Appendix 1 – Finds

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1 INTRODUCTION

The finds assemblage was almost entirely of medieval date, but for a handful of post-medieval and modern finds. The ditch provided the best of the assemblage. Other finds were from garden soils and were considerably more abraded. Waterlogging led to some good preservation of organic materials and metals, unusual in Edinburgh, including leather footwear, a wooden barrel and a horn comb. The finds from the 1990 CECAS excavations are also included here. Reference is made throughout the report to assemblages from other nearby sites along the Royal Mile, in order, west to east: Edinburgh Castle (Driscoll & Yeoman 1997); St Giles Cathedral (Collard *et al* 2006); Cowgate/Old Fishmarket Close, directly East of the Close (Dalland forthcoming); 'Edinburgh High St', between Niddry St & Blackfriars St (Schofield 1976); Scottish Parliament Site (Stronach *et al* 2008). The nearest neighbouring site, St Mary's St (Holmes 1980), has no comparable finds, as the assemblage dates almost entirely to the 17th century and later, with only small quantities of re-deposited medieval pottery.

2 POTTERY (ILLUS 7)

The small sherd size of finds from the soil and midden deposits means there is little evidence of form, and identification of some sherds is hampered. The ditch provides the best evidence, with several large and joining sherds, though there are no near-complete pots or profiles.

2.1 Scottish White Gritty Ware (Illus 7.1)

This is the typical pottery of SE Scotland from the 12th to the 15th centuries (Jones *et al* 2002/3) and is always the most common type found in medieval deposits in Edinburgh. It makes up 79% of the early deposits pre-dating the ditch. By the time the ditch came to be backfilled the industry would appear to be in sharp decline, in favour of Late Whitewares and Greywares. Though still accounting for 57% of the assemblage, almost all of these sherds are small and residual and the true proportion of White Gritty Wares still in circulation at this time must have been a great deal lower.

Jugs are more common than cooking pots in the early (Phase 1C) soil, with decoration being most commonly executed by means of applied strip and scales, sometimes in contrasting coloured clay or coloured by addition of iron to the glaze. By the time of the ditch backfill, forms present seem to be the same as those of the Late Whitewares, large, badly formed jugs (as illus 7.1).

2.2 Scottish Medieval Redwares (Illus 7.2)

There are generally a small proportion of redwares found in any medieval Edinburgh assemblage. Similar pottery was produced in Perth (MacAskill 1987) and Stirling (Franklin 2010) and the wares may have been brought in from the West, or via Leith. Fabrics are gritty, and vary from pink to red, sometimes covered in a white slip. Both cooking pots and jugs are represented. One handle sherd is unusually decorated with a complex design applied in white clay (illus 7.2).

2.3 Scottish Late Medieval Whiteware

This is a late variant of the White Gritty industry, characterised by poorer quality clays and poorer workmanship than the earlier types. The fabric is variable though generally buff, pale grey or pink and characterised by sparse though often coarse tempering and thick walls (*c* 10mm). Forms present are all large jugs. Decoration is rare, but an applied thumbed strip and a ring and dot impressed sherd are present.

It is found in 15th-century deposits in the Edinburgh area and continues into the 16th century, though there is little accurate dating evidence for its range (MacAskill 1985, 416: fabric groups 1 and 2; Franklin 2002a, 403, 'Late Medieval White Gritty Ware'; Franklin forthcoming a).

2.4 Scottish Late Medieval–Early Post-Medieval Greywares and Redwares

Greywares, typically in the form of olive-glazed, strap-handled jugs, were widely produced in Scotland from around the 14th century to the early 18th century. Kiln sites are known at Hamilton (Franklin forthcoming c) and Throsk, Stirlingshire (Caldwell & Dean 1992), but there must have been many more. The coarser fabric and lack of later forms such as handled jars and skillets places this assemblage in the earlier part of the range.

This type already makes up a proportion of the pottery in the Phase 1C soil. It increases as the Whiteware industry declines and would be the dominant fabric by Phase 3, were it not for the large amounts of residual White Gritty sherds. Decoration includes grooved strap handles, applied strips, applied ring and dot stamped pads, a nose fragment from an applied face mask, and horizontal incised lines. These were typical decorative devices of the 15th century (see Hall & Hunter 2001).

2.5 French wares

These were two small body sherds, both predating the ditch. The first appears to be of *Saintonge Mottled Green Glaze* (Brown 2002, 26). Saintonge jugs were produced in the Bordeaux region of France in the 13th and 14th centuries and are associated with the wine trade. Sherds have been found in some numbers in Leith (Haggarty 2006, files 3 & 42). It was found in an early (Phase 1B) occupation deposit associated with one sherd of local White Gritty from the base of a cooking pot.

The second sherd, though small, shows the distinctive decoration of *Rouen-type Ware*. It is a fine, sandy pale buff fabric, covered in a red slip and then with decoration applied in white clay. When glazed, this appears yellow on an orange-red ground. The sherd is too small for any details of the design to be visible. Typical forms are jugs with red-slipped

