A large group of early Tudor artefacts from Southwark: archaeological excavations on the More London site in Tooley Street

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Finds catalogue, Beth Richardson (February 2019)

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These catalogue entries were written in 2004/5 by Geoff Egan and Beth Richardson* (*the leather items). They supplement the text on a major assemblage of Tudor objects in *A large group of early Tudor artefacts from Southwark: archaeological excavations on the More London site in Tooley Street*, by D Saxby, G Egan, B Richardson, N Holder and F Seeley published in *Surrey Archaeological Collections* **103** (2021). Catalogue items illustrated in the main text are in **bold**. The archive catalogue for the site is far longer, and includes the unpublished items from Period 4 as well as those from 17th century Period 5; some are spectacular, and to be included in future thematic publications.

Geoff Egan's catalogue entries often included his thoughts on (eg) how the objects might have been used or broken (eg padlock <168>), how they compared to related objects with similar functions (eg candleholder <1266>), how objects were made, and what the maker was aiming to achieve (eg cast iron vessel <579>), as well as references and comments from his network of contacts. His death in 2010 was a huge loss to archaeology but thankfully the objects themselves and his catalogue descriptions and publications can be accessed and used by future researchers.

HOUSEHOLD FIXTURES AND FITTINGS

Iron hinge

<547>, [184], fig 43

Complete; L 124mm, max W 66mm. Both leaves of robust hinge; 2:1 pivots and rod; tapering from pivot to concave ends. An early, concave-ended form of 'butterfly' hinge (Alcock & Hall 1994, 24, showing differing 17th and early 18th century examples).

Lead drain grille

<36>, [1155], fig 43

Complete; sheeting bent into rectangular shovel-like form, $140 \times 190 \text{mm}$ with three sides H c 55mm; base has 24 gouged holes (Diams 7mm, with central one 10 mm); scored lines mark out the main folds; two holes for attachment nails (the former presence of which is indicated by rust) in upper corner folds and three more along edge of base on open side. Cf Egan 2005b, 342–3, Fig 159, 78 and Duncan & Moorhouse 1987, 137-8 no 250 fig 71, a more modest, subtriangular example from the cistern of Kirkstall Abbey.

Copper-alloy curtain rings

<51>, <737>, [184]

Complete; Diam 17–26mm. These common items, uneven around the circumference, turned up in several contexts, most notably [184], where <51> and 737> together comprise nine rings.

Iron fire steel

<403>, [1277], fig 44

Incomplete; L 95mm, W 50mm, W of striking surface 14mm. Sub-oval; the two arms (with bent-back terminals – only one survives complete) are bent round symmetrically almost to touch each other. Cf Egan 2005a, 79, Fig 67, 30

Iron candleholder

<1266>, [1092], fig 44

Incomplete; L 62mm; interior Diam cup (made of two folded flanges) 15mm. Cup on nearly horizontal spike, cf Egan 2005a, 82, Fig 70, 341, assigned to the early 16th century (of somewhat thinner sheeting than the present one, which more closely resembles their medieval forebears; these are late examples of a fashion current since the 14th/15th century).

Iron padlocks

Both are of rectangular-box form with a semi-circular, pivoting bar. Cf I H Goodall in Biddle 1990, 1003, with reference to another, all assigned to the 15th/16th centuries, and *idem* in Margeson 1993, 156–7 no 1240 excavated in Norwich from a deposit associated with the fire of 1507.

<546>, [184], fig 45

25 x 16mm, H 11mm; aperture of simple key outline (set at an angle) 17 x 3mm; retains full mechanism with V-shaped spring; found locked.

<232>, [1086], fig 45

 47×24 mm, H 25mm. Similar to preceding item (base missing): mechanism missing except for sheet with ridge to retain bar, and pin to engage hollow-stem key; key aperture, Diam 5mm (?possibly worn away on one side because of bending of the pin) and with offset slot 7×1.5 mm for bit; found locked.

Iron locks

 $54 \times 52 \text{mm}$. Distorted, rectangular plate only; rebated edges (one of which is multiply split) have holes for four rivets, of which three survive; key aperture, $10 \times 4 \text{mm}$, and slot for single bar; most of mechanism survives, albeit some components are displaced: one of two original riveted key wards survives; sprung bar remains in locked position, even though both riveted retaining staples are displaced. This lock, presumably for a small casket, may have been tampered with in a vain attempt to unlock the mechanism and then prised off the container it guarded, or the evident damage is the result of rough handling when it was discarded. On balance, the splitting of the sheet case suggests the former.

<825>, [184], fig 45

Incomplete and corroded, rectangular sheet cover, 117 x 92mm, with one nearly intact key aperture (28 x 6mm) and apparently part of a second facing the other way up (one hole for attachment survives at the intact corner; a secondary, tin-coated sheet, 116 x 48mm and probably soldered on, obscures most of the second aperture (this, too, has a single attachment hole). It is difficult to be sure of the precise sequence of events and combination(s) of working parts that would have been in use together, but it looks as if an original plate for a single- or two-lock arrangement became in need of repair, which was effected by the addition of the tin-coated sheet; this effectively blocked the second key aperture, suggesting that that particular lock was no longer operative.

Copper-alloy furniture mount

<188>, [1047], fig 44

Incomplete; Diam 48mm. Octofoil sheet rosette (the divides between two opposed pairs of petals run deeper than all the others); recessed central well has off-centred hole; punched, blind holes along the perimeter of the petals; three pinholes near perimeter, possibly for attachment.

Cf a more robust, probable furniture mount sexfoil (Egan 2005a, 215, Fig 199, 1180 with quatrefoil parallels cited there) made of iron and assigned to the late 13th--early 16th centuries. Although the decoration and scale of these two items invite comparison the present mount need not necessarily have been from furniture.

Leather tassel

<1226>, [1094], fig 44

Complete; L c 160mm. Made from strip of cattle leather fringed into strips of W 5mm, rolled, and secured with plaited thong.

Leather (?) cover

<1185>, [265]

Incomplete; L 480mm, W 360mm. Large, worn piece from possible furniture cover, probably originally rectangular. Three sides cut straight and strengthened with an additional leather strip (W 12mm) attached with copper-alloy studs spaced at 25mm intervals; studs have slightly domed heads. Cattle leather.

Leather panel

<78>, [1197], fig 49

Incomplete; c 320 x 121mm. Openwork panel, presumably originally rectangular of relatively thick leather; three (?of original four) triangular swags with trefoils internally and externally survive along one side, edged with a plain strip (there are marks from (?)three round-headed, single-riveted mounts, each Diam 10mm, presumably of iron – a fragment survives – in the strip between each pair of the triangular motifs); a zigzag series of slots is fringed on the other side with angled toothing, the triangles thus formed each having an incompletely cut multifoil motif; a series of dense, transverse dags (pointed ornamental decoration) with toothed edges runs along the other outside edge, and is continued along the shorter sides; original orientation uncertain.

This very ornate fringe was possibly not completed, the multifoils perhaps being intended as further openwork when the tiny areas supporting the zigzag cut-outs may have torn through (alternatively, differential colouring featuring the multifoils could have been lost from the object). The perilously fragile openwork seems more appropriate and the panel is of suitable thickness to have been some kind of decorative frieze on furniture or an architectural feature like a dado, than, for example, part of a horse's trappings.

KITCHEN AND TABLEWARES

Iron vessel

<579>, [184], fig 46

Incomplete; Diam c 200mm, Th c 2mm. Cast: plain, slightly flared rim fragment (the apparent edge is uneven, perhaps chipped from use). It is difficult to determine what form of vessel this pre-1550 fragment would have come from, the commonest of the early cast-iron wares being tripod cooking vessels with markedly flared rims. The marked thinness of the fragment (not really suitable for relatively fragile cast iron) is probably attributable to the iron founder trying to emulate as closely as possible the equivalent established products of bronze founders. This unprepossessing scrap seems to be the earliest piece of cast iron so far recovered from an excavation in London.

Iron suspension chain

<415>, [1287]

Incomplete; five flattish-oval links, total L 215mm, each 48 x 10mm (one is broken through and distorted, and a terminal one is slightly widened at one end, perhaps to cater for a different item. See

Egan 1998, 177–9 fig 146, 499 for a bifurcating chain joined by a pivot, assigned to the late 14th century, while a complete sheet copper-alloy, flat-bottomed vessel illustrated alongside it, also found in London, has a chain more closely resembling the present links.

Copper-alloy vessel

<447>, [184], fig 46

Incomplete; overall L 111mm. Bent sheeting: sinuous spout with hole for rivet at base; separate, roughly tooled, gaping-mouthed animal-head sheet terminal soldered on. Either from a two-spouted laver or a single-spouted ewer (spouts with animal-head terminals are common on both, though most of the latter have a bridge joining them to the main body of the container – see Theuerkauff Liederwald 1988, 361–475 for lavers and 249 & 318 no 330 for a ewer lacking a bridge); the present, cheaper version was intended to look as much like the superior cast versions as possible.

