

Backland activities in medieval Perth: excavations at Meal Vennel and Scott Street†

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with contributions by Linda Blanchard, Jonathan Burrows, Richard Sermon, Peter Cheer, Catherine Smith & Peter Clark

ABSTRACT

Two excavations within the medieval burgh of Perth provided opportunities to investigate an early industrial zone on the western side of Meal Vennel and a relatively undeveloped area in the backlands of Scott Street. The artefact-rich Meal Vennel excavation revealed evidence of a possible early western boundary of the town, timber and stone buildings and industrial activities including grain drying and iron smithing. Backland activities, including sand quarrying, the digging of rubbish pits and dumping of midden, were investigated at Scott Street. A number of questions relating to the medieval development of Perth were addressed. The excavations were funded by the Historic Buildings and Monuments Division of the Scottish Development Department (now Historic Scotland).

INTRODUCTION (Illus 1)

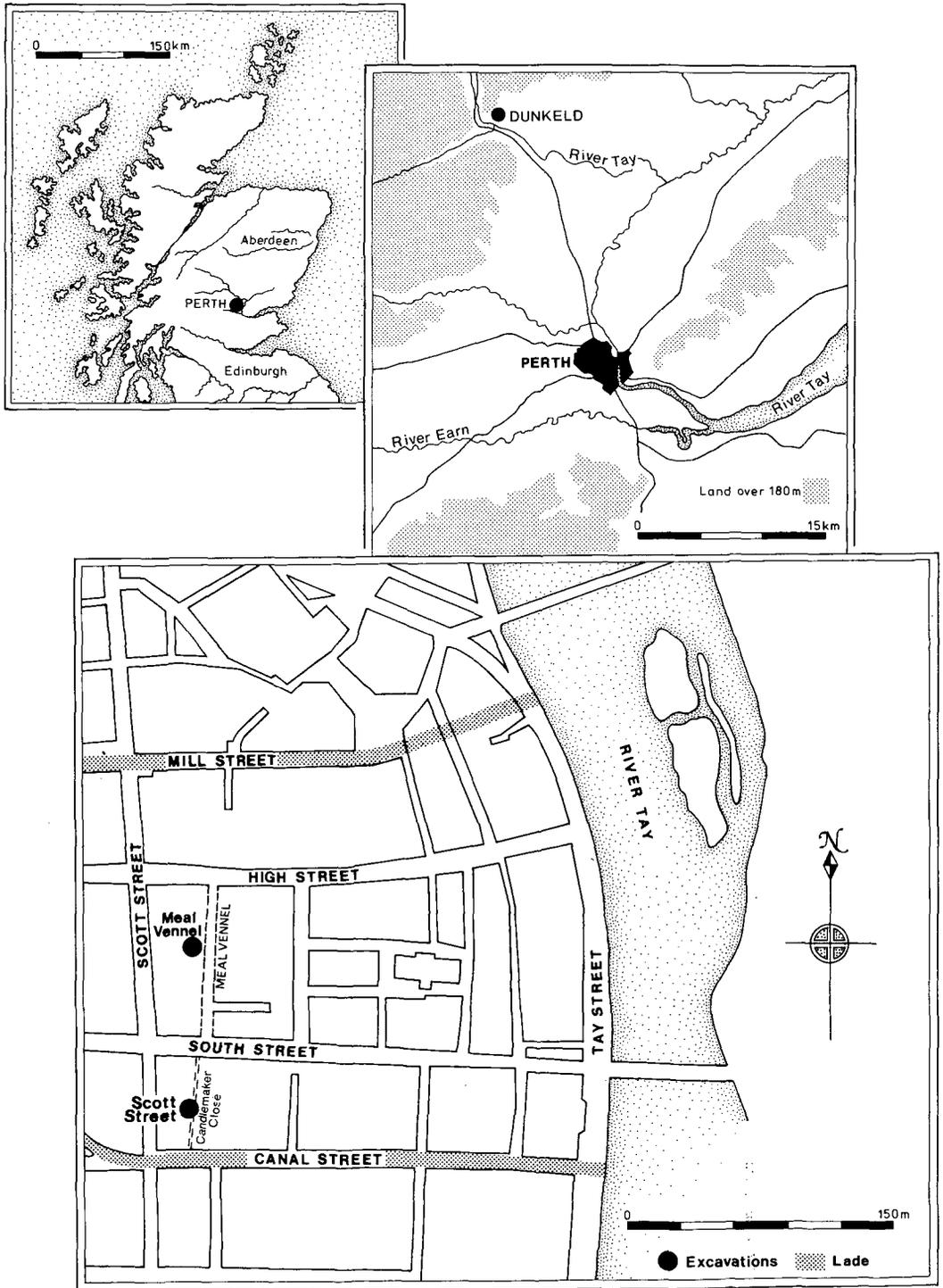
Adrian Cox

This report describes two excavations within the medieval burgh of Perth, carried out by the Scottish Urban Archaeological Trust Ltd. The first of these took place in 1983 at the Central District School, on the west side of Meal Vennel (NGR: NO 117235), directed by Linda Blanchard and funded by SDD Historic Buildings and Monuments, (now Historic Scotland) and the Manpower Services Commission Community Programme. In 1989, a second excavation was carried out c 120 m to the south, on a site in the backlands of Scott Street and Canal Street, directed by Jonathan Burrows and funded by Historic Scotland.

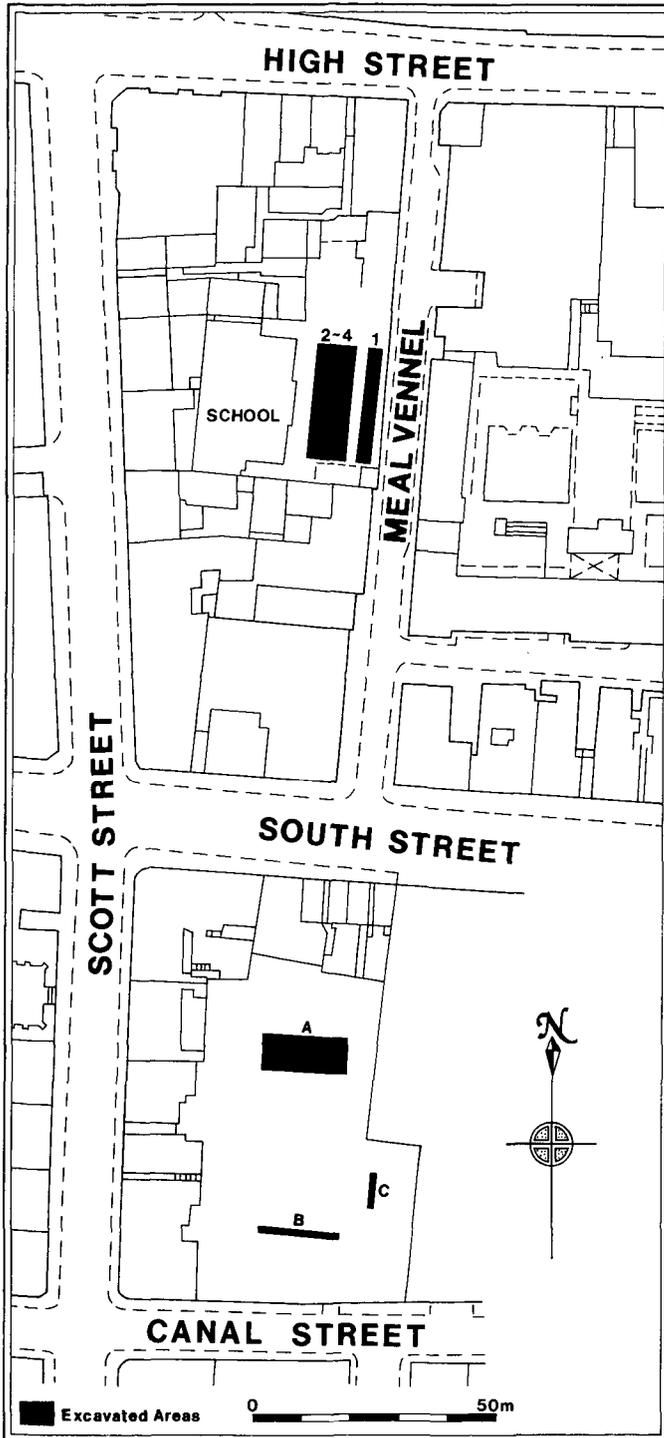
The Meal Vennel project, along with a previous excavation in 1982 at the junction of High Street and King Edward Street (Bowler 1995) was carried out in advance of a large shopping mall development, which had been in prospect for a number of years prior to the excavations. The redevelopment area was known to have a high archaeological potential with borehole cores indicating the survival of up to 6 m of archaeological deposits. Watching briefs carried out in the surrounding area also suggested that conditions would be favourable for good organic preservation. However, perhaps one of the most important aspects of this site was that the Central District School playground provided one of the least disturbed street frontages surviving in Perth. At the Scott Street site, archaeological deposits were threatened by a proposed shopping development for the Co-operative Society but were not known to offer the same high archaeological potential as the site at Meal Vennel.

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ILLUS 1 Meal Vennel and Scott Street: location map. (Based on the Ordnance Survey © Crown Copyright)



ILLUS 2 Location of excavated areas. (Based on the Ordnance Survey © Crown Copyright)

The locations of the two excavations provided opportunities to address a number of questions relating to the medieval development of Perth. It has been argued (Spearman 1988) that, following the granting of burgh status to Perth by David I (1124–53), the town spread slowly westwards from the Tay and that Meal Vennel represented a pause in this process prior to later development during the reign of William the Lion (1165–1214). The excavation at Meal Vennel, therefore, represented an opportunity to investigate the nature of this possible early western boundary and to study structures which lay at the periphery of the burgh.

The location of the Scott Street excavation, in the south-western corner of the medieval burgh, also provided an opportunity to examine activities near to the early boundary of the town, and specifically to investigate backland activities. The results of this investigation complemented the findings of the nearby Meal Vennel excavation.

HISTORICAL BACKGROUND

Professor A M Duncan (1974) suggested that a pre-urban roadway ran diagonally from the South Gate Port to join the eastern end of the High Street where the River Tay could be forded. If such a route were projected, its path would have crossed the Meal Vennel excavation area. Testing this hypothesis was among the research objectives of the excavation, as a pre-urban roadway would have important implications for early town planning and development.

An important source of early records of both the Meal Vennel and Scott Street excavation sites is the *Rental Books of King James VI Hospital* (Milne 1891). This refers to the concentration of smithies on the western side of the Meal Vennel, suggesting that the area was a well-established metalworking district by the 1600s. The Rental Books indicate that properties in the backlands and innerlands of the Scott Street excavation site were occupied by, amongst others, two glovers, two notaries, a maltman and a tailor.

