probably because of this contact with copper alloy. Figure 36.11 is made from a bovine metapodial shaft; 36.12 and another from bovine distal metatarsals (distal epiphysis unfused); and the last from a bovine proximal metacarpal (bones kindly identified by Dr R M Luff). 11 S114; XII:1, 12 S328; XI:3. Not illustrated: S328; XI:3, S unstrat

Clay pipes (Fig 37)

by C M Cunningham

The earliest clay pipe is from S47 (XII:1), Oswald's type G2 of *c* 1580-1610 (Oswald 1975, 37, fig 3G), with the initials 'FS' stamped on the base (Fig 37.1). The five examples of G4, of *c* 1600-1640, two of which are rouletted, are all residual (Fig 37.2,3. S1002; XII:1-XIII:1). S1002 also produced two spurred pipes of type G16 *(c* 1610-40), both rouletted, and one with the initials 'GI' stamped on the stem (Fig 37.4). Ten other contexts of Period XII:1 produced plain stem fragments.

Six pipes can be dated to the period *c* 1640-60 (type G5, Fig 37.5), but all are residual (S36, S311; XII:3,

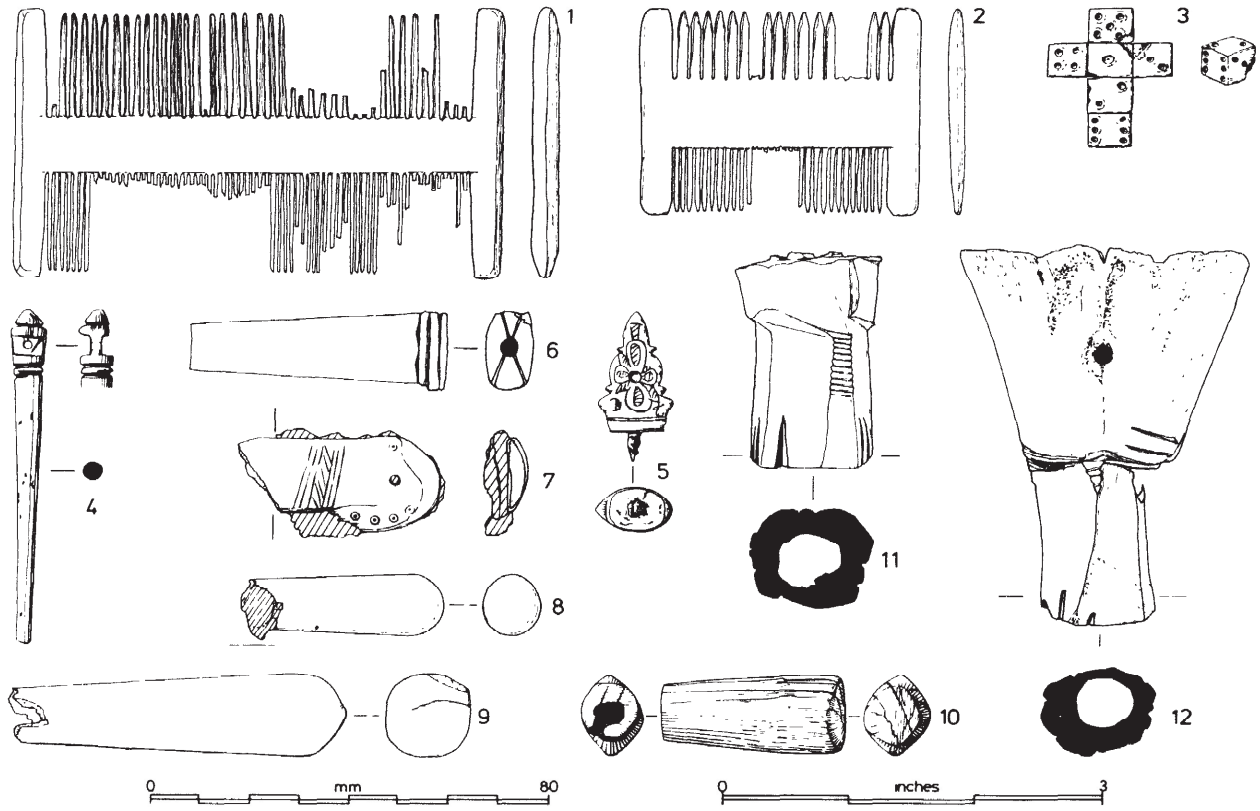

Fig 36 Bone objects. Scale 2:3

S1002; XII:1-XIII:1, S3; XIII). There are eleven examples of the spurred pipe G17 of *c* 1640-70 (Fig 37.6) including one from site AA (AA2.5; XII:3), but only one (S179; XII:2) is contemporary in its context.

The largest category is the type G6 *(c* 1660-80) with some 86 examples, mostly rouletted. Fifty of these come from S54 and S53-58 (XII:3), and many minor differences within the group are apparent.

7 Seven identical pipes with the initials 'IIW' on either side of the base
9 Two like 7, but unmarked
10 Two like 9, but slightly longer and more bulbous
11 One like 10, but with a smaller foot
12 Six with straighter sides
13 Sixteen with noticeably longer, more bulbous bowls
14 Four like 13, but even longer
15 Three like 13, but with heart-shaped feet. A fourth is not quite so bulbous.

Another eight fragments cannot be assigned to a specific mould.

Many of these pipes are misformed, cracked, and discoloured. The marked pipes (Fig 37.7) are all from the same, or identical, moulds, but Fig 37.8 (S1002; XIII:1), with the same initials, is slightly smaller and is from a different mould. The three pipes represented by Fig 37.15 are certainly from one mould. The only type of pipe other than G6 in this group is G17, *c* 1640-70, five examples (Fig 37.16). This concentration of pipes in Period XII:3 must be associated with the use of the building on site S as an inn, and undoubtedly such taverns would have been a main centre for the distribution of pipes. Indeed, many pipes bore the names or signs of public houses (Atkinson & Oswald 1969, 188-9). These pipes may be the worst of a batch supplied to the innkeeper by a local pipemaker.

Other pipes of type G6 occur in S36, S311, and S327 (XII:3) and residually in XIII:1 and XIII. Seventeen pipes with almost straight sides are of type G7, of *c* 1660-80 (Fig 37.17), eight of which come from Period XII:3 contexts.

Twenty-two pipes can be dated to the period *c* 1680- 1710. All but one of these are type G8, and Fig 37.18 (S323; XIII:1) has blurred marks on either side of the base. The single example of type G9 (Fig 37.19, S3 17; XIII:1) has a star in relief on either side of the base.

Eighteenth century groups include three pipes of type GlO *(c* 1700-40), one of which has the initials 'EE' on the base (Fig 37.20, S707; XIII); another is marked 'IC' (Fig 37.21, S311; XII:3).

Evidence of clay pipe manufacture is postulated from a group from AM.11 (XIII:2). This pit produced clinker, coal, and clay pipe fragments. Obvious wasters were few, but the pipes all conform to type G11 of *c* 1730-60 (Fig 37.22). The length of the stem fragments suggests 'Alderman' pipes (Harley 1963,24). Seven of the ten pipes

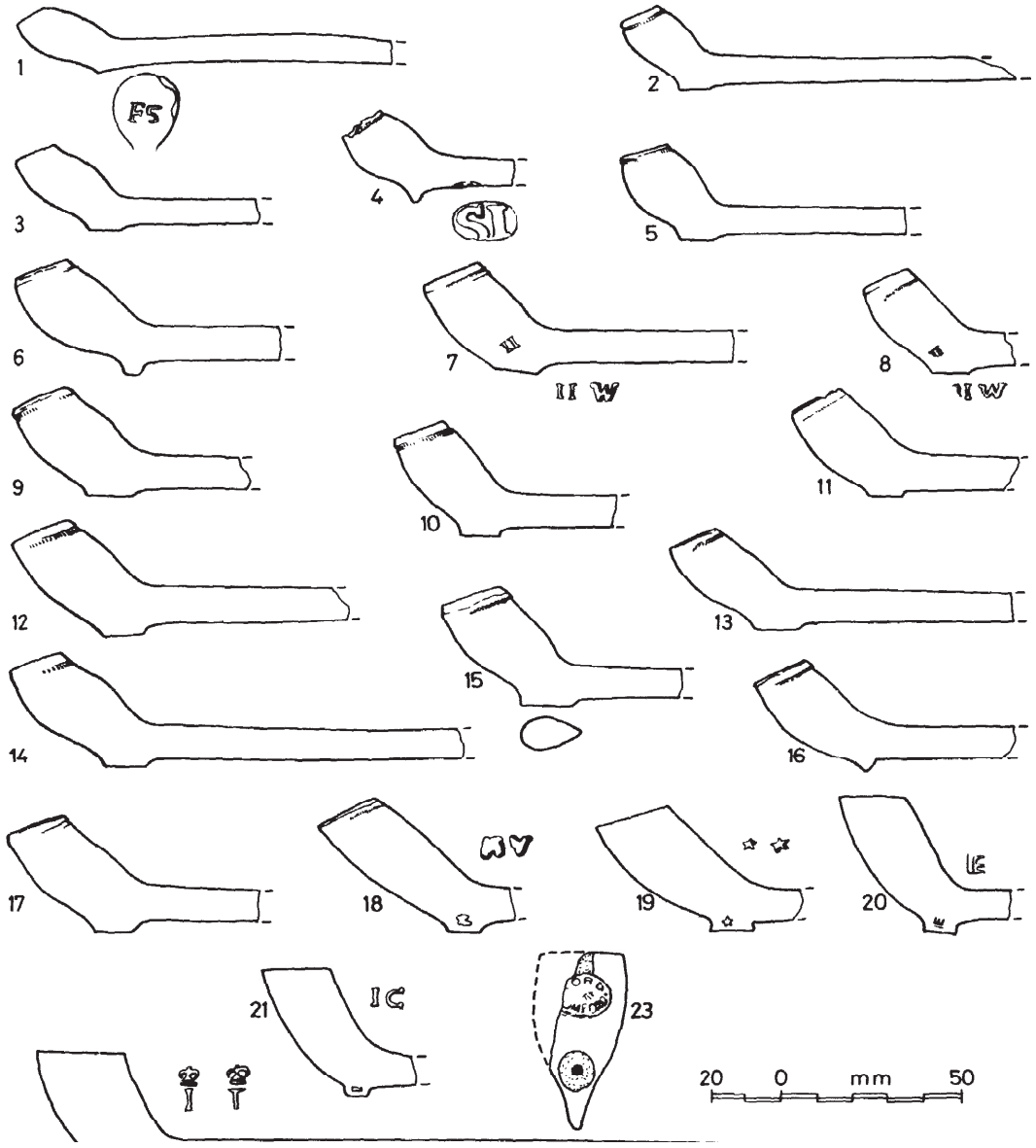

Fig 37 Clay tobacco-pipes. Scale 1:2; marks, scale 1:1

bear the initials 'IT' on either side of the foot, each surmounted by a crown, and there is no rouletting around the lip. This, and the coal, slag, and pipe fragments from AA2.14 and 2.15 (XIII:2) suggest that pipe manufacture was carried out in the vicinity, although no fragments of the kiln itself were recovered. Only one unstratified example of G11 was found on site S.

Pipes of the latter half of the 18th and the 19th centuries are scarce. There are three of type G12 *(c* 1730-80) and one of G22 of the same date range, with an incuse mark on the back of the bowl (Fig 37.23, S2; XIII). This leaves seven 19th century pipes, two of which are decorated, and another with the spur marked '?E'.

Vessel and bottle glass (Fig 38)

by C M Cunningham

Vessel glass

1 Pushed-in foot with folded foot-rim of a mould-blown ribbed beaker, in a fine pale green metal with irridescent weathering. Similar examples are known from Waltham Abbey (Charleston 1969, 94-5) and Hutton (Charleston 1972, fig 64.65-69,71,72,75), and are characteristic of beakers of the later 16th and earlier 17th centuries (Charleston 1975,213). S339; XI:3

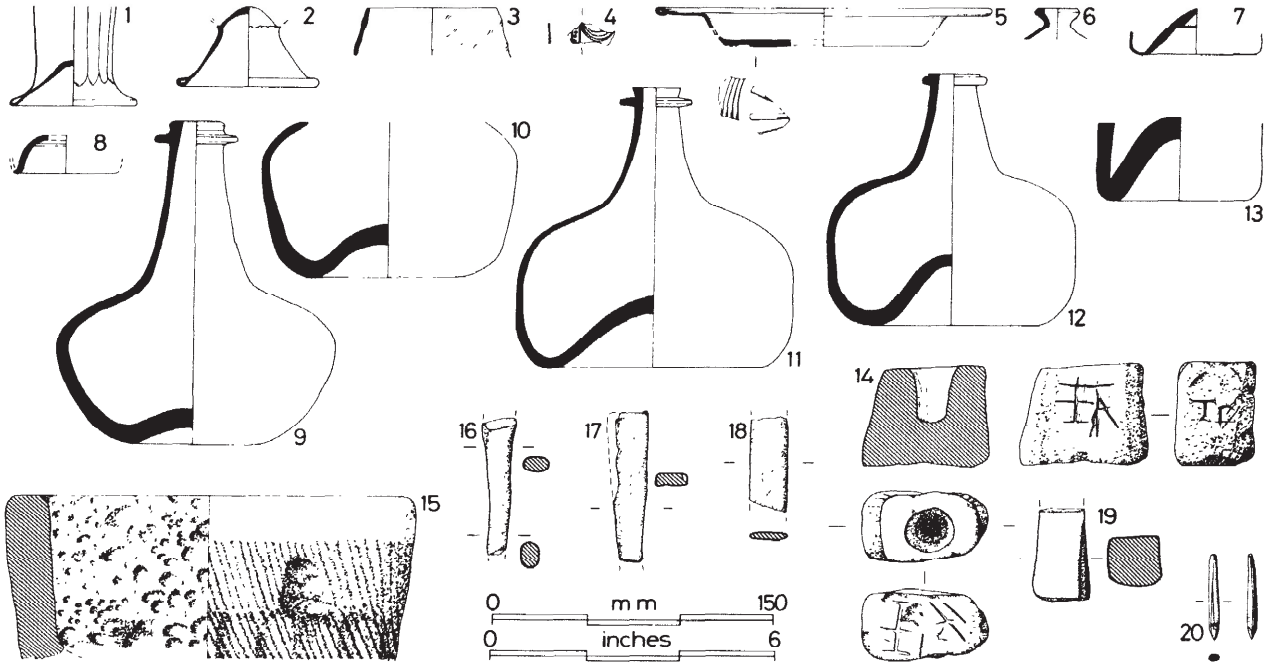

Fig 38 Glass: vessels (1-5); phials (6-8); bottles (9-13). Stone objects (14-20). Scale 1:4

Not illustrated: Similar base but lacking the mould-blown ribbing. X36: XII:3.

2 Base of beaker in a fine pale green metal. Similar undecorated bases occur at Hutton *c* 1600 (Charleston 1972, fig 66.106). S47; XII:1

Not illustrated: As 2. S74; XII:1; two fragments of folded foot-rims in a fine clear metal with green irridescence, one with many pinhead bubbles. S50; XII:2, S unstrat

3 Rim of decorated mould-blown beaker in colourless metal with faint irridescence, cf *ibid,* fig 65.84. S311; XII:3.

Not illustrated: Small body fragment, similar to 3, S1002; XII:1-XIII:1

4 Fragment from a decorated vessel in *cristallo* glass, made from 1567 into the 17th century (Charleston 1975, 211-l 2); diamond-point engraved. S42; XII: 1

Not illustrated: four fragments of plain vessel rims, possibly beakers, in colourless metal, irridesced. S1002; XII:1-XIII:1, S40; XII:3, S unstrat

5 Fragments from a dish with rolled-over rim and flat base decorated with mould-blown ribbing, similar in form to undecorated examples from Waltham Abbey (Charleston 1969, 86, fig 31.2) and Basing House (Charleston 1971, fig 27.18), dated to the first half of the 17th century. Colourless metal with faint purple irridescence. S1008; XII:3, Sl010; XIII:1, s730; XII: 3

6 Neck of small phial in thin mid-green glass (Charleston 1975, 215). S1006; XIII:1

Not illustrated: As 6, but in clear colourless metal (cf Ashurst 1970, fig 34.4). S1002; XII: l-XIII:1

Similar, but with wider shoulders *(ibid,* fig 34.5). S unstrat

7 Base of flask or bottle with conical kick in very fine pale green metal, slightly bubbled. S330; XII:3

8 Domed kick from a base in clear, colourless metal. S330; XII:3

Not illustrated: Roughly-made base with conical kick in colourless metal. S unstrat

Base of square bottle with low conical kick in pale green metal (cf Charleston 1969, 89, fig 31.5-8). S unstrat

Fragment from ? facetted bottle in a clear blue-tinged metal. S40; XII:3

The first vessels to appear are foot-rim beakers in the later 16th century, with flasks or bottles in the late 17th century, and finally small phials in the early 18th.

The wine bottles

The earliest bottle glass comes from S61 (not illustrated; XII:2, 1630-70), consisting of a thick base with a low domed kick, tapering to thin sides in a clear green metal, slightly bubbled. A similar fragment comes from S179 (XII:2).

The use of site S as an inn during Period XII:3 (above, p 32) is reflected by a group of wine bottles from S330. The earliest bottle type has a long tapering neck with angular shoulders and a low kick, in a dark green rather bubbly metal (38.9). This type can be dated from the 1650s to the 1670s (Charleston 1971, 67-8, fig 29.36). Figure 38.10 is similar, but with a higher kick and less angular profile (cf *ibid, fig 29.37,38).* The remaining type, with four examples (including Fig 38.11,12) has a shorter neck, a higher kick and squat body, in a mid-green glass, usually with bubbles. Charleston *(ibid,* cf fig 29.39) quotes

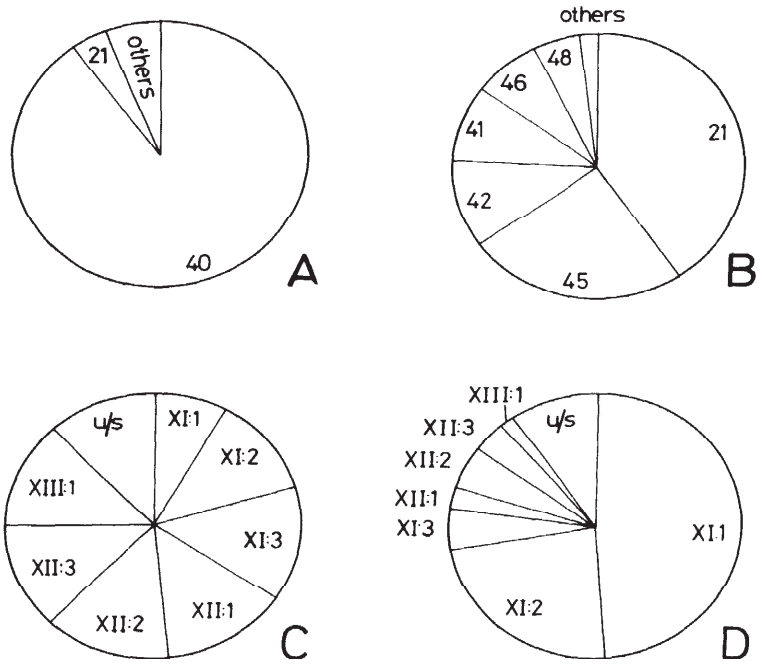

Fig 39 A,B: Proportions of pottery fabrics from all periods. A: all fabrics; B: excluding Fabric 40; C,D: relative importance of (C' Fabric 40 and (D) Fabric 21 through time. Figure 39C,D illustrates the proportion of each fabric in relation to the total number of sherds recovered from each phase. 'Unstratifaed' includes sherds from all contexts not securely phased

dated parallels from 1693 to 1701. Figure 38.12, however, has a much smaller string rim, set very close to the lip. Other fragments from XII:3 come from S54, S311, S730, and S1008.