Table 1.1 Pottery quantification

	Early occup	Early soil	Ditch fill	Ditch re-cut	Midden	Post-med	Unstrat & Modern	
Phase/fabric	**1A–B**	**1C**	**2A**	**2B**	**3**	**4**	**5**	**Total**
Local wares	20	203	65	118	320	255	105	**1086**
White Gritty	16	164 *80%*	41 *57%*	71 *57%*	251 *77%*	153 *56%*	56	**752**
Medi Redwares	4	11	2		1	2	3	**23**
Late Grey & Redwares		27 *13%*	15 *21%*	23 *18%*	56 *17%*	73 *27%*	33	**227**
Late Whitewares		1	7 *10%*	24 *19%*	12 *4%*	27 *10%*	13	**84**
Imports	1 *5%*	3 *1%*	7 *10%*	7 *6%*	4 *1%*	17 *6%*	8 *7%*	**47**
Saintonge	1							**1**
Rouen		1						**1**
Scarborough		1	2	1	1	3		**8**
LC Grey		1				1		**2**
LC Red			3	5	1	9	6	**24**
Siegburg			1		2	2		**5**
Lang/Raer			1	1		1	1	**4**
Modern						3	4	**7**
Total	**21**	**206**	**72**	**125**	**324**	**274**	**116**	**1138**

Numbers = sherd count after joining. Percentages are of total of sherds from that phase. Abbreviations: LC Grey = Low Countries Greyware; LC Red = Low Countries Redware; Lang/Raer = Langerwehe/Raeren Stoneware

panels and applied rouletted white strips. Rouen-type Ware has been found in Leith before, though not so far in Edinburgh. All examples so far found in Scotland have been of the 'Standard' fabric, dated in London from the late 12th to first half of the 13th century, rather than the later 'Developed' type, (Brown 2002, 23–4; Haggarty 2006, File 22 & 42). It was found in the Phase 1C soil layer, though its size, in common with all the sherds in this context, implies it was re-deposited from earlier occupation deposits, or possibly rolled downhill from the High Street.

2.6 Scarborough-type Ware

This is the most commonly imported pottery in 13th- and early 14th-century deposits in east coast Scotland (Farmer & Farmer 1982; Ellison 1981, 122). Though some sherds were redeposited in the ditch and the later midden layers, they clearly derive from the early (Phase 1C) soil, in which the earliest sherd was stratified. Decorated sherds include a grooved rod handle, a fragment of applied incised face mask beard and an applied scale in contrasting red clay on a pale pinkish buff body.

2.7 Low Countries Grey and Redwares (Illus 7.3)

The earliest stratified and most distinctive of the Greyware sherds was a round-sectioned loop handle from a cooking pot or pipkin from the early (Phase 1C) soil. Though in production earlier and later, these Greywares are commonly found in 13th and 14th century deposits, along the east coast of Britain, particularly in Scotland (Hurst *et al* 1986, 136; Ellison 1981, 146; Watkins 1987, 146).

Low Countries redwares are the most common type of imported ware present on site, the sherds representing a minimum of six vessels. The earliest sherds are found stratified in the ditch backfill. Redwares are the oxidised version of the Greyware fabric, produced by the same potters, and are common finds along the British east coast. The redwares became increasingly common during the second half of the 14th century, almost entirely supplanting Greywares during the 15th century, and they continued to be imported up to the 17th century (Janssen 1983, 134–6; Ellison 1981, 146; Watkins 1987, 141). They have been found at a number of 15th-century sites in Edinburgh and Leith (MacAskill 1985, 416: fabric group 6, fig. 16:75–83; Franklin 2002a, 404, phases 5–7; Franklin forthcoming a). The only iden-

tifiable form among this assemblage is a skillet, a large sherd forming the complete wall profile (No. 3). Two other fragments show traces of slip-trailed decoration.

2.8 Rhenish Stoneware

There were a minimum of four vessels of *Siegburg* stoneware, all of the distinctive pale grey fabric, unglazed but for occasional patches of orange ash glaze. Forms present all seem to be rilled jugs, including an upright rim fragment, and a neck sherd with a small sharp cordon at the shoulder (cf Hurst *et al* 1986, 178, fig. 88: 263; Gaimster 1997, 163–85). The earliest stratified is one large sherd from the ditch backfill.

The salt-glazed stoneware is more problematic. Very similar pottery was produced in different centres in the Rhineland at different times. The pottery of *Langerwehe* imported in the 15th century is largely indistinguishable from the pottery of *Raeren*, which dominated the British market from the 1480s to the mid 16th century (Gaimster 1997). Often the date of the context is the only way to distinguish these types. The sherds represent a minimum of two vessels. The earliest are a large frilled base sherd and a body sherd, both relatively thick walled, of a dark grey fabric, glazed grey with brown patches. The base was found in the ditch backfill (Phase 2A), the body in the backfill of the ditch re-cut (Phase 2B). The dating of this deposit and the association with Siegburg stoneware, means these sherds are probably from Langerwehe. Other sherds from post-medieval or unstratifed contexts could be from either centre. These include a strap handle sherd from a smaller jug, with a brown speckled salt glaze.

Siegburg and Langerwehe stonewares are regular finds in 15th-century contexts in Edinburgh (Hall & Haggarty 2006, 47; Will 1997, 140; Hall 2010), most notably at the Edinburgh High Street site, which still remains, at 313 sherds, one of the largest assemblages of Langerwehe stoneware found in Britain (Clarke & Hurst 1976).

2.9 Illustrations (Illus 7)

1. White Gritty jug rim and handle. Greyish white gritty fabric, with buff surfaces. Poorly formed, unusually wide handle. Unglazed. Context [081], ditch fill, Phase 2A.
2. Redware strap handle. Pink Gritty fabric with pale grey core. Applied decoration in contrasting white clay in curvilinear relief design. Top surface largely abraded away. Appears pale green on orange ground. Context [125], occupation deposit, Phase 1B.
3. Low Countries redware skillet rim profile. Internal glossy red-brown glaze, becoming thinner on upper wall and rim, external sooting. Context [072], ditch fill, Phase 2A.