Map evidence also provides information on the early layout and occupation of the two excavated sites. On Rutherford's 'Plan of the town of Perth' (1774) a row of cottages is shown along the western side of Meal Vennel, and by 1863 the Ordnance Survey map of the area showed a small school built behind them. In 1900 the area was cleared for the construction of the Central District School. Petit's 'Plan of Perth' (1715) and Rutherford's 1774 map show two closes (Candlemaker Close and Shuttlefield Close) extending southwards from South Street and enclosing an open area. The line of the main excavation trench at Scott Street (Trench A) crosses Candlemaker Close (see *illus 1*) which, according to Rutherford's map, had buildings on its western side and a substantial building on its eastern side.

By at least the 16th century, Meal Vennel provided a means of access between High Street and South Street. Documentary research (Smith & Spearman 1983) suggests that, by this time, metalworking had become a well-established specialism of the area. Documentary evidence (NSA 1845) also identifies the Meal Vennel site as being within an area particularly affected by the plague of 1645, which led to the desertion of some streets in the vicinity.

Spearman (1988, 52) suggested that the south-western corner of the town, in which the Scott Street excavation site lies, was relatively undeveloped during the medieval period. One indicator of this is the gentle curve of the town lade around this area, in contrast to its angled junction in the north-western part of the town, which may have been determined by extant features.

EXCAVATIONS AT MEAL VENNEL

Richard Sermon & Adrian Cox

The excavations covered an area, 23 m by 14 m, which was stripped of overburden and 18th-century deposits down to a depth of 1.25 m below the ground surface. This was the maximum available area

within the Central District School playground whilst taking into consideration access and safety. Shoring was inserted to support the Meal Vennel street frontage since investigation of this area was essential to the project design.

For recording purposes the site was divided into four areas. Area 1 was a narrow trench, 23 m by 3 m, running along the street frontage, whilst Areas 2–4 were divisions of a larger trench which measured 23 m by 8 m (illus 2). These areas were excavated by hand until undisturbed subsoil was reached at 4.2 m OD, around 3 m below the ground surface.

The excavations revealed a complex stratigraphic sequence over 2 m deep, spanning the mid-13th to early 18th centuries. This sequence has been divided into seven phases of activity.

PHASE 1: GRAIN-DRYING KILNS (ILLUS 3 & 4)

Primary activity on the site was represented by three grain-drying kilns. These keyhole-shaped features were all similar in construction and each appeared to have a flue to the north or north-west (along with scorched clay floor layers and some ash deposits). Lines of stake-holes within the kilns are thought to have supported a wattle and clay lining. The southernmost kiln was rebuilt at least once to a slightly larger plan, and its flue contained large amounts of heavily burnt daub. This may suggest that the kiln was surrounded by either a wall or roof-like structure. Environmental samples taken from one of the kiln floors, and from the flue of another, revealed the presence of wood charcoal, oats and barley (Fairweather, below).

Adjacent to the kilns was a complex feature consisting of two gullies and two pits. The fills contained both organic and burnt material, the latter in the form of slag and daub. The eastern gully also produced the earliest horseshoe from the site, of a type dating to the mid-13th century (Cox below, No 297). However, the function of this feature is uncertain. Nearby, a number of pits contained a mixture of both industrial waste in the form of iron slag, and domestic refuse. The presence of goat and cattle horncores suggests some horn working took place in the area.

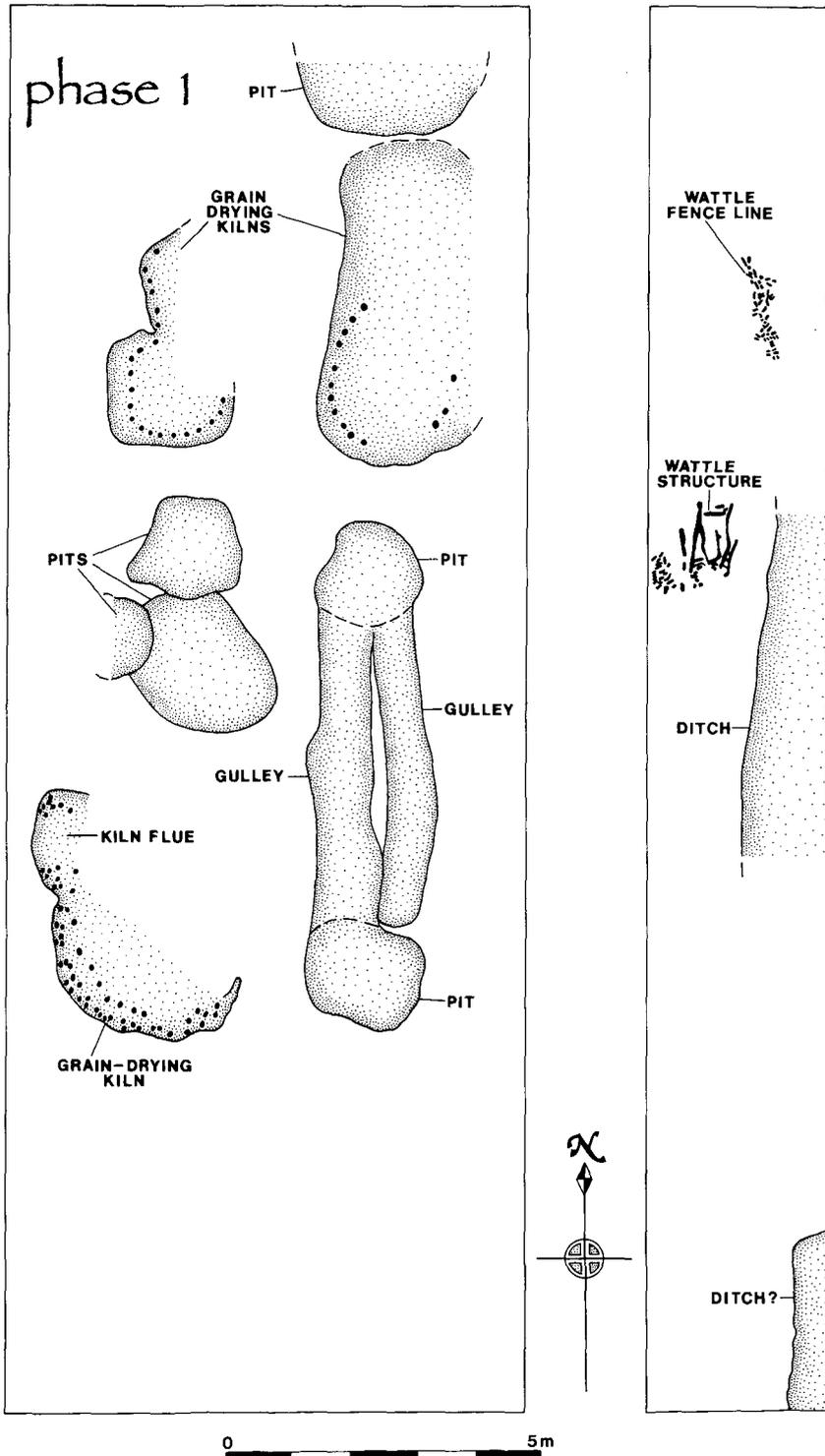
One side of a large cut feature was recorded running along the street frontage, with a silt fill including some ash, slag, burnt daub and antler offcuts. This feature was interpreted as a large boundary ditch, since it was on the same alignment as the street. To the south of this but at a slightly higher level was a narrow north/south cut, containing some residual material including a retouched flint scraper. This feature may also have been a ditch but, since it appeared to terminate at its northern extent, was probably not a recut of the earlier ditch. It was, however, on the same alignment as the boundary ditch. To one side of the earlier ditch was a wattle fence line and remnants of a square structure, consisting of five or more lines of wattle that may have formed the lining at the base of a well shaft.

Artefacts and industrial debris

Over 1300 sherds of pottery were recovered from this phase (Table 1; Cheer, below). The imported wares were dominated by Scarborough/Yorkshire ware and Low Countries Greywares and Redwares.

A small assemblage of antler offcuts was recovered from deposits in the main excavation area, indicating small-scale antler-working. One of these (596) may represent an unfinished artefact or a core piece from which slices have been taken (Cox, below).

Fragments of quernstones associated with this phase of activity contribute to the evidence for grain-drying and processing activities. Three conjoining quernstone fragments were recovered from the fill of a gully and another fragment came from a double post-hole, in which it may have been reused as packing. Samples from the grain-drying kilns revealed the presence of wood charcoal, oats and barley. The clay linings of the kilns were tempered with grass or straw. The presence of hammerscale in samples taken from the southern end of the site (Cox, below) may indicate that iron working activities were taking place in the vicinity.



ILLUS 3 Meal Vennel: Phase 1, principal features



ILLUS 4 Meal Vennel, Phase 1: kiln, looking south-east

Interpretation

On the whole, the features in Phase 1 would tend to indicate grain drying and processing as the main activity along with some ironworking in the area. The first activity may have given rise to the name Meal Vennel. The ditch running parallel to the street frontage could represent the early town boundary suggested by Spearman (1988), with the kilns being located beyond this boundary as they would have represented a considerable fire risk. There was, however, no sign of the early route-way proposed by Duncan (1974).

Keyhole-shaped grain-drying kilns are not uncommon and may be either wattle- or stone-lined structures. Examples have been excavated on rural sites at Barbush Quarry Dunblane, Perthshire (Barclay *et al.* 1982), Capo, Kincardineshire, and Abercairney, Perthshire (Gibson 1988). Such structures remained in use until the end of the last century, especially on Orkney and Shetland (Fenton 1978). There, the kilns were heated by a peat fire within the flue and the grain was placed on a wood and straw drying floor suspended above the base of the kiln.

PHASE 2: INDUSTRIAL AND DOMESTIC REFUSE PITS (ILLUS 5)

Cutting the grain-drying kilns (Phase 1) was a number of pits, which had been used for the disposal of both domestic refuse and industrial waste in the form of slag and horn cores, although this was not necessarily their primary use. One pit in the southern part of the site had an internal line of stake-holes which may indicate that it had been lined with wattle, which would be unusual for a refuse pit. A rectangular pit to its north had a line of stake-holes along its eastern side and appeared to have been recut a number of times. This pit would have been over 2 m below the contemporary ground surface and was identified by the excavator as a possible well, though its shape was recognized as atypical.

Along the street frontage two possible hearths were located. The first of these was a stone surface which included a reused stone roof tile and a number of fragments of burnt bone. The second was a quernstone (528) thought to have been reused as the base for a hearth, and broken into six fragments by the heat of the fire. It had been set into the upper fills of a wattle-lined pit. Associated with the second hearth were several lines of stake-holes which may represent the remains of fences erected adjacent to or around the structure, perhaps to act as windbreaks. Other features adjacent to the street frontage included a linear slot or gully containing five fragments of leather, and a small oval pit which produced daub or furnace lining and a number of horn cores.

Artefacts and industrial debris

Almost 2000 sherds of pottery were recovered from Phase 2. Near the Meal Vennel street frontage, the fill of a ditch containing ash and ironworking slag produced three antler offcuts, again indicative of small-scale activity on the site.