Period XIII:1 produced fragments of bottles with short necks and dumpy bodies characteristic of the late 17th and early 18th centuries (cf Baker *et al* 1979, fig 169.1156). Only one fragment, from S1002, has a mould seam, uncommon before 1722.

After the end of XIII:1 cylindrical bottles appear, here with high kicks (Fig 38.13), with one example in uncoloured, and three in mid-green glass. They are common after *c* 1750 (Charleston 1975, 215).

Stone objects (Fig 38)

by P j Drury
Identification of stone types by Martyn Owen, The Geological Museum

14 Candle holder, of clunch, partly blackened around the socket. The initials 'IA' have been cut into one face and the bottom (the latter damaged in cutting), and 'TC' is cut into one end. S47; XII:1, early 17th century, which is consistent with the style of the lettering (A C Edwards, pers comm). Perhaps the initials are those of a couple; TC presumably for T-Cooke (p 31).

15 Part of a small mortar with very worn interior surf&e. The rim is plain, below which, externally, there are traces of two near-vertical tooling patterns. Only 12% of the rim is present, insufficient to tell whether handles or lugs existed. The stone is a very shelly and cavernous 'feather bed' limestone, either Quarr stone from the Oligocene of the Isle of Wight, or one of the 'Burr' stones from the Purbeck limestones. S47; XII:1

Even if residual in its immediate context, the dating of the site as a whole suggests that this example should be no earlier than the 15th century. If so, it is presumably of 'Burr' stone, since the Quarr stone quarries at Binstead seem to have been exhausted by the middle of the 14th century (Dunning 1977, 327) or even earlier (Tatton-Brown 1980). The identification is perhaps confirmed by the tooling pattern on the exterior, found on many examples in Purbeck marble (eg *ibid,* fig 147.31). For a distribution map of mortars in shelly limestone, which includes this example, see Dunning 1977, 328.

16- 18 Schist hones, probably the 'Blaustein' variety of the Norwegian Ragstone from Telemark; from S311; XII:3, S328; XI:3 and S706; XII:2 respectively, with another fragment unstratified

19 Rectangular section hone of buff, medium-grained, slightly micaceous sandstone, possibly Millstone Grit. S354; XII:2

The Norwegian hones were apparently the normal type in use on the site, providing archaeological evidence for their continued importation during and after the 15th century. This adds to the evidence from, for example, Northampton, where their importation up to at least the early 15th century is evident (Moore & Oakley 1979, 282-3). Figure 40.19 visually resembles the stone used for early modem grinding wheels from the Pennines; and indeed could have been cut from a broken or worn-out wheel.

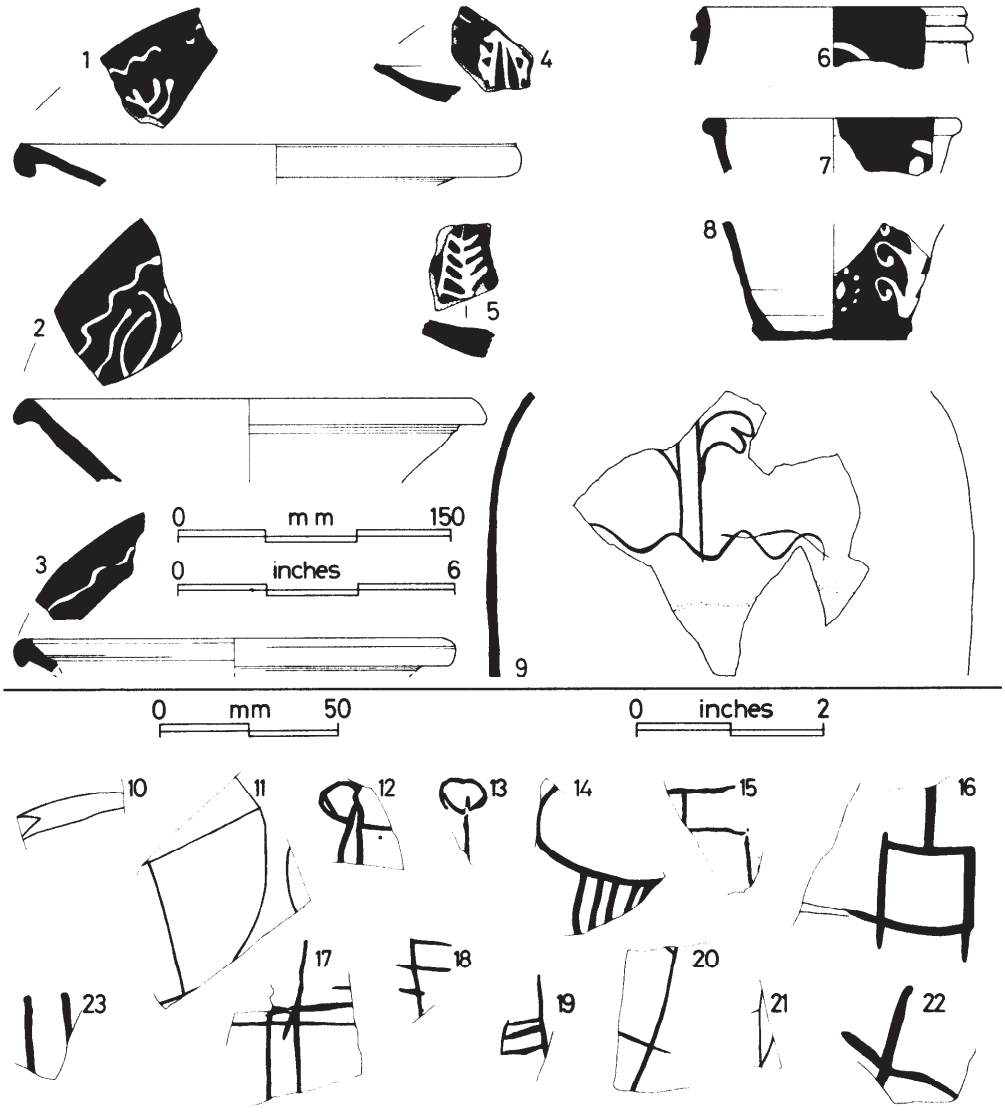

Fig 40 Pottery Metropolitan slipware (1-8); sgraffito (9). Scale 1:4; marks (10-23), scale 1:2

20 Slate pencil. S47; XII:1; another from S1002; XII:1-XIII:1

Not illustrated: A fragment of hard chalk, bearing marks of abrasion by string lines. S121; XII:2.

The pottery

by C M Cunningham

All the post-medieval pottery from sites S, AA, and X is considered together, with the addition of material from one outstanding feature, pit 35, on site AG, 23-27 Moulsham Street. This site, excavated in 1975 (Webster & Cherry 1976, 189), will be fully published in due course. Relevant here is the fact that AG35 was a tile-lined garderobe pit associated with a messuage called The George, the holder of which was presented in March 1475 because it was *ruinosum et irreparatum* (ERO, D/DM M34). It was evidently demolished by April 1501, when permission was given for its site to be let on lease (D/DM M35). The pit appears to have been finally filled when the George was demolished *c* 1475- 1501; its contents included building debris as well as the pottery discussed here.

All percentages quoted, unless stated otherwise, are based on number of sherds. (The same calculations were also done according to weight, with very similar results.)

Most of the sherds considered come from site S (85.5%), and only 8%, 4%, and 2.5% from sites X, AA, and AG respectively. A very small proportion of medieval pottery was residual in post-medieval contexts (240 sherds), and has been noted above (p 19). Vessel forms are listed below in order of vessel form, rim form, and number of examples present. The relative proportions of all fabrics present are shown on Fig 39.A, B.

The fabrics

Local coarsewares (Fabrics 21 and 40)

Fabric 40 (above, p 1) is the dominant fabric, comprising more than 90% of all sherds. Figure 39.C shows the proportions of this ware through the phases. The propor-

tions of Fabric 21 (above, p l), the second most common fabric, are shown in Fig 39-D.
Variants are as follows:

Sgraffito ware

There are two small fragments, not illustrated (S1005/6; XIII:1, AA1.3; X1:2/3), but a more complete chafing dish (Form Xl, Fig 10.71) has been found in the River Can. All are in Fabric 21, without a grey core. This type of sgraffito ware was manufactured in Cambridgeshire in the late 14th and 15th centuries (Bushnell & Hurst 1952, 26), and corresponds to type A at Rivenhall (Drury forthcoming b). A possible sgraffito ware chafing dish from Rivenhall *(ibid)* is provisionally dated to shortly before *c* 1400, and an example from North Elmham belongs to the period 1370-l406 (Rigold 1963, 69, fig 37.10, and p 101). The fragments from sites S and AA are probably of this date, residual in their contexts.

Figure 40.9, from a large jug or cistern (X42; XI:2/3, X36; XII:3) is probably different. The vessel is apparently unglazed, and in all respects, other than the rather shallow sgraffito decoration, resembles the standard jugs and storage jars occurring in Fabric 21. It is likely, therefore, that it dares from the 15th century at the earliest, and indeed may not be residual in its 16th century context.

Metropolitan slipware

This is in Fabric 40, distinguishable only by decoration of narrow trailed white or cream patterns under a good quality clear lead glaze. The range of motifs, although very fragmentary, is shown in Fig 40.1-8. Most of the 26 fragments are from dishes and bowls, decorated on the inside and the top of the rim; the others are from jars and possibly jugs, with the decoration on the outside, often more daintily executed. One jar or jug fragment is from a context of *c* 1560-90 (S328), and another of 1590-1630 (S87). Dishes first appear *c* 1670-1700, and are present into the 18th century. There is no external evidence that this incidence is chronologically significant. Metropolitan slipware is generally dated to the 17th century, most commonly the first half, but its occurrence in Moulsham Street shows that it was reaching Chelmsford in the last decades of the 16th century.

This type of slipware was produced at numerous sites in England (eg Potterspury: Mayes 1968). Until recently the nearest known kilns to Chelmsford were those at Harlow, only 15 miles (24 km) to the west, which supplied the bulk of London's slipware (Newton *et al* 1960). The fabric, slip, and glaze (although not very diagnostic) compare closely with the Chelmsford material, and all the rim forms are paralleled there. No Harlow vessel can complete the designs of the Chelmsford fragments, but they are similar in character. Figures 12 and 13 in the 1960 report *(ibid)* show only a very small proportion of designs present, and much closer parallels can be found among the unpublished material. There is also a much wider range of rim and vessel forms than is suggested in the report, and some of the reconstructions of vessels *(eg ibid, fig* 5) are quite inaccurate. There is a great need for the Harlow kiln material to be studied in more detail.

Three waster sherds of slipware, however, are known from the kiln at Stock (below, p 86). While it is impossible to compare these with the fragments from Moulsham Street, it does prove that at least some slipware was produced at Stock. Only further excavation there can define its nature. The slipware from Moulsham Street forms a tiny proportion of the total assemblage, and represents either the proportion of slipware that was produced at Stock, or a trickle of slipware from Harlow.

Slip-painted decoration

Cream slip painting is the most common form of decoration, but it occurs only on large jugs and cisterns, and one vessel with internal lid seating. A loose foliate design is generally found in a zone defined by horizontal lines around the neck (below the rim) and below the widest part of the vessel. The handle is often decorated with a single vertical line, eg Fig 6.37. For the equivalent decorative scheme on contemporary pottery in Col-Chester, see Cunningham 1982.

It is difficult to trace the development of slip painting in central Essex in the absence of proper study of the kiln groups, but an outline can be attempted. In the Saxo-Norman and early medieval periods, decoration often took the form of applied strips in the body clay. On the highly decorated jugs of the early 13th century this plastic decoration became polychrome, with the use of painted backgrounds and the application of strips and pellets in contrasting clays, usually under an external glaze (eg Hedingham ware; and also cf Rahtz 1969, fig 57). By the later 13th century, this had given way to a simple but exuberant pattern of cream slip painting, typified by the Mill Green products (Pearce *et al* 1982), still under a general or partial external glaze. By the time Fabric 21 appeared at Chelmsford in the 15th century, glazing had become sparse, often restricted to a bib below the neck, and the slip pattern described was established. With the appearance of Fabric 40 by the 16th century, this pattern of decoration was used much more rarely, normally on entirely unglazed vessels. It had disappeared by the end of the century. The contrast between the late 15th century group from AC;35 (below, Fig 42) and the late 16th and early 17th century groups from S328 and 547 respectively (below, Figs 44-46) illustrates the point. This general outline is apparent at Writtle (Rahtz 1969, 106-7).

Low Countries redware (Fabric 31)

This has a fine red fabric, often with a partial clear or honey-coloured glaze. It is visually very similar to Fabric 40, but it can be recognized where distinctive forms are present. These imports are poorly represented at Moulsham Street, as only nineteen sherds have been identified, mostly in Period XII:1 to XII:3 contexts.

German slipwares

Weser ware (Fabric 44A)

Figure 41.1 shows three sherds of Weser ware from the rim and base of a dish, in an off-white/pink fabric, decorated with concentric bands of brown slip. This ware dates from the second half of the 16th century to the mid 17th century (Gaskell Brown 1979, 40), and was widely exported to Britain, eg Plymouth *(ibid,* fig 25.183-192) and Norwich (Jennings 1981, 82-5, figs 32, 33). Its occurrence in Period XII:2 suggests that it is not significantly residual.

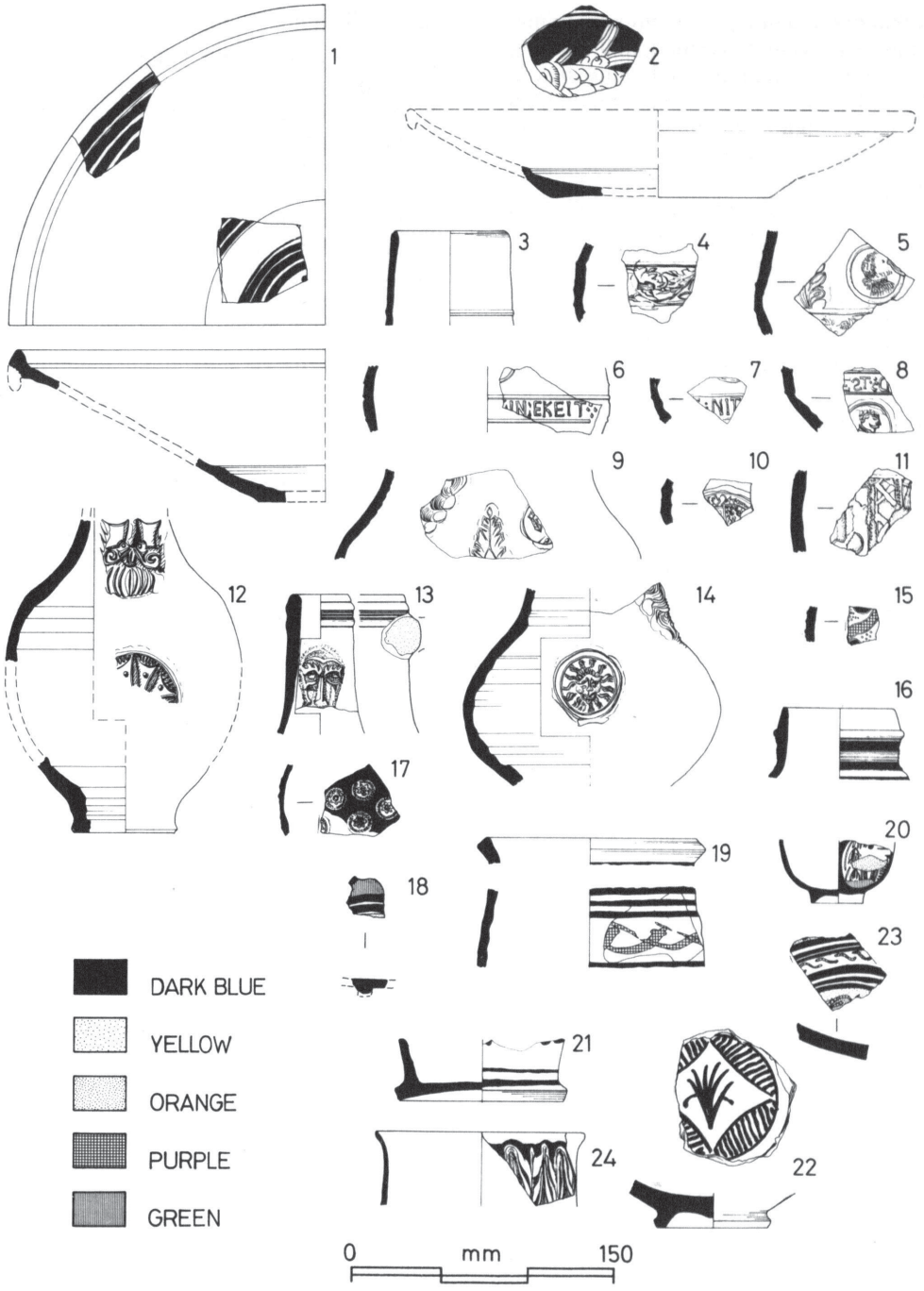

Fig 41 Pottery: German slipware (1,2); stonewares (3-17) tin-glazed earthenwares (18-23); Staffordshire-type slipware (24). Scale 1:4

Werra ware (Fabric 44B)

Figure 41.2 is from the base of a dish in a fine light red sandy fabric. A fish is drawn in white slip, picked out in sgraffito, with concentric bands in white slip, and covered in a glaze which shows a green pattern against a brown background (cf Jennings 1981, fig 31.541). Werra ware (or Wanfried ware) is found in the late 16th and early 17th century (Gaskell Brown 1979, 39), and again is compatible with a date in Period XII:2. Werra ware was traded extensively to England, eg Plymouth *(ibid),* Southampton (Platt & Coleman-Smith 1975, 1236, dated 1600-25), Norfolk (Clarke & Carter 1977, 272; Jennings 1981, 78-82, figs 31, 32), possibly Bedford (Baker & Hassall 1979, 232, fig 141.833), and Newcastle (Hurst 1972).

Stonewares

Siegburg and Langerwehe (Fabrics 45B and 45A)

Figure 9.51 is a small salt-glazed Siegburg jug of the early 16th century (S354; XII:2, 1630-70). It most closely resembles the *Trichterhalskrug* (Reineking-von Bock 1971,

nos 175, 176) of the 16th century, with its small bulbous body, heavily rilled base, constricted neck, and three large round medallions applied across the body. However, the neck is much smaller and only very slightly flared, and the handle springs from below the rim, not from the body like the true *Tricheterlskrug*. Only two other fragments of Siegburg stoneware are present; one sherd, unglazed, with very pronounced internal throwing lines (S47; XII:1, 1590-1630), and one small rim fragment (S103; X1:3, 1560-90).