Copper-alloy skimmer

<287>, [1197]

Incomplete; Diam 160mm. Fragment of dished disc; cast, with several neat, round holes.

Copper-alloy skimmer

<465>, [1179]/[1197]

Incomplete; surviving L 112mm. Corroded: tapering sheet handle-attachment plate; one of two surviving rolled sheet rivets retains a small fragment of the roundel.

Stone mortar

<869> [1224]

Incomplete; H 133mm, Diam at top 300mm, sub-square at base (surviving side L 217mm). Shelly Purbeck limestone: edge fragment (about a third of the wall) with full, gently curving profile and part of rim; two full-height balusters survive (trapezoidal at top, narrowing to six-, then five-sided; differentially coarse tooling in different areas, pecked internally; worn internally, presumably from use.

This presumably fairly late example is markedly less accomplished, for instance with none of the fine smoothing at the rim evident in many of its medieval predecessors.

Lead/tin tankard

<423>, [1197]

Incomplete; H 90mm, original Diam at base c 40mm. Much-distorted baluster tankard; D-section handle survives with one of original pair of loops to hold missing lid, and incuse (ie stamped in) (G)T (?)initials at rebated top (no other obvious marks elsewhere). Presumably a gill measure.

Leather bottle or bombard

<1169>, [1210]

Incomplete; folded fragment with flesh/grain stitch holes for seam. ?Cattle leather (no grain pattern remaining).

Iron and leather bung

<1160>, [1210], fig 46

Incomplete; Diam (ext) 68mm, Diam (int) 50mm. Plain iron ring covered with thick leather collar; collar folded over the ring, stitched or lashed through both layers just below the ring and cut (internally) below the stitching. The stitch holes are large (c 5mm long and 3mm apart); no thread survives. The collar is unevenly fringed and scalloped, apparently scalloped first and cut

to a partial fringe, perhaps because originally cut too small. Cattle leather. Possible bung for leather liquid container.

Composite knives

<426>, [184], fig 47

Near-complete; surviving L (blade) 66mm; handle 6×12 mm. Scale-tang: blade corroded away to leave only spine along back; handle has one scale of bone and the other of ivory, held by one iron and one copper-alloy rivet (with a suspension hole lined with a sheet copper-alloy tube near end, and flanked by a pair of copper-alloy shoulder strips and a pair of oblate-oval roves (a gap between these suggests that an intervening, organic one (?horn) may have decayed) with a slightly expanding bone rove and a final pair of copper-alloy sheet roves (the end is slightly doubly concave here, perhaps indicating the loss of a decorative terminal, though wear suggests the implement was used for a while with the end in this state).

An elaborate handle, made the more intriguing by apparently having ivory as the main visible component on the side that would have faced the user, but bone on the outer side. By substituting a cheap, readily available material for an expensive, exotic one, the maker was presumably intending to deceive the buyer.

<1385>, [1287], fig 47

Complete; overall L 199mm, surviving L handle 80mm. Whittle-tang with multiple roves (almost 300): straight, parallel-sided blade (W 15mm), has apparently symmetrically angled tip (though damage along the lower side here suggests that it may have been angled in one down to a point at the end of the cutting edge), and (?foliate) motif tooled in reserve (which is gilded) at shoulder; sub-square-section handle (the slightly convex faces have a rebate along each corner), consists of multiple thin, sheet copper-alloy (?brass) roves alternating with thicker ones of horn, and with two thicker ones of bone, respectively near shoulder and middle (another may have formed a cap at the end, on which something is missing). The horn is a rare survival in the soil, presumably having been protected from decay by the adjacent copper alloy.

Cf I H Goodall in Margeson 1993, 127–8 no 818 for a fairly close parallel found in topsoil in Norwich (though with fewer generally thicker roves etc, including one longish organic piece, to make up a slightly shorter handle at L 72mm – this retains its copper-alloy sheet-quatrefoil end cap; cf also Cowgill *et al* 1987, 79–80 no 15 for an early/mid-13th century knife with similar handle decoration. See also Hayward 1957, 13 & pl 22d, Moore 1999, 121 for knives with moreornate decoration between a similar series of roves, and Marquardt 1997, 26 & 64 nos 42 & 169 for even more upmarket versions, all assigned to the 16th century.

<2>, [1086], fig 47

Complete; overall L 178mm; blade, L 83mm, W 24mm. Whittle-tang; straight back and markedly concave cutting edge with asymmetrical, V-shaped nick (not sharpened) at end; plain, turned wood handle (25×23 mm).

The striking blade shape is here presumably an adaptation for a specific purpose -possibly opening and consuming oysters. It is probably analogous to many knives with concave
ends and an almost circular cut-out in the blade depicted in dining/feasting scenes in
manuscript illuminations (apart from this present item the form was apparently unknown
among surviving implements – cf Cowgill *et al* 1987, 51 fig 14, interpreted as fish knives, and
Marquardt 1997, 26 for contemporary illustrations; it is strange now that an example of this
implement has been discovered it should be in such a plain, unornamented version – Cowgill *et al* 1987, 80–1 no 19, assigned to the early/mid-13th century, is incomplete, the defining tip
having broken off, but the surviving handle and upper blade are comparable to those of the
present item. Cf also a large chopping knife now in the Musée de Cluny in Paris and dated
towards 1500 (acc no C11769).

<112>, [1287]

Incomplete; overall L 165mm; blade, L 97mm, W 12mm. Scale-tang; parallel-sided blade has downward-angled end; wood scales, L 67mm, W 12mm, have two sheet tubes as rivets and slightly larger, sheet-lined suspension hole; rounded end has bent-sheet terminal strip.

<113>, [1287], fig 47

Complete; overall L 181mm; blade L 89mm, W 12mm. Scale-tang; straight back and curved sharp edge, tapers towards damaged point; wood scales (L 75mm, L 10mm) are held by five rivets with roves on both sides; round-ended terminal mount (15 x 11mm) has down-turned lower side; maker's mark: inlaid letter R.

Iron knives

<488>, [184]

Incomplete; overall L190mm; 103mm. Scale-tang; straight back, corroded edge; no surviving scales; tang has four rivets.

<344>, [1247], fig 47

Incomplete: surviving overall L 241mm, L tang 100mm, W blade 50mm (sharp edge is patchily corroded); point broken off; maker's stamp: fleur-de-lis on stem with (?) oval above.

<296>, [1197], fig 47

Incomplete; overall L 260mm; L blade 132mm; W 33mm. Plano-convex blade, bent at both ends; maker's stamp: asterisk with one short arm. May be slightly smaller version of <344> or simply a table knife of similar form.

<369>, [1274], fig 47

Incomplete; overall L 391mm; L blade 193mm; W 52mm. Sharp edge worn to a concavity near the handle; maker's stamp: two superimposed Vs.

Lead/tin spoon

<1251>, [1197]

Incomplete; surviving L 99mm. Hexagonal stem.

CLOTHING, SHOES AND DRESS ACCESSORIES

(NB: A glossary of technical terms used in the descriptions of shoes is given below, S46)

Leather doublet

<79>, [1287], fig 48

Four main pieces of a youth's doublet [if D is a codpiece, otherwise singlet], all with highly decorative, if somewhat rough slashing; (?)calf skin. The description below assumes that the doublet was worn with the grain side outwards; if worn sueded flesh side outwards sides would be reversed.

A) Incomplete; L 370mm, W c 190mm. Back left, sub-rectangular panel with raised neck; stitch holes along top (including neck) and bottom; the remains of a side-seam towards the bottom of the LH side; angled slashes at neck, reversed and longer along inner side, with large paired holes (?for lost thongs) near the middle of each long slash; opposed zigzag slashing at the top of these, and group of three irregular, sub-crescentic ones about one-third of the way down on outer side); this area is defined by a vertical slash running almost the entire length from the outer side, which has five over two larger opposed zigzag slashes, then a roughly semi-circular cut-out, possibly secondary (which breaks the outer edge) and a pair of vertical slashes near the bottom.

- B) Incomplete; c 370 x 100mm. Back right panel: similar to A, but in mirror image, with different details, only the inner half survives. Function of circular stitched area at the bottom unknown; possibly a repair.
- C) Incomplete; c 280 x 240mm. Possible front panel or possibly goes with preceding item
- D) Incomplete; c 125 x 100mm. Panel, perhaps originally rectangular, with (?)sub-triangular cut-out (flanked on one side by integral strip with stitch holes) in one main edge; fine stitch holes along two surviving sides and edge of presumed cut-out; oblique, parallel slashes across the central area; (?)button holes at opposed corners. Possibly a codpiece.
- E) A variety of smaller, incomplete fragments.