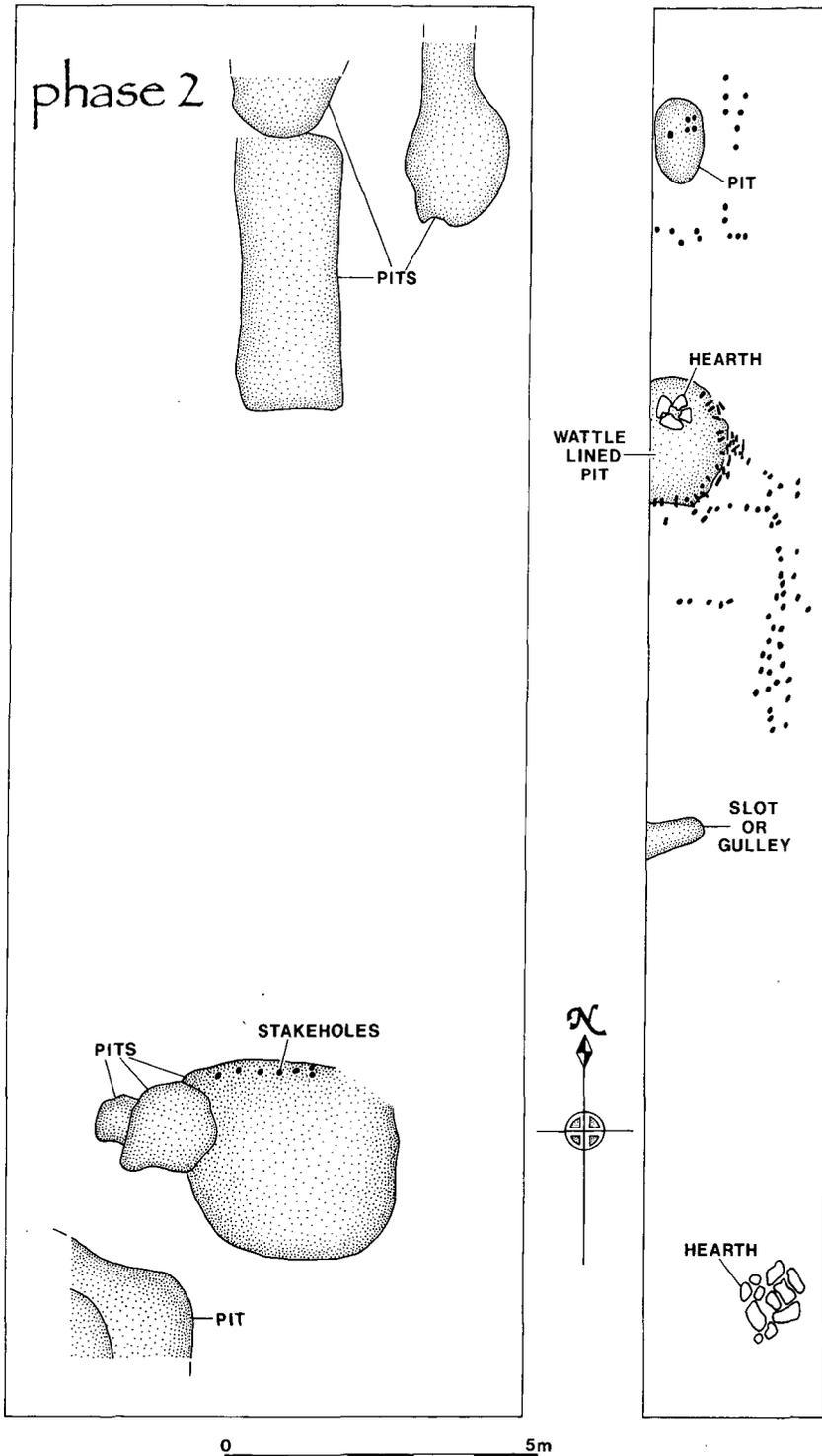
Two iron knives were recovered from Area 1. One was found in ash deposits interpreted as possible waste from industrial activity nearby. Spheroidal hammerscale from ironworking was noted in samples taken from these deposits. Also found was a piece of once-molten copper alloy waste which may have been formed by the actions of a high-temperature industrial process upon a fragment of copper alloy sheet or other small object (Cox, Industrial residues, below). Near the western edge of Area 1, fragments of a quernstone (528) appear to have been reused as the base of a hearth.

Interpretation

As in the previous phase of activity, both the structures and the finds assemblage suggest predominantly industrial activity, which appears to have consisted of small-scale iron working. A range of artefacts of 14th-century date, based on parallels from other excavations (see Cox, below) was found.

PHASE 3: TIMBER BUILDING AND PITS (ILLUS 6)

At the southern end of the main trench the foundations of a timber building were recorded. The building consisted of three slots, presumably for horizontally set timbers, and a total of 15 post-holes. The building measured at least 6 m in length and was 3 m wide. It lay on an approximately east/



ILLUS 5 Meal Vennel: Phase 2, principal features

west alignment, with six post-holes forming the northern side of the structure and nine post-holes on the southern side. Two lines of stake-holes formed internal partitions, one of which, running north/south, divided the building into two rooms.

Within Area 1 was a number of small, irregular pits and cuts, of which the southernmost contained industrial waste in the form of ash and slag, and three iron knives. A post-hole with settings for two upright timbers was located, although as an isolated feature its function remains uncertain.

Artefacts and industrial debris

Most of the finds associated with the building came from a sequence of internal floor layers, possibly indicative of a lengthy period of occupation, and included evidence of ironworking in the form of charcoal and hammerscale. Environmental samples revealed the presence of carbonized seeds and grain. Also found were several fragments of leather and a number of burnt bones.

Phase 3 produced less pottery than other phases: just over 800 sherds. Knife fragments, a spring and bolt mechanism from a barrel padlock, and a possible tally stick derived from a sheep or goat metatarsal (597) were among the finds from this phase of activity (Cox, below).

Interpretation

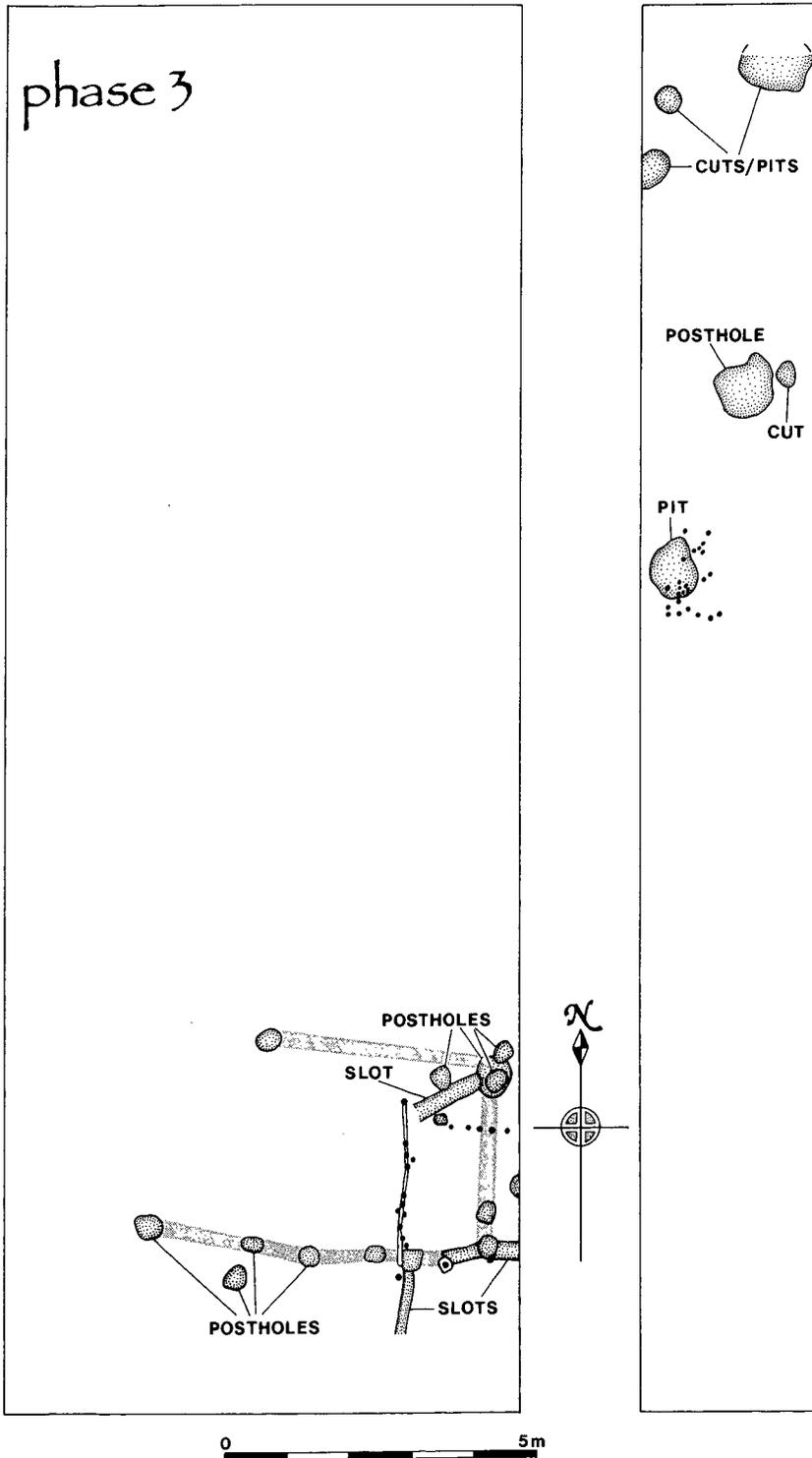
Once again there is continuing evidence of ironworking on or near the site. There is also evidence of small-scale production of leather shoes. Both activities could have been associated with the same building, as successive or replacement floors may indicate a change of function. Such a building would have been a timber-framed structure composed of upright posts set into a number of horizontal ground (sill) beams. The building had clay floor surfaces and was almost certainly a thatched-roof structure. The walls and internal partitions were likely to have been of wattle and daub construction.