Figure 41.3 may be Langerwehe (S737; XI:3, 1560-90), but lacks the purplish wash or any rouletting, although it may be 15th century Siegburg (cf Clarke & Carter 1977, fig 103.14-19; Beckmann 1974). Two other body sherds (S47; XII:1, S2; XIII) have a light buff fabric, pronounced throwing rings and a metallic surface appearance.

Frechen/Cologne (Fabrics 45D and 45E)

There are two fragments from small decorated jugs (Fig 41.4,5: S50, S335; XII:2, 1630-70). Both have a band decorated with foliage around the middle of the vessel, normally accompanied by moulded friezes on the neck. Figure 41.5 is characteristic in having foliage, with medallions on the body- According to Moorhouse (1970, 78), these are typical of Cologne products of the first half of the 16th century, and were the forerunners of the Cologne/Frechen monogrammed type.

Four fragments show a central band with the inscription 'DES: HE[.....]IN: EKEIT' (cf Reineking-von Bock 1971, no 284, of *c* 1525-50). The upper and lower body to either side of the band is decorated with acanthus leaves, interspersed with roundels (Fig 41.6: S47; XII:1, cf 9.52: S50, S107; X11:2, S134; XIII).

Two more sherds, possibly from one vessel (Fig 41.7,8: S2; XIII, Sl0l0; XIII:1), are similar but have a mid-brown external finish, and a different inscription. There are roundels above and below the inscription, with a face in profile.

Figure 45.36 (S328; XI:3) compares closely with no 284 in Reineking-von Bock 1971, and is presumably from a round-bellied monogrammed jug of the type and date of Fig 9.52. Robin Hildyard (V & A Museum) dates this approximately to the 1540s. Figure 41.9 (X36; XII:3) is from a vessel of this type, showing one side of the beard, an acanthus leaf, and part of a roundel, possibly showing a face in profile.

There are a number of fragments from Bellarmines. Figure 41.10,11 (S unstrat; S54; XII:3, 1670-1700) show the armorial type of medallion, 41.11 depicting the Arms of Amsterdam (cf Moorhouse 1970, fig 23.283). Most of the medallions are the rosette type, like Fig 41.12 (S311; XII:3), which has a face mask of Holmes type II (Holmes 1951) with a fine moustache. The body is light grey and the glaze almost colourless; an identical fragment comes from S54.

Figure 9.53 is an almost complete Bellarmine (S54), with a face mask of Holmes type VII-VIII with the volute mouth, and an oval rosette medallion. Similar fragments were also found in S54. A medallion (not illustrated) closely resembling one from Basing House (Moorhouse 1970, fig 22.268), with the same dull buff-coloured fabric and mottled brown glaze came from S unstrat. Figure 41.13 shows a degenerate face mask of the late 17th century (S36; XII:3).

Raeren (Fabric 45C)

Figure 41.14 (S1002; XII:1-XIII:1) is from a Raeren jug, which has part of the full flowing beard and a medallion to the side of the face mask showing the head of a lion (cf Reineking-von Bock 1971, no 358, with a face mask and two medallions on either side, though of a different type). According to Holmes (1951, 177) the lion-mask is a characteristic feature of Raeren stoneware. Figure 41.14 is probably mid to late 16th century, and probably possessed the high base and elongated neck shown in Reineking-von Bock 1971, no 358.

Westerwald (Fabric 45F)

Westerwald stoneware has a grey or cream-coloured fabric, often decorated with stamps, and has cobalt blue colouring, sometimes with manganese purple. It was made from the late 16th century into the 18th century (Gaskell Brown 1979, 38). Of the eight fragments from site S, six are from 1670-l700 contexts, two of the period 1700-1730, and two unstratified. These are characteristic of late 17th to early 18th century Westerwald, as Fig 41.15 has manganese as well as cobalt colouring, introduced in the third quarter of the 17th century (ibid), and the other decorated sherds (eg Fig 41.17) are from jugs covered in small stamps, characteristic of the late 17th century (Clarke & Carter 1977, 282-3).

Tin-glazed earthenwares

English delftware (Fabric 46A)

There are 97 sherds of delftware, mostly very fragmentary, from early 17th and 18th century contexts, ranging from plain white undecorated vessels to polychrome ones, decorated in three colours. Many, if not most, are from Southwark.

One of the earliest is Fig 10.72 (S47; XII:1, 1590-1630), a small Southwark albarello probably of the early 17th century, although they were produced from *c* 1570 (Garner & Archer 1972, 4). It has a soft pink fabric, white tin glaze inside and out, and a lattice pattern in blue and purple (cf *ibid,* pl 2B; also Bloice 1971, fig 55, 57). Figure 41.18 (S1010; XIII:1, 1700-1730) is a small fragment from a polychrome charger, decorated in blue, orange, and light green, early 17th century Southwark (J G Hurst, pers comm). Another fragment in the same colours (S54; XII:3, 1670-1700) is probably from the same vessel.

Seven other fragments from S54 (Fig 41.19) come from the rim and body of one vessel, possibly a drug-jar or posset pot, most of which is badly burnt. The horizontal bands are blue, and the 'chain' pattern purple. There are two remaining polychrome fragments. One (unstrat) has decoration in blue, green, and orange. The other, Fig 41.20, (S313; XIII:1, 1700-1730), is the footring base of a delicate bowl, with a buff fabric and decorated in blue, green, and orange (cf Bloice 1971, fig 53.39A and B, type 2a1, 1680-1737).

With the exception of five sherds with manganese-purple speckles, eg Fig 3.11, from XII:3 and XIII:1, all the remaining decorated fragments have painted blue bands or floral patterns. The forms include plates, eg Fig 2.1 (S317; XIII:1, 1700-1730), a porringer, Fig 4.21 (S81; XII:3, 1670-1700), and upright vessels. Most of the plain sherds belong to the chamber pot, Fig 11.80.

South Netherlands maiolica (Fabric 46C)

South Netherlands maiolica is thought to originate in the area of Bruges or Antwerp, and its accepted date range is 1475-1540 (Hurst 1970, 362). Two forms are normally found, the 'flower vase', with two circular handles, which is the more common, and the 'altar jug', with one plain handle and a trefoil mouth. Both are present at Moulsham Street (Fig 11.85,86, Forms X14A and B), in a purely secular context. Fig 11.85 consists of two sherds from flower vases (S47; XII:1, S1002; XII:1-XIII:1) in a buff fabric, with a white tin glaze inside and out, and decoration in blue, purple, and orange, probably *c* 1500 (J G Hurst, pers comm). Fragments of similar vessels have been found at Pleshey Castle (Hurst 1977, 166-7, fig 36.5-8). Part of a base, Fig 41.21, in a cream-coloured fabric with a sporadic grey core and a white tin glaze inside and out, is probably also from a flower vase and belongs to the early 16th century (S1008; XII:3, cf Platt & Coleman-Smith 1975, fig 196.1173).

Figure 11.86 is the base of an 'altar jug' (S737; XI:3, 1560-90), with a pale buff fabric, white tin glaze, very thin on the inside, and painted in blue and purple on the outside, part of a characteristic pattern associated with altar jugs, with fronds spreading from a ladder border which probably surrounded a medallion showing the sacred monogram IHS. For an almost identical but more complete example, see Hurst 1970, fig 19.

Spanish (Fabric 46D)

Fig 2.5. Fragment from the kicked-up base of a bowl, badly abraded. The fabric is light yellow or buff, fine, with sparse quartz inclusions. The exterior has a white glaze, extending under the base, and there is blue and purple decoration on the inside with a white tin glaze. 'Calatayud', *c* 1500 (J G Hurst, pers comm; cf Platt & Coleman-Smith 1975, fig 207.1324,1327,1329). Another local example, from Pleshey Castle, comes from an early 16th century context (Hurst 1977, 164, fig 36.2). S742; XII:3, 1670-1700

Fig 41.22. Base of a footring bowl, in a pink fabric with few inclusions. There is an overall white tin glaze with a blue painted pattern on the inside. S1008; XII:3, 1670-1700

Italian (Fabric 46E)

Fig 41.23. Fragment from near the base of a bowl. Light buff body with small dark red inclusions, opaque white glaze on the exterior, and brightly decorated on the inside in blue, yellow, orange, and manganese. Green stripes are achieved when yellow and blue overlap. North Italian, possibly Montelupo, *c* 1550-1650 (cf Gaskell Brown 1979, 41, fig 26). S1002; XII:1-XIII:1

Staffordshire-type salt-glazed stoneware (Fabric 47)

This was made in Staffordshire and elsewhere in the Midlands between *c* 1710 and 1780, mostly after 1720 (Draper 1975, 25), and is commonly found in 18th century contexts. Eight fragments are known from Moulsham Street, including part of a moulded plate with a decorated edge, one handle (S313; XIII:1), a body sherd with 'rouletting' along the shoulder (S170; XIII), and a fragment of the body of a male figurine (S1002; XII:1-XIII:1). One rim, with a band of iron slip on the lip, may be a Staffordshire white-dipped tankard (Jennings 1981, 221).

Staffordshire-type slipwares (Fabric 50)

Press-moulded flatware dishes were made in Staffordshire in the second half of the 17th century and throughout the 18th (Celoria & Kelly 1973, 6). Two of the four examples from Moulsham Street occur in Period XIII:1 (S1002), the others in XIII:2 (AAl:ll) and unstratified (site S). The body fabric is creamy-buff to red in colour. The vessels are often circular dishes with pie-crust rims, like Fig 2.4, although subrectangular forms are also very characteristic. The other three fragments are too small to indicate the shape of the vessel, but one rim (AAl:ll, not illustrated) is scalloped (subform J2, cf *ibid,* no 303). Decoration is achieved by trailing a dark brown slip over the white slip background: only in the case of the scalloped rim is it subsequently combed. Although slip-decorated hollow-wares were produced at other centres such as Bristol, Staffordshire is the only proven source of press-moulded dishes, though there is a possibility that some were made, for example, at Ipswich.

There are only two examples of Staffordshire-type hollow-wares (Fig 41.24: S1002; XII:1-XIII:1, and S unstrat). Figure 41.24, with its cream coloured fabric, can be paralleled at Stoke-on-Trent *(ibid,* no 161), but here a dark brown slip is trailed onto the white background slip.

The vessel forms

Occurrences of the forms are given by phase in Table 5 on p 68: full details of site context etc are in fiche 1: Bl-12. The following section is arranged thus: vessel form type, followed by fabric type, rim form types, numbers of examples, and illustrated examples where relevent. Some unstratified vessels in the collection of the Chelmsford and Essex Museum have been used in the type-series to illustrate forms incompletely represented in the excavated material.

A Dishes

A1A Fabric 46A, rim A1A: 3 (Fig 2.1)
A1B Fabric 47: 1
This is a common form in delftware from the mid 17th century onwards, essentially as a wheel-thrown form (Bloice 1971, plate type la, *c* 1680-1725; Garner & Archer 1972, appendix A, 81). The more angular form, often moulded with decoration on the rim, is typical of Staffordshire-type salt-glazed stoneware, and it became standard in creamware and porcelain.

A2 Fabric 40, rim E6: 3 (Fig 2.2)
Fabric 42, rim E4: 2 (Fig 2.3)
All examples in Fabric 40 are decorated, with slip-trailed patterns, or incised decoration in the form of a single wavy line (Fig 2.3), wavy combing with straight incised lines, or a triangular incised pattern. Similar decoration occurs on dishes of corresponding rim form at Stock (cf Fig 50.18). A2 differs from the bowl B3B only in its height:width ratio, but A2 does not appear here before *c* 1630, unlike B3B which occurs in the later 16th century.

Table 5 Incidence of vessel forms on sites S, X, and AA, Moulsham Street

	1400 - 1500	1500 -60	1500 -90	1560 -90	1590 -1630	1630 -70	1670 -1700	1590 -1700	1700 -30	173+	U/S
B2B	4										
C12	1										
E2	4										
C4	3	-		1	4	2	1				2
D5A	5	-		5	-	-	1				
D6B	2	-		3	4	4	9				
E3	6	-		5	3	2	1	—			
C15	5	-	2	36	39	19	21	16	4	5	10
X9	3	2	2	8	14	6	9	9	5	4	3
X12	2	-		-	5	2	2	3	2	1	2
X1A		1		4	5	3	4	3	1	3	
A11			1	3	4	-	-		4	1	2
A12			1								
E1				1							
F3				1							
F7				2							
X8				1							
F5AA				2	1						
C14				1	1	-	1				
X14				1	1	-	1				
B3B				1	1	2	3	1			
B3A				14	7	2	-	1	1		
B5A				3	2	2	2		1		
D4				1	-	-	-		1		
D6A				6	2	1	6		2		4
X13				1	2	-	1				
C7				1	1	1	-		-=	1	
D10A				1	-	1	-		1	1	
D10D				1	1	3	1		2	1	
D11				3	1	-	8		2	2	
D13				1	1	3	1		1	1	
E12				5	10	9	8	4	1	4	7
D5B					2						
X2					1						
B5B					1		1				
C10					2	3	1				
F6					2	-	3				
B4					1	-	-	1			
D10B						1					
E11						1	-	1			
A2						1	1	1	1	1	
B5						4	-		-	1	
D6						2	5		-	1	
C16							1				
E13							1				
X3							1				
X10							3				
B6							1	2			
B1							2	1	-	3	
C8							2		-	1	
C9							1		1	1	
B5C									1		
A1A									1	2	
A4									2	1	1
A1B										1	
A5										1	
X5										5	1

A4 Fabric 50, rims J1, J2: 4 (Fig 2.4). See above
A5 Fabric 46D rim Al: 1 (Fig 2.5). See above, p 67

A11 Fabric 40, rims El, Al, A3: 13 (Fig 2.6,7)
Fabric 21, rim Al : 2 (Fig 2.8,9)

At least thirteen dripping dishes are probably represented. Two examples have the light red fabric and honey-coloured glaze associated with Low Countries pottery, but the problem of identifying such imports is well known (Orton & Evans 1974, 87), and they are most likely English.

There are two distinct types. The majority, in Fabric 40, have internal glazing, a hollowed everted rim, and a flat base with no evidence of feet. Only one example (AA unstrat) has the rim form A3, and resembles a fragment from Writtle (Rahtz 1969, fig 55.60). There are seven pouring lips, one handle, and no sharp angles. This implies an oval dish with a single pouring spout, or one at each end, and a handle in the middle (cf Platt & Coleman-Smith 1975, fig 162.654).

The second type, which is contemporary, is extremely coarse and sandy, very roughly made, and entirely unglazed. One fragment shows a right-angled corner, another a handle. The shape is reminiscent of Platt & Coleman-Smith 1975, fig 167.740, *c* 1630-40, but this vessel is presumably much cruder, and may have been square or rectangular (cf Clarke & Carter 1977, fig 121.279.280).

Al2 Fabric 21, rim Al: 1 (Fig 2.10)

More complete examples show that there can be feet on the same side as the handle (eg Jennings 1981, fig 77.1300), but the angle of the side does not seem to suggest the presence of feet in this case. Its use as a Dutch oven (placed before a fire with the handle away from the flames) is confirmed by the intense sooting, confined towards the centre of the straight edge.

B Bowls

Bl Fabric 46A, rim Al: 2 (Fig 3.11)
Fabric 46D: 1
Fabric 47: 1
Fabric 48, rim Al: 2

This form was first imported into England as tin-glazed earthenware from Italy, the Netherlands, and Spain from the late 13th century (Hurst 1977, fig 25), and was adopted by potters in England in the later 16th century. It later became a standard form in the industrial potteries.

B2B Fabric 21, rims El, E5: 3 (Fig 42.1)
Fabric 40, rim E5: 1 (Fig 3.12)
B3A Fabric 40, rim E2: 24 (Fig 3.13)
B3B Fabric 40, rims E4, E5, Cl: 8 (Fig 3.14)
B4 Fabric 40, rim E6: 2 (Fig 3.15,16)
B5A Fabric 40, rims El, E2, E6: 9 (Fig 4.17)
Fabric 44A, rim F2: 1 (Fig 41.1). See above, p 64
B5B Fabric 40, rims E2, E4: 2 (Fig 4.18)
B5C Fabric 40, rim Bl: 1 (Fig 4.19)

Bowls B2, B3, B4, and B5 vary only in detail, in that all are fairly shallow vessels with outward-sloping sides and flanged rims. Form B2B alone is chronologically distinct; it only occurs before the 16th century and in this case can be dated to the late 15th century. The others appear together *c* 1560-90 and are presumably contemporary. Figure 44 demonstrates the wide range of bowl types from one pit group, so their differences should not be over-emphasized. Bowls with rounded sides tend to have slightly everted rims, while those with straight or concave sides (B4, B5) have more downturned rims. This indicates that the profile is influenced by the type of rim.

All bowls are in Fabric 40, except three of Form B2B, and those in German slipware. Otherwise, decoration is restricted to some Metropolitan slipware, and one incised rim.

The shape is consistent with the general pattern across England in the 16th and especially the 17th century (cf Mayes 1968, fig 31.1-3, 32.1-3). Form B5A is particularly common elsewhere in Chelmsford, and in Essex generally, in the 16th century (cf Drury 1974, fig 13.22, 1337/40 and later; Huggins 1972, fig 21.56-58, *c* 1540).

B6A Fabric 40, rim Al: 2 (Fig 4.20)
B6B Fabric 46A, rim Al: 1 (Fig 4.21)

The two examples of Form B6A have a clear allover glaze and come from an early 18th century context. A bowl of this form with sgraffito decoration occurs at Southampton, dated 1700-50 (Platt & Coleman-Smith 1975, fig 172.826). The North Holland slipware dishes are similar *(ibid,* fig 201.1244-49), with dated examples from 1573 to 1711 (Gaskell Brown 1979, 46).

Form B6B is represented by one handle from a tin-glazed bowl, decorated in two tones of blue, *c* 1670-l700. It is not perforated, but is a simple moulded trefoil shape (cf Garner & Archer 1972, pls 32B, 68A, dated 1686 and *c* 1700). A Dutch tin-glazed bowl from Southampton (Platt & Coleman-Smith 1975, fig 200.1243) has two pierced moulded lugs and is dated late 17th or early 18th century. This type of bowl is also found in Tudor Green with a fleur-de-lis handle (cf Backham 1972, pl 45), strongly reminiscent of metal porringers.

C Jars and cooking pots

C4EA,C Fabric 40, rims El, E2, E5, and Cl: 12 (Fig *4.22-24)*
C4ED Fabric 21, rim L: 1 (Fig 4.25)

These pots occur in most periods, but are particularly numerous in the 17th century. Forms C4EC and C4ED are restricted to the 15th century, while C4EA is found from the late 16th to the late 17th centuries. It is likely that many unclassified fragments belong to this last group. They are the equivalent in jars to the bowls B3, with a higher incidence of glaze.