3 COINS *by NM McQ Holmes*

Both coins were from the midden overlying the ditch and the post-medieval structures, but were found some distance apart and were not deposited together. The James II penny belongs to a rare type, referred to as James I Group D, although now accepted as belonging to the early part of James II's reign. It is unlikely to have been in circulation past the 1460s as the early James III pennies were so much smaller and more debased that they probably drove earlier issues out of circulation. The relative lack of wear on the James III farthing suggests deposition in the 1470s or '80s.

4. Silver Coin
   JAMES II billon penny, first coinage (James I Group D), uncertain mint (Edinburgh or Stirling); (1437–51). 16.5 × 17.5mm; 0.46g; die axis uncertain. Chipped; some flattening; fairly worn. SF101, context [003], Spit 1, Test Pit 2, midden layer, Phase 4B (not illus).
5. Copper Coin
   JAMES III copper farthing, 'ecclesiastical' type III (*c* 1470–82). Oxidised, slightly worn. SF102, context [003], Spit 1, Test Pit 13, midden layer, Phase 4B (not illus).

4 COPPER ALLOY AND LEAD (ILLUS 8)

The vessel foot (illus 8.6) is unfortunately from an evaluation trench, and cannot be related to the excavation stratigraphy. Cast vessel sherds are occasionally found in later medieval and early post-medieval excavation contexts in Scotland. They are no doubt under-represented in the archaeological record, compared to pottery vessels, due to their value as scrap metal. Cast vessel sherds are more commonly found at castles than on urban sites (eg MacDonald & Laing 1975, 145; Caldwell 1996a, 582; Franklin 2002b, 117; Caldwell 1991, 339), and do indicate a certain degree of wealth. A metal-detector survey at the Bishop's Loch, Easterhouse, Glasgow (Dalland 2005), for example, found no fewer than four feet from different vessels. A survey of recent finds from London found a sharp increase in cast copper alloy vessels from the second half of the 14th century (Egan 1997). The most common forms found are ewers, skillets and cauldrons, all of which have tripod feet of various forms. Some are ornate, shaped like animal feet, some, like this example, are plainer (Egan 1998, 161–6).

There are also the remains of two copper alloy lace tags and three wire pins (illus 8.7). These are both common types of find in the late medieval period. The former was to bind the ends of laces to prevent fraying and ease threading and the latter used in sewing and to fix items of costume. Only one is from a good context, a pin fragment from the ditch fill (context [094], Phase 2A). The only complete example is from the buried soil overlying the site, but, as a relatively early type, is probably redeposited. The head is soldered on, a method of fixing only common up to the 15th century (Caple 1983, 274).

The lead disc (illus 8.8) is featureless, with no clue to its function but for its weight, which approximates an ounce. The lack of suspension holes implies it is a pan weight, for use as part of a set in a balance scale pan. Similar round weights have been found in London (Egan 1998, 311–17). Relatively few have been found on Scottish sites, though there may be examples of such plain discs unrecognised and unpublished. A thick disc from St Andrews was interpreted as a possible weight (Caldwell 1996b, 638, no.30) and the function is suggested for a variety of discoid lead objects from Whithorn (Nicholson 1997a, 392–3).

The weights of these items are not as standardised as might be expected. Medieval systems of weights and measures were extremely complex and could vary from place to place. The Scottish system, though based on the English, evolved separately, influenced by Scotland's major trading partners, the Low Countries and France. The standard merchant ounce in earlier medieval Scotland was 29.14g (Connor & Simpson 2004, 752). The 'trois' system, identical to the English troy system, appearing in the 1426 Assize, defines an ounce of 31.08g. Each burgh held physical standards of weight units so that weights used in the market place could be checked by officials, and destroyed if found inaccurate (Connor & Simpson 2004, 750–1).

It is interesting to note therefore that this disc appears to be a little underweight. Though a little dented and bent, there does not appear to be any significant metal missing and no deposits adhering to it, and hence its current weight is probably very close to its original weight. It is 6% under a merchant ounce, which may have been an acceptable variation, but a full 12% under a troy ounce. It is tempting to picture an unscrupulous market trader casting it into the ditch when he saw a burgh official approaching.

However, in practice, there is a wide variation in medieval weights, and it would not do to overinterpret this one. Examples of ounce weights from excavations in London (England had similar standards of 28.4g, 29.2g and 31.1g ounces) weigh in at 26.0g, 26.5g, 27.0g, 28.5g, 29.5g and 30.0g (Egan 1998, 302–4).

6. Copper alloy vessel foot
   Triangular sectioned rod, flattening out to a small plain flat foot. Heavy leaded bronze? Height 27mm. ESP90 evaluation find, SF1, context [106], equivalent to Phase 3?
7. Copper alloy wire pin
   Head formed from wire, coiled twice around top of shaft and soldered in place. Length 41, wire thickness 1.0mm. SF104, context [003], Spit 1, Test Pit 3, midden layer, Phase 4B.
8. Lead weight
   Disc, a little bent. Diameter 38, thickness 2mm, weight 27.4 g (0.97 imperial oz). SF011, context [080], ditch fill, Phase 2B.

5 IRON (ILLUS 8)

As with most medieval iron assemblages, nails made up the majority of the ironwork, 80 nails from a total of 93 iron objects. The largest concentrations come from the two midden layers [003 and 007]. The earliest is from the primary occupation layers [140], with relatively few found in the ditch. In terms of form, they all appear to be large- to medium-sized wood-working nails.

The small iron buckle (illus 8.9) survived due to waterlogging. Too small for a waist belt, it would have fitted a strap of about 12mm. It is the right size for a spur buckle, though, as these were generally considerably more decorative and robust (Clark 1995, 150–1), it probably had a more humble function.