Composite belts

<98> [1179], fig 49

Near-complete; L 540mm, W 43mm, Th 2mm. Long section of belt decorated with at least 48 very corroded originally dome-headed lead/tin mounts along centre of strap (each Diam 5mm, with a single, integral rivet), together with three motifs of angular letters S (cf blackletter) having a curving line (cf tilde) through the middle – these motifs each made up (with slight variations) from some 30 mounts, each one of which in turn originally comprised a row of (?)three dots (cf Egan & Pritchard 1991, no 1109 for a complete tin mount of the form suggested, assigned to the early 15th century); the strap also has a separate piece of leather set vertically, on which are the remains of four sheet-iron mounts (all incomplete or lost, and originally with separate rivets) that may in their original state have appeared to be no more than roves. The rectangular leather suspension strap is attached to the top of the belt with two iron rivets; two other rivets (one missing) on the lower corners of the dagger holder would have held the purse, bag or dagger sheath. Belt end angled to a squared finish; torn rivet hole for missing strap end; two rows of flesh/grain stitch marks taper inwards from the strap end (presumably for strengthening). Cattle leather.

The belt with its type of suspension strap and method of decoration is very similar to 15th century belts illustrated in Valerius Maximus: *Histoire des Graques* (Piponnier & Mane 1997, 108, fig 42). The manuscript picture shows two elderly men wearing the belts that hold a purse and a leather bag and are worn loosely at the waist over long robes.

<1171>, [1210]

Incomplete, L 530mm, W 26mm. Small circular mounts (Diam 8–10mm) arranged in pairs c15mm apart.

Leather shoes

<1206>, [1086], fig 50b

Near-complete, L 268mm, W 70mm. Adult or large child's low shoe (R foot), pointed toe, curving outwards, filled with moss stuffing. Worn vamp and one-piece quarters; small piece of wide rand; sole. Vamp has oval throat: whip stitch marks for ?reinforcement cord extend along both sides of throat to top of quarters. Central side buckle fastening: buckle attached to top of outer butt seam with internally knotted thong that forms external loop/keeper. Top of inner butt seam has internal stitch marks for (missing) strap.

<1297>, [1089]

Incomplete; Vamp L 170mm; W c 56mm. Child's or small adult's shoe (L foot). Pointed toe (worn) with moss stuffing. Vamp has low semi-circular throat with edge/flesh whip stitch marks for tongue. Instep side buckle fastening: buckle attached to vamp side of outer butt seam with short length of strap, slotted through the vamp and sewn (three stitch holes). Separate leather external loop/keeper, slotted through and internally sewn.

<138>, [1210], fig 50a

Incomplete; L (vamp) c 370mm; W (flattened 90mm); insole (front part) measurements L 325mm, max W 65mm. Adult side-lace fastening shoe (poulaine) with piked toe (L foot). High straight-cut vamp; two-part sole (heel section missing); rand. Lace-fastening holes at outer instep butt seam (five holes spaced at .c 5mm intervals). Extremely long pointed toe stuffed with moss; point tapers to a curved strip-like piece that has stitch marks along its length and would also have been stuffed with moss, some survives).

<1094>, [1092] fig 50c

Incomplete; detached tongue from a shoe or boot.

<990>, [1197], fig 50b

Incomplete; L c 250mm, W c 80mm. Adult low shoe (L foot); pointed toe. Fairly worn vamp; one-piece quarters; intact heel stiffener. Vamp has low oval throat with traces of internal whip stitching for tongue/reinforcement cord. Instep side buckle fastening: buckle attached to top of outer butt seam with internally knotted thong that also forms external loop/keeper. Complete fastening strap with at least one buckle hole attached to the top of inner butt seam with internally sewn bifurcated strap.

<1103>, [1094], fig 50c

Near-complete; L 130mm, W 42mm. Child's low shoe (R foot); pointed toe. One-piece upper; *in-situ* heel stiffener; near-complete rand; sole. Upper has inner side seam and low oval vamp throat, with internal whip stitch for possible reinforcement cord around throat, vamp opening and back of shoe. Instep side buckle fastening: buckle attached with internally knotted thong that forms external loop/keeper. Tapered bifurcated strap has no apparent buckle holes.

<1147>, [1179], fig 50a

Near-complete, L c 230mm, W 62mm. Adult or . child's large ankle shoe (L foot); pointed toe with moss stuffing. Vamp; two-piece quarters; in-situ heel stiffener; detached tongue; inner sole; fragment of clump/repair sole; fragment of rand. Worn and fragmentary vamp: throat area particularly worn, but traces of stitch marks for a tongue and a piece of leather with scalloped whip stitched edges that may be a tongue. Sole has two lines of stitching at waist for repair/clump soles. Corresponding stitches above lasting margins on vamp and quarters. Instep side buckle fastening: buckle attached to top of outer butt seam with internally knotted tongue that forms external loop/keeper.

<611>, [1274], fig 50a

Incomplete; L c 305mm; W c 75mm. Adult ankle shoe; pointed toe. Worn vamp; two-piece quarters; heel stiffener; wide rand at heel with widely spaced marginal stitching for (missing) clump sole. Vamp has oval throat with edge/flesh whip stitching for tongue. Whip stitching around top of quarters for reinforcement cord. Instep side buckle fastening, buckle attached to vamp and quarters with internally knotted thong that forms external leather keeper; tapered fastening strap attached to opposite vamp/quarters at butt seam (internally sewn).

<1113>, [1094], fig 50b

Near-complete; L 118mm, W 62mm. Child's ankle shoe (L foot; pointed toe. Worn vamp and one-piece quarters; heel stiffener; sole (worn). Vamp has oval throat with edge/flesh whip stitching for tongue. Whip stitching around top of quarters for reinforcement cord. Instep side buckle fastening, buckle attached to vamp and quarters with internally knotted thong that forms external leather keeper; tapered bifurcated fastening strap attached to opposite vamp/quarters at butt seam (internally sewn).

<1204>, [1086], fig 51

Complete; L 143mm, W 50mm. Child's ankle shoe (R foot). Pointed toe. One-piece upper (worn at toe); triangular insert; *in-situ* heel stiffener; partial wide rand; sole (worn at heel). Vamp has central slit (with a later further cut) with edge/flesh whip stitching for tongue. Instep side buckle fastening: buckle attached to the outer vamp with an internally knotted thong that forms external loop/keeper. Complete tapered strap that passes through slit on the vamp side of the inner butt seam.

<137>, [1210], fig 51

Incomplete; L 130mm. Child's boot (L foot); pointed toe. Worn one-piece upper. Front lace fastening: four lace-holes extend up vamp slit to top of boot; lace attached to top lace-hole with large spade-shaped terminal. Faint whip stitch marks on one side of vamp slit, presumably for tongue. Cf Grew & de Neergaard 2001, 66, Fig 100.

<1073>, [1210], fig 51

Incomplete; L 128mm, W 40mm. Child's ankle shoe/boot (L foot); slightly pointed toe. Worn one-piece upper. Small central vamp slit. Front lace fastening: bifurcated strap forms laces passing through vamp throat on inner side of shoe: pair of lace-holes at vamp throat and on either side of ankle opening.

<1055>, [1179]

Incomplete; L 210mm. Child's or small adult's boot (L foot); slightly pointed toe. Two-piece upper with butt seam at back; insert with strap. Instep side buckle fastening: buckle attached to the top of vamp throat with internally knotted thong that forms external loop/keeper. A triangular insert with a tapered fastening strap joins inner vamp.

<1056>, [1179]

Incomplete; L 210mm, W 60mm. ?Child's boot (R foot); slightly pointed toe. Worn and fragmentary vamp; quarter; heel stiffener. Upper has two butt seams, one at inner instep and the other at the back of the heel. Vamp very fragmentary, but has central slit with internal stitching for tongue/reinforcement cord. Instep side buckle fastening: buckle attached to outer quarters with internally knotted thong that forms external keeper.

<1139>, [1179]

Incomplete; child's or small adult's shoe (R foot). One-piece quarters (max. L 198mm) possibly intended for reuse as lasting margin cut away, with stitching for heel stiffener; vamp or insert. Unusual construction: vamp or insert joins outer butt seam, which is further back than normal (towards the heel). High buckle attachment at the butt seam with an internally knotted thong that forms an external loop/keeper. The inner butt seam is also further back than usual.

<1110>, [1094], fig 52

Near-complete; L 218mm, W 66mm. Adult ankle shoe (R foot); pointed toe. Sole with worn heel, wide rand at heel, double seat repair/clump sole; single forepart clump/repair sole all attached with flesh/grain stitching at waist. Worn vamp and fragmentary one-piece quarters; *in-situ* heel stiffener. Instep central buckle fastening on outer vamp: buckle attached with internal knotted thong. Inner reinforcement stitching along top of inside vamp for tongue, and single (small) hole for thong.

<1145>, [1179], fig 52

Incomplete; Inner sole L 275mm, W 74mm. Clump sole L 305mm, W 100mm. Adult ankle shoe (R foot); pointed toe with moss stuffing. Worn and fragmentary vamp; two-piece quarters; detached heel stiffener; inner sole; partial middle sole; two-piece clump sole; sole inserts; pieces of wide rand or welt. Thick inner sole clearly attached to wide rand/welt (that would have acted as part of the sole) and has outer row of worn tunnel stitching for attachment to quarters, vamp

and middle and clump soles. The inner sole is unworn; clump sole worn at heel. All soles have flesh/grain stitch marks clustered in waist area.