Similar examples occur elsewhere, in Chelmsford (Drury 1974, fig 13.23), Writtle (Rahtz 1969, fig 55.53), Pleshey (Williams 1977, fig 33.48), and Colchester (Cunningham 1982, fig 38.96). They are, however, for less common among 15th-17th century forms from other areas, and would seem to be characteristic of Essex. The lack of sooting suggests that these jars were not cooking pots; they were presumably small storage jars. There is a far greater variation from area to area of the forms of jars as opposed to bowls, and they always occur in smaller numbers. The bowls therefore had a universal purpose which, it would seem, the jars did not.

C7A Fabric 40, rims E2, E3: 4 (Fig 5.26)
C7B Fabric 31, rim E2: 1 (Fig 5.27)
C8 Fabric 21, rim E2: 2 (Fig 5.29)
Fabric 40, rim E2: 1 (Fig 5.28)
C9 Fabric 40, rim Fl: 1 (Fig 5.30)
Fabric 42, rims Fl, Kl: 2
C10 Fabric 42, rims El, E2, E3: 6 (Fig 5.31,32)
C12 Fabric 31: 1 (Fig 5.33)
C13 Fabric 40, rim E2: 2 (Fig 5.34)
Fabric 21, rim L: 1

Form C12 is the typical Dutch cooking-pot with tripod feet, round bulbous body, and two angular handles (cf Platt & Coleman-Smith 1975, figs 193-199), although the illustrated example, of small size and very angular profile, is particularly reminiscent of *ibid,* fig 198.1206, *c* 1500-50. The other cooking pot in Low Countries redware is C7B, an open pot, again with tripod feet.

Many of the post-medieval cooking pots are in the coarser whiteware, Fabric 42, including two of Form C9, and all of Form C10. The remaining examples are mostly in the local coarseware, Fabric 40. The small skillets, C7A, are usually glazed internally and first appear *c* 1560-90.

C15 Fabric 40, rims Al, A2, A3, Bl, Cl: 151 (Fig 6.35-37)
Fabric 21, rims A3, Bl, B3: 6 (Fig 7.38)

The cistern, C15, is the most numerous vessel type, with either one or, more usually, two handles. The variations in rim form are not significant, as all are basically slightly thickened upright rims with an internal bevel. The more complete jars have bung-holes near the base, either plain (23 examples) or thumbed (15 examples). Glaze is almost entirely absent, but some vessels have slip-painted decoration (cf Colchester: Cunningham 1982), which frequently accompanies thumbed bung-holes. Form C15 is present by the 15th century and continues in quantity but two-thirds of all thumbed bung-holes here occur in contexts predating 1590. Jars of this type are found widely in Britain over a long period from the 13th-14th centuries (cf Buckland *et al* 1979, fig 16.222).

The more complete examples are uniform in size and normally hold two gallons. There can be little doubt that their primary function was as brewing-pots.

Marks occur on fourteen examples of cisterns (mostly *c* 1560-1630 in date), although most are fragmentary (Fig 40.10-23). Fig 40.16 and possibly 18 are scratchmarks, made after the pot had been fired, which are normally interpreted as merchants' or ownership marks. These are particularly common on Saintonge jugs, but are also known on English vessels (eg Jennings 1981, figs 65.1134, 68.1201). The rest are marks made before firing when the pot is leather-hard, sometimes cutting through slip decoration, and sometimes covered in glaze like Fig 40.13. Since they were clearly made by the potter during manufacture, these may reasonably be considered as potters: or pottery, marks. The manufacture of large cisterns may have required a specialized organisation, either within a general kiln site, or concentrated in a separate production centre. This possibly involved the use of potters' marks, using a common vocabulary of symbols drawn from heraldry, perhaps runes (cf masons' marks etc; Girling 1964, 11-13), and astrological and alchemical symbols. Honey argues (1964, 184) that in the early porcelain factories of the 18th century alchemical signs were used, probably as painters' marks. These symbols were sometimes later adopted as factory marks. In that case, there would be a direct progression from 16th century individual potters 'signing' their pots with a popular symbol.

C16A Fabric 40, rim E2: 1 (Fig 7.39,40)

Form C16, the large coarseware jar with a wide neck and a heavily collared rim hollowed on the inside, is usually glazed throughout, and often has heavy thumbing below the rim. One of three complete vessels of this type from the Almshouses, Stock (CHMER 1981:173, Fig 7.39) has this characteristic thumbing, and fragments were also found among the Stock kiln debris (below, p 83). The form thus seems to be a diagnostic product of those kilns. Only one definite example has been recognized from the sites in Moulsham Street, from a late 17th century context (S329), but it is likely that other fragments from these vessels have not been recognized.

In size and general appearance C16 is similar to the cistern C15, but its function must have been very different, probably as a storage jar or bread crock.

D Jugs

D4 Fabric 40, rim B4: 2 (Fig 8.41,42)
D5A Fabric 40, rims Al, A3: 12 (Fig 8.43,44)
D5B Fabric 40, rim Al: 2 (Fig 8.45)
D6A Fabric 40, rims Al, A3: 10 (Fig 8.46)
Fabric 45, rims Al, A3: 14 (Fig 8.47)
D6B Fabric 40, rims Al, A3, Bl: 22 (Fig 8.48,49)

Large squat jugs, Form D4, can resemble the upper parts of C15, and the two forms may be associated. Both examples are slip-painted. One belongs to *c* 1560-90, and the other is residual in an early 18th century context. These large, wide-bodied jugs are more characteristic of the later medieval period (cf Rahtz 1969, fig 54.52, *c* 1306-1425, but also occurring *c* 1425-1521).

The jugs D5 and D6 are much more typical of the post-medieval period. They are frequent at the Dominican Priory (Drury 1974, figs 12.9-12, 13.16,18,25), and all the variants except Form D6AB are present there in one context dated *c* 1537-40. Drury argues (ibid, 66) that many of these jugs were already old when they were discarded, and correspond to Period III vessels (before 1521) from Writtle. They were certainly current during the early 16th century, but site S shows that the forms had a long life. D5 forms are most prevalent before *c* 1590, and it is likely that the sole example of *c* 1670-1700 is residual.

Forms D4, D5, and D6B occur only in Fabric 40, but over half the vessels of Form D6A are in stoneware, particularly Frechen. The largest group belongs to *c* 1560-90, when importation of these vessels was at its peak. The remainder are mostly old jugs, residual in context, or unstratified. Four examples of D6AB were recognized: two in Fabric 40 from the later 16th century and two of Frechen stoneware from late 17th century contexts. This distinctive shape with a cylindrical neck, bulbous body, and footstand base, is identical to the shape of the 'Malling jug' (Garner & Archer 1972, pl 1, of *c* 1550) which represents the earliest English delftware, made from *c* 1549 to the end of the century. They are thought to have been inspired by the shape of Rhenish stoneware jugs *(ibid,* 4).

The remaining jug types are all stoneware forms, mostly imported. See discussion, p 65.

D10A Fabric 45C, rim Al: 4 (Fig 9.50)
D10B Fabric 45B, rim Al: 1 (Fig 9.51)
D10D Fabrics 45C,D, rim K2: 8 (Fig 9.52)
D11 Fabrics 45C,D, rim K2: 16 (Fig 9.53)

E Cups, mugs, and tygs

E1 Fabric 41, rim Al: 1 (Fig 9.54)
E2 Fabric 41, rim Al: 4 (Fig 9.55,56)

The 'Tudor Green' lobed cup, El, is well-known in Essex (cf Rahtz 1969, fig 56.80,89,90). The lobed cup is normally found in 15th and early 16th century deposits (cf Holling 1977, fig 8a,b), and its presence *c* 1560-90 must represent the latest phase of its use. It is impossible to tell whether the sole example from Moulsham Street is from a five- or six-lobed cup.

The unlobed cups, E2, are very similar in form. They are also restricted to 'Tudor Green', and occur only before *c* 1500. All have a mottled green glaze internally, and externally near the rim only. The illustrated example of E2B, possibly a second, is sufficiently complete to show that it had no handle, but it is in an unusually pink fabric, unlike the normal near-white of 'Tudor Green'.

E3 Fabric 40, rim Al : 13 (Fig 9.58-60)
Fabric 41, rim Al: 4 (Fig 9.57)

Six bases are plain, three are fluted, and six are frilled. E3A and B are most common in the 15th century, whereas E3C does not appear until the end of the 16th.

E11 Fabric 40: 2 (Fig 9.61)
E12A,B Fabric 40, rim Al: 4 (Fig 9.62,63)
E13 Fabric 40: rim Al: 1 (Fig 9.64)

Forms E11, E12, and El3 comprise the black-glazed mugs and tygs, mostly occurring in 17th century and later contexts. Only the two bipartite tygs E11 are probably significantly earlier (cf Mayes & Pirie 1966, fig 6). It is likely that many of these black-glazed vessels come from Stock, and to some extent Harlow. A few fragments of mug appear in S328 (below, Fig 45), showing that the form is present shortly before 1600. They have a lustrous brown glaze rather than the thick black manganese or iron glaze current in the 17th century. At Northampton, for example, black-glazed wares were introduced in the late 16th century (McCarthy 1979, 165). The larger, more ornate vessel El3 is possibly a posset pot, but its similarity in all respects except width and decoration to El2 suggests its inclusion in the drinking vessel category. It is probably quite contemporary in its context of 1670-1700 (cf Brears 1967, fig 11.8, of the early 18th century).

There are many other sherds from mugs, cups, and tygs too fragmentary to classify. These include one tin-glazed earthenware fragment decorated with speckled manganese from a late 17th century context (cf Garner & Archer 1972, pl 6, early 17th century).

F Costrels

F3 Fabric 40: 1 (Fig 10.65)
F5AA Fabric 40: 3 (Fig 10.66)
F6 Fabric 40: 5 (Fig 10.67)
F7A Fabric 40: 1
Fabric 21: 1 (Fig 10.68)

The flattened spherical costrel is known in East Anglia from the late Saxon period in Thetford ware, and was current in England throughout the Middle Ages (Dunning 1964, 127: also cf Holling 1977, fig 15). The barrel-shaped costrel, F3, is present in Essex from the late 13th/14th century onwards; the presence of a single fragment here (S737) probably represents the final phase of its use. Thereafter, the standing costrels, cf F5, 6, and 7, are much more common. Twelve fragments only from costrels were recognized. Seven of these come from S328 and S47, including the most complete examples, the rest being mostly from late 17th century contexts. Form F5AA occurs entirely within the period 1560-1630, but there are only three examples. F6, with lugs set transversely across the shoulders, occurs in the period 1590-1700, but again, only five examples. Another fragment from Period XII:2 may also be Form F6. The two examples of F7 are both late 16th century.

The handle type found on F5 seems to be local, but variations of F7 occur widely in England over a long period. The transverse lugs of F6, however, are sufficiently distinctive to be described as characteristic of 17th century central Essex.

X Miscellaneous

X1A Fabric 40, rims El, E2: 24 (Fig 10.70)
Fabric 21, rim E5: 1 (Fig 10.71, from the River Can: CHMER 1977:8).

The main type of chafing dish present was thrown as a cylinder, with the bottom of the bowl inserted. Eight fragments show that this was often decoratively thumbed; otherwise the vessel is undecorated. The fabric is local red earthenware, and is covered internally with a clear lustrous lead glaze. The rim is usually hollowed everted, with three or occasionally four simple tapering knobs, without thickening. At Chelmsford it is present from the 15th century, with the peak around 1560-1630. The only exception is the sgraffito ware chafing dish with a discoloured glaze, a single handle, and four arches cut out of the base, found in the River Can. Other fragments of sgraffito ware are discussed above (p 64).

The remaining categories are all miscellaneous forms which occur rarely, with highly specific functions.

x 2 Fabric 46A: 1 (Fig 10.72)

The sole example is in blue and purple painted tin-glazed earthenware, of *c* 1590-1630. This form was used in Italian maiolica, and was adopted in the Netherlands. After delftware manufacture began in England, it was one of the more common forms in the late 16th and early 17th centuries (cf Garner & Archer 1972, pl 2B). Later drug-jars and ointment pots were usually plain white tin-glazed earthenware, without the waisted profile. Eighteenth century examples have been found at Colchester (Cunningham 1982).

x 3 Fabric 40: 1 (Fig 10.73)
A single incomplete example, of c 1670-1700 with the stub of a handle and broken edges to the base. Alternatively, it is possible that this comes from the top of a puzzle-jug, common in the late 17th century.

x 5 Fabric 45: 6
x 7 Fabric 40: 1 (Fig 10.74, from Stock)
X8 Fabric 21: 1 (Fig 10.75)
Aquamaniles are increasingly being recognized in Essex in the 13th and 14th centuries (Cunningham *et al* forthcoming). The illustrated example is extremely fragmentary-one leg-and while it could be from a tripod base, it is unparalleled as such. Nor is it a handle. It is, however, very similar to a crude 14th century aquamanile in Colchester ware (Cunningham 1982, fig 28). If this is indeed a leg from an aquamanile, it is most likely from a 14th-15th century vessel, and residual in its later 16th century context, although later metal zoomorphic aquamaniles do survive.

X9 Fabric 40: 62 (Fig 10.76-78)
Fabric 41: 1
Fabric 48: 1
All lids, when not directly associated with a specific vessel form, have been gathered under the heading of X9. They occur in all periods, but are most common in the 17th and early 18th centuries. Most are unglazed, with a simple rim, slightly domed, and with either a round, rectangular, or polygonal knob. Where they are complete, the polygonal knobs are either pentagonal or hexagonal. Round and polygonal knobs occur throughout; there is only one example of a rectangular knob, in Period XI:3, so there is no significance, chronological or otherwise, in their shape. The lids range from 50 to 300mm in diameter, but the majority fall between 120 and 150mm. In view of this, and the fact that very many of the lids show traces of sooting, it seems that many belonged to cooking vessels, such as C7, C8, C9, C10, C13, and C14, also most common in the 17th century and later. Most of these vessels have lid seating rims. Some of the jars (eg C4) also have everted rims which may well have held lids.

X10 Fabric 40, rims ES, E3: 3 (Fig 11.79)
Fabric 46A, rim D1: 1 (Fig 11.80)
One is in plain tin-glazed earthenware, and resembles examples from the Lambeth kilns, dated 1680-1737 (Bloice 1971, fig 55.78). The rest are in black-glazed local earthenware, and all occur in contexts postdating 1670. The chamber pot is normally a diagnostic form of the 18th century (Platt & Coleman-Smith 1975, 23).

X12A,B Fabric 40:17 (Fig 11.81,82)
Fabric 41:1
Fabric 42: 1
Form Xl2 includes any vessel of an otherwise unrecognizable form, which possesses one or more holes. Other forms, such as the chafing dish (Xl) sometimes have a few holes as decoration and to allow the fuel to burn. Puzzle-jugs are also frequently pierced with holes. Some of the twenty recorded fragments may thus belong to vessel forms already described.

Two distinct types of pierced vessel are present. X12A is the colander or strainer (Fig 11.81), which normally takes the form of a bowl or jar with perforated base (cf Simpson 1976, fig 33.12). These can also be used as cheese-presses. Sprinkling-pots and watering-pots also come into this category.

The second type, X12B (Fig 11.82), is a jar with a restricted neck and sparse holes around the shoulder, and sometimes a pierced lid, which acts as a perfumery (cf Platt & Coleman-Smith 1975, fig 174.850).

Most of the identifiable fragments of Xl2 come from perfumeries or fuming-pots. It is likely that not more than three or four of these vessels are represented. All are in plain lead-glazed earthenware, except for two whiteware sherds, Fabrics 41 and 42. Colanders made in Surrey are well known in the 17th century (Holling 1969, p 27) using bowls of the shape B3A. These sherds, however, are too small to suggest a form, except that they have a carination, and so are not Form B3A. Apart from two 15th century examples, they all occur between c 1600 and 1760.

X13 Fabric 40, rim Al: 5 (Fig 11.83,84)
These first appear before the end of the 16th century, and carry on into 18th century contexts. As several of the bowls have scars near the rim, it had been thought that they were ladles with skillet-type handles (eg Simpson 1976, fig 33.34), but they are clearly condiment dishes. Triple condiment dishes of various forms are very common from the 16th century, but these are presumably local products.

X14A Fabric 46C, rim Al: 2 (Fig 11.85)
X14B Fabric 46C: 1 (Fig 11.86)
These 'flower vases' and 'altar jugs' are discussed on p 67. They are further examples of fine wares which had a longer life than the coarsewares, and are apparently residual.

X15 Fabric 46A (Fig 11.87, found in the River Can: CHMER 1978:144:20)
A different type of flower vase is represented by Form X15, of which no fragments were recognizable from the excavations. This example is in plain, tin-glazed earthenware, very similar in form to Garner & Archer 1972, pl 43A, of about 1680. The vessel shape closely resembles the drug-jar (eg *ibid,* pl 39B), but has three spouts or flower-holes, with intermediate twisted horns. Fragments from an identical vase are known from Colchester (Cunningham 1982).

X18 See Cunningham 1984

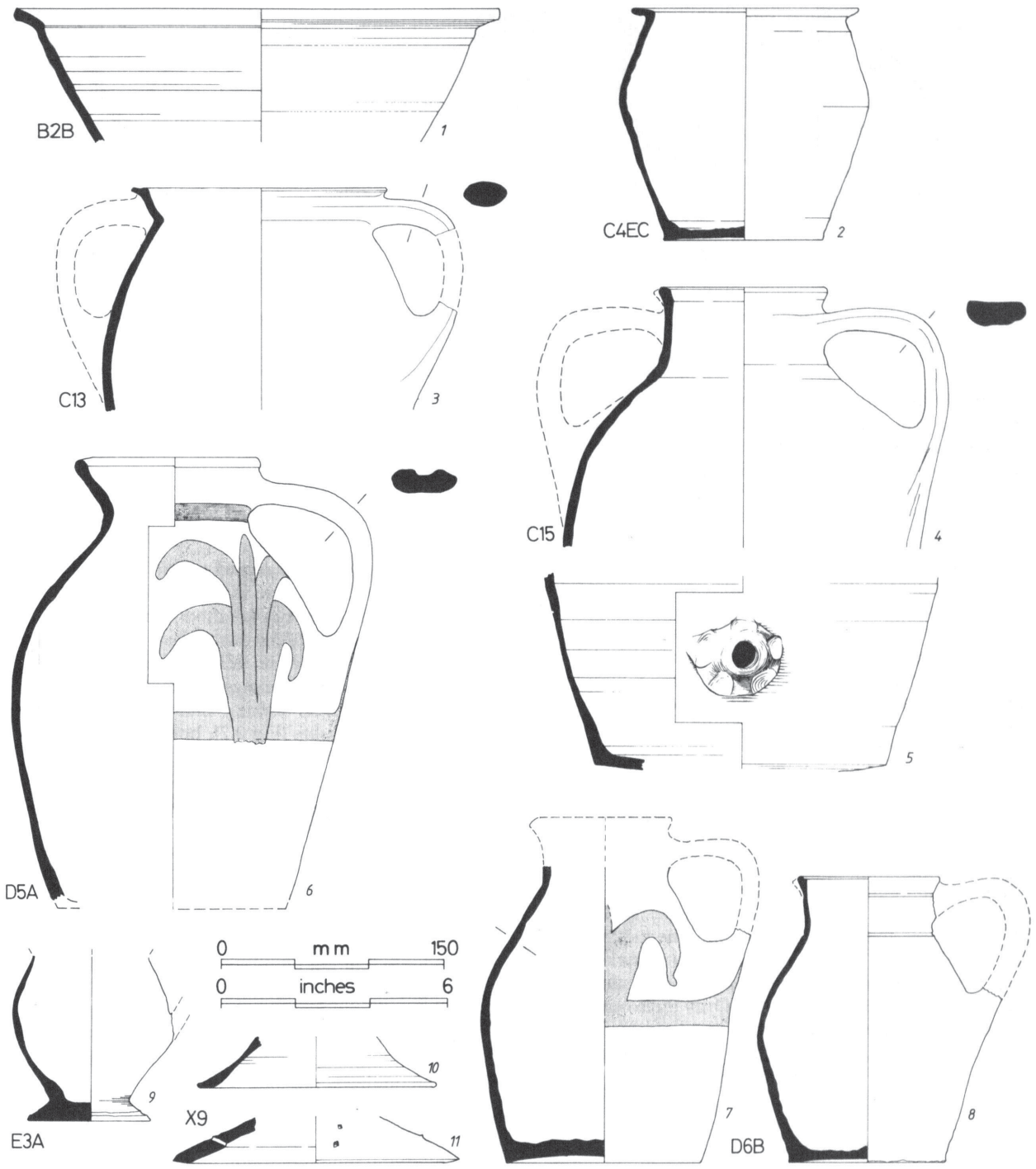

Fig 42 Pottery: pit group AG35, late 15th century. Scale 1:4

Summary of periods

Period XI:1, 15th century

Period XI:1 includes the entire 15th century, but the pottery groups available all fall within the last decades of the century. It is represented by a few small contexts from site X, and one pit group from site AG (35; Fig 42), comprising only 429 sherds. This last pit group is securely datable to just before 1500. Fig 43A shows the proportions of fabrics in the phase.