The horseshoe (illus 8.10) was found in the midden layer overlying the site. It is of a form commonly found in later medieval contexts (Clark 1995, 88, Type 4), though examples can be found as late as the 17th century (Goodall 1983, 251). The position of the nails suggests this shoe was deliberately removed, but was lost before it could be scrapped.

9. Buckle
   Small, simple rectangular buckle frame. Strip pin. Length 12mm, width 17mm, to fit strap no wider than 13mm. SF114, context [086], ditch fill, Phase 2A.
10. Horseshoe
    Heel sherd, narrowing to tip. Two square-headed nails partly clawed out but still in place in possibly countersunk holes. No calkin. Length 87, max width 26mm. SF13, context [003], Spit 3, midden layer, Phase 3.
11. Knife blade
    Length of blade, missing tip and tang. Length 77, width 18mm. Context [072], ditch fill, Phase 2A (not illus).

6 OTHER SMALL FINDS (ILLUS 8)

The comb (illus 8.12) was found in an upper ditch fill associated with 14th and 15th century pottery. It is of a shape typical of the late medieval and post-medieval periods (MacGregor 1985, 81). The fact that it is made of horn is more unusual. The majority of excavated examples in Scotland are of bone or antler (eg Holmes & Schofield 1976, 216; Franklin forthcoming a; Hallen 2001, 149) but this is not representational. The majority of late medieval combs were almost certainly of boxwood, as excavations in waterlogged conditions in London have shown (Egan & Pritchard 1991, 366).

Horn, from cows and sheep, which, unlike bone and antler, can be softened and flattened out into large sheets is ideal for making combs (MacGregor 1985, 95) and, having certain advantages over plastic, is still used for the purpose today. However, like wood, horn is unlikely to survive in most burial conditions compared to the more sturdy bone and antler. The extremely poorly drained conditions in the Cowgate must be thanked for the survival of this horn comb in near perfect condition. Only a handful of horn combs are known from Scotland (Nicholson 1997b, 495, no.1; Ford 1987, 151, no.154, single-sided) and the Cowgate example is by far the earliest stratified and best preserved, though a similarly dated fragment was found in Newcastle (Harbottle & Ellison 1981, 183, fig.41: 499, early 16th-century context).

The scratched lines in the central area of the comb are rather shallow and irregular and are not particularly effective as decoration. The comb itself is well made in comparison and it could be that the marks were added at a later date, possibly by the owner.

Drilled pig metapodials (illus 8.13) are common finds on medieval and post-medieval sites (eg Cox 1996, 787; Murray & Murray 1993, 197). Previously interpreted as toggle fastenings or thread bobbins, they are now generally thought of as a kind of child's toy or musical instrument. Threaded onto a string, they can be spun to produce a humming noise. There are recent ethnographic parallels from Scandinavia of these bones being given to children to play with after the eating of pigs' trotters (Lawson 1995; MacGregor 1985, 102). The polish on the sides but not the ends of this example suggests a buzzbone is more likely. The handle scale (illus 8.14) is most likely from a knife. Decoration by means of a row of copper alloy pins is not uncommon on medieval knife handles (Cowgill *et al* 1987, 95, no.125–6).

Making gaming pieces out of potsherds (18, not illus) was a common practice. It was a readily available and easily worked raw material. They would have been used for games such as merels (eg nine men's morris), tables (early backgammon) or draughts, all of which involve 'men' of two different colours (Murray 1951). This sherd may have been selected for its colour. One side is dark green, the other is off-white, and it could therefore have been used as either a 'black' or a 'white' piece.

The glass bead (illus 8.15) is from the ditch fill associated with medieval pottery. Small glass beads are becoming increasingly common finds since on-site sampling became common practice. Small beads, especially dull-coloured examples, are exceptionally hard to spot during excavation. Medieval glass is also prone to decay in most depositional conditions and thus they are probably much under-represented in the archaeological record. Occasional finds of large numbers of beads hint at how common they might once have been. At St Ann's Lane, Perth, 158 small amber-coloured glass beads were found in a 13th- and 14th-century midden (Thoms 1982, 449), while 171 beads of indeterminate colour came from a probably 16th-century deposit at Stoneypath Tower, East Lothian (Franklin 2001). The latter were found in close association and were assumed to have adorned a piece of dress fabric. This was a popular way of embellishing fabric in the late medieval period. Though relatively expensive, glass beads were a cheaper alternative to pearls or gemstones (Egan & Pritchard 1991, 305; Payne 1965, 291). Small glass beads were also used to decorate wirework jewellery (Margeson 1993, 5).

The larger wooden and bone beads (illus 8.16 and 8.17) are more likely from sets of rosary beads (Egan & Pritchard 1991, 305). The bone bead is from a layer containing finds ranging from the 14th to the 16th centuries. The wooden bead is from the fill of the barrel and is thus unlikely to be earlier than the 17th century. The post-Reformation dating of the wooden bead is interesting.

12. Horn comb
    Comb, one piece, double-sided, rounded ends, profile uniform thickness, slightly curving. Material gives stripy wood-grain effect with ends buff coloured, central area darker brown. Scored along both sides to mark limit for tooth cutting. Roughly scratched marks: two large crosses with smaller crosses, cross bars and asterisk; on reverse rough lines and crosses. Decoration or to mark ownership? In very good condition, but for few broken teeth. Length 62, width 58, thickness 2.5mm, teeth 5/9 per 10mm. SF008, context [080], ditch fill, Phase 2B.
13. Bone buzzbone or toggle
    Pig metatarsal with hole drilled through centre. Some polish on concave sides of bone. Centre of gravity towards one end, though affected by damage

at end. Length 66mm. SF117, context [080], ditch fill, Phase 2B.