PHASE 4: STORAGE TANKS AND REFUSE PITS (ILLUS 7)

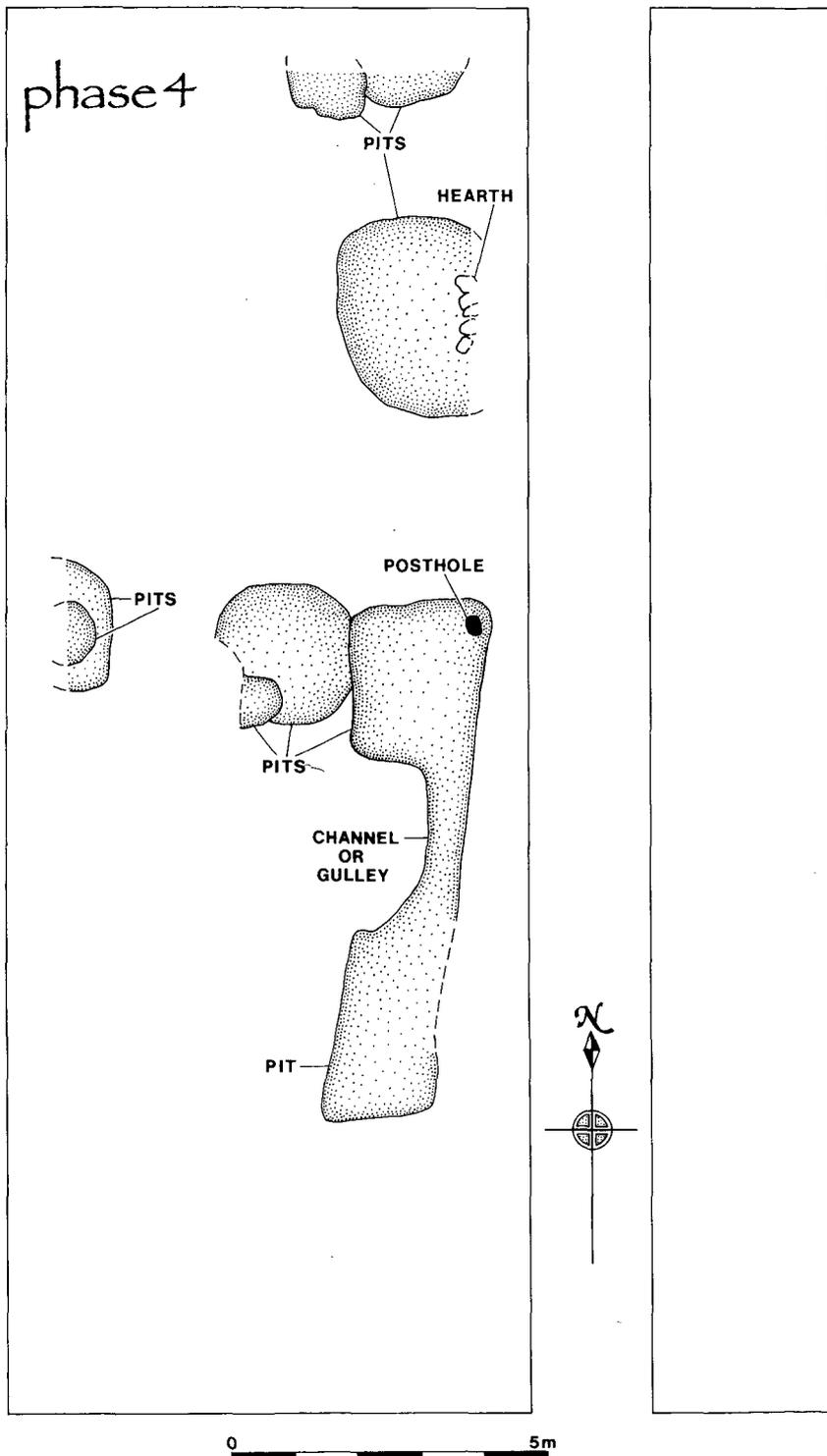
Cutting an extensive build-up of garden soils was a number of both industrial and domestic refuse pits. Overlying the fills of the largest pit was a possible stone hearth, recorded in section. To the south, but again cutting the garden soils, was a feature consisting of two rectangular pits connected by a channel or gully. A post-hole was located in the north-eastern corner of one of the pits. This feature may have originally been lined and used for water storage, with the channel allowing control of the water flow between the two pits.

Artefacts and industrial debris

Finds related to this phase of activity include over 4600 sherds of pottery and a number of copper alloy and iron objects. The largest of the refuse pits contained an iron fish hook (414) and part of a pair of scissors (415). Found within the fill of the double tank or pit feature was a gold and sapphire finger ring (1) along with a number of iron objects. The fill appeared to contain both slag and domestic refuse. Also found in this phase were a jet gaming piece (524) and two coins of Edward I (1272–1307); however the coins were possibly residual.



ILLUS 6 Meal Vessel: Phase 3, principal features



ILLUS 7 Meal Vennel: Phase 4, principal features

Interpretation

This phase is characterized by a range of features cutting garden soil deposits. Evidence for iron-working continued to be present, however copper alloy objects had become more prominent. This may once again indicate small-scale metalworking on or near the site, probably using low-temperature technology. The double tank or pit feature may relate to the provision of a water-storage system for such an activity.

PHASE 5: DOMESTIC STONE BUILDINGS (ILLUS 8)

The first evidence of stone buildings on the site consisted of two robbed-out wall foundation trenches. One of these ran north/south and still contained fragments of masonry and window glass. The other trench ran east/west across the northern end of the first trench. These features would appear to represent at least two buildings lying parallel to each other and to the street frontage.

Internal to the western building was a hearth, which overlay a sequence of clay and charcoal floors. The content of samples from these indicates that grass or straw had been incorporated into the floor levels by trampling or deliberate puddling (Fairweather, below). A slot and post-hole may have represented traces of an internal partition, dividing off the room to the north from a possibly external, gravel surface, lying to the south. This mixed deposit included a stone roof tile fragment and patches of slag, the latter probably representing repairs to the gravel surface.

To the east was a narrow wall or sill, most likely constructed to support a horizontally set timber, and an associated post-hole. This structure may have formed a north/south partition in the eastern building. To the south was a spread of large stone slabs interpreted as a yard surface, and a group of post-holes that might relate to a timber out-building. To the north of these buildings was a roughly square hearth with a stone base, surrounded by a low, clay-bonded stone wall, possibly for supporting large vessels. A break in the wall on the northern side may have provided access both to rake out and feed the fire. This feature contained a number of burnt bones, and environmental samples produced charcoal and carbonized grass stems which may be evidence of kindling.

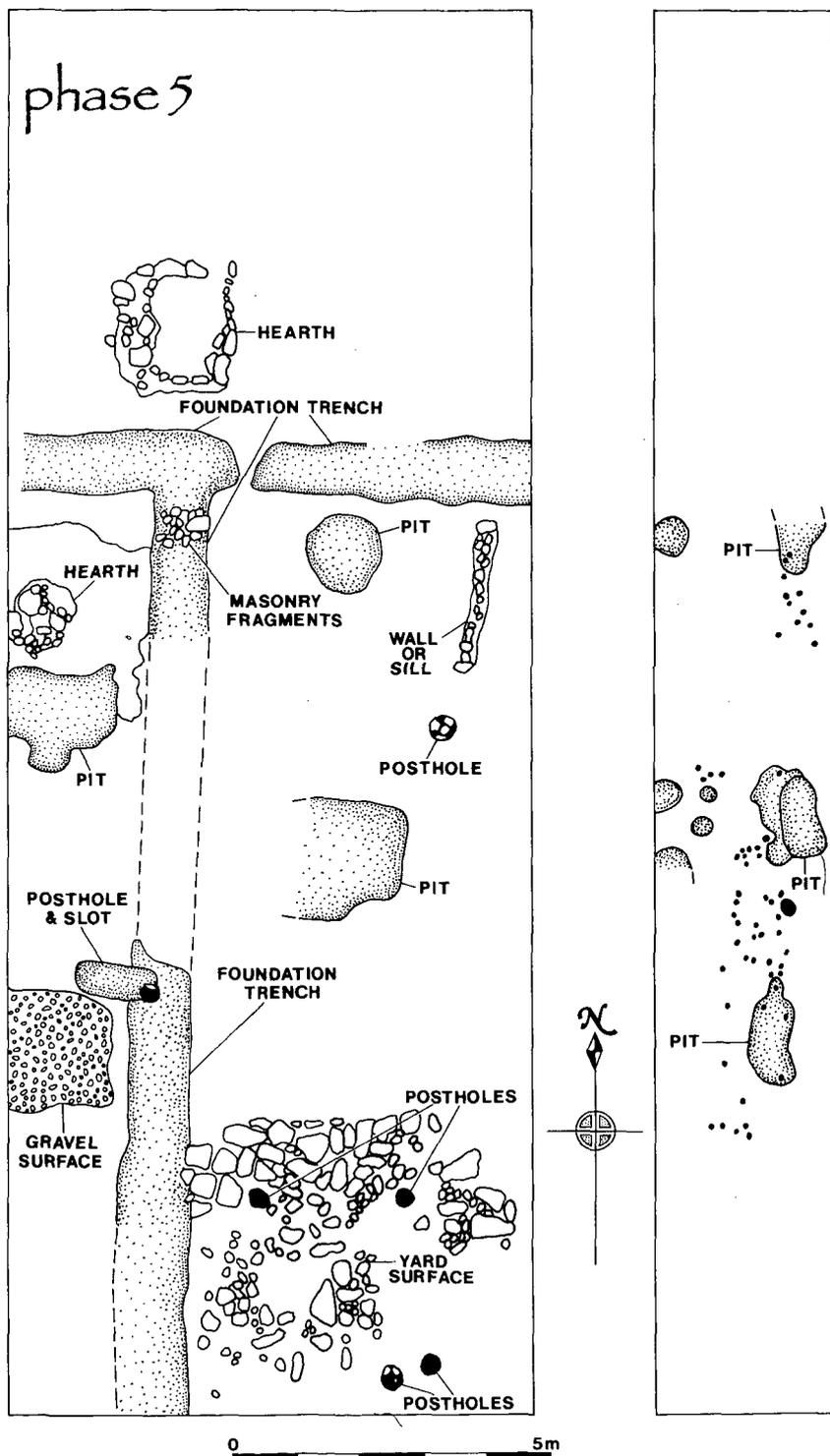
Pitting in both the main trench and along the street frontage was evident. Three pits along the street frontage were used for the disposal of predominantly industrial waste in the form of iron slag, burnt bone and antler offcuts. However, the pits in the main trench were used solely for the disposal of domestic refuse.

Artefacts and industrial debris

Finds associated with this phase of activity include over 8400 sherds of pottery. An annular brooch (5), a seal matrix (117) and the first two spindle whorls from the site (565–6) were also found. This phase marks the first appearance of both ceramic roof tiles and window glass.

The character of assemblages from Areas 2–4 suggests that the working of lead and copper alloy may have been carried out in the vicinity. Small-scale workshop activity appears to be indicated. Pieces of once-molten lead were recovered, in addition to knife-trimmed and folded sheet offcuts. Pottery vessels had also been repaired using lead plugs or patches. An extensive silt deposit produced a possible crucible fragment, the analysis of which suggests that it may have been part of a vessel used in precious metalworking. No supporting evidence for this was found, however. A small assemblage of artefacts indicating cold working of copper alloy was recovered (Cox, below).

Five coins of 13th-century date were associated with this phase. The latest of these is very worn and may have remained in circulation until around the middle of the 14th century. A decorated copper alloy annular brooch (5) was found in association with a coin which had probably ceased to circulate by c 1280. The presence of a retouched flint scraper indicates of a degree of residuality.



ILLUS 8 Meal Vennel: Phase 5, principal features

Interpretation

Here the structures and stone buildings would suggest domestic occupation alongside continuing metalworking activity. This phase marks a notable turning point in the history of the site, with the introduction of new building materials in the form of stone walls, roof tiles and window glass.