Fabric 21 is in full production, including bowls with sagging bases (cf Fig 42.1), cisterns (Fig 6.37), jars (Fig 4.25), jugs (Fig 42.7), and lids. Slip-painted decoration is most common in this phase, and glazing is sparse.

Fabric 31, redware imports from the Low Countries, also appears, in the form of the tripod cooking-pot (Fig 5.33), but it is only 1.5% of the assemblage. 'Tudor Green' is well represented in fine table ware (Fig 9.55-57). All of these types become proportionally less important after c 1500.

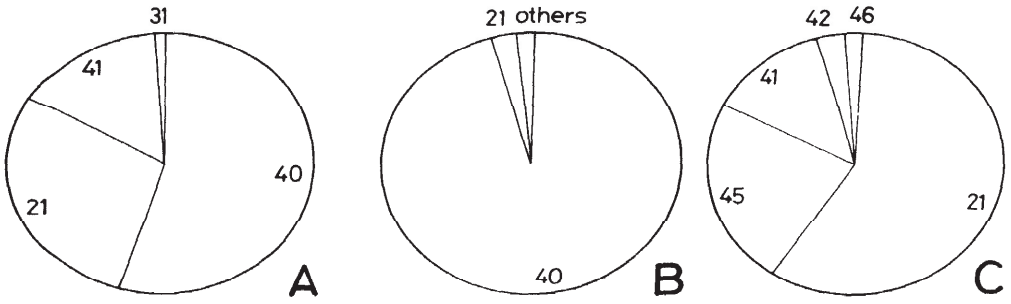

Fig 43 Proportions of pottery fabrics (A) in Period XI:1; (B) in Period XI:3, including Fabric 40; (C) in Period XI:3, excluding Fabric 40

Fabric 40 is also present, comprising over half of the total number of sherds, but this is small in comparison to its average of 91.5% of the total in the subsequent phases. The same forms as those in Fabric 21 are found, with the addition of jug D5A (Fig 42.6).

This picture of the vessels of a late 15th century household is augmented by the early and very thorough inventory of the goods of Thomas Artour (fiche 1: Cl-4). Among the general items are platters, dishes, saucers of pewter, a basin of latten, candlesticks of latten, a pewter salt, brass pots, kettles, a strainer, dripping pans, trenchers, a pepper quern, a mortar, dishes and platters of 'tree', a frying pan, tubs, a barrel, and a kneading trough. It must be assumed that the majority of these effects are metal, where not specified, other than the querns, and the last three items which are presumably wooden. The list does include, in pottery, a chafing dish and three 'pottes'.

Pewter platters and dishes were beginning to become quite common at this time, and it is normal to find them before the appearance of pottery ones. Similarly the more exalted forms of tableware, such as the salt, are found in pewter rather than pottery. Most of the significant cooking equipment appears to be of metal. The earthenware chafing dish must have been sufficiently remarkable or important to have special mention, as most earthenware did not figure at all in inventories. Only three other vessels of pottery are mentioned, but it is extremely unlikely that there was not a general range of household earthenware such as that illustrated by pit AG35.

Period XI:2, c 1500-1560

Only 226 sherds are present, none from a substantial pit group, and so no complete picture can be offered. The existence of an inventory of c 1530 is useful, however, although it is neither domestic nor as detailed as the earlier one (fiche 1: C6). No earthenware is mentioned specifically, but there are brass pots, a chafing dish (?), pewter platters, dishes and saucers, a pewter salt as before, and a kettle.

The range of vessels is unchanged, with sherds from bowls, jars, jugs, and lids, but they are too fragmentary to assign to specific types. The only addition is the chafing dish, XIA.

Fabric 40 comprises 84.5% of this assemblage, and the remainder is Fabric 21, including sgraffito ware, with three sherds of whiteware and one of stoneware.

No tin-glazed vessels are present, but South Netherlands maiolica was in production during this phase; the few examples were found in late 16th and early 17th century contexts.

Period XI:3, c 1560-90

2017 sherds have been assigned to this phase, including those from pit 328, late in the phase (Figs 44-46). The proportions of fabrics are shown in Fig 43B, C.

Ninety-five percent of the total is now Fabric 40, and a much wider range of vessel forms is present. All earlier coarseware forms except the sagging-based bowl B2B survive, but other forms making their first appearance include dripping dishes (Fig 2.7), bowl forms B3A (Fig 3.13, 44.12-17, B3B (Fig 3.14), and B5A (Fig 44.18), skillets C7 (Fig 44.19), jug from D6AB (Figs 8.47, 45.31,32), costrels (Figs 10.65,66,68, 46.43,44), and condiments (Fig 46.46). Mugs also occur in quantity (45.37-42), along with black glazing and footstand bases. Slip-painted decoration is still found, but less commonly. Metropolitan slipware appears for the first time at the end of this phase.

The other local coarseware, Fabric 21, comprises 3% of the sherds, but few forms are recognizable except the dripping dishes (Fig 2.8) and the possible aquamanile (Fig 10.75). The sixteen sherds of Fabrics 41 and 42 include a lobed cup (Fig 9.54). Imports consist of stonewares (1% of the total), mainly jugs, and two sherds of South Netherlands maiolica (Fig 11.86).

Period XII:l, c 1590-1630

This phase is typified by the contents of pit S47 (Fig 46), and the proportions of fabrics are shown in Fig 47A,B.

Fabric 40 reaches its peak at this time, comprising 96.5% of the total. New forms are few, but include the steeper-sided bowls B5B and the costrel F6 (Fig 10.67). The quantity of Fabric 21 continues to decline, and is now mostly residual. Developments in the whitewares are marked, as the coarser Fabric 42 prevails over Fabric 41; this is seen especially in the appearance of the hollow-rod handled tripod pipkin, C10. Early delftware is also present, including the albarello (Fig 10.72). Imports comprise 45 sherds of stoneware, and three of Low Countries redware. The North Italian maiolica bowl (above, p 67) was found in an early 18th century context, but is most likely to have been current in this phase.

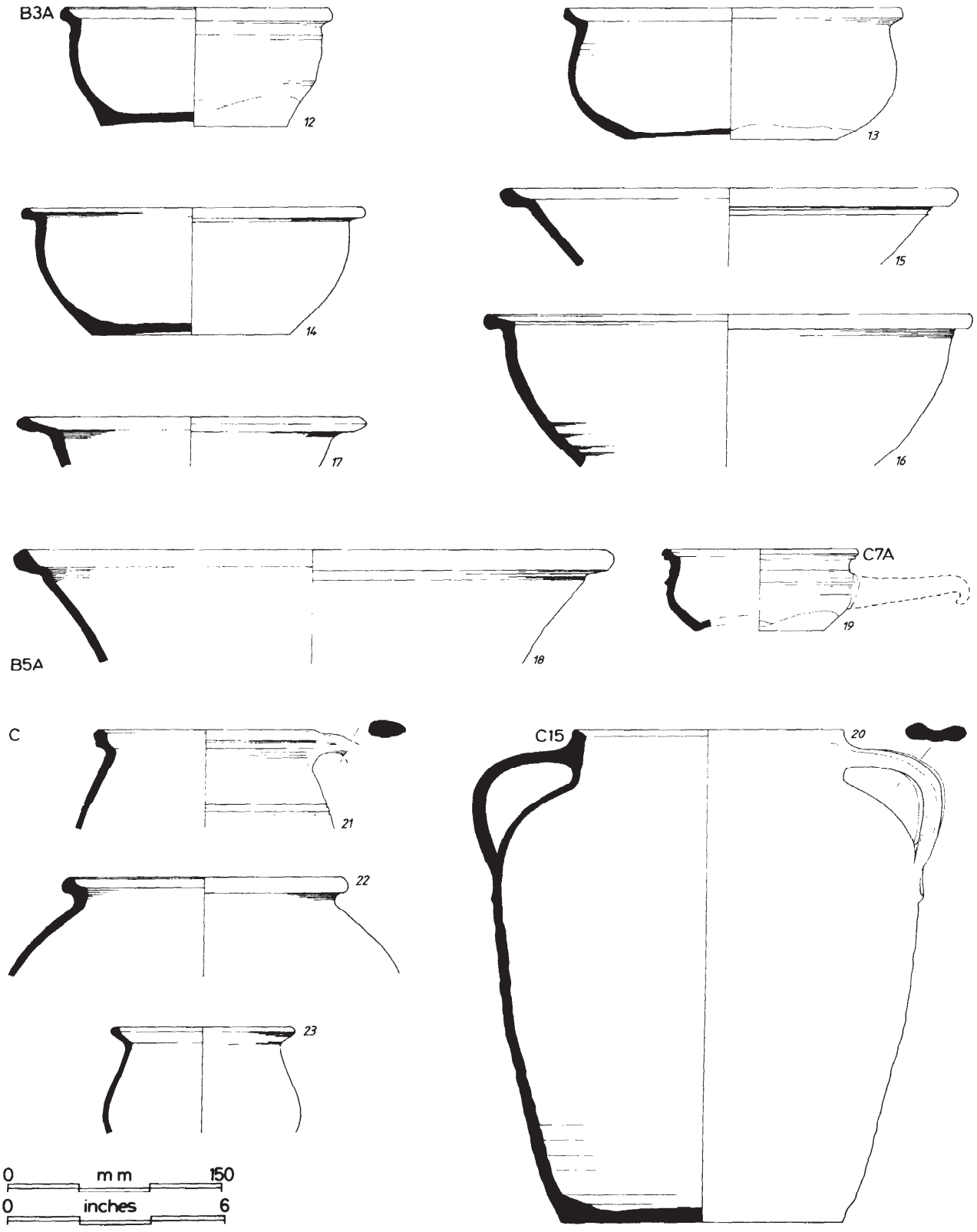

Fig 44 Pottery pit group S328, late 16th century, bowh and jars. Scale 1:4

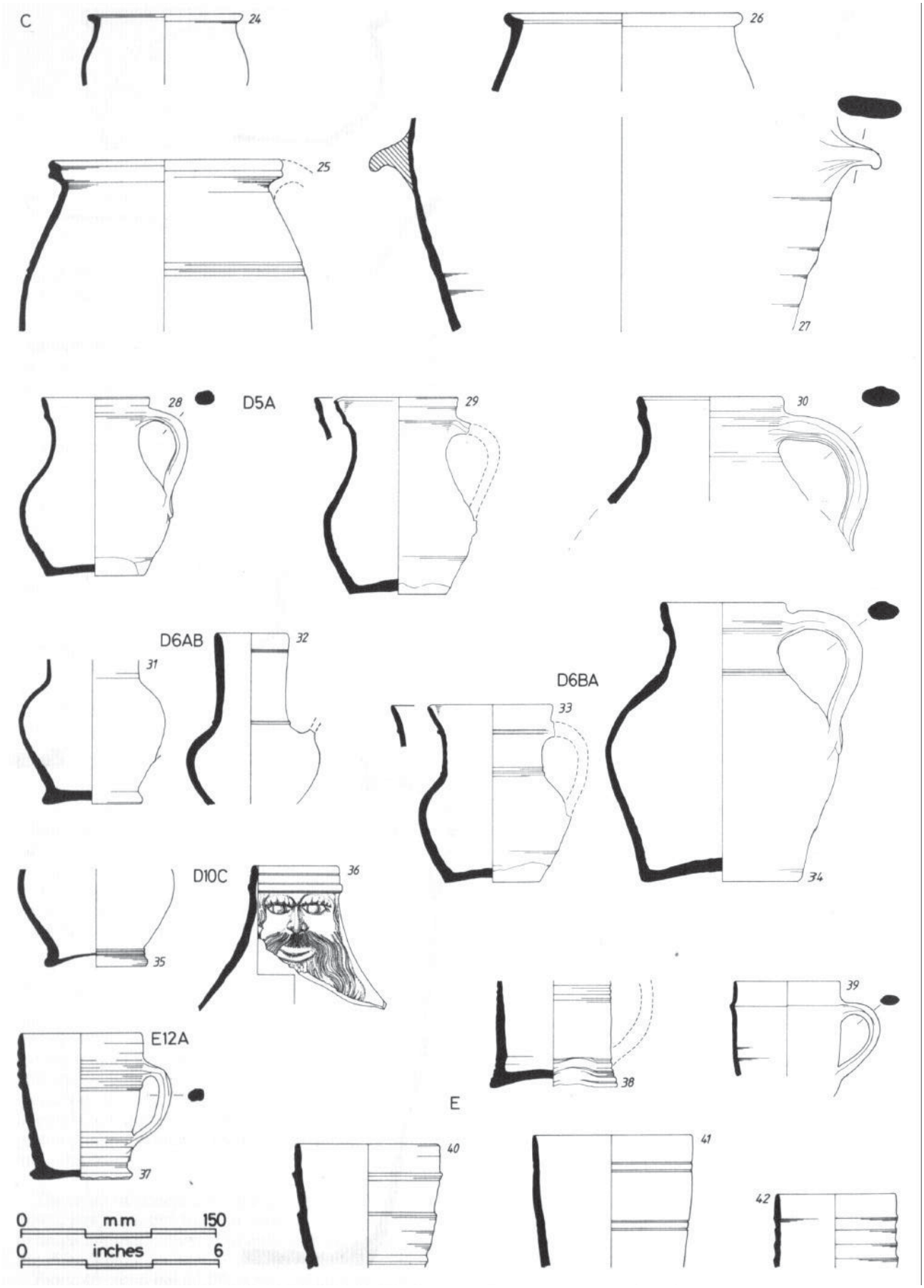

Fig 45 Pottery: pit group S328, late 16th century, jars, jugs, and drinking vessels. Scale 1:4

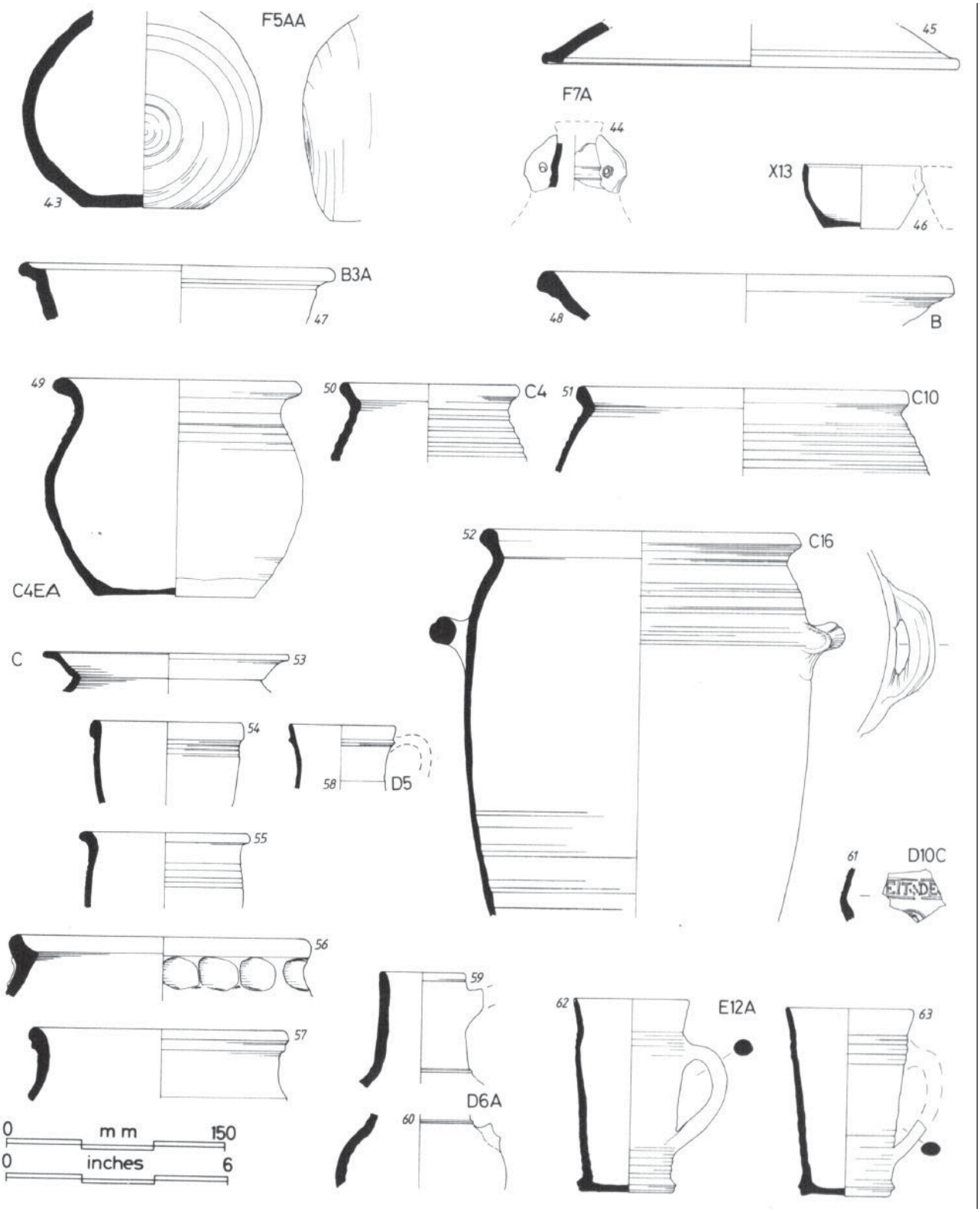

Fig 46 ***Pottery: pit group S328, late 16th century, costrels, lids, and condiments; pit group S47, early 17th century. Scale 1:4***

Period XII:2, c 1630-70

There are no substantial pit groups to demonstrate the range of pottery types in the later 17th and 18th centuries. The relative proportions of Fabrics 40 and 21 have crystallized at 93.5% and 3% (Fig 47C,D). No new forms appear except E11, the type 4 cup (Fig 9.61), clearly residual. Imports still mainly consist of stoneware, with two sherds of Low Countries redware, but there are also examples of Weser ware and Werra ware (above, p 64).