<1193>, [1136]

Incomplete; very fragmentary one piece upper. Upper; heel stiffener. High vamp and heel both decorated with central decorative pleat formed by tunnel stitching on the flesh side. There is a similar vamp from Shrewsbury dated c AD 1450–1540 (Mould 1997, 124).

<616>, [1274]

Incomplete; L 244mm, W 66mm. Adult low shoe (R foot); slightly pointed toe. Vamp; sole (not obviously worn). Vamp has four horizontal cut-away sections, probably secondary (they have no reinforcement stitching) but clearly decorative. Some stitching survives in outer butt seam.

Leather boot

<681>, [1274], fig 50c

Near-complete (sole missing); L 256mm, W 95mm. Adult ankle boot (R foot); slightly pointed toe. Vamp; one-piece quarters; in-situ heel stiffener; in-situ tongue (long and folded); tongue attached to both sides of the vamp central slit with whip stitch (the thread has decayed). Line of three fastening-buckles — one at the butt seam where the vamp joins the quarters, the other two above the first and spaced c 2cm apart on the upper vamp slit. All buckles attached with internally knotted thongs that also form external loops/keepers. The tapering straps are all intact, c 9cm long and attached internally with internally sewn bifurcations; whip stitching on the quarters where the boot is buckled, presumably for a reinforcement cord; cf Goubitz 2001, 214–5, Fig 6, j

Leather sandals

<942>, [1197], fig 53

Incomplete; strap L 109 (L includes underside, originally sewn to sole); max W (upper side) 6mm. V-shaped double straps cut as one piece, joining at square tab (stitch marks here for attachment to toe-area of sole); wider ends (c 23mm) (each with a line of stitch marks) would have been bent inwards and sewn between the upper and second soles.

<992>, [1197], fig 53

Incomplete; L 275mm, W 62mm (L foot); one layer; angular tread, long pointed toe; strap impressions at toe, instep and heel.

<1095>, [1092], fig 53

Complete; L 250mm, W 55mm (L foot); six-ten layers (complete composite sole); angular tread, long pointed toe; strap impressions at instep and heel; detached bifurcated/V-shaped toe strap with central buckle *in situ*; detached instep and back straps; graffito 'VIII' cut with blade onto upper tread.

<1183>, [180], fig 53

Incomplete; L 252mm, W 45mm (R foot); four—five layers (complete composite sole); angular tread, long pointed toe, heel curved outwards; partial strap *in situ* at instep and strap impressions at toe and heel; detached buckle.

<623>, [1274], fig 53

Incomplete; L 158mm W 40mm (R foot); child's sandal. three–four layers; angled tread, pointed toe; broken strap at waist (secured with perimeter stitching only), strap impressions at toe and heel.

<998>, [1197], fig 53

Incomplete; W 48mm (L foot); rounded tread, long pointed toe curved outwards; double row of perimeter stitch holes: horizontal with inside vertical row.

<661>, [1274], fig 54

Incomplete; L 267mm, W 55mm (R foot); three–four layers; rounded tread, long pointed toe curved slightly outwards. Stitch holes and strap impressions at toe, waist and heel; stitch holes at toe.

<664>, [1274], fig 54

Incomplete; L 272mm, W 56mm (R foot), sharply angled tread, long pointed toe.

<666>, [1274], fig 54

Incomplete; L 260mm, W 45mm (L foot); angled tread, long outwardly curved pointed toe, outwardly curved heel; strap impressions at toe, instep and heel.

<679>, [1274], fig 54

Incomplete; L 270mm, W 55mm (L foot); three–four layers; extremely curved shape with angled tread, inwardly curved long pointed toe and inwardly curved heel.

<995>, [1197], fig 54

Incomplete; L 265mm, W 65mm; one layer; angular tread, long pointed toe; double row of stitch holes around perimeter: inner row typical horizontal patten stitch holes but also outer row of widely-spaced vertical stitch holes.

<641>, [1274], fig 54

Incomplete; L 236mm, W 45mm (L foot); five layers (complete sole); rounded tread, long pointed toe; strap-ends *in situ* at waist and heel, strap impressions at toe; double row of perimeter stitching.

<133>, 1274], fig 54

Incomplete; L 305mm, W 75mm (R foot); six/nine layers (complete); rounded tread, long pointed toe; strap impressions at toe, instep and heel, V-shaped instep-strap (detached and incomplete); worn undersole has round-headed nails hammered though all layers along the tread perimeter and this with the double row of stitching around the perimeter (including pointed toe area) indicates that the sole was re-stitched as a repair; cf Grew & de Neergaard 2001, 101.

<135>, [1179], fig 54

L 235mm, W 65--70mm (L foot); seven—eight layers (complete); rounded tread, pointed toe; strap impressions at toe, instep and heel, fragment of strap terminal at instep; double row of stitching survives holding all soles together.

Wood and leather pattens or sandals

<605>, [1274], fig 55

Incomplete, max W 60mm, max heel Th 33mm; heel and incomplete forepart of two-part hinged sole; a leather fitting (two layers of leather) nailed across the forepart in a slight recess in the wood would have joined the front and back soles. Fragments of instep strap and most of heel strap survive, nailed directly into the side of the sole with two short nails; the heel strap has stitch holes for an ankle strap.

<1050>, [1046], fig 55

Incomplete; L 375mm, W 105mm, heel Th 33mm; left foot; two-part hinged wooden sole with raised heel and long pointed toe; fragmentary two-part wooden sole, now in three pieces;

remains of toe, instep and heel straps survive; nailed leather fitting (now in two pieces) originally joining front and back soles.

Leather mules

<665>, [1274], fig 56

Incomplete; L 273mm; W 68mm (R foot); two—four layers (complete sole, with two layers at tread and four at heel); rounded tread, long pointed toe; horizontal stitch holes around heel and lower waist perimeters, vertical stitch holes around tread and upper waist perimeters with rand/welt (double row of flesh/grain stitching) *in situ* on outer side of tread; closely-spaced horizontal stitching closes the toe-point.

<624>, [1274]

Incomplete; W 75mm (toe missing) (L foot); three—four layers; rounded tread, long heel with hardly any waist; horizontal stitch holes around heel and lower waist perimeters, vertical stitch holes and rand impression around tread and upper waist perimeters.

<1172>, [1187], fig 56

Incomplete; L 254mm; W 85mm (L foot); five layers (near-complete sole), natural shoe shape with rounded tread and oval toe; horizontal stitch holes around heel perimeter, vertical stitch holes around waist and tread perimeters.

<1216>, [1179], fig 56

Incomplete; W 70mm; one layer (tread/waist); angular tread, long pointed toe; horizontal stitch-holes around lower waist perimeter, vertical stitch holes around upper waist and tread perimeters, horizontal stitch holes at toe.

<1214>, [1179], fig 56

Incomplete; L 265mm; W 72mm (R foot); insole, upper and two inserts; rounded tread, long outwardly curved pointed toe; horizontal stitch holes around heel and lower waist perimeters, vertical stitch holes around upper waist and tread perimeters.

<675>, [1274]

Incomplete; L 278mm; W 68mm (R foot); insole, partial midsole, seat fragment; angular tread; long inwardly curved pointed toe; horizontal stitch holes around heel and lower waist perimeters, vertical stitch holes around upper waist and tread perimeters; additional stitch marks in seat area.

<1299>, [1089]

Incomplete; L 293mm; W 71mm (R foot); four–six layers (complete sole which, like others, is made up of whole soles, half-soles and edging pieces); angular tread, long slightly curved pointed toe; horizontal stitch holes around heel and lower waist perimeters, vertical stitch holes around upper waist and tread perimeters.

Glossary of terms relating to shoes (after Grew & de Neergard 1988)

Butt seam: join made by butting together two leather edges and closing them with an edge/flesh seam.

Chape: protective fitting on the end of a lace or strap.

Edge/flesh stitching: the joining of two pieces of leather by stitching from one surface through both edges and out through the adjoining surface.

Clump: a thick extra sole on a shoe.

Flesh/grain stitching: stitching through the thickness of the leather from the flesh (inner) to the grain (outer) side.

Lasting margin: the seam that joins the upper to the sole.

Quarters: the sides and heel of a shoe upper, which join the vamp on either side of the foot. Rand: narrow strip of leather, triangular in section, sewn between the upper and the sole to make the join more watertight.

Levelling pieces: in composite soles, pieces of leather the same thickness of the sole used for levelling.

Throat: the opening where the shoe tongue is attached that is spanned by the laces. central part of vamp-edge resting on the instep.

Turnshoe: shoe constructed inside-out and then reversed – or 'turned' – so that the seams and much of the stitching are on the inside.

Turn-welted: the upper, inner sole and turnwelt (strip of leather wider than a rand with two parallel rows of stitches) are sewn as for a turnshoe, but the turn-welt extends outside the lasting margin for attachment to a second, outer sole.