PHASE 6: STONE-LINED STORAGE TANK AND QUARRY PIT (ILLUS 9)

The main feature in this phase of activity was a rectangular, stone-lined tank that had been backfilled with clay containing some slag. The tank measured 1.8 m by 1.2 m internally, with a depth of 1.2 m, and appeared to have been fed by a drain or channel running through a north/south stone wall lying between the two excavated areas. The excavator interpreted this as a cess tank that had been emptied after it went out of use, and was then filled with a clay levelling dump. Another possible interpretation is that the feature was used to collect rainwater for some industrial process. Either way, it was deliberately backfilled following its disuse.

To the west of this feature were two large, irregular pits, one cutting the other. The underlying pit cut through a layer of clay and was interpreted as a quarry pit. It stopped at a level where sand was reached and had undercut sides, presumably to gain the maximum amount of available clay. Overlying this feature was a pit filled with both industrial and domestic refuse, which had slumped into the underlying quarry pit.

To the north of the pits, two post settings and a stone spread may represent the remains of an external hearth covered by a small timber structure or shelter. A further stone hearth containing some slag was found in the northern part of Area 1, along with a number of unrelated small post-holes and settings.

Artefacts and industrial debris

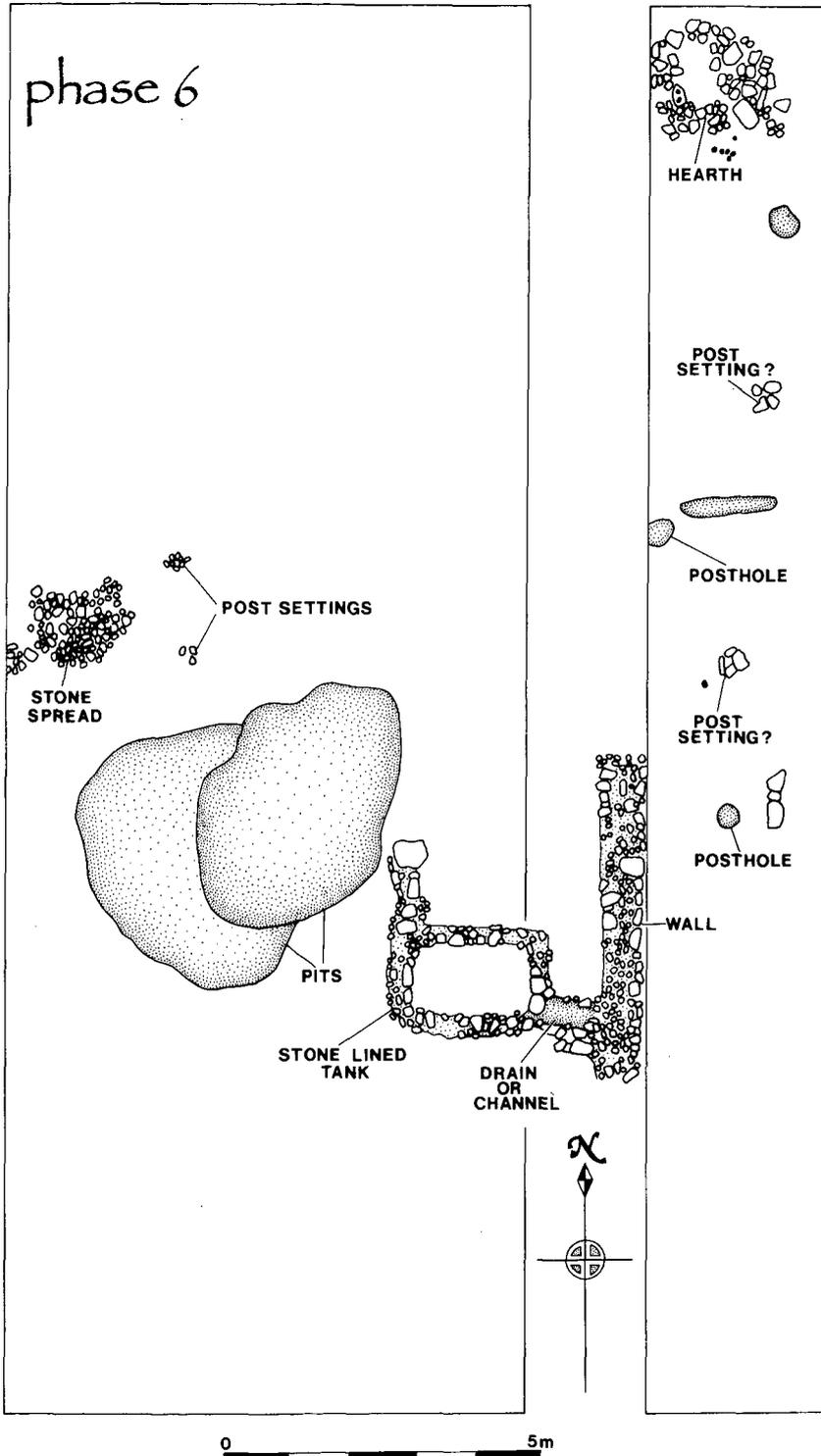
Several iron and copper alloy artefacts of intrinsic interest were recovered close to the Meal Vennel street frontage. Most of these occurred in isolation, however, within fairly extensive deposits. Among the iron artefacts were a double-socketed candlestick (306) and a whittle tang knife. An extensive loam deposit produced a copper alloy buckle.

Further back from the street frontage, several features yielded relatively large quantities of iron and copper alloy artefacts, including numerous copper alloy sheet offcuts and rivets for the repair of vessels and other sheet metal objects. Industrial activity, particularly the working of copper alloy, is reflected by these assemblages (Cox, below).

Roof tile and slate fragments were more numerous in deposits assigned to Phase 6 than they had been in earlier phases, perhaps indicating an increase in the number of buildings with tiled or slated roofs in the vicinity of the site. Stone slates and ceramic tile fragments occurred in approximately equal numbers. There was a marked difference between the pottery assemblage in this phase and those from previous phases (Cheer, below), with a sharp fall in the proportion of White Gritty ware and an increase in that of Perth Local ware. Altogether, over 8000 sherds of pottery were found in this phase.

Interpretation

The evidence from this and the preceding phase appears to be indicative of changing use and organisation of space along Meal Vennel, the substantial buildings of Phase 5 being replaced by pitting and industrial activities in Phase 6. The main features in Phase 6, namely the large, clay quarry pits and the stone-lined tank, appear to represent distinct activities.



ILLUS 9 Meal Vennel: Phase 6, principal features

PHASE 7: POST-MEDIEVAL PLOTS, STONE BUILDING AND SMITHY (ILLUS 10–12)

Three post-medieval plots fronted onto Meal Vennel and were separated by robbed-out stone walls. It appears that different activities were taking place within each of these plots.

Plot I (northern)

This area was characterized by waste-land activity in the form of industrial and domestic refuse pits. Most of the pits contained evidence of horn preparation in the form of horn cores and both cattle and sheep skulls with their horns removed. Also found was evidence of skinning on or near the site and metalworking debris.

Pit 4042 contained furnace lining and daub as well as butchered horse bone, probably the by-product of skinning (Smith, below). However, it was Pit 4001 that exemplified activity in this area. It contained the remains of three chickens, three dogs which showed evidence of having been skinned, a puppy and a cat, four spur fragments and a large quantity of slag.

A large ditch, running north/south, divided off the frontage of Plot I and may, therefore, have acted as a property boundary. The ditch contained 30 iron objects, including part of a pair of shears (418) and an arrowhead. It also contained quantities of slag, furnace lining and daub.

Plot II (central)

Here the Meal Vennel frontage was used more intensively than on Plot I with four small pits, two cobbled surfaces and one side of a ditch or gully.

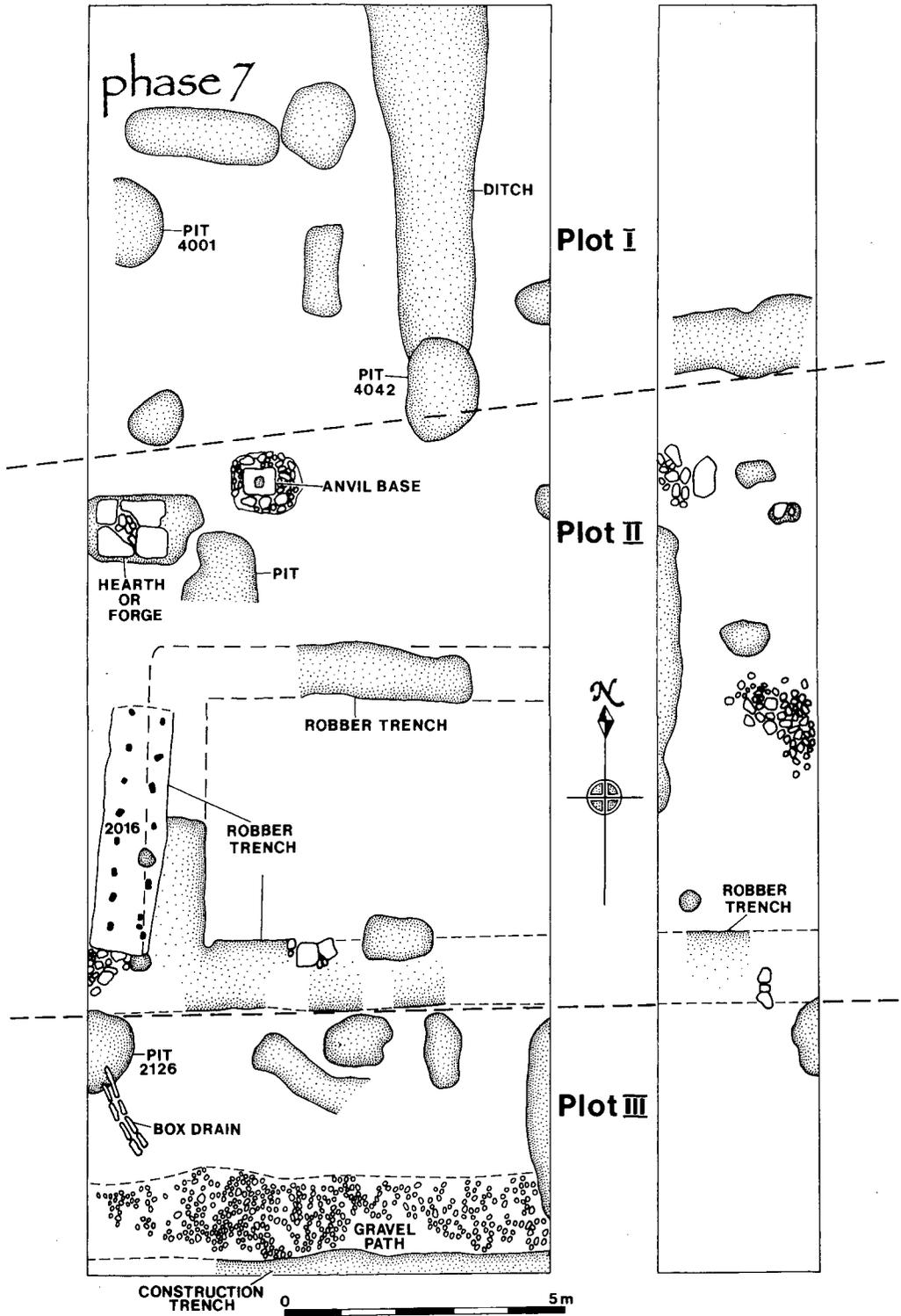
The northern half of the main area contained industrial activity in the form of a smithy. A stone hearth or forge consisted of stone slabs that had been shattered by high temperature, lying within a shallow cut which contained slag, coal, charcoal and hammerscale. Adjacent to this feature was a small pit containing ash and slag. It was probably used as an ash pit into which clinker was raked from the forge. To the east of the forge was a socketed stone anvil base, set firmly in a pit and packed with small stones (see illus 11). An artist's reconstruction of the smithing activity in this area is presented in illus 12.