14. Bone handle scale
    Length of bone, plano-convex in section, broken at one end, widening to a square-cut end at other. Empty rivet hole at intact end. Row of 11 decorative copper alloy pins, which do not penetrate back of scale, inlaid along central axis. Some polish on convex side, suggests it may have been used, rather than broken during manufacture, though lack of rivet or iron-staining on back suggests it was detached before deposition. Length 39+, max width 11mm. SF109, context [003], Spit 3, Test Pit 8, midden layer, Phase 3.
15. Glass bead
    Ring bead, rounded. Glass appears opaque and dark, original colour indeterminable. Diameter 4, hole diam1, length 2mm. SF115, context [093], ditch fill, Phase 2A.
16. Wooden bead
    Rounded bead. Diameter 12, hole diameter 1, length 6mm. SF116, context [124, barrel fill], Phase 4A.
17. Bone bead
    Ring bead, flat-ended. Some polish on all surfaces. Diameter 10, hole diameter 3, length 4mm. SF111, context [007], Test Pit 16, soil layer, Phase 1C.
18. Ceramic gaming counter
    Made from a medieval Greyware pot sherd of 14th- or 15th-century date. Olive-glazed on one side, white surface on reverse. Clipped into rounded shape, edges sanded. Diameter 20, thickness 6mm. SF110, context [003], Spit 3, Test Pit 7, midden layer, Phase 3 (not illus).

7 BOTTLE AND WINDOW GLASS

There are a few small sherds and fragments of window glass. Crystalline fragments were found in the fill of a culvert (context [015], Phase 4A) and the fill of the barrel (context [124], Phase 4A), while a larger sherd (25 × 25mm) was found in the overlying midden layer ([003], Spit 1, TP13, Phase 4B). The sherds are most likely to derive from a church, of which there are several to choose from, as even in the 17th century glazing was still rare in private residences in Scotland (Turnbull 2001, 52). The sherd has a greenish hue, is badly laminated and features one grozed edge.

There is no early bottle or vessel glass. However, from surface deposits (context [001], Phase 5), there was a fragment of wine bottle neck, datable by its string rim to the later 17th century (Dumbrell 1983). Wine bottles of this early date are relatively unusual finds and it probably derives from an inn or wealthy household.

8 CERAMIC BUILDING MATERIAL

The ceramic building materials amounted to a few fragments of brick, tile, drainpipe and daub. Most are modern and were found in upper layers. A fragment of Netherlandish-type floor tile is of some interest though is essentially unstratified, being from an evaluation context (context [101], equivalent to Phase 5?). It has no top surface, but has a characteristic sandy bottom with a patch of green glaze on its base. These types of tile were imported into east coast Scotland in large quantities between the late 14th and early 16th centuries (Norton 1994, 150–153). They are known to have been used in the nearby Trinity College Collegiate Church (founded *c*1460 on the north side of the Canongate) and similar tiles have been found in 15th-century and later layers at a number of other nearby sites (eg Eames 1976; Franklin 2010, forthcoming a; Hall 2006).

9 LEATHER *by Clare Thomas* (ILLUS 7)

9.1 Introduction

The leather consists of the upper of a side-laced boot and three sole fragments, all of turnshoe construction.

9.2 Description

19. Sole, upper and stitching channel fragments of side-laced boot. SF9, context [081], ditch fill, Phase 2A.
(a) Large fragment of upper comprises vamp, with vamp throat and vamp wing, and quarters (illus 7.19a). Lace holes on vamp wing (3) and on vertical edge of quarters (7) for side-lacing. Two fragments of thong survive, one in vamp wing, the other in the quarters. Holes are 3mm × 5mm, and 12–14mm apart. Edge adjacent to lace-holes has possibly been oversewn. There is no indication of stitching for lace-hole facings or strengtheners. On inside of quarters, faint traces of tunnel stitching show where a trapezoidal heel-stiffener, which survives separately, was attached.
Lasting margin with grain to flesh-stitching channel, stitch length 6–7mm; stitch holes are round, not elongated. Lasting margin is missing at front and outer edges of vamp. Edge-flesh stitching channel, stitch length 4–5mm, on vamp throat and on lower part of vamp wing and of quarters. Top edge of quarters has been cut, and bears no trace of stitching for a binding.
Fragment is worn, torn and partially delaminated.
Approximate height of quarters 160mm.
Probably goatskin.
(b) Trapezoidal fragment, consisting of front leg flap, fitting above vamp throat and wing, next to higher part of vertical edge of quarters (illus 7.19b). Six lace-holes, with fragment of thong threaded through one; spacing and size of holes as on (a).
Edge-flesh stitching channel on bottom edge and on vertical edge without lace-holes; stitch length 4–5mm.
Top edge cut.
Top of flesh side delaminated.
Approximate height 70mm; width of base 65mm.
(c) Trapezoidal heel-stiffener with lasting margin matching that of quarters, and with stitch holes for attachment to inside of quarters (illus 7.19c).
Approximate height 75mm; width of base 105mm.
(d) Two irregularly shaped fragments with edge-flesh stitching channel, stitch length 5–6mm; torn and delaminated. Most probably parts of sole of boot.
(e) 6 fragments of grain–flesh-stitching channel, stitch length 6–7mm; delaminated. Possibly rand.
(f) Small fragment of upper with lasting margin with grain to flesh stitching channel, stitch length 6mm.
(g) Small fragment of upper with edge–flesh stitching channel, stitch length 4–5mm.
(h) Small strip, possibly thong; dimensions 45 × 5 × 1mm.
(i) 3 small scraps, probably broken-off upper (a).