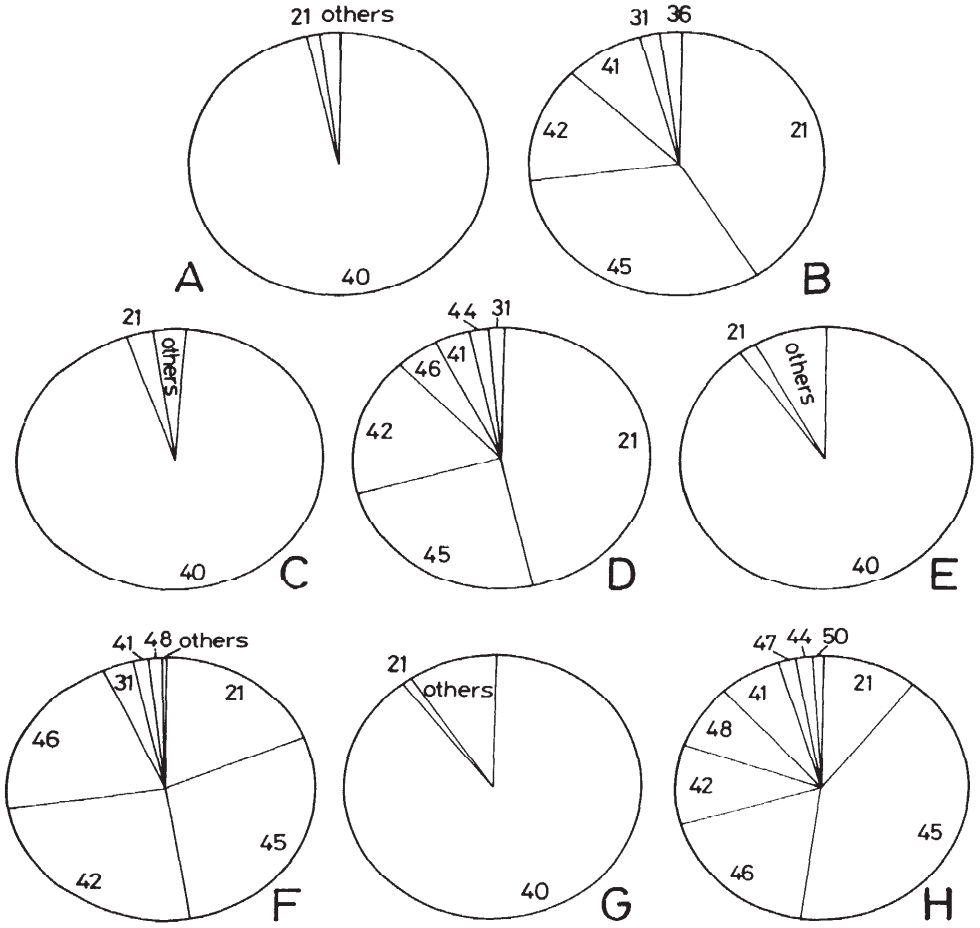

Fig 47 Proportions of pottery fabrics. Period XII:1 (A) including Fabric 40, (B) excluding Fabric 40; Period XII:2 (C) including Fabric 40, (D) excluding Fabric 40; Period XII:3 (E) including Fabric 40, (F) excluding Fabric 40; Period XIII:1 (G) including Fabric 40, (H) excluding Fabric 40

Period XII:3, c 1670-1700

In the late 17th century, local coarsewares are reduced to 91.5% of the total, and stoneware (now including Westerwald) has risen to 3% (Fig 47E,F). Delftware and Surrey wares are also more common. The ornate black-glazed vessel E 13 (Fig 9.64), the candlestick (Fig 10.73), and chamberpots (Fig 11.79,80) also appear in this phase.

Period XIII:1, c 1700-1730

Characteristic of this phase is the full range of 18th century ceramics. Fabric 40 still accounts for 89% of the total, but types such as Staffordshire salt-glazed stoneware and porcelain now enter the picture, together with English stonewares (Fig 47G,H). Only now are plates and shallow bowls commonly found, in delftware, porcelain, and press-moulded slipware.

Other ceramic domestic artefacts

by P J Drury, with comments on glazes by Justine Bayley

Culinary stamps (Fig 48)

Group I

Orange-brown fabric with brownish buff core, micaceous, with much sand tempering. The fragment bears the scar of a handle on the back, partly surrounded by stab marks (made with the point of a knife) in the thickest part of the object. Like 2-3, handformed, with knife-cut edges. The design is incised in counter-relief, following knife-cut guide lines, not all of which were used. The face is covered by a plain lead glaze containing some tin; the opaque yellow colour is probably due to lead-tin oxide. S104; XI:2

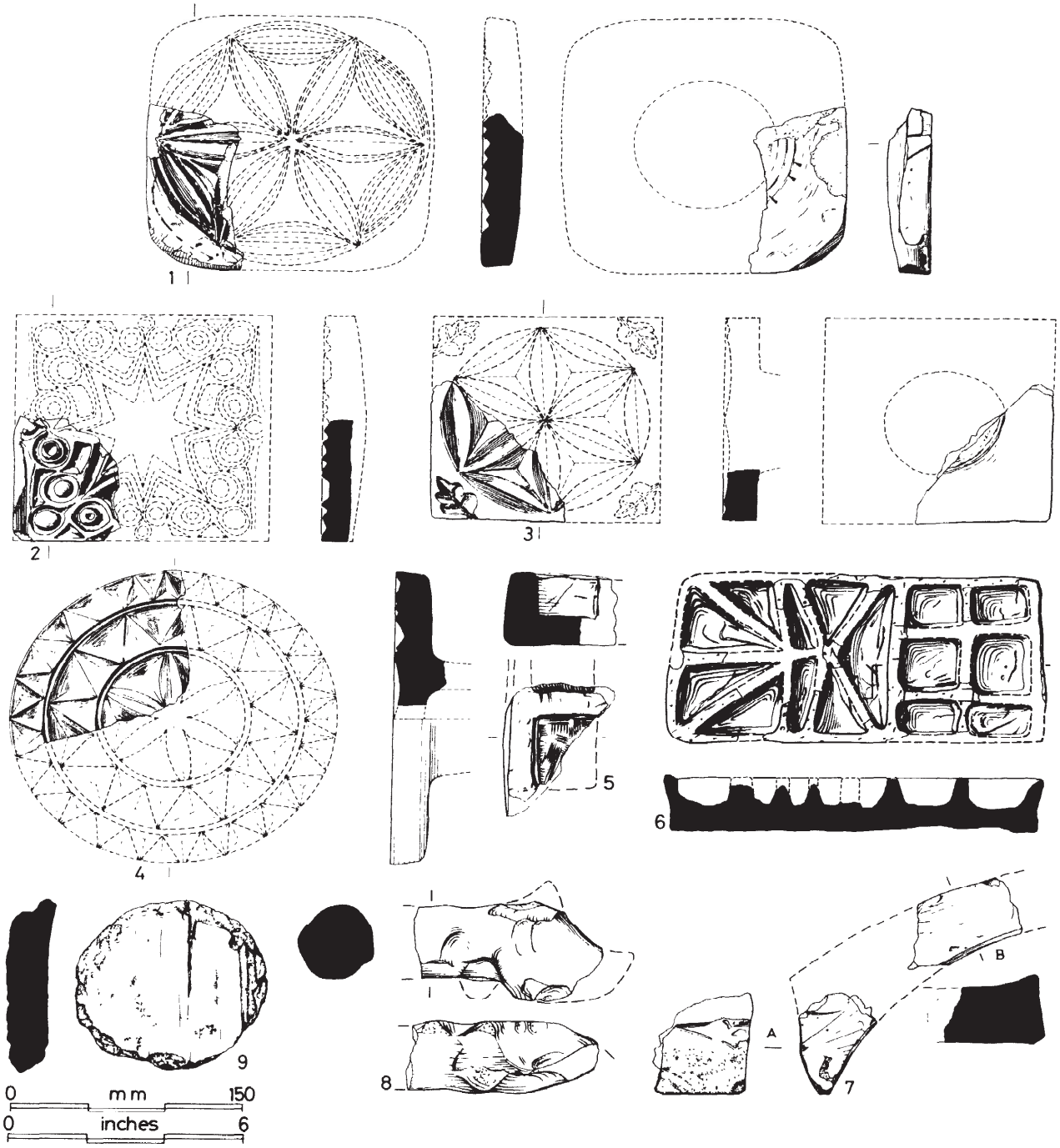

Fig 48 Ceramic artefacts: culinary stamps and mouldr (1-6); oven components (7,8); counter or talley (9). Scale 1:4

2 Hard red micaceous fabric with occasional buff inclusions up to 1.5mm in diameter; back entirely spalled away. Counter-relief incised design on face, based on an eight-pointed star. Covered by a lead glaze which has fired a very dark green, due to the presence of copper and iron; curiously it also contains as much tin as the glaze of 1. S1010; XIII:1

3 Fabric similar to 2. Scar of round handle on back. The main design was incised with great precision when the clay was fairly hard, following compass-struck guidelines. Some of the lines and the holes made by the compass-point (including one not used) are visible. The leaf motif in the corner is deeply incised, not stamped. Unglazed, and not fired in a glazing kiln since no lead detectable. $66; XII:1

These objects were clearly intended to produce a relief impression of a design in some fairly soft material. The earliest examples of such ceramic stamps seem to be those found in 1872, above a skeleton, in excavations at Castelnau-sur-l'Auvignon, Dept Gers, in south-western France (Lavergne 1901; kindly drawn to my attention by C Norton). Twelve were present, with designs in relief closely modelled on local inlaid tiles of c 1280-90-so closely indeed that they must have been made by the same tilers. They were 125-30mm square, with short cylindrical handles rising from convex backs, and like our examples all but one were glazed on the face. The objects were interpreted as tile stamps, but both experiment (Drury & Pratt 1975, 148-9), and the state of the only surviving tile stamp of traditional type (but post-medieval date: Keen 1969, pl 38.4), indicate that tiles had to be stamped when the clay was rather hard, making it necessary to hit the stamp with a mallet or hammer. Clearly this would not have been possible with ceramic stamps. Eighteen examples were also found in the excavation of the medieval pottery at Mill Green, Ingatestone, Essex (c 8km south-west of Chelmsford), associated with pottery and tiles of late 13th to mid-late 14th century date (Wilson & Hurst 1968, 208; E E Sellers, pers comm), and fragments of others were found in earlier excavations in the vicinity (Christy & Reader 1918, fig 13; also Passmore Edwards Museum, from excavations in 1964).

Figure 48.1 was found in an early 16th century context, which probably accurately reflects its date, and 2 may be of approximately the same date, despite its context. Figure 48.3 looks later than the glazed examples, and its context, dated c 1590-1630, may be an accurate reflection of its date. Perhaps still later in the 17th century is a circular example found in digging a grave in Hatfield Peverel churchyard c 1967 (Fig 48.4; CHMER 1972:394). It is in a fine, hard red fabric with a grey core, covered with a lustrous brown glaze on the face and with the remains of a hollow handle. Unlike the others considered, it appears to have been thrown, although all probably had thrown handles. It is pierced from the back with many small holes, most of which just penetrate to the face.

All of these objects were probably culinary stamps or moulds. Examples in wood are common, and are known from the late 16th century onwards (Pinto 1969, 183-9), for use in making pastry and confections. Butter prints *(ibid,* 100-1) are closely related, examples surviving from the 17th century. One early specimen in the Castle Museum, York, unlike many English wooden moulds (which are cylindrical in shape, and often double-sided), is provided with an integral handle, like these ceramic specimens, and has a design similar to that of Fig 48.1 (Brears & Harrison 1979, no 188).

It seems probable that the ceramic stamps or moulds of central Essex are skeuomorphs of wooden artefacts of much wider distribution, at least in the post-medieval period. If so, it follows that such wooden culinary stamps were in use in the area by c 1300, despite the fact that the earliest surviving examples are several centuries later. The examples from south-western France are probably to be explained similarly; if so, there is no reason to propose a direct connection between the two areas.

In a survey of 'Moules à empreintes pour patisserie: Aubert published ceramic and stone circular examples assigned to the Callo-Roman period, of the same type as those illustrated here, and compared them to English butter prints. Being unaware of the examples from Castelnau-sur-l'Auvignon, he thought that this *Forme tampon* was exclusively Roman (Aubert 1930, l-3). Most French moulds are of his *Forme cubique,* with square or circular dies on *six* faces, *Forme cylindrique,* with a die on each end, or *Forme en plaquette,* flat slabs, either double- or single-sided. They range in date from the 13th to the 19th centuries, but were most common in the 15th and 16th centuries, and are found in wood, stone, and ceramics. The designs of the later ones are largely submedieval, a situation paralleled in the post-medieval relief tile industry of north Devon (Keen 1969). French examples are most common in the north-east of the country; the distribution of moulds *en plaquette* extends into central Europe.

Group II

5 Part of a compartmented tray, in a hard brownish-red micaceous fabric with fine sand tempering, including quartz grains up to 2mm in diameter. The basic shape is a brick 50mm thick, formed in the usual way, the edges subsequently knife-trimmed. Into this, compartments c 30mm deep were cut using a chisel (?) with a serrated blade, whose marks remain on the bottom of the compartments. The sides were subsequently knife-trimmed, when the clay was rather dry, leaving a dense shiny surface. The base has fired with a reduced, grey core. S47; XII:1

An almost complete example of a similar tray (Fig 48.6) was found by the late Mrs E M Minter in a black deposit observed in a drain trench at Fenstanton, Cambs, c 1960 (probably near the 'Crown and Pipes' hotel). It was associated with a Langerwehe base, and the rim and handle of a large cauldron-type pot with a thumbed band around the neck, of c 1350-1450 (J G Hurst, E Greenfield, pers comm). It is approximately the shape of a contemporary brick (c 240 x 125 x 40mm), formed in the usual way. It was trimmed, and the compartments cut out, with a knife, when the clay was fairly dry, leaving a dense shiny surface on to the cuts, and a concave, rather rough surface on the bases of the cells. The fabric is pink to orange in colour with a dark grey reduced core, tempered largely with crushed chalk. Other fragmentary specimens are known from Chelmsford, some of almost square shape.

These objects seem to have been used to form small cakes or confections of varied shapes. Most of the cells have slightly inward-tapering sides, which would facilitate removal. The moulds would certainly withstand cooking in an oven (although they show no sign of having been so used), and there is a link between 6 and other objects which may be part of an oven (below). One of those, 7B, comes from a context dated c 1500-1560, and the others, and this mould, from later phases. However, most are abraded (especially 8) and are relatively small, non-joining, fragments of what were clearly once large and sturdy objects. This suggests that perhaps all but 7B are residual in their contexts, and that the most likely date for their use is in XI:2, ie during the first half of the 16th century. The early date of the Fenstanton example supports this suggestion.

Oven components? (Fig 48)

Nos 7-8 are in the same fabric as no 5 above, and all are probably contemporary.

7A,B Two fragments of curved tiles, the underside, edge, and part of the side being knife-trimmed; part of the edge retains the sand lining of the form. The upper surface appears to have been struck. S1008; XII:3, S88; XI:2

8 Oval-section bar, with reduced core; very abraded and battered, but it clearly once had other elements luted on to it. These include what seems to be a tapering terminal projection, set at one end, at an angle to the axis of the bar. S328; XI:3

Counters or tallies (Fig 48; PI VII)

Pl VIIA Sixteen roughly-rounded fragments of tile, all from S104; XI:2. Fourteen are formed from pegtile fragments about 12mm thick, varying considerably in fabric, colour, etc. The diameters are c 80mm (l), 60mm (10), 50mm (2), and 40mm (1). Two are made from Romano-British *tegula* fragments 17- 19mm thick, and are c 60mm in diameter.

Pl VIIB Eight objects similar to those above, from S127ii; XI:3. All are made from pegtile fragments; the diameters are c 70mm (l), 60mm (l), 50mm (5), and 30mm (1).

9 Fragment of a *tegula,* 23mm thick, in a dark red hard fabric and having a very rough base. It has been chipped into an approximate circle, 115-120mm in diameter. S265; X (medieval)

These objects were probably counters or tallies, used in a manner analagous to jettons (Barnard 1981,26). Similar examples have been found in Norwich (S Jennings, pers comm) and four better-finished specimens, in wood and siltstone, two decorated, have been found at Threave Castle, Galloway (Good & Tabraharn 1981, figs 15.151-3, 20.197). The same site also yielded 130 shale counters more crudely cut and ranging in diameter from 26 to 72mm. These belong to c 1370-1455 and later *(ibid,* 126). The earliest example here is 9, made from a Roman tile fragment and found in the medieval street frontage ditch. The others are from 16th century contexts, which probably accurately reflects their period of use.

III The Stock pottery

by C M Cunningham

The site

In 1971 the attention of the Billericay Archaeological and Historical Society was drawn to a quantity of post-medieval pottery and wasters in the spoil dumps of a sewer trench in Common Lane, Stock (TQ 6935 9888, Fig 49), and later of a gas pipe trench in the same area. It was realized that the trenches had passed close to a kiln dump, and subsequent enquiries led to the recovery of similar sherds from neighbouring gardens and a small trial pit. The development of Thornton Close, to the east of 88 Mill Road, Stock (TQ 6932 9888, Fig 49) in 1975 revealed a further group of sherds and wasters. Although these groups were gathered at two different dates and were mainly surface finds, they are sufficiently coherent to warrant publication together as a kiln group.

The results of the fieldwork were very consistent. They comprised a large group of post-medieval local coarsewares, glazed and unglazed, mostly of the 17th and 18th centuries. There were also many pegtile fragments which had been used as kiln furniture, and at least 559 fragments of saggar. A significant proportion of the remaining 960 sherds can be classified as wasters. There was very little extraneous material present, only a few small fragments of stoneware, iron, and building materials (see p 86). This clearly suggests that the collected material is derived from a nearby post-medieval kiln site.

The majority of the coarsewares from Moulsham Street are derived from the kilns at Stock, although the material discussed here happens to correspond to the later groups from Moulsham Street. It is likely that 16th century production (which is known from documentary evidence, see below) was concentrated in a slightly different part of the parish. This source of supply is an obvious one, as Stock is the nearest kiln site to Chelmsford. There are no known kilns in Chelmsford itself until the 19th century, and an examination of the material from the more distant kilns at Harlow (see Fig 49) showed that its products were very scarce at Chelmsford. Stock was probably a substantial supplier of coarsewares to much of central Essex and Colchester (cf Cunningham 1982) throughout the post-medieval period. Large numbers of pots were also sold to Hampton Court and Hanworth for use in the hot houses (Musty 1977, 102-3). The purchase of three batches of more than 400 pots each is recorded in the 1530s, from 'John Pallmer of Stocke in Essex', at least two of which were transported by water via Colchester and London.