To the south of this were the walls of a heavily robbed-out, clay-bonded stone building with a sand floor. Associated with the southern wall were fragments of window glass. Slightly overlying this building was a further robber trench (Context 2016) containing two lines of stake-holes. The wall appeared again to be clay bonded but with posts set internally to act as bracing; the rest of this building probably lay outside the excavation area farther to the west.

Plot III (southern)

At the extreme southern end of the site was a robbed-out construction trench for a wall running east/west across the site. Running alongside the wall was a gravel path which had been repaired a number of times with patches of slag. The path would probably have given access from the backlands of Plot III to the street frontage.

To the north of the path were a number of cut features, which included a small circular pit (Context 2126) interpreted by the excavator as a furnace. The pit did contain some slag but there was no further evidence for this interpretation. Cutting this pit was a stone box drain, which presumably drained surface water away from the path.



ILLUS 10 Meal Vennel: Phase 7, principal features



ILLUS 11 Meal Vennel, Phase 7: hearth or forge and anvil base, looking east

Artefacts and industrial debris

Finds from this phase include 17 out of the 44 iron knives from the site. Evidence was also found for skinning and horn working in the vicinity. Over 6300 sherds of pottery were recovered.

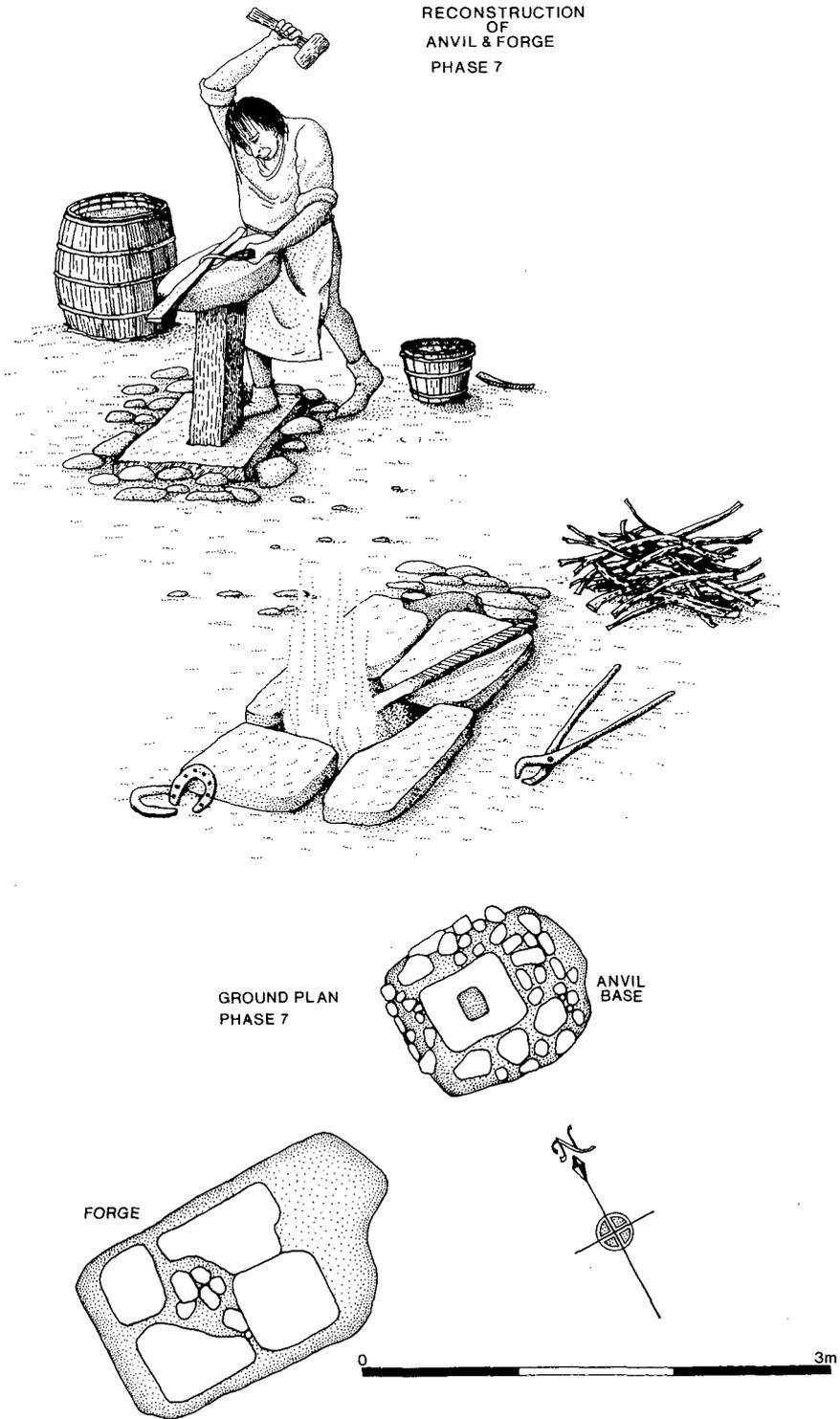
Ironworking appears to have been concentrated on the northern half of the site with copper alloy offcuts less common than in earlier phases. The large amounts of slag, furnace lining and daub deposited in pits in Plot I suggest that this area was used to dispose of waste from the smithy. It should also be noted that the four spur fragments found in Pit 4001 were corroded together, which might imply that they were also deposited close to their site of manufacture.

Interpretation

In this phase, for the first time, boundaries to plots, represented by robbed-out stone walls, can be identified. This subdivision of land may have been a consequence of increased pressure on space due to urban expansion. The available space was quite intensively used in this phase, in particular in Plot II. Ironworking appears to have been the dominant industrial activity in this phase.

MEAL VENNEL: SPECIALISTS' REPORTS

Summary discussions by material type are presented below. Full reports can be found in the archive, which has been lodged with the National Monuments Record of Scotland.



ILLUS 12 Meal Vennel, Phase 7: artist's reconstruction and ground plan of anvil and forge

THE POTTERY

Peter Cheer

The archive report on the pottery contains detailed fabric descriptions, a section on the methodology employed and illustrated material from Phases 6 and 7.

Phases 1–5

Phases 1 to 5 all contained a similar range of fabrics which would best date to the 14th century with a residual component indicated by sherds of Rhenish Blue Grey (Paffrath) ware and Pingsdorf ware. The London Shelly-Sandy ware is probably also residual in a Scottish context. Where, in the 14th century, to place these phases is problematic. The production of Scarborough ware is thought to have ended by c 1366 (Farmer & Farmer 1982, 84), however, work elsewhere in Perth has shown that Scarborough ware can still be the commonest imported ware in post-1336 deposits (Cheer, this volume).

Arguments over dating rest on pottery imported from the Low Countries which was discussed by Verhaeghe in 1983. Following Verhaeghe's dating, the Aardenburg-type wares pre-date c 1350 although the small amounts present at Meal Vennel may be residual. In all the phases except Phase 1 the amount of Low Countries Redware exceeds that of Low Countries Greyware and Verhaeghe (1983, 25) states that 'the serious shift from grey wares to red wares is to be placed in the second half of the 14th and 15th century'. He goes on to admit that his survey of Low Countries pottery in Scotland revealed little Redware on which to base this conclusion, however, it was supported by data from England.

Phases 4 and 5 contain virtually complete examples of Low Countries Redware dripping pans. These vessels are dated to the 14th century and have been recovered in excavations in Southampton (Platt & Coleman-Smith 1975, fig 195, 1165–8). The dripping pans from Meal Vennel are the best and most complete examples from a Scottish site. These distinctive vessel forms were copied by the local potters as can be seen by a sherd from Phase 2 (Pottery Catalogue no 3).

Phases 6 & 7

There was a marked difference between the assemblages from Phases 6 and 7 with a sharp fall in the proportion of White Gritty ware and rise in that of Perth Local. A similar change has been noted elsewhere in Perth in assemblages from Canal Street (Cheer, this volume) and Scott Street, and placed at c 1400. The sherds of Valencian lustreware from Contexts 3066 and 3112 may suggest a late 14th- or early 15th-century date. A 15th-century date is also supported by the presence of Langerwehe stoneware.

The coin evidence suggests a 16th-century date for Phase 7, this may well be the case since in other excavations in Perth phases dated to the post-medieval period have produced predominately or exclusively large amounts of medieval ceramics (MacAskill *et al* 1987; Cheer, this volume).

Illustrated material

Illustrated material from Meal Vennel has been selected to complement the existing corpus of illustrated wares (MacAskill *et al* 1987) and does not present the full range of forms from the site, where these were already adequately illustrated. This leads to a concentration on rare and unusual rather

TABLE 1
Pottery assemblage quantified by type

Phase 1

PL	WG	Sc/Y	LCR	LCG	Ln	Aar	BG	An	FR	Unid	St
611	474	51	38	108	1	2	3	2	13	24	12

Total = 1339 sherds.

Phase 2

PL	WG	Sc/Y	LCR	LCG	Aar	BG	Ping	Fr	Unid	St
880	671	136	117	87	3	10	2	30	50	9

Total = 1995 sherds.

Phase 3

PL	WG	Sc/Y	LCR	LCG	Aar	BG	Stam	Fr	Unid	St
366	276	27	42	41	0	0	11	25	24	6

Total = 807 sherds.

Phase 4

PL	WG	Sc/Y	LCR	LCG	Aar	BG	Fr	Roe	Unid	St
2287	1522	442	142	101	10	8	58	16	72	8

Total = 4666 sherds.

Phase 5

PL	WG	Sc/Y	LCR	LCG	Aar	BG	Fr	Lon	Unid	St	Ping
5165	2162	607	134	121	35	0	91	15	70	15	3

Total = 8418 sherds.

Phase 6

PL	WG	Sc/Y	LCR	LCG	Aar	BG	Fr	Lon	Unid	St	Val
5408	1950	424	46	44	25	0	32	22	36	24	5

Total = 7592 sherds.

Phase 7

PL	WG	Sc/Y	LCR	LCG	Aar	Fr	St	Fr	Stam	Unid
4724	1259	190	37	27	20	16	29	16	2	62

Total = 6382 sherds.