Upper: parts of a shoe covering the upper foot and consisting of vamp, quarters, and possibly, inserts.

Vamp: the front section of the shoe upper. Welt: a strip of leather with two rows of flesh/grain stitching wider than a rand and used (post-turnshoe construction) to join the upper to the sole and to make the shoe more watertight (narrow strip of leather, triangular in section, sewn between the upper and the sole to make the shoe more watertight) with two parallel rows of stitches.

Whip stitching: a sewing stitch passing over an edge.

DRESS ACCESSORIES

Copper-alloy wire girdle

<72>, [1092], fig 57

Complete: total L c 850mm; basic hook-and-eye form closure; L as probably worn adjustable between c 680 and c 770mm: the accessory consists of three-ply braid (strap) of paired, densely spiralled wires (ie six separate wires, one or more with differentially dense spiralling compared with the others at some points); each end is spirally bound (whipped) by further, similar wiring, to which are attached opposed pairs of triple-looped eyes (each pair of these being joined at their paired smaller loops by means of separate, doubly or triply spiralled loops); the eyes' larger, single loops hold at one end a series of four larger oval loops (presumably giving scope for minor variation in waist size/increased growth) and at the other end the outermost loop has the more familiar eye-hook form but with the hook in two-ply (this end has become detached since recovery). A variety of somewhat similar accessories found in the Netherlands are referred to by collectors today as chains worn by girls, which may well be an appropriate designation (Jan Gadd, pers comm).

Iron shoe-buckles

<526>, [184], fig 57

Twenty-two circular shoe-buckles in this accession; fourteen still have pins. Diams 13–15mm.

Lead/tin shoe-buckle

<60>, [184]

Complete; D 15mm. Iron-wire pin.

Iron buckles

<527>, [184], fig 57

Complete; frame 15×20 mm; plate 25×11 mm. Rounded D-shape; plate has inside edges cut at angle and pair of rivets; wire pin; leather survives from strap.

<219>, [1089], fig 57

Complete; frame 16 x 46mm; plate 31 x 34mm. Discontinuous frame appears to be of bent wire; sheet roller on outside edge; plate has inside corners cut at angles, two broad-headed rivets and now-black coating. Several points of comparison with $\langle 222 \rangle$, not least the prominent rivets.

<222>, [1094], fig 57

Complete; frame 26×43 mm; plate 27×28 mm. Slightly biconcave profile; rows of paired-lozenge stamps along inside and outside edges; plate has two broad-headed rivets and lead/tin coating. The use of tooling on an iron frame is unusual, coming in at about this time. Several points of comparison with <219>.

<210>, [1046], fig 57

Incomplete; 44 x 72mm. Sub-oval (broad frame).

<213> [1086], fig 57

Complete; 18×21 mm. Rectangular with central bar; curved profile; sheet roller; wrought pin. Possibly from armour.

Iron purse-frames

<203>, [1128], fig 57

Incomplete, surviving L 68mm, section c 13 x 11mm. Corroded D-section frame with rounded flange along one side; copper-alloy wire threaded through a series of (?)loops between flange and D-shaped part, and looped at the surviving original end. The wire would have held a textile pouch in place.

<274>, [1179]

Incomplete; 123 x c 80mm. Robust wire frame, gauge 4mm, in near-oval form; bent upwards at both ends (damaged) for attachment to missing bar. Inner frame for one of probably two pouches in a purse.

<594>, [184]

Incomplete; combined Ls c 260mm, W 10mm; In two pieces (?non-joining) and much distorted: strip with one edge having an expanded, round section; series of attachment holes along centre; (?soldered) subsidiary strip (distorted) L c 28mm; rivet near free end.

Copper-alloy purse lining

<453>, [184]

Incomplete; Diams 6–7mm. Four twisted-wire loops. Cf Egan 2005a, 62 –4, Fig 52, 276.

Lead/tin strap-end

<731>, [1287], fig 57

Incomplete; 24 x 17mm. Openwork sleeve (moulded on both faces), with perimeter-beaded crescent as outside edge, inside which is enclosed a smaller, two-arc crescent/double swag, over which is a ring surround to holes (for a single missing rivet) with trefoil lobes (damaged at top); basal loop for suspension.

Iron chatelaine

<393>, [1277], fig 57

Incomplete; L c 470mm, W 6mm. Joined into a ring as found; large terminal ring (Diam 18mm) has overlapping end loops, through which the shaft of a link comprising opposed loops (one forming a terminal inside the ring to prevent its removal, the other linking, after a length set within a separate, spiralled spacing wire, into the first loop in the chain proper) swivels freely; the main part of chain comprises S-shaped links in rigid pairs with a combined L of 18mm (each component is set through both loops of its partner and through one loop of the next link); the other end appears to be just the last loop of the last link set through the larger ring. This seems not ornate enough to be a decorative dress accessory, as well as being of an unsuitable

metal; it is likely to be for a practical purpose — most probably to hold keys, a knife, etc from the waist. The reason it was joined into a ring before discarding can only be guessed.

Copper-alloy dress hook

<58>, [184], fig 58

Complete; overall L 47mm (possibly originally marginally shorter, any discrepancy being because of one hook slipping lengthways relative to the other). Paired, opposed wire hooks with flattened points; held together with densely wound and then hammered wire of a narrower gauge, each end of which is spiralled into a projecting, decorative terminal – apparently a complete item (the two hooks at each end are bent respectively into U-shapes and at an oblique angle). The differentiation apparent in the angles of the hooks at each end has not been noted before on similar accessories – it is unclear whether it reflects an aspect of usage or if it is simply the distortion of one end.

Cf Guildhall Museum Catalogue 1908, 30 no 422 & pl 26 no 12, with two beads, probably bone, there misidentified as Roman; see also Margeson 1993, 18, 89. Similar double hooks are known back into the medieval period in London though none has yet been published.

Copper-alloy wire headdresses

<195>, [1086], fig 58

Incomplete; H c 105mm. Roughly U-shaped, single length with both ends bent at a right angle; one end filed to a blunt taper, the other split and irregularly broken off. This form would appear to have been designed to slide into place.

<1388>, [1086], fig 58

Incomplete; H 104mm, greatest W 130mm. Distorted: doubled (?)angled- or round-topped version; longer free end broken off and its shorter partner filed to a taper. Possibly unfinished, the longer end not having the tip tooled.

Iron head-dress with wooden bead

<30>, [1086], fig 58

Incomplete; overall L in present state 142mm, gauge c 1mm. Length of wire with oval wooden bead (greatest Diam 8mm, L 9mm). Presumably part of a head-dress: the addition of a bead does not seem to have been noted on examples of this date previously.

MONEY, LEISURE AND PERSONAL POSSESSIONS

Copper-alloy jeton

<457>, [285]

Complete; D 25mm. Weakly struck; flan damaged. Three fleurs-de-lis in ragged circles alternating with crowns, + VIVE mullet LE mullet BON (repeated) around // cross fleur de lisée, fleurs-de-lis alternating with (? four pellets) between arms, +VIVEAMA...VIVE mullet VIVE around [??Mule of two designs]

Lead/tin token

<434>, [184], fig 59

Complete; D 23mm. Ship, M(L)VII CHEPE (E...I)WOD(E)BARGE // ship, LUTHELITTLE(Q)VIEz (GVLTN)'PALELE(ON)E (blackletter legends).

The English legends, which are very difficult both to read and to interpret, seem to amount to something along the lines of: (?date, presumably L in error for D) - ie (??) 1507 in chepe [?ie the market] ... wood (or woad) barge // (?by) the little quay and gilten (?ie gilded) pale lion.

This is from a series of tokens with blackletter English legends, some with addresses (often what sound like taverns) and so far apparently known only in London (several have the City arms) – see Egan 2005a, nos 897 etc. The present one appears to be the first with a (?)date. Another disc, perhaps from the same series, also has 'Chepe' in the legend; this one was interpreted in full as 'in Chepe [taken to be specifically Cheapside]/William Hedlem fit' [sic, = att ...] (?)the Lamb and Flag, as figured on the other side (Roach Smith 1854, 158 no 775).

Bone dice

<163>, [1277], fig 59

Complete; $10 \times 9.5 \times 9.5$ mm. Circle-and-dot numbers in 'regular' arrangement (ie opposed sides total seven) – their specific layout is Potter's configuration 8 (Egan 1997, 3 fig 2). Sometime in the 16th century Potter's configuration 16 (which swaps the positions of the two/five with those of the three/four on the present layout) became overwhelmingly predominant, so the present die may be from the last decades when different variants were common.

Gold ring

<199>, [1092], fig 59

Complete; D 16mm; flattened oval-section band, Diam 1.2mm.

Copper-alloy clasp

<441>, [184], fig 59

Complete 16 x 13mm. Sheet, with angled inside edge; cast, trapezoid-section bar mount on outside edge is held by one of the two rivets, both of which retain roves. A medieval-style clasp, possibly in this late instance from a book cover.