20. Three sole fragments, one with pointed toe. SF12, context [094], Ditch fill, Phase 2A (not illus).
Three fragments of sole, one ending in sharp point, with edge-flesh stitching channel, stitch length 5–7mm. No obvious joins, probably parts of forepart and waist. Delaminated and cracked.

9.3 Discussion of leather

Both upper and sole fragments are of turnshoe construction, where the shoe is made inside out by sewing the lasting margin of the upper to the edge of a single sole. The shoe is then turned, so that the seam is on the inside. The sole fragments have typical edge-flesh stitching channels, while the upper has a corresponding lasting margin with a grain–flesh stitching channel. Fragments of stitching channel suggest that a rand, or strip of leather, was inserted between sole and upper, to strengthen the seam and make it more waterproof. The upper fragments have been joined to each other with butted edge–flesh seams.

One sole fragment ends in a sharp point. The other sole pieces are too insubstantial for any shape to be determined. The upper is of one-piece wrap-around style, with an extra piece inserted above the vamp throat, and with a trapezoidal heel-stiffener sewn into the inside of the quarters. The upper was fastened, probably on the inside of the foot, with a thong threaded through lace-holes on either side of an opening between the vamp wing and leg flap and the vertical edge of the quarters.

Soles ending in points were represented at Perth High Street by Sole Types 4 and 5. Type 4 soles ranged from mid 12th century to mid 14th century, but were predominantly of 14th-century date. Parallels from elsewhere include Threave Castle, Galloway (late 14th–early 15th centuries) and Aberdeen (12th–13th centuries) (Thomas forthcoming; Thomas 1981, 123–4; Thomas 2001, 243). Type 5 occurred in contexts dating to mid 13th–mid 14th century. Parallels from London are of similar date, early 13th to late 14th century (Thomas forthcoming; Grew & de Neergaard 1988, 57–60, fig. 90, 98, 100).

Fourteen examples of side-laced boots were found at Perth High Street, where they ranged in date from the second half of the 12th century to the early 14th century, but were mainly from mid 13th- to early 14th-century contexts. Other parallels include Aberdeen (14th century) and London (early to mid 14th century, early to mid 15th century) (Thomas forthcoming, Type C; Thomas 2001, 248–9; Grew & de Neergaard 1988, 27, fig. 39–40, 42–43).

Both sole and upper fragments are worn and torn. This is normal for medieval footwear. Soles, especially turnshoe soles, became worn through quickly. They could be repaired by the addition of clump soles; however, this leather bears no signs of repair. Uppers were less easy to repair; less worn parts were often reused.

This very small assemblage consists of typical 13th–14th-century footwear. To the author's knowledge, this is the first medieval leather found in Edinburgh.

10 COOPERED VESSEL *by Anne Crone*

10.1 Abstract

The coopered vessel may be either a tub or the lower half of a barrel. Dendrochronological analysis of some of the staves has determined that the barrel was fashioned from Scandinavian oak, which had been felled sometime after AD 1567. Allowing for a period of use before the vessel was reused as a well lining, this suggests a *terminus post quem* of the early 17th century for the construction of the well.

10.2 Descriptive analysis

The vessel consisted of 20 staves of oak (*Quercus* sp.), bound just above the base by a group of four hoops and by a group of three hoops some 200mm further up from the base. It had survived to a height of 0.20–0.30m, the staves having decayed above that height. The croze groove, into which the base of the vessel would have fitted, was cut some 40mm above the base of the staves. It was V-shaped in profile and was 4mm wide and 2–3mm deep. The thickness of the staves has been reduced by adzing just above the groove to allow the insertion of the base.

The vessel was 0.54m in diameter at the base, expanding to 0.62m at the top. Were it a barrel, the original height and capacity of the vessel could be calculated as 0.77m high and 36 gallons (Kilby 1971, 61). However, the pitch, the widest part of a barrel, has not survived, so it is not possible to determine conclusively whether the vessel was a barrel or a splay cask (ie open, without a pitch) such as a tub.

The hoops that bound the vessel were fashioned from withies, which had been split in half; they all still retained the bark. They varied in width from 20mm to 34mm but all had been cut from three-year-old oak withies. The withies had been reduced in thickness and width at each end so that they were rectangular in cross-section; this would enable them to be neatly overlapped and bound together. They were bound tightly together with strips of 1-year old split willow (*Salix* sp.) withies, no more than 5–6mm wide and up to 2mm thick.

On six of the staves there were pegholes just below the level of the croze groove. They occurred in groups of three, on Staves C2, D and E, and on Staves L, M and N. In both pairs the central stave had two holes, while the flanking staves had a single hole. The holes were mainly 10mm in diameter and had been drilled at an angle downwards from the outside to the inside of the vessel. Pegs were still *in situ* in Staves E and L and in one hole each on both Staves D and M. These groups of staves lay diametrically opposite each other within the barrel. It has not been possible to find comparable features on other coopered vessels, nor to determine their function. They may have originally secured strengthening boards across the head of the barrel but holes drilled at right angles to the boards rather than obliquely, as these are, would have made for a stronger joint.