Abbreviations used in Table 1:

PL	Perth Local	Lon	London Sandy ware
WG	White Gritty	St	Stoneware
Sc/Y	Scarborough/Yorkshire ware	Val	Valencian lustreware
LCR	Low Countries Reware	Stam	Stamford ware
LCG	Low Countries Greyware	Unid	Unidentified
Aar	Aardenburg-type ware	An	Andenne
BG	Blue Grey/Paffrath ware	Ping	Pingsdorf
Fr	French	Roe	Rouen ware

than commoner forms. A further 33 illustrations of material from Phases 6, 7 and unstratified deposits are included in the archive report.

Perth Local ware

It has been recognized that certain imported forms in Scarborough ware such as figure jugs were copied in White Gritty ware (Brooks 1980). Although rare, similar copying is also found in Perth Local ware. Examples of this are the bridge spouts (Pottery catalogue nos 7 & 16), twisted rod handle (20) and sherds of figure jugs (10 & 22).

The incised arcs on no 9, help to extend the range of decorative techniques and motifs employed in Perth local ware covered in existing reports.

The lead repair (21) is in a hard micaceous fabric with a reddish heat skin on the interior surface, which

may be Perth Local ware. Lead repairs of pottery have been found before in Inverkeithing (MacAskill 1983, 539) and Perth (Ford 1987b, 130, nos 58 & 59). A base sherd (8) with a post-firing hole and possible marking out lines for another may also have been intended for the repair of a broken vessel.

The principle products of Perth Local ware were jugs and cooking pots, although open forms are known. The dish profile, no. 23, has been drawn, as open forms are not well represented in earlier published assemblages. Number 3 may be from a dripping pan and although the existence of dripping pans in Perth Local ware is mentioned in MacAskill *et al.* (1987, 95) none is illustrated.

It can be very hard to distinguish Scots Greyware, a dark grey micaceous fabric common in the post-medieval period from reduced Perth Local ware. It is possible that no 28 is in this fabric, although it may be Perth Local ware.

White Gritty ware

It is likely that the majority of White Gritty ware in Perth came from the nearest known sources in Fife, and the use of frilled rims such as no 25 appears to have been commonest there. However, the position of Perth in the transport network of medieval Scotland will make assuming the source of a single sherd less reliable. A small number of White Gritty ware handle sherds were stabbed (eg no 26). This has been found before in Perth and an example illustrated in MacAskill *et al.* (1987, 102, no 273). Numbers 4 and 25 are from open forms, these again are scarce, but have been found in Perth before (MacAskill *et al.* 1987, 253, nos 236 & 243).

The presence of a waster has, in the past, been taken to indicate proximity to a kiln site. A problem with this argument is the value judgement over what is a waster. A sherd showing an obvious production fault need not have been seen as a waster at the time. No. 27 is from a White Gritty ware figure jug which had one arm broken off before being glazed and fired. A jug marked with an obvious and prominent fault during the production process was still finished and subsequently reached Perth.

Low Countries Redware

Only three sherds have been illustrated (1, 2 & 14) which represent the best examples of the Redware dripping pans previously discussed.

Scarborough Ware

Significant amounts of Scarborough ware from Scotland have been published before (Murray 1982; MacAskill *et al.* 1987), therefore only selected pieces have been illustrated. The two knight jug sherds (12 & 30) are both from forms similar, though not identical, to the examples illustrated and discussed by Farmer in 1979. The locking lid (11) is a form known from elsewhere, but not recorded in Perth before. Number 31 shows a lead repair, this is the first such repair found on Scarborough ware in Perth.

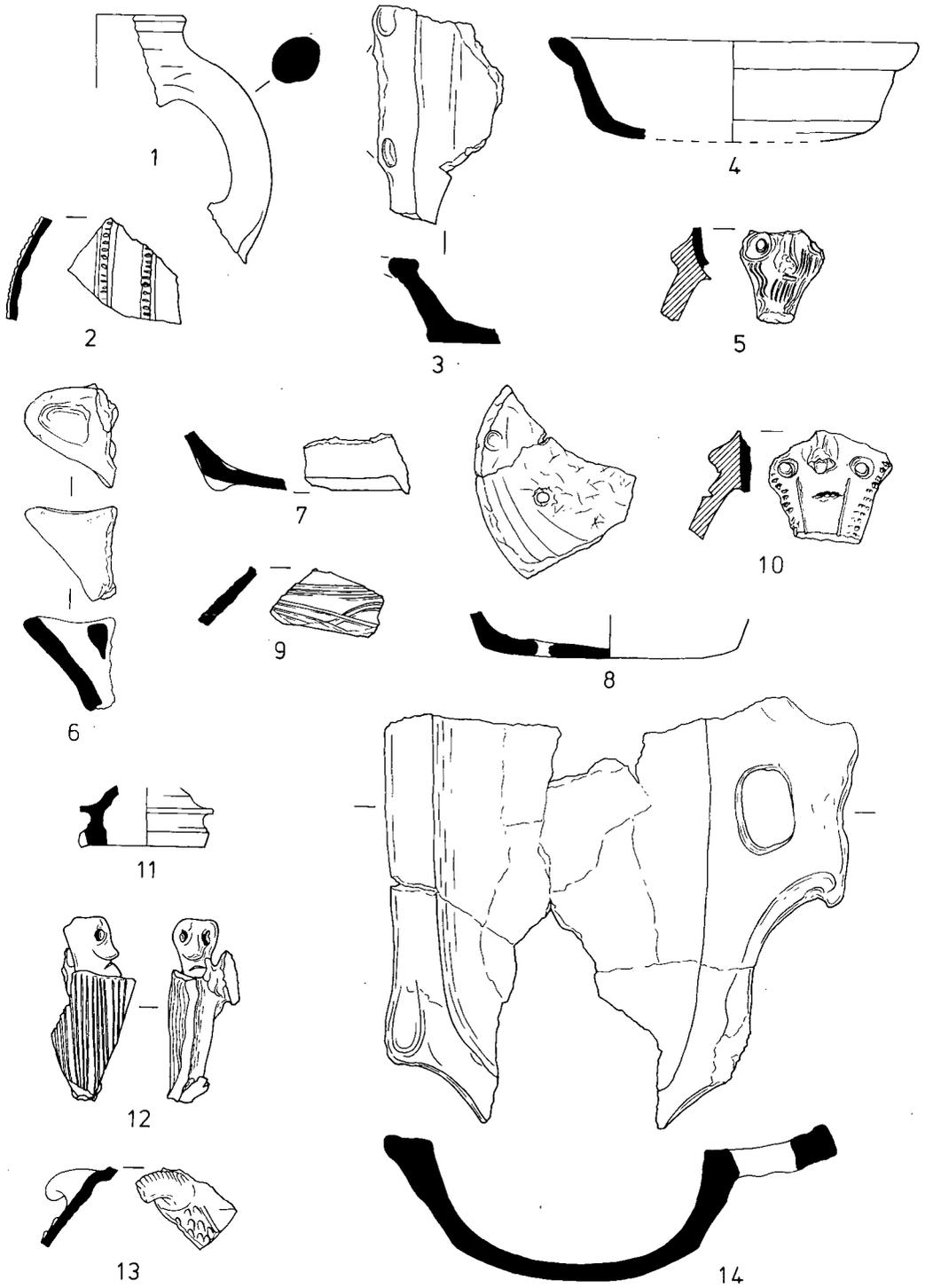
Stoneware

The stonewares were identified by J Hurst and were all from Langerwehe or Siegburg except for one sherd of Beauvais stoneware from Phase 6.

Pottery catalogue (illus 13–15)

Phase 1

- 1 Rim and rod handle. Thin patchy yellow-brown to green glaze. Low Countries Redware. Context 3249; Find no 06276; Phase 1.



ILLUS 13 Meal Vessel: pottery, scale 1:4

- 2 Decorated body sherd. External thin brown glaze. Vertical rouletted clay strips. Low Countries Redware. Context 3249; Find no 06277; Phase 1.

Phase 2

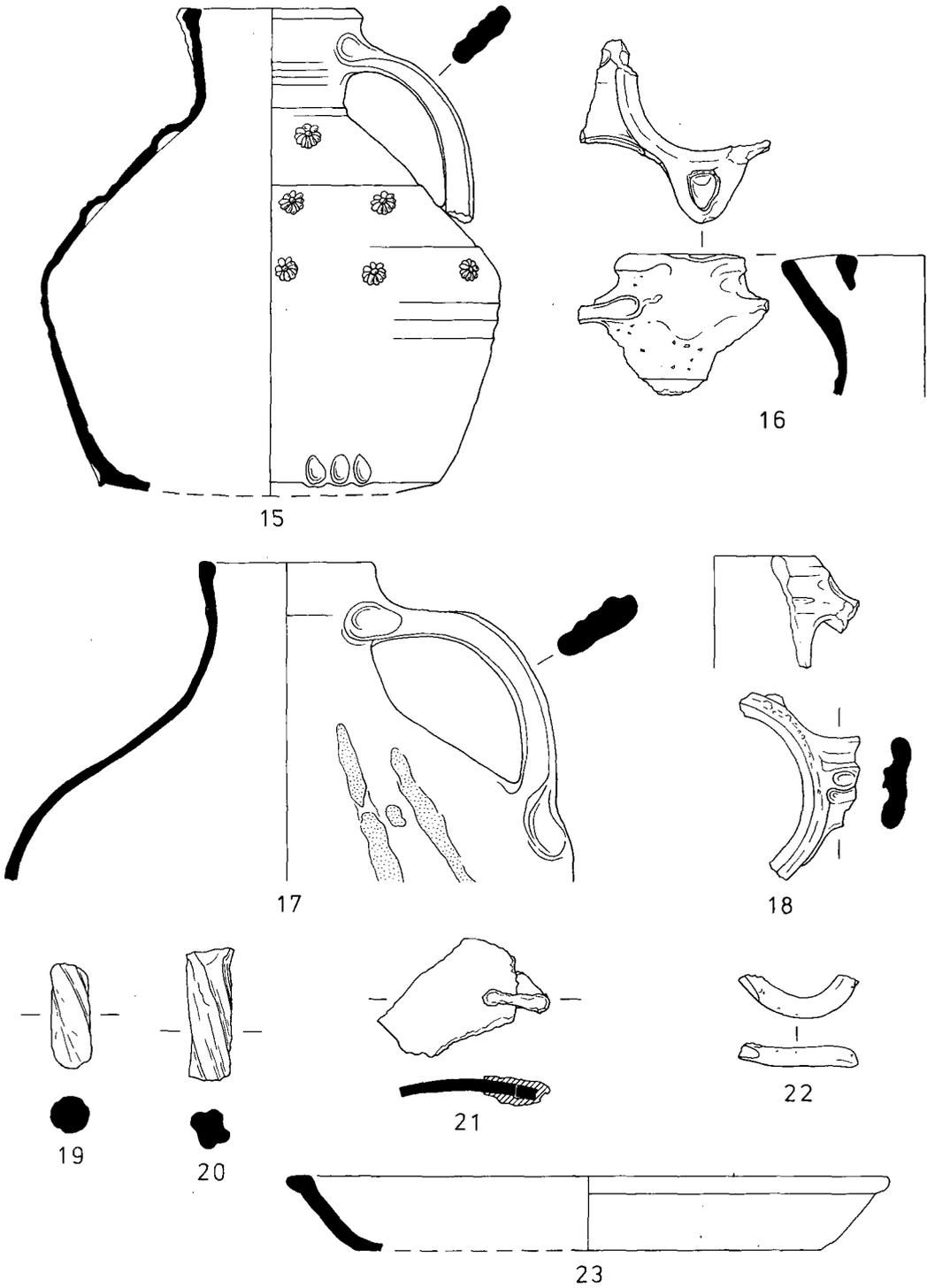
- 3 Dish profile. Internal thin yellow-green to clear glaze over gritted surface. This is a handmade vessel and possibly a dripping pan. Perth Local. Context 4237; Find no 06303; Phase 2.
- 4 Dish profile. Everted rim. Knife-trimmed base. External and slight internal sooting. White Gritty ware. Context 2393; Find no 06253; Phase 2.
- 5 Anthropomorphic decoration. Face with protruding beard. External green glaze. Yorkshire. Context 4340; Find no 06305; Phase 2.