Leather bags

<1>, [1046] Fig 59

Incomplete; Max L 270mm, max W 400mm, Th 4mm. Complete upper flap from satchel-like bag. Cut edge. Exterior (grain) surface decorated with tooled diamond/lozenge pattern (triple lines); a tooled border line delineates border of circular domed tinned iron mounts (Diam 17mm), arranged in groups of three. The mounts are attached with iron shanks, backed by (now fragmentary) copper-alloy washers on the inside of the object. Near the top of the bag are two sets of three keyhole-shaped fastening holes, each arranged in a triangular formation, presumably for strap-studs that would have been pushed into the top part of the hole, and into the slightly larger bottom part when the bag was removed from the strap. Interior (flesh) surface has scratched ?owner's marks.

The unworn areas of the exterior surface are coloured red: Raman analysis carried out on pigment samples from the surface showed evidence for vermilion HgS, which could have derived naturally from cinnabar or have been synthetically produced from an alizarin dye (report by Katherine Brown and Amanda Hardy, Dept of Chemistry, UCL, July 1999). Cattle leather.

[1049] <9>

Incomplete; H 272mm; W (incomplete) 290mm; several joining pieces. Rectangular with one surviving bottom corner, gently rounded; top corner cut to short obtuse angle (both RHS). Edges cut and slightly skived. No stitch marks. Grain surface decorated with tooled diamond/lozenge pattern within double-line borders (typical lozenge size 55 x 45mm); a margin border (W 18–20mm) of tooled double lines enclosing a line of stamped circles (?imitating mounts or studs) 3mm in diameter and 10mm apart. A square hole punched through the border at the upper right-hand corner shows signs of wear, and may have been used for suspension. Cattle leather. This may have been the top flap of a bag (a saddle bag?).

Wood comb

<1243>, [1197]

Incomplete; fragment from rectangular double-sided comb; part of solid zone with coarse teeth L 24mm and stumps of fine ones (respectively 3 // 10 per 10mm).

Copper-alloy earpicks

<191>, [1086], fig 59

Complete; L 27mm. Wire loop with ends twisted together to form a straight handle.

<439>, [184], fig 59

Complete; L 29mm. Wire loop with ends twisted together to form a straight handle.

Copper-alloy toothpicks

<738>, [184], fig 59

Bent; L of shaft 57mm. Wire; both ends flattened, one pointed, the other flattened into a lozenge.

<459>, [285], fig 59

L of shaft 56mm; spoon-like end split; pointed end not flattened. Possibly discarded during manufacture, when the rounded end split.

Copper-alloy razor

<282>, [1197]

Incomplete; L 106mm, greatest W 25mm, Th of blade at back *c* 7mm. Corroded: sub-oval blade only; pivot hole at one end; cf Egan, 2005 66, 298–99.

TRADE ITEMS

Lead alnage/subsidy seals

<708>, [184], fig 60

Complete; Diam 22mm. - // crown over rose, S'SVBCI...SSE(X) around (?)Late 15th/early 16th century; presumably an Essex subsidy seal (rather than a very uncommon Sussex one). Cf Egan 1995A, no 4 and Egan 2001, 50 no 8 fig 19; see also <170>.

<170>, [1094], fig 60

Complete; Diam 25mm- 27mm (textile survives). Crown over rose, V(LNAG)...(C..M OXFO)RD.. around // crown over rose and sun dimidiated and conjoined, ...(A)NI(COMI)... (?)Late 15th/early 16th century seal for an Oxfordshire cloth, possibly a blanket. For parallels from the crown-over-rose series, see <708> and Egan 2001, 59 nos 70–4 fig 16. Relatively few seals have been recorded for this particular county, all of them later than the present one. Some of the documentary background is given by Plummer 1934, Plummer & Early 1969.

<425>, [1277], fig 60

Complete; Diam 22mm-24mm. // crown over central fleur-de-lis, flanked by lower sun and rose, rose ...(NNOR) IN'COM (?SVFF) around

(?) Late 15th/early 16th century, (?) Suffolk seal. Cf Egan 2001, 58-9 fig 15 nos 66-9.

Lead customs seal

<169>, [1092], fig 60

Complete; Diam 19mm-20mm. King enthroned holding sword and sceptre and wearing tabard with the arms of England, ... CVSTVMMI around (at least five curved, tooled lines had been gouged into the lower part of the matrix prior to its use) // crowned shield with arms of

England, in eight-lobed tressure at sides, ...(S)xCC'xx around (the edge legends are between beaded borders)

This seal, which is outside the usual alnage series, is known from several examples, some with slightly differing stamps found in London and Salisbury and elsewhere (Egan 2001, 63–4 & 82 nos 106–8 fig 23). These allow the legends to be partially restored as SIGILLV' CVSTVM(M)I (or COSTVMMI) – 'seal of (?)customs' // (only surviving on seals with a different stamp on the first side) (?)REX AGL'...(?)S CC - 'king of the English ...'. These seem, from the imprints of textiles sometimes found on the inside surfaces of the discs, to be specifically for rich sateen-weave fabrics, probably including cloths-of-gold. It is inferred that these may be the seals that were put on expensive imported cloths, as mentioned in Statutes 12 Ed. IV c3 and 4 Hen VIII c6, by customs officers. Some of the parallels have a letter H, presumed to stand for Henry VIII (despite the beardless face), under the throne. The nearby Fastolf's Place and Rosary aristocratic houses perhaps furnish an appropriate milieu for such fabrics. The significance of the gouged lines, usually taken on cloth seals to be cancellation marks relating to something specific on the stamp, is unknown.

TOOLS AND PRODUCTION

Pinner's bone

<1242>, [1197]

Incomplete; surviving L 142mm. Cattle metapodial; proximal end trimmed flat on both sides, distal end cut into irregular, tapering rectangle. The treatment of the distal end is unusual in that the flat surfaces are square onto the trimming at the other end, rather than the usual oblique arrangement; no grooves from use.

Iron waste

<567>, [184]

L 292mm, greatest W 10mm.Uneven, four-sided bar, angled to narrowing near one end. Possibly the first stages of smithing a knife (perhaps discarded when most of the tang broke off).

<718>, [184]

Fragment, 17 x 13mm. The outline and section suggest this may possibly be an uncompleted knife-shoulder bolster.

<492>, [184]

L 77mm, greatest W 6mm. Triangular strip; one edge is very sharp, opposite face is cut. This may be an offcut from along the blade of a knife. It looks as if a blade in preparation or being refurbished may have been found to be marginally too wide for its intended purpose and accordingly had this excess trimmed off.

Iron key-bit blanks

<585>, [184], fig 61

L 57mm, 22 x 8mm at wider end. Irregular, rectangular bar defined by a transverse nick in the main face (X-ray reveals this feature is one of two serious transverse cracks in the object). Marked transversely, perhaps for cutting off a key-bit blank – cf following two items and key bit <39> (all from the same deposit).

<592>, [184], fig 61

Rectangle, c 30 x 22 x 5mm; one of smallest faces is uneven from cutting off a billet. Possibly a blank for a key bit – cf <585>, <587>, <39>

<587>, [184], fig 61

Rectangle, $32 \times 18 \times 10$ mm; roughly cut at both ends. Possibly a blank for a key bit – cf <585>, <592>, <39>

Iron key-bit

<39>, [184], fig 61

Incomplete; 30 x 32mm; Th 5mm. Opposed symmetrical warding; suitable for a door etc; lock operable from either side. This component may have been discarded without being set on a shaft. Cf. <585>, <587> and <592> from the same deposit, which may be blanks awaiting smithing.

Iron keys

<40>, [184]

Of two parts, overall L 37mm; oval bow, 16.5 x 12mm, together with collar; rolled-sheet (hollow) stem L 24mm together with plain (wardless) bit 14 x 6mm; the bit appears to have been bent over; traces on bow and bit of (?)tin sulphide suggest a coating. A crude and flimsy implement.

<100>, [1274]

Corroded: overall L 116mm; oval bow 39 x 30mm; simple, bipartite symmetrical bit (one part attached to narrowed end pin), 17 x 19mm. The bit may be incomplete, though it is difficult to be sure because of corrosion – another wide prong would have made the overall design symmetrical.

<511>, [184]

Overall L 100mm; circular bow Diam 28mm (?unevenly corroded); L of slightly expanding, hollow stem 73mm; bit 20 x 27mm has asymmetrical warding.

<512>, [184]

Incomplete; 13 x 13mm. Broken-off bit only (on hollow stem); asymmetrical warding.

<513>, [184]

Incomplete; surviving overall L 55mm; irregular, lozenge-shaped bow, 36 x 28mm; stem, L 28mm, with square-section hollow.

<278>, [1186]

Overall L 130mm; oval bow 36 x 21mm with knop on outside edge, and re-entrant, solid stem, which is octagonal in section up to where it narrows to a pin, which has a terminal knop; symmetrical bit 24 x 33mm.