Table 1.2 Dendrochronological data

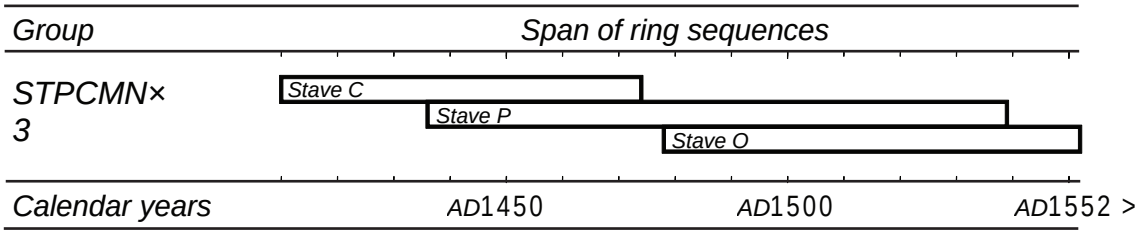
Stave	Max width (mm)	No. rings present	Calendar date
C1	95	65	AD 1410–1474
D	120	70	/
E	160	106	/
F	120	67	/
G	105	61	/
I	120	68	/
J	115	81	/
O	90	75	AD 1478–1552
P2	85	104	AD 1436–1530

10.3 Dendrochronological analysis

The majority of the 20 staves that made up the coopered vessel were fast-grown, with only between 35 and 60 rings present. Only nine staves were considered suitable for dendrochronological analysis on the basis of their estimated ring-sequence, that is they were thought to have at least 70 rings present. In order to access the longest available ring-pattern a cross-section was cut from these staves at the widest point. The surfaces were pared with a razor blade and powdered chalk rubbed into the surface to enhance the ring-pattern. The ring-patterns were then measured and analysed using DENDRO (Tyers 1999). The dendrochronological data is presented in Table 1.2.

Many of the staves did not have as many growth-rings present as estimated. Despite this, one of the shortest sequences produced very robust results (Table 1.3). The sequences were initially compared against each other but there was very little internal correlation. Three pairs compared well with each other, both visually and statistically, and mean sequences were made for each pair; these are Staves I and G (t = 5.66), Staves C1 and J (t = 6.17), and Staves D & E (t = 7.4).

The mean sequences, as well as all the individual



Illus 1.1 Bar diagram showing the chronological relationships between the dated staves

Table 1.3 Statistical comparisons with Scottish import chronologies and regional chronologies

Master chronologies/dated sequences	**Stave C1 @ AD 1474**	**Stave O @ AD 1552**	**Stave P2 @ AD 1539**	**STPCMN×3**
Scottish import chronologies				
TC1 Tantallon Castle, East Lothian	6.38	/	/	5.18
BRECHIN 1 High St, Brechin	6.01	/	/	6.72
FTMAS 1 Fenton Tower, East Lothian	5.78	4.72	5.12	9.16
FTMAS 2 Fenton Tower, East Lothian	5.36	/	/	/
GAROOF2 Guthrie Aisle, Angus	5.22	/	/	6.05
OSU1NEW Old Students' Union, St Andrews	6.43	/	/	/
EP21505 Episode 2, Stirling Palace	6.46	/	/	5.60
EP31538_9 Episode 3, Stirling Palace	6.40	3.83	4.85	7.54
EP1539 Episode 3, Stirling Palace	7.30	/	4.57	8.60
EP41592 Episode 4, Stirling Palace	6.50	/	5.80	8.35
Regional master chronologies				
SM000012 West Sweden	7.99	3.63	7.62	10.48
2X900001 East Denmark	6.51	4.12	4.84	8.69
SM00005 Skane/Blekinge, Sweden	6.75	4.09	5.02	8.01
NB800000 Sealand, Denmark	6.33	4.27	4.19	7.53
JUTLAND6 Jutland, Denmark	5.54	4.11	4.33	7.34

sequences were then compared against a suite of dated Scottish, English, Scandinavian and Baltic master chronologies. The results are presented above in Table 1.3.

Only three sequences, C1, O and P2 displayed the strong, consistent correlations which enabled them to be dated with confidence. Despite poor correlation between the individual sequences, the three dated sequences were averaged together to form a sub-master, STPCMN×3, 143 years in length (illus 1.1). Illus 1.1 makes clear that, given their chronological relationship, Stave C and Stave O may well have been fashioned from the same radially split plank. The significant increase in statistical correlation between this sub-master and the regional chronologies, in particular (Table 1.3), indicates that the climatic signal has been enhanced and that the relative positions of the sequences within the sub-master are indeed correct. STPCMN×3 spans the period AD 1410–1552.

The three sequences compared strongly only against regional chronologies from Sweden and Denmark and a group of Scottish import chronologies, the components of which are also Scandinavian in origin. The statistical correlations are not sufficiently high to pinpoint a particular country but we can be certain that the oak used to make the barrel originated in Scandinavia.

10.4 The date of the vessel

As all the staves have been trimmed to shape, the outermost rings have been removed and so the date

of the surviving outermost ring bears no direct relation to the date of construction of the vessel or of the well that it was ultimately used to line. It provides at most a *terminus post quem* for the construction of the vessel. The date of the outermost heartwood ring present is AD 1552 and to this must be added an allowance for the sapwood that would have been trimmed off. As the timber is Scandinavian, a minimum sapwood estimate of 15 years is applied (Niels Bonde, pers comm), so the tree must have been felled, and the vessel constructed, some time after AD 1567. If allowance is made for a limited number of heartwood rings that will also have been trimmed off, and for a period of use for the vessel before it was reused as a well-lining, then the earliest time that the well could have been constructed is the early 17th century.