The products

It cannot be assumed that these surface scatters and chance finds are typical of production at Stock, either in terms of chronology or range of products. Nor is it certain that all types described below, especially minor ones, were manufactured at Stock, but the presence of wasters in almost every group makes this likely.

After saggars, discussed below, the jar, often with handles, is the predominant vessel. As the jars occur mostly in small fragments, classification must be based upon rim form. Seven main rim types are present (Table 6). The type Bl rims (above, p 2), are characterised by a very distinctive external bead some distance below the rim (Fig 50.1,2). These are glazed inside and out, with a high proportion of wasters, and are a diagnostic Stock product. Only one of these is decorated, with thumbing on rim and bead (Fig 50.3). It is a comparatively rare rim form at Moulsham Street. Fragments of at least fourteen loop handles were recovered, and it is likely that some of them belong to vessels of this type. Eleven of the most common rim type (Cl, the larger rounded bead, Fig 50.4) have attached handles (eg Fig 50.5), and others have handle scars. They are mostly glazed, and some fragments show rilling on the body. This is a common rim form in Moulsham Street. One of the examples of C2 (eg Fig 50.6), the large grooved bead, also has a handle stub.

Table 6 Numbers of fragments from Stock which can be associated with specific vessel forms

Form	*No of fragments*
Jars	
Rims	
B1	21
C1	82
C2	4
E1	3
E2	40
E3	21
F1	1
Bases	
footstand	34
flat	75
Skillets (C8)	
Tripod bases	21
Platters and bowls (A2-B5)	112
Black-glazed vessels (mostly E12)	77
Jugs (D5 & D6)	15
lids (X9)	10
Cisterns (C15)	
Bung-holes	3
Rims	7
Handles	6
Drupping dishes (A11)	2
Costrel (F3)	1
Chafing dish (X1A)	1

Figure 50.7 shows the flanged rim El which is not hollowed. The type E2 rims (Fig 50.8,9), mostly glazed, usually correspond to the simple everted jars of Moulsham Street, Form C4. Eight of them, however, are the heavy, hollowed rims such as Fig 50.10, belonging to large, open-necked storage jars with loop handles, Form C16A. Three complete examples have been found below a fireplace at the Almshouses, Stock (CHMER 1981: 173: 1-3; eg Fig 7.39,40).Figure 7.39, an obvious waster, has a heavily-thumbed applied strip below the rim, and is similar to Fig 50.10. This type of rim may also be found on pipkins. Most of the type E3 rims, with the external bead (eg Fig 50.11), one with a handle!, are glazed all-over. Many are wasters, so again this is a very diagnostic form, which commonly occurs in Chelmsford.

There are no complete jars, but plain flat bases are twice as common as the footstand base (Fig 50.12,13).

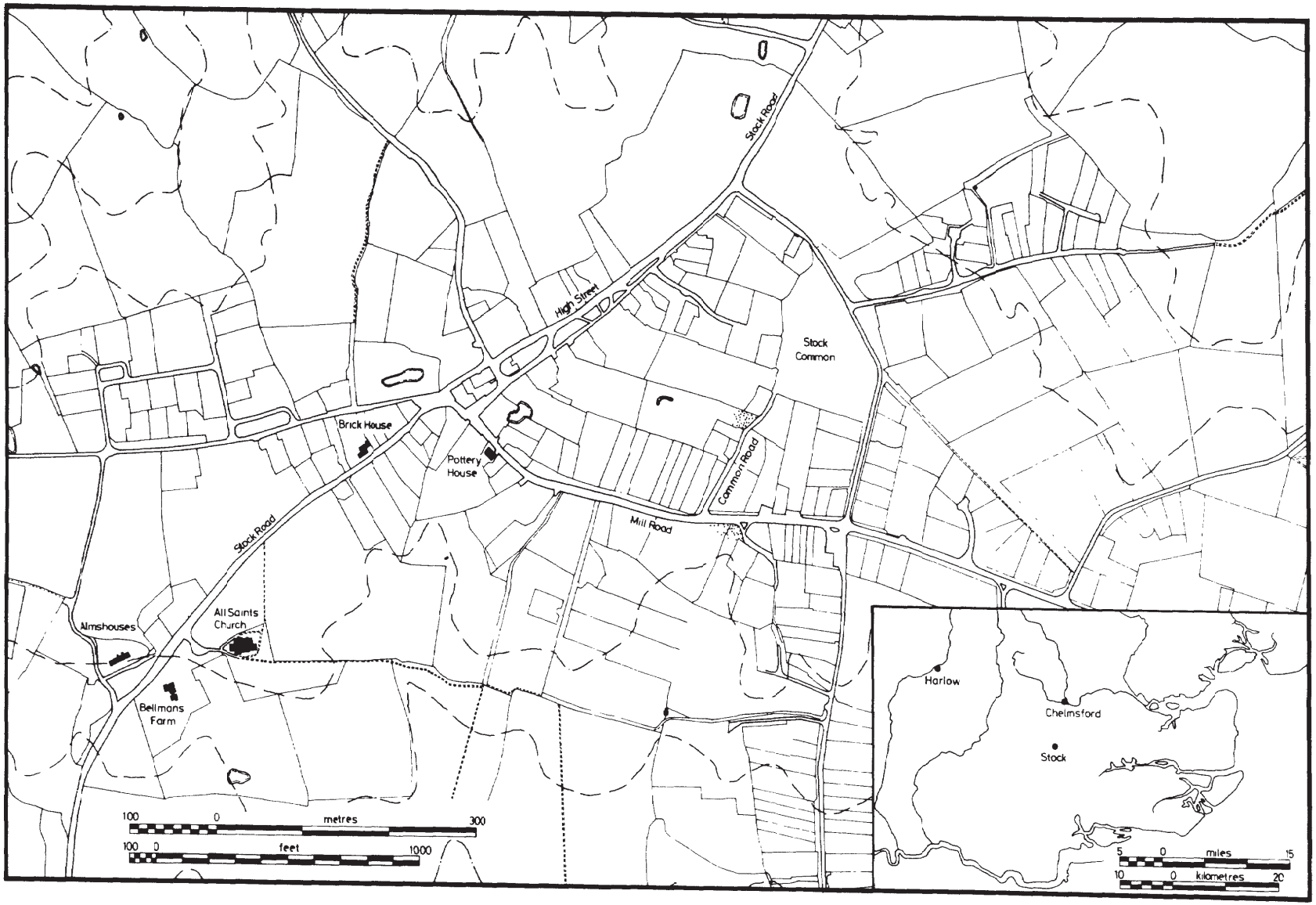

Fig 49 The village of Stock. Stippled area show findspots of pottery. Inset: the location of Stock in relation to Chelmsford and Harlow.
Based on the Ordnance Survey Map: Crown Copyright Reserved

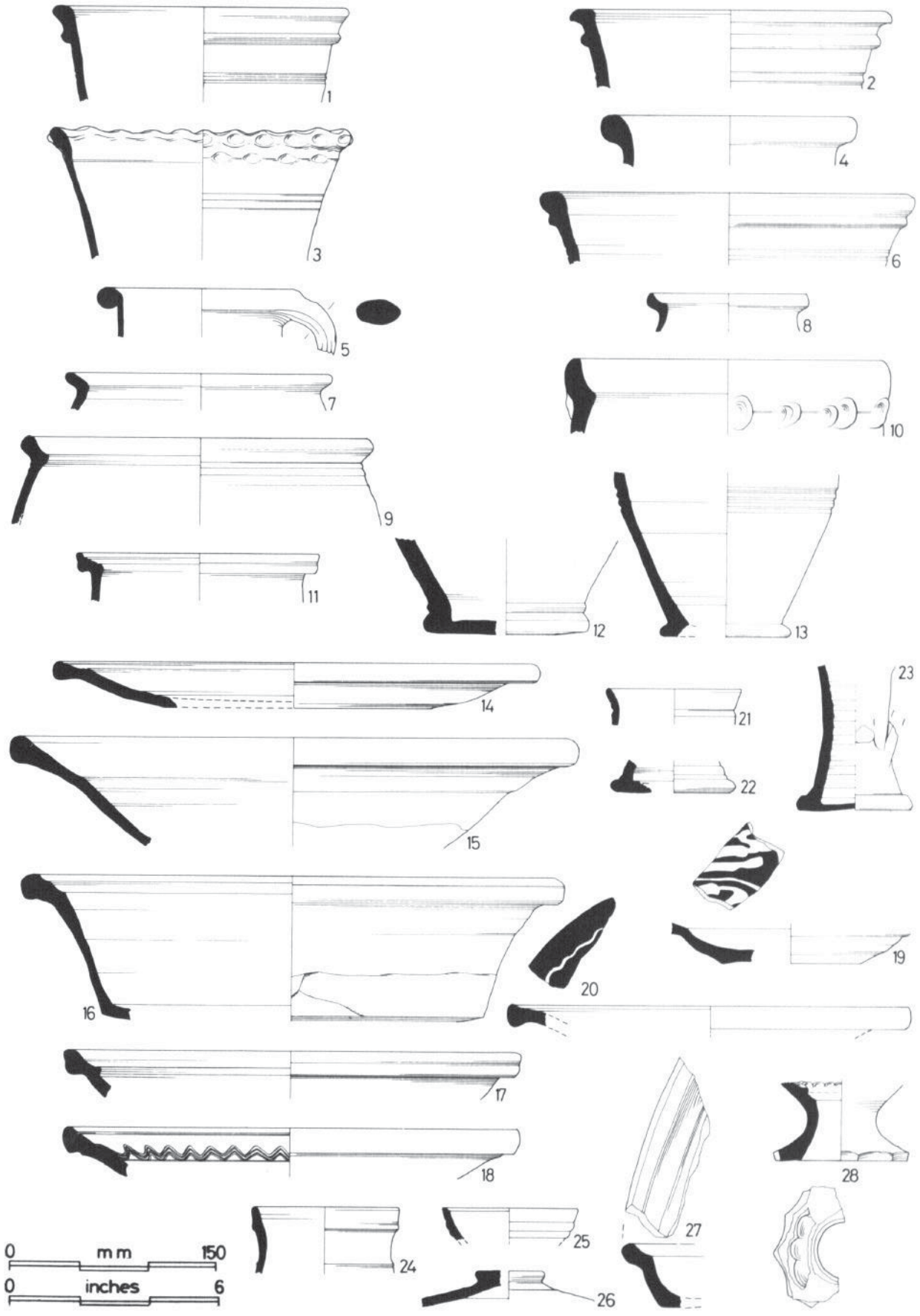

Fig 50 Pottery from Stock. Scale 1:4

The tripod base fragments and two skillet-type handles may come from vessels of Form C8 (cf Fig 5.28).

Platters and bowls are the second most numerous type, especially Forms A2 and B5 (Fig 50.14-16). Glazing is normally partial or allover internally. A few of the unglazed fragments may be wasters. Only six fragments show any decoration, three with incised wavy lines on the rim flange (eg Fig 50.18, cf Fig 2.2), and three with slip decoration which appear to be wasters. Fig 50.19 has Metropolitan-type slipware decoration, but the slip has fired to practically the same colour as the body, and the whole is over-reduced. Fig 50.20, similarly, closely resembles the products from Harlow, on which it may be based. Slipware manufacture, therefore, was clearly being attempted at Stock. There are only 26 fragments known from the sites in Chelmsford described in this volume. It had been thought that this reflected a trickle coming from the Harlow kilns, but it may represent the proportion of slipware to undecorated coarsewares being made at Stock.

Seventy-seven sherds of blackware were recognized. This forms a relatively small proportion, but the saggars seem to have been largely used for the firing of blackwares (cf Mayes 1968, 69), and this has possibly reduced the proportion of wasters, so that a representative sample of blackware products may not be present at the kiln dump. Blackware types represented include tygs or mugs, including the only three rim fragments present (Fig 50.21). Most of the mugs seem to be fairly squat, and only one base (50.22) is conical like a tyg. Four similar bases were recovered from the Almshouses, Stock (eg Fig 50.23; CHMER 1981:173:4-7). Most of these fragments are fairly thin-walled and often rilled. The rest of the blackwares are from larger, slightly coarser vessels, which may include jugs or chamber pots. A very notable example is the 'ringers' jar' in the Colchester and Essex Museum (unaccessed. Fig 51), from Braintree, with an inscription, including 'made at Stock 1685' (Austen 1943, 193). Its glaze and fabric are absolutely consistent with a late 17th century date, and a source at Stock. Its size and decoration, however, is unparalleled amongst other material from Stock, and shows that more elaborate and ambitious vessels could be produced there alongside the commonplace domestic earthenwares.

The following types are all minor:

1 Jugs are few, with no obvious wasters, but these are very common at Moulsham Street, especially those with a small external bead on the neck (Fig 50.24, cf Fig 8.44, Form D5) or a 'ribbed' neck (Fig 50.25, cf Fig 8.49, Form D6).
2 Lids (Form X9) are characteristic of the Moulsham Street examples. They include two with knobs, both very abraded but probably circular (Fig 50.26, cf Fig 10.78). Only one has external glazing.
3 Very few cistern fragments (Form C15) were present. The bung-holes are plain, and the rims have the internal bevel (type A3), and all are completely unglazed

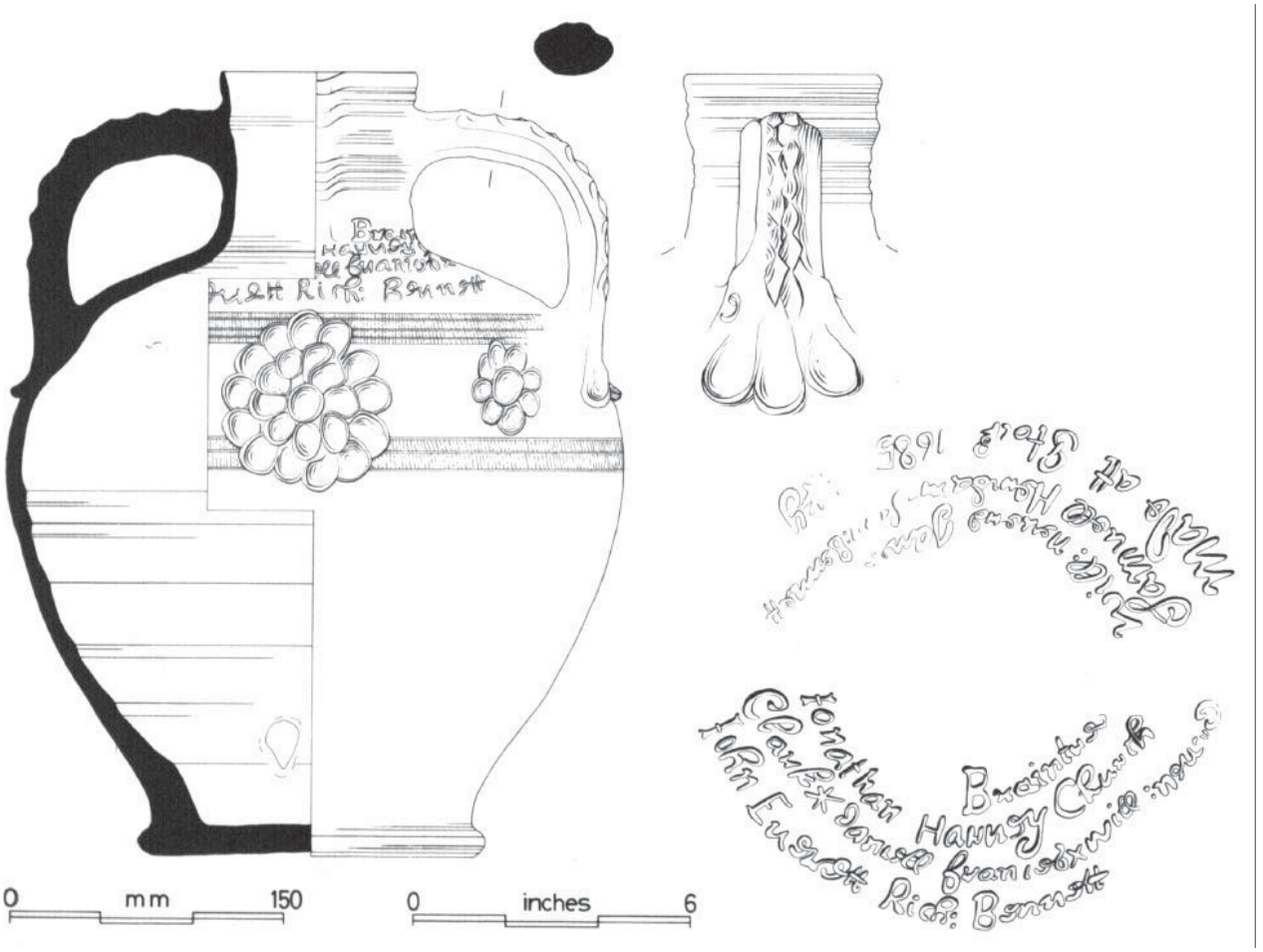

Fig 51 The Braintree 'ringers' jar'. Scale 1:4

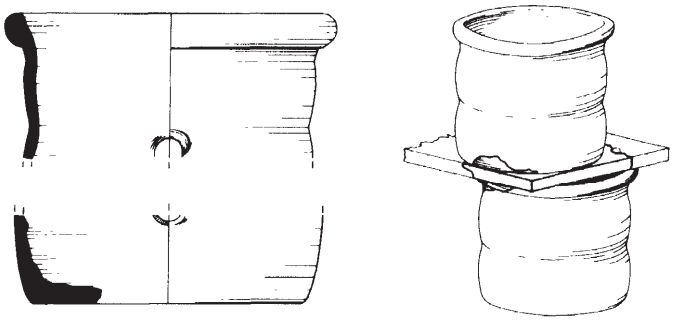

Fig 52 Saggar from Stock (scale 1:4), and reconstruction based on kiln debris

and undecorated. It is quite possible that this small group does not represent manufacture in Stock at this period. Large cisterns like these appear at Moulsham Street in the 15th and 16th centuries, and to some extent in the 17th, although many of these may be residual.

4 The fragments of dripping dishes are identical to type All present at Moulsham Street (Fig 50.27, cf Fig 2.7). It is not certain if they were manufactured at Stock.

5 One small fragment from the neck of a costrel, Form F3, showing the pierced lug, was recovered from the Brick House area.

6 The final vessel type present is the base of a chafing dish (Fig 50.28). This is Form X1A with the applied, thumbed bowl-base, common at Moulsham Street. The fact that it is definitely a waster points to it being a product of the Stock kilns. Two fragments of horizontal loop handles probably belong to similar vessels.