Lead/tin ingot

<709>, [184], fig 61

L 57mm. D-section ingot varying in size along surviving portion; one end tapered and has multiple rough (?) file marks and is snapped after an initial cut marker, the other appears to be expanding towards a possible junction at a right angle and is part cut and then snapped on two faces; Wt 30g.

Cuttlefish mould

<156>, [1277]

Incomplete; Irregular fragment of cuttlefish bone with one flattish (?natural) face, 65 x 32 x 7mm, burnt on opposite face. Perhaps used as a mould for casting silver or lead/tin – see Egan 1996, 92.

Leather (?)*trial-piece* <118>, [1186], fig 61

Incomplete; 116 x 52mm; Th 2.5mm. Fragment from square or rectangular piece of leather stamped with three feathers (or leaves). Two partial circular holes, diameter 8mm. Cattle leather.

Iron bodkin

<537>, [184], fig 62

Incomplete; L 128mm. Lozenge-section, rounded end. Bent, at one point into a curve and another at a right angle, almost forming an uneven loop. The distortion would have taken some force. This may have been to facilitate bringing the implement back to the user during use, rather than bending the material being worked on.

Iron needles

<543>, [184], fig 62

Complete; L 49mm. round-section point; punched eye. This small implement was probably for embroidery.

<84>, [1287], fig 62

Complete; L 152mm. Four-faceted point; rectangular eye. This robust tool may have been intended for use with very coarse textiles, like sailcloths, or it may have been for leather.

Iron wool comb

<304>, [1197]

Incomplete; surviving 128 x 14mm. Corroded iron-sheeting fragment from back plate around -the of a comb; at least a dozen spikes were catered for. Cf I H Goodall, iron textile manufacturing tools, in Margeson 1993, 182–4 nos 1416–19, assigned to the late 12th--17th centuries, and 1420–2, which each retain several prongs and are from the fire deposits assigned to 1507 – these are all from Norwich.

Copper-alloy wool card

<449>, [184]

Incomplete; two copper-alloy wire U-shaped double prongs, 15 x 8mm. the use of copper alloy for the wire hooks seems from excavated examples in London to be somewhat less common than iron wire).

Iron scissors

<139>, [1274], fig 62

Complete; overall L 168mm, cutting edge of blades L 84mm. Blades held by iron rivet; oval loops; blades come together at ends at an angle; each has a stamped maker's mark near this end of a quatrefoil in a circle. Presumably for tailoring.

Copper-alloy thimble

<207>, [1252], fig 62

Complete; H 25mm; Diam 18mm. Machine-made, with neat pits over crown and side, decorative basal band of beaded roundels containing ornate crosses, between voided lozenges and scrolling below; this appears not to have been used as the sharp edge at the base has not been file-finished.

Iron shears

<224>, [1094]

Incomplete (one blade missing); overall L 102mm, L of blade(s) 55mm, greatest W 7mm. Central ridge along top ring; damage towards tip of blade.

Iron augers

<124>, [1197], fig 63

Complete; L 122mm, blade tapers to W 12mm and shows considerable wear. Spoon-bit blade; lozenge-shaped tang. Squat version. Cf Egan2005, 153, nos 802–4, and Morris 2000, 2113–4 for earlier examples found in York.

<400>, [1277], fig 63

Complete; L 151mm, W at blade 13mm. Spoon-bit blade; lozenge-shaped tang.

<413>, [1287], fig 63

L 100mm, W at blade 7mm; a notch in one side of the flat tang (which has parallel sides) implies some kind of tenon in the handle to retain this metal part.

Iron wedge

<405>, [1277], fig 63

Complete; 170 x 61mm, greatest Th 13mm; Wt 712g. The main surfaces are very smooth, presumably from rolling rather than smithing, while the top is uneven from having been cut through with a chisel-like tool from two sides; the 'blade' end is shows wear from sustained use; some (?)mortar adhering.

Iron sickle

<74>, [1274], fig 64

Incomplete; most of blade survives (greatest W 28mm), along with distorted whittle tang, L 110mm. Series of fine, relatively shallow, oblique grooves along blade cut with a hammer and cold chisel while the blade was in unhardened state; these would form teeth when the blade was ground and sharpened (Chris Green, pers comm).

WEAPONS AND ARMOUR

Stone cannon ball

<866>, [316]

Complete; Diam 458mm; Wt 130.8 kg. Portland stone.

Stone cannon shot

<867>, [1123]

Incomplete (chipped); Diam 100mm; Wt 1.428 kg. ?Ragstone.

Iron daggers

<505>, [184], fig 65

Incomplete; surviving L 180mm, max W 21mm. Part of single-sided blade, with lozenge-section thickening along back right down to point.

<67>, [+], fig 65

Incomplete; iron convex disc, Diam 63mm, made of two sheets, one with a perimeter flange; with copper-alloy rivet having a decorative octofoil head (Diam 20mm) with cusps in alternate spandrels and traces of gilding. See also <468>, a pommel disc probably residual in deposit assigned to Period 6.

Iron arrowhead

<294>, [1197], fig 65

Complete; L 30mm, W 67mm. Broad, socketed head with narrow barbs ('broadhead'); maker's stamp: cross; plug of wood survives from shaft. Cf Henig 1974, 189–90 fig 37 no 49; Ward Perkins 1940, 71-2 & pl. 15.29-32 (type 15); Guildhall Museum Catalogue 1908, 27 no 19 pl. 89.21; Jessop 1997, 4 fig 17.

Only hunting arrowheads of this particular form seem to have been marked in this way (Alfred Webb, pers comm). Presumably there was more chance of recovering the arrow than in warfare and the mark might solve a question of ownership within a hunting party.

Leather scabbards

<134>, [1197], fig 66

Incomplete (tip of blade missing; L 364mm (incomplete); W 39mm, Th 2mm. Folded with grain side outwards to centre-back seam with edge/flesh stitch holes at 5mm intervals. Front and back faces decorated with longitudinal raised ridges outlined with tooling, and, at the tapered end, with tooled chevrons centred on the central ridge (the ridges are impressed from the interior flesh side).

This form of simple skeuomorphic decoration is common on scabbard leathers dating from the Roman to Anglo-Saxon and medieval periods (Cameron in Mould *et al* 2003, 3364); cf for example a 15th century scabbard leather from York decorated with longitudinal ridges (Cameron in Mould *et al* 2003, no 15602; 3367 and 3496). Cattle leather.

<1228>, [1094], fig 66

Incomplete (blade area missing); L 685mm, max W 60mm (tapering), Th 1mm. Binding seam on centre back face, grain/flesh at 7–10mm intervals. Convex mouth edged with grain/flesh stitch holes at 6–7mm intervals. One longitudinal central raised ridge, outlined with tooled lines; longitudinal tooled lines also outline front and back scabbard edge. Cattle leather.

<33>, [1210]

Incomplete; L 400mm (incomplete), W 48-50mm, Th 3mm. Worn; folded with grain side outwards to centre-back seam with edge/flesh stitch holes; mouth angled with rounded edges; bottom edge cut. Undecorated with a very faint impressed longitudinal line on the flesh side. Cattle leather.

Leather sheath

<110>, [1210], fig 66

Incomplete (possibly cut at blade end for reuse); L 168mm, W73mm narrowing to 58mm, Th 2.5mm. Folded with grain side outwards to centre seam with binding stitch grain/flesh stitch holes at 5mm intervals; two circular suspension holes c 13mm either side of the seam with a secondary shield-shaped cut on the top edge. A row of six torn circular holes with traces of metal corrosion on the cut and now flattened bottom edge align, and would have taken three mounts or nails penetrating both surfaces; aligning row of three holes, also with traces of metal corrosion, approximately halfway down the front face. Cattle leather.

Both sides are decorated. The area of decoration is divided into two zones (upper and lower) by a cruciform frame 10mm wide and decorated (on its horizontal) with tooled chevrons and (on its vertical) with an incised zigzag. The wider upper zone is divided into two panels decorated with a foliate design consisting of a swirling pattern of four (possibly five) flowers made up of circles of stamped dots surrounding tooled 'petals' (seven or eight lines radiating from a small tooled central circle): beneath the flowers are tooled stems and trefoil leaves. The flowers are surrounded by spirals or sub-circles made up of tooled lines and lines of stamped dots. The lower zone is divided into nine alternating longitudinal panels of incised or tooled zigzags and diagonal lines (five panels) and stamped dot zigzags and diagonal lines with tooled cross-hatching and additional diagonal lines (three wider panels); one panel at the back, which to continue the pattern would have been stamped, has been left blank.

The effect is crudely heraldic, similar to 14th century sheaths illustrated in Cowgill *et al* 1987, notably 155, no 462 (late 14th century). This sheath appears to have been cut down and

closed at the bottom with a line of (missing) mounts or nails: it may have been reused, and possibly still in use at the time of its deposition.