10.5 Summary

The coopered vessel found at St Patrick's Church in the Cowgate may be either a tub or the lower half of a barrel. It has been fashioned from Scandinavian oak. From the late 15th century Scotland was importing timber for its building requirements and throughout the 16th and 17th centuries the main source of that timber was Scandinavia (Crone & Watson 2002). As well as various types of building timber, Norway also exported barrel staves and hoops to Scotland (Lythe 1960, 148; Lillehammer 1990). As Scotland was not importing produce such as salted herring, which would have been packed in barrels from these countries, it is most likely that the vessel was made in Scotland using either pre-prepared staves or boards.

11 DISCUSSION OF FINDS AND POTTERY

The finds assemblage represents a selection of the belongings and tools of the people who lived and worked along the Cowgate and upslope along the High Street during the medieval period, particularly during the 15th century.

11.1 Phase 1A: 11th / 12th centuries

This phase has been radiocarbon dated to AD 1020–1210. The deposits were not fully excavated and only one potsherd was recovered. It is an olive-glazed sherd of White Gritty Ware of apparent 13th- or 14th-century date. It may be intrusive.

11.2 Phase 1B: 13th century

This would appear to date to the 13th century. The small collection of pottery from these early features includes a sherd of probable Saintonge Ware, which was imported in the 13th and 14th centuries. The lack of Scarborough-type Ware is odd, as it was the most common import during this period, but the assemblage is not large enough for this to be statistically significant. Occupation in the vicinity by the early 13th century is evidenced by a redeposited fragment of probable Rouen-type Ware in the overlying soil.

11.3 Phase 1C: 13th to mid 14th century

The soil build-up that makes up this phase provides the first significant collection of finds from the site, albeit somewhat abraded. The soil build-up might have continued for some time and the dating of the end of this build-up is significant in that it provides a *terminus post quem* for the cutting of the ditch. Unfortunately, few of the finds are tightly datable. Most are small potsherds, largely White Gritty Wares, which had a long lifespan. Three imported sherds suggest a date of the 13th or the first half of the 14th century, while the presence of local Greywares suggests deposition continued into the 14th century. However, the lack of Rhenish stonewares suggests it did not continue as late as the late 14th century and certainly not into the 15th century. In short, the most likely date for the ditch cutting would be around the middle of the 14th century.

11.4 Phase 2A: first half of 15th century

This is the fill of the ditch. The finds from this phase were more varied, better preserved and less abraded than the finds from the soil. There were however no large pottery profiles, nor similar evidence of rubbish being dumped straight into the ditch. Instead, these finds appear to be part of midden material redeposited into the ditch. There is a great deal of earlier material included in these deposits, most of the White Gritty assemblage, for example, but for the most part this stood out due to its much smaller sherd size, akin to that from the Phase 1C soil, from whence it must have derived. This is not gradual silting, but, from the uniformity and condition of finds throughout this part of the stratigraphy, would appear to be deliberate and rapid infilling, possibly a single event.

In terms of dating, firstly, it is fair to assume that some period of time passed between the ditch being cut and its being backfilled. The marked difference in the types of pottery found in Phases 1C and 2A supports this supposition and suggests a hiatus of at least 30 years, and possibly over a century.

Absolute dating evidence comes from the presence of Rhenish stoneware, and from the leather footwear. Siegburg stoneware was in production from the 14th century onwards, but it is more commonly found in Scotland in 15th-century contexts. The large assemblage of Siegburg stoneware from the Edinburgh High Street site has been dated to the first half of the 15th century (Clarke & Hurst 1976). The stoneware unfortunately lacks any diagnostic sherds in terms of form, by which it might be more accurately dated. The local pottery, particularly the profusion of Late Whiteware jugs, confirms a late medieval date, though there is little accurate dating evidence so far for this type. It is certainly present in 15th-century contexts in Edinburgh and Leith and continues into the 16th century, but it may also stretch backwards into the late 14th century. The latest parallels for the leather boot and shoe sole are both early 15th century, though both are more common in earlier deposits, (mid 13th- to early 14th-century and 14th-century contexts respectively).

In conclusion, the date of the backfill probably falls between the late 14th and mid 15th centuries, and is most likely to be early 15th century.

11.5 Phase 2B: 15th century

This is the fill of the ditch re-cut. Presumably then there must be some passage of time between this and the previous phase. However, the finds assemblages from both are quite similar. The pottery is largely made up of similar large Late Whiteware and Greyware jugs. There is, however, no 14th-century

leather. Other finds such as the comb could be late medieval or early post-medieval. The best date for this phase then would be 15th century, more likely the second half.

11.6 Phase 3: 15th century

The midden layer, which accounts for the whole finds assemblage from this phase and the largest assemblage from any phase, is largely made up of material redeposited from lower layers. This is demonstrated by the proportion of White Gritty, which is almost as high as in the Phase 1C soil. There is nothing that unequivocally post-dates the 15th century. It seems unlikely this deposit was laid down any later than the late 15th or possibly early 16th century, and could in fact be earlier.

11.7 Phase 4A: 16th to 17th centuries

The best dating for this phase comes from the barrel itself. The dendrochronological dating evidence suggests it was deposited around the early 17th century. There are very few finds associated with this or the culvert. The only datable finds are redeposited fragments of medieval pottery.

11.8 Phase 4B: 17th centuries

This phase is defined by the midden development. The layer contained a large amount of finds but these were almost entirely redeposited from upslope or underlying soil layers. There are only a handful of pottery sherds dating to the 16th and 17th centuries, nothing later, and no clay pipes. The latter are so ubiquitous in 17th-century deposits that their absence here is striking.

11.9 Phase 5: 18th to 20th centuries

This phase includes 18th/19th-century structures, unstratified finds and finds from the evaluation trenches. There are few finds from modern contexts and again these are mixed modern and medieval.