Manufacture

Some 600 fragments of saggar were recognized. These are pre-fired cylindrical vessels with crudely-formed holes which were used for firing particularly the blackwares. They were specifically made as saggars, with coarse thickened rims, and bases just as they came off the wheel, in contrast to all vessel products, which have either footstand or plain flat bases, all neatly turned. Figure 52 shows how they were stacked in the kiln, based on fragments which show rims and bases of saggar fused to intermediate rows of tiles. Many fragments of standard pegtiles were recovered, mostly with glaze adhering from use in connection with saggars. There was only one measurable dimension, a width of 160mm (one had a fragment of brick adhering). Examination of the inside of saggars often shows scars where the contents had adhered to the wall of the saggar, and runs of thick black glaze are particularly common, although plain lead glaze traces are also present. Purpose-made saggars were most prevalent, but other vessel types, themselves wasters, seem to have been used as saggars when available.

The structure of the kiln is clearly suggested by fragments of Chelmsford Group IV bricks (p 37), some of which have one totally vitrifted face, and clay 'bedding' adhering.

The historical evidence

There is an abundance of documentary evidence for the presence of potters at Stock. The parish registers provide a basic framework (Austen 1943), but this is greatly augmented by a fine series of potters' wills (ERO; refs in fiche 1: C8-9), covering the period 1509 to 1745, when Stock was at its peak as a major production centre. Other sources such as the Quarter Sessions records and the Manorial Court Rolls also throw light on the potters' activities.

Many families were involved in pottery manufacture in the area, in the adjacent parishes of Buttsbury, Ramsden Bellhouse, and South Hanningfield as well as in Stock (or Harvardstock) parish itself (see fiche 1: C8-9). The earliest reference to a potter is given in a document of 1482 (Austen 1943, 26) when John Palmer (potter) acted as a witness. The seventeen extant wills relate to potters with eleven surnames, but many more potters' names can be found in the other documents.

The parish registers give the dates of baptism, marriage, and burial, and from this it is possible to see that the average age at death of the potters was 58% years, the longest lived being Edward Hankin who died aged 79 years. This figure is based on men who reached maturity and so is not affected by child mortality. All the potters married between the ages of 24 and 27, with the sole exception of William Hankin at the age of 44. This reflects the time when the young men had completed their apprenticeship and were free to marry. Indentures of apprenticeship are rare, but one survives to a brickmaker of Great Burstead *(ibid, 286-7).* However, it is clear from the will of Christopher Tailor of 1580 that William Starlinge was at the time apprenticed to him and was to receive five pounds 'at the ende of his yeares' (ERO, D/AER 14/41).

The wills, although they yield much information about the property and household possessions of the family, are usually silent on the equipment of the trade. There are three main exceptions. The first is in Edward Hankin's will of 1599: 'Item I give to my sonne Will[m] Hankin all my boards with the potte kelle & other outwarde thinges about the kell house or workhouse... .' (D/AER 17/256). The will of Thomas Charfoullde of Buttsbury of 1627 includes the phrase 'Item I give and bequeathe unto James my son afore-sayed: all my bordes and wheeles that now belongeth unto my tread of pott making' (D/ABW 49/300). A sadder reference appears in the will of William Ascroft of 1745: 'Item I give and bequeath unto my

brother James Ascroft the pott kell and kellhouse and Boards and all other Utensils Thereunto belonging (the fire Wood only excepted) to remove and carry away from off the said premes[es] or otherwise to make use of as he shall think fitt' (D/ABR 23/156). This gives the impression that William did not expect his trade to be carried on; indeed he may have been one of the last of the potters in the area. There is another reference to 'loades of wood in the yard' (Richard Palmer's will of 1554; D/AER 5/224) but it is not clear whether this was for firing a kiln or for normal domestic use.

The potters may have dug some clay on their own crofts, but like the contemporary Harlow potters (Newton *et al* 1960, 360), they relied heavily on the common and other waste ground as a source of clay. The Blunts Manor Court Roll (Austen 1943,83), for example, records the digging by potters and others of 'loam and white clay on the waste called Stocke Common for cups tiles brickes or other earthen vessels', and that the pits should be immediately filled up. This was partly, presumably, a precaution against drowning (cf *ibid,* 116).

The wills, besides the appurtenances of the pottery trade, also mention specific properties, often naming them. 'Grays' is first mentioned in Richard Palmer's will of 1554, as having a garden, a croft, and an acre and a half of land (D/AER 5/224). This tenement is next mentioned in his son Humfrey's will of 1587, with 'the working house thereunto belonging' (D/AER 15/224). In 1639 it was in the possession of Thomas Hawley (D/AER 20/77). Other properties mentioned include 'Coopers' (owned by John Bondoke in 1617; D/AEW 17/l 55), 'Bonnings and Luthers' (property of William Hankyn in 1638; D/AER 26/35), Belmans (also owned by Thomas Hawley in 1639), and 'Lygges and Potters' (left in 1509 by John Palmer to his two sons respectively; D/AEW l/259). Other pieces of land are Radlyee Land and Rutters Garden (in Thomas Hawley's will of 1639), and Bradmore Meade (Richard Palmer, 1554). The site of most of these is not now known. Bonnings and Luthers, however, is now Brick House, where pottery has been found (Austen 1943,84). It is not certain whether Bellmans Farm, opposite the Almshouses, is the same property as that left by Thomas Hawley in 1639.

The final point brought out by an examination of the wills is that those called 'potter' in legal documents did not live exclusively from the proceeds of pottery manufactune. Livestock and agriculture are repeatedly mentioned, especially cattle, but also sheep, bullocks, cattle-fodder, hay, fruit, barns, and meadows. Similarly, an early 18th century brickmaker at Runsell Green was apparently self sufficient in food (Drury 1975,211). Income was sometimes also derived from rents. This confirms that potting was often a seasonal activity, combined usually with farming. John Prentice, for example, is called 'Prentice the potter at Stock' in the Ingatestone Hall accounts for 1550 (Emmison 1964, 68), but as his goods included glassware, he was clearly acting as a dealer; indeed, he may not have manufactured any of his wares himself (cf tilers at Ingatestone; Drury 1981b, 133).

Regardless of how much of their income was derived from sources other than pottery, the potters were certainly reasonably prosperous. Each potter usually possessed more than one tenement, sometimes three or four, which were often occupied by members of the family. Their houses seem to have been well appointed, with plenty of feather beds, furniture, and utensils. Money, too, was sufficient enough to provide for the younger or female members of the family, and sometimes to leave something for the poor.

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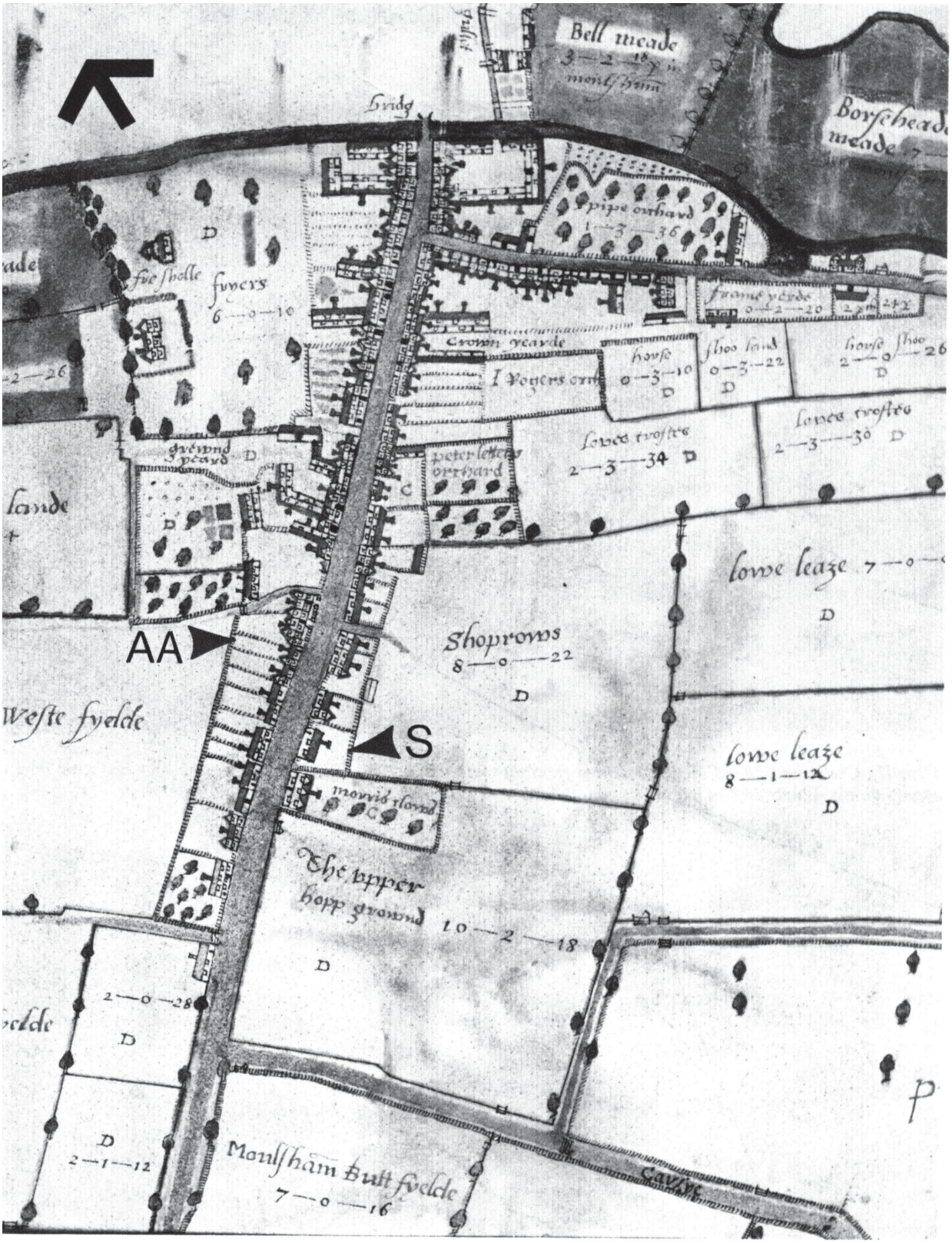

Plate I Part of 'A Trew platt of the manor and hamlett of Moulsham: 1591' by John Walker (ERO D/DM P2); sites S and AA are indicated. Photo: British Library; courtesy of the Essex Record Office

Plate II Chelmsford: 59-61 Moulsham Street from the south-west c 1955. The difference between floor and street level is clearly visible. Photo: M G Godfrey

Plate III Chelmsford: 59-61 Moulsham Street from the south-west during demolition in 1968. Photo: M G Godfrey

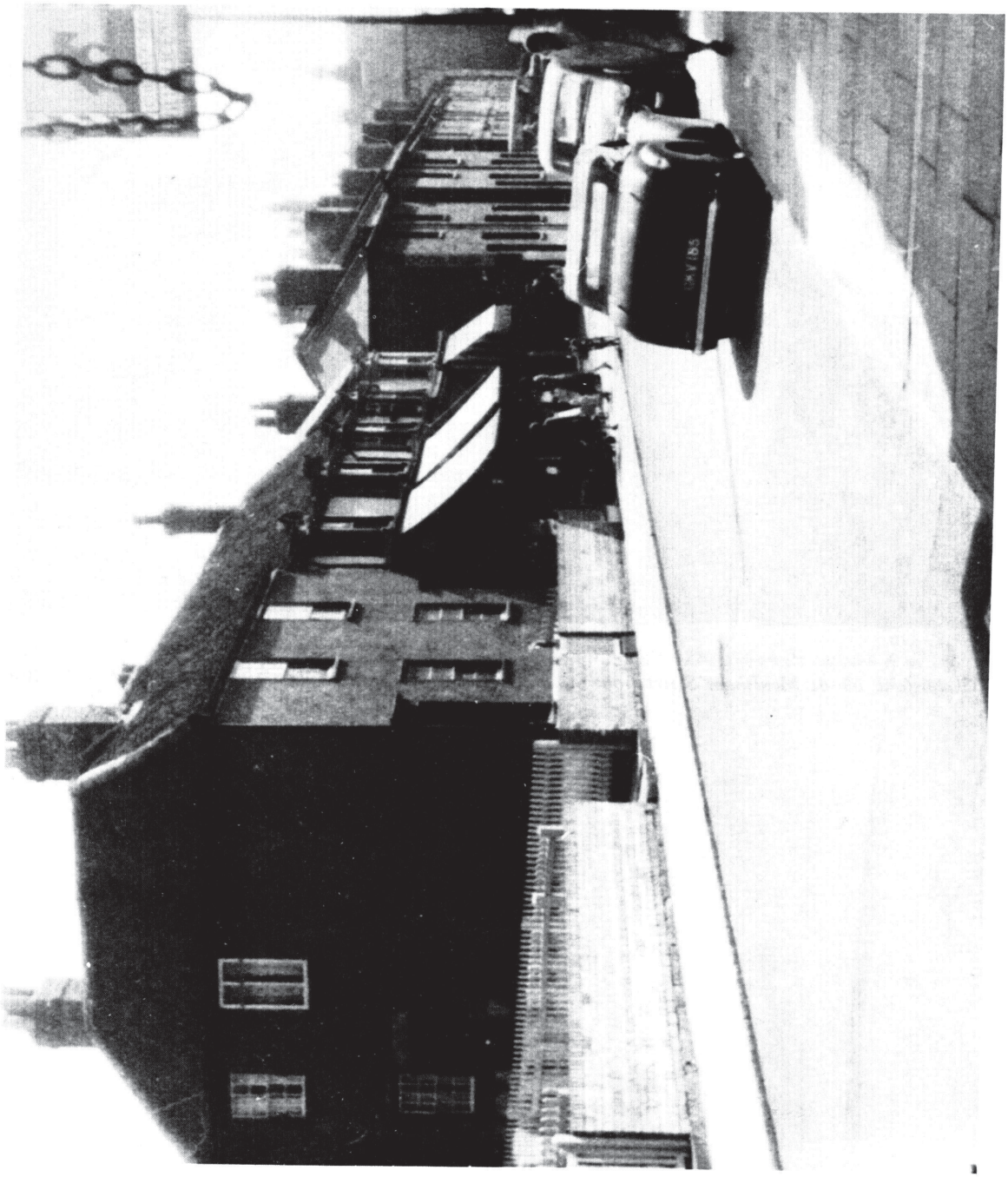

Plate IV Chelmsford: 62–3 Moulsham Street from the north-west c *1955.* Photo: M G Godfrey

Plate V Chelmsford, Site S: 1, uncertain jetton, c 1610 (p 40,28); 2, token farthing of 1664 (p 40,29); 3, coffee house token, c 1700 (p 40,30); 4, cast lead token (p 40,31). Scale 1:1. Photo: Gordon Ager

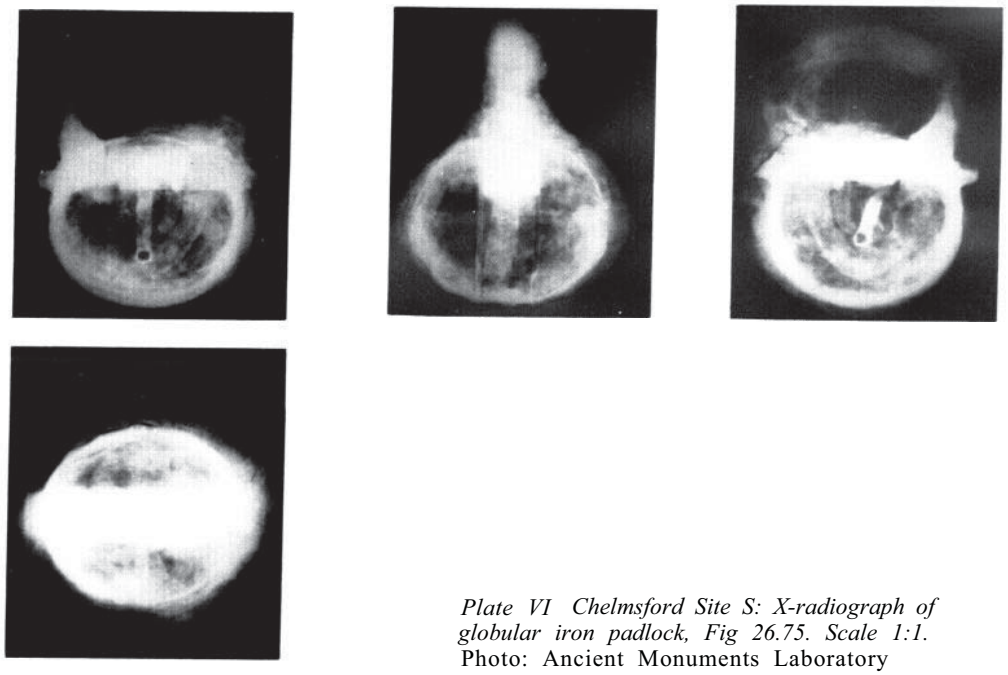

Plate VI Chelmsford Site S: X-radiograph of globular iron padlock, Fig 26.75. Scale 1:1.
Photo: Ancient Monuments Laboratory

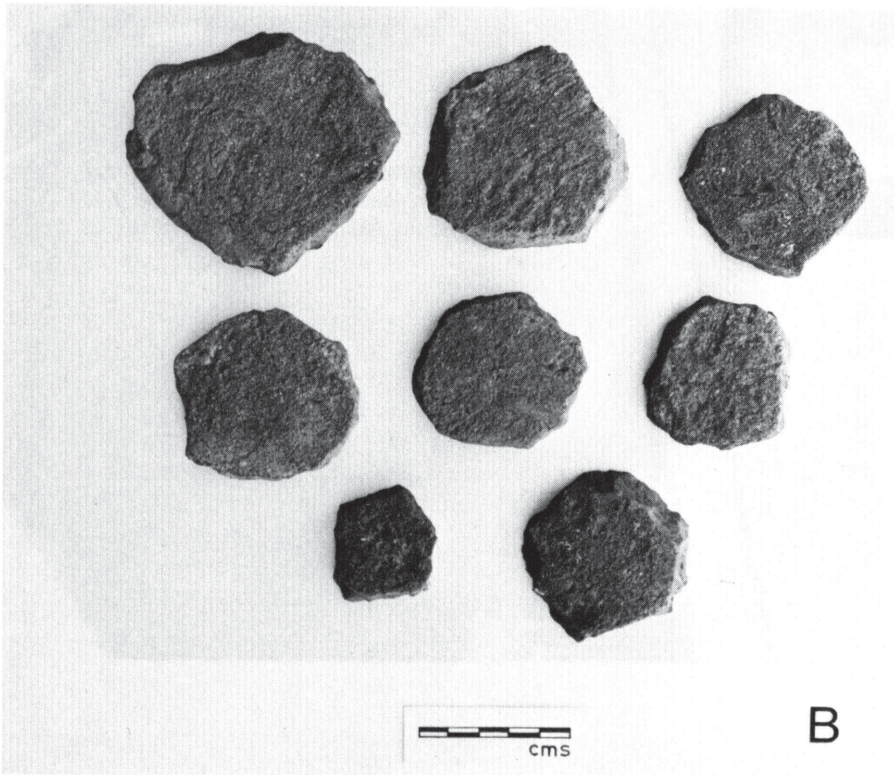

Plate VII Chelmsford Site S: groups of counters or tallies cut from tiles; A, from S104, XI:2; B, from S127ii; XI:3 (p 81,18,19). Scale 1:2. Photo: Gordon Ager