Leather grip

<1175>, [1130], fig 66

Complete; L 125mm, W 40mm, Th 2mm. Folded with grain side outwards to side seam with flesh/grain binding stitch holes at 7–9mm intervals; cut to a slightly curved triangular point at top and bottom edges. Front and back have horizontal lines of tooling with a wider raised horizontal ridge, which is impressed from the flesh side approximately halfway down. Cattle leather.

This grip would have covered the bone or wooden hilt of a sword or dagger. Janne Harjula has categorised and listed several similar grips from Finland, Germany and Holland, dating from the 13th to 15th centuries (Harjula 2006).

Iron armour plate

<5>, [1094], fig 67a

Twenty-one pieces of high-quality armour from at least two brigandines (some of these may have been found in articulation – details of this were not recorded).

One broad piece and eleven relatively long and thin ones (<5>A and B–L) all retain fragments of a still-reddish plain-woven, [?fulled] fabric covering along with several tin-coated round rivets, Diams 4–5mm, with eight-armed asterisk motifs in relief. There is also a black, shiny (now black) coating on the outer surface of the plate, probably of lead/tin to prevent rusting where it was impossible to clean. The position of the fabric, rivets and angled end cuts on the others makes B, D, H–K and M the mirror images of C, E, L and N. Despite their rich appearance, these thirteen plates are generally less neatly cut out and they seem to have been less intensively wrought (as may well befit decorative armour hidden under fabric) than the following ones.

Numbers M–U 1390–1395 are more varied in shape, with no exact repeats – basically subtriangular and sub-rectangular. Number <1395> has [?]nine of the decorative rivets set in one corner, <1400> retains three rings of chain mail corroded to its outer surface and 1390-1 and 1400-1279 may have been adapted by each being cut down along one edge from a larger plate. Those without fabric, nos 1390-1 & 1400-1279, are subtly differentiated in thickness across the plate (most immediately evident in nos 1391, 1400, 1396 and 1399, where these have been cut) to allow maximum ease in articulation. Such highly wrought plates would have taken extensive working on the part of skilled smiths. Number 1395 also has fabric behind its cluster of rivets but no artificial colour is evident to the eye and the apparently non-fulled material could be linen. The adaptation of some plates of this latter group may suggest some kind of armour working, if only refurbishing, was going on in the area. Such secondary adaptation need not have been carried out by specialist armourers. It may go along with the evidence for everyday smithing that is evident from a variety of the other iron finds recovered from the site.

Five pieces from the twelve items that make up <5> are illustrated in the report:

- A) Sub-rectangular with corners cut at an angle at one end; 131 x 39mm; fabric survives, apparently in two adjacent strips lengthways, over most of surface; 97 rivets along each long edge and in two zigzags lengthways between.
- B) Sub-rectangular with one short side cut off at an angle; 124 x 25mm; fabric survives over most of surface of shorter half, with row of nineteen rivets surviving along this edge.
- C) Sub-rectangular with most of short side cut off at an angle; 120 x 24mm; fabric survives over most of surface of shorter half, with row of nineteen rivets surviving along this edge.
- D) Similar to B, but 111 x 24mm and seventeen rivets survive.
- E) Similar to C, but 112 x 24mm and eighteen rivets survive.

<417>, [1287], fig 67a

Slightly trapezoidal, 41×125 mm; three groups of three asterisk-headed, copper-alloy rivets (diam 5mm); curved in section lengthways; holes in one half make up three motifs of dags with terminal crosses (fifteen holes each = 45); an isolated hole (near centre) at edge has broken through; other half has group of three holes and another such group with rivets.

<1346>, [+], fig 67a

Flattish, quadrangular piece, 76×44 mm; Corroded (rough edges may result from this); eleven asterisk-headed, copper-alloy tacks, each Diam c 5mm, in row in from longest edge and at same angle as nearer short side, with one continuing back, respecting the shorter edge; the row stops short of the rough stub of a broken-off sheet-iron addition, held by two rough iron rivets.

<285>, [1197], fig 67b

Two main iron pieces (irregular-edged strips) roughly riveted together at an angle: one sub-rectangular, 35×182 mm, the other broken off except for a stub (originally similar but in mirror-image – see <383>, which is the missing part) 35×51 mm; woven textile (probably wool) with reddish tinge partly survives (set at an angle – ie horizontally if the entire item is orientated as suggested below) on front of sheets; larger piece also has 140 copper-alloy, tin-coated, asterisk-headed rivets, each Diam c 6mm, in nine dag-like configurations each with a further pair at the end (and set through the textile as well as the iron). Total number of rivets used in complete item c 240. Perhaps a collar piece.

<396>, [1277], fig 67b

Incomplete; 140 x 35mm. Rectangular (broken off at one end; textile and decorative rivets; joins <285> (from same group of deposits).

<383>, [1277]

Trapezoidal (front slightly concave): 93 x 24mm; with textile on front; fourteen rivets with asterisk-decorated roves, all along one side (row of eleven and group of three); no hole for attachment evident on X-ray plate.

<68>, [1089], fig 67b

110 x surviving 74mm. Sub-arc of circle; convex; single hole (?) for attachment. (?) Shoulder piece.

<69>, [1089]

73 x 80mm. Sub-quarter circle; convex; single hole has broken through to edge. (?)Shoulder piece.

Iron breastplate fragment

<1330>, [1094], fig 68

Incomplete; 54 x 47mm. Sub-rectangular (trapezoidal) sheet; slightly curving, rolled edge (enclosing wire) and two rivets; (?)cut along two opposite sides; split from longest edge. Apparently cut from a larger item – the rolled edge suggests this was a piece of armour, perhaps a breastplate (though no precise parallel has been located – eg at the shoulders in pikemen's armour the usually single rivets would be next to a plain edge rather than the rolled ones, Blackmore 1990, 75 fig 95 lower left).

Iron jack plate

<548>, [184], fig 68

26 x 26mm. Square sheet, subtly domed and with rounded corners and central hole. The careful manufacture suggests this is probably a jack plate, a kind of specialised rove that went together with many others to cover a linen upper garment as a form of armour (see Eaves 1989, from Beeston Castle).

Iron chain-mail

<238>, [1089] (with <225>) fig 68

Overall L 243mm, each link Diam 10mm. Irregular chain of markedly flat links (mainly single links at one end, through mainly pairs, to mainly threes at the other. Cf Ottaway & Rogers 2002, 2969–70, fig 1533, 12843 for a similar configuration of links.

<225>, [1197] (with <238>) fig 68

Incomplete; c 150 x c 40mm. Dag-like fragment, tapering from rows of seven rings to one; each ring Diam 9mm (and relatively rounded in section).

Iron powder-priming pan

<388>, [1277], fig 68

Incomplete; 52 x 28mm. Sub-rectangular sheet cover for powder priming pan; one squared and two rounded corners; other corner has small projecting, rounded terminal; swivel hole for attachment near opposite corner.

Iron spur buckle

<387>, [1277]

29 x 33mm (22 x 23mm). Centrally angled-profile frame has curved outside and angled inside edges; central bar's housing projects at sides; folded plate tapers sharply from bar to strips (?riveted together), the top one of which narrows further to a broken-off (?)hook. Probably from a spur (cf <237>).

Iron buckle

<523>, [184]

Distorted: 50×65 mm; a U-shaped inside edge and sides, with raised loops at the outside edge holding a separate, solid roller (which expands towards its centre) and further raised loops at the middle, holding a separate bar with an integral pin at a right angle; traces of coating on all parts from X-ray plate.

Presumably for horse equipment – cf Egan 1995, 59–61 nos 39–47, which are probably medieval precursors of this slightly different version (the frame caters for a strap wider than 50mm, which has been taken in the absence of more pertinent indications as a rough-and-ready, broad division between equine and other, smaller straps, including human body belts – Egan & Pritchard 1991, 50).

Iron snaffle bit

<392>, [1277], fig 69

Incomplete; overall L 233mm. Two outer, ovoid rings, 41 x 35mm and (distorted) 48 x 34mm, with two robust, linked bars between, each with looped ends at right angles one to the other, Ls 84 and 94mm. Somewhat similar to Clark 1995, 49–50 no 3, which is slightly more ornate and is assigned to the late 14th century.

Iron rowel-spur

<237>, [1086], fig 69

Incomplete; one branch broken off, L of slightly curving, lozenge-section neck. Moulded side has bifacially bevelled profile and rebated upper edge that forms an angled crest at heel; rowel, with ten spikes; retains circular buckle, with central bar and folded, angled plate, with hook, and retains Sprofile hooked mount in form of pierced lozenge flanked by pair of cusps at each end.

Leather and lead/tin spur strap

<1138>, [1179], fig 69

Incomplete; combined surviving L 231mm, W 13mm. Three pieces of leather strap (two join, the other may not); mounts -- (described with the aid of an X-ray plate) to one end of the strap two circular, Diam 10mm, and with single rivets; towards the other end are two (?)trefoil eyelets, Diam 14mm.

The grouping of two sets of mounts in this way is characteristic of the part of a spur strap that went over the instep so that one group was on one side and the other on the opposite side (cf Egan 1995B, 151).

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