Phase 4

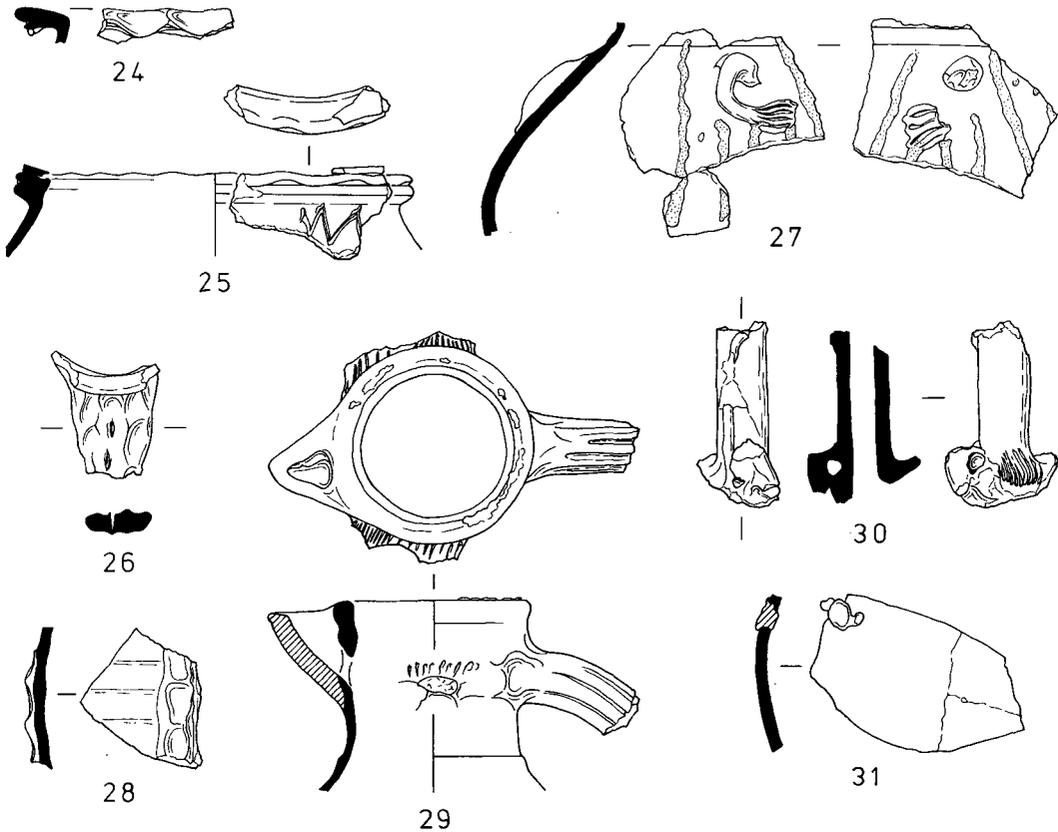
- 6 Bridge Spout. External patchy, yellow-brown glaze. Perth Local. Context 1206; Find no 06246; Phase 4.
- 7 Base sherd with protruding nib of clay to stabilize a large vessel with a sagging base. Slight external sooting. Perth Local. Context 1206; Find no 06247; Phase 4.
- 8 Base with post-firing hole. External spots of yellow-brown glaze. Slight internal sooting. Perth Local. Context 4209; Find no 06301; Phase 4.
- 9 Decorated body sherd. External spots of yellow-brown glaze, decorated with intersecting arcs of incised lines. Perth Local. Context 1228; Find no 06248; Phase 4.
- 10 Face jug sherd with a protruding beard. Yellow-brown to green glaze. Perth Local. Context 4263; Find no 06281; Phase 4.
- 11 Two conjoining fragments of a locking lid. External dark green glaze. Scarborough ware. Context 3108/3151; Find no 06307; Phase 4.
- 12 Anthropomorphic decoration from a knight jug. Scarborough ware with a thick green glaze except on the areas that would have been inaccessible when the vessel was intact. Scarborough ware. Context 3190; Find no 06275; Phase 4.
- 13 Decorated body sherd. Yorkshire or Scarborough ware with external dark green glaze. Broken arm of figure decoration above applied scales. Scarborough/Yorkshire. Context 1232; Find no 06249; Phase 4.
- 14 Conjoining fragments of a dripping pan. Dutch redware with internal thick brown glaze, thinning on the rim over irregular patches of white slip. Some sooting opposite the handle. Low Countries Redware. Context 2251/3141/2267; Find no 06293; Phase 4/5.

Phase 5

- 15 Globular jug with corrugated strap handle with concentric rows of moulded florets. Sticking scar and thick olive green glaze on upper body. Perth Local. Context 3167; Find no 06282; Phase 5.
- 16 Bridge spout and stub of a strap handle. Internal and external thin white slip. External patchy thick yellow-brown to green glaze. There are some indications that the existing strap handle was matched by another on the opposite side of the spout. Perth Local. Context 2242; Find no 06252; Phase 5.
- 17 Jug or pitcher. External thin green to yellow-green glaze. Vertical strip of iron rich clay. Abraded corrugated strap handle. Perth Local. Context 3129; Find no 06268; Phase 5.
- 18 Strap handle and rim. Possibly Perth Local ware. Sticking scar on rim. External thin white slip. External, irregular patches of thick green-brown glaze. Handle decorated by central thumbled strip. Perth Local. Context 3178; Find no 06274; Phase 5.

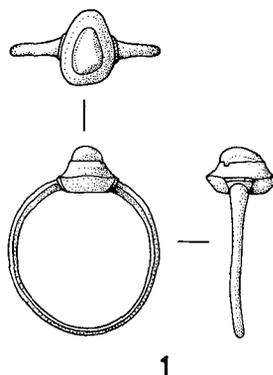


ILLUS 14 Meal Vessel: pottery, scale 1:4



ILLUS 15 Meal Vennel: pottery, scale 1:4

- 19 Twisted rod handle. Heavily abraded. Perth Local.
Context 3124; Find no 06267; Phase 5.
- 20 Twisted rod handle. Patchy covering of thin white slip. Patches of green glaze. Perth Local.
Context 3178; Find no 06272; Phase 5.
- 21 Body sherd. Possible Perth Local ware with external spots of thin green glaze. Two parts have been joined by a lead staple. Perth Local.
Context 3175; Find no 03022; Phase 5.
- 22 Arm from a figure jug. Patchy brown-green glaze. Perth Local.
Context 1145; Find no 06245; Phase 5.
- 23 Dish profile. Flat topped rim. Internal thin white slip and patchy yellow-green glaze. External spots of glaze. Sooting on base and lower body. Perth Local.
Context 1264; Find no 06250; Phase 5.
- 24 Frilled bifid rim. White Gritty.
Context 3155; Find no 06270; Phase 5.
- 25 Rim sherd. External, irregular patches of yellow-green glaze. Short length of incised zigzag lines below the rim. A small sherd is fused to the top of the rim. White Gritty.
Context 4124; Find no 06300; Phase 5.
- 26 Stabbed strap handle. Unglazed. White Gritty.
Context 4207; Find no 06279; Phase 5.



ILLUS 16 Meal Vennel: the gold and sapphire ring, scale 1:1

- 27 Body sherd with anthropomorphic decoration. External yellow glaze with vertical brown strips. One arm is intact, the other is missing, but the glaze extends over the break. White Gritty. Context 4191; Find no 06304; Phase 5.
- 28 Decorated body sherd. Possibly Scots Greyware. Thick olive green glaze. Vertical thumbed strip. Slight internal sooting. Context 3178; Find no 06273; Phase 5.
- 29 Rim and neck of a jug with bridge spout and grooved rod handle. External thick green glaze. Stubs of possible anthropomorphic decoration. Scarborough ware. Context 4090; Find no 06308; Phase 5.
- 30 Tubular spout. External thick green glaze. Scarborough ware. Context 3159; Find no 06271; Phase 5.
- 31 Body sherds. External, patchy, thick mottled green glaze. A hole has been repaired with a lead plug. Scarborough ware. Context 3160; Find no 03023; Phase 5.

THE GOLD AND SAPPHIRE RING (ILLUS 16)

Adrian Cox

A finger ring of gold, set with a single sapphire (1), was recovered from a feature comprising two pits and a linking channel in Phase 4. The ring is of similar form to that of love rings and decorative gem rings of 13th- to 15th-century date described and illustrated by Oman (1974). Two copper alloy examples from Exeter, dated to the late 13th or 14th century (A R Goodall 1984, 339, fig 190, nos 62–3), are also of similar form. Medieval goldsmiths rarely attempted to cut stones, confining themselves to polishing them (Oman 1974, 19). In this example, the setting appears to have been shaped to conform to the shape of the sapphire.

Probably imported from Ceylon, sapphires were regarded in the medieval period as particularly appropriate for rings worn by churchmen (Hinton 1982, 11). The gold ring from the 12th-century grave of William de St Barbe, Bishop of Durham, contains a single sapphire. Those accompanying the 13th-century burials of two Archbishops of York and the 14th-century grave of Henry Woodcock, Bishop of Winchester, also contain sapphires (*ibid*, 26–8).

The Meal Vennel ring is very likely to have been an accidental loss, and its lack of surface

abrasion is indicative of the primary status of the deposit from which it came. At certain periods it was fashionable to wear a number of rings and unless the wearer exercised care, when removing a glove for example, one might easily be lost.

A mid- 14th-century Act attempted to limit the wearing of rings to the upper classes. Wealthy merchants and craftsmen may have been included in this group (Oman 1974, 6–9). A gold and sapphire ring such as this example from Meal Vennel was almost certainly regarded as a status symbol.

1 **Ring.** Max. internal dia 18 mm; max. width of setting 9 mm

Ring with a narrow, faceted hoop and a single, egg-shaped setting for a stone. SEM-based energy dispersive analysis of the stone showed that aluminium was the only detectable element, indicating that the stone is a sapphire. Analysis revealed that the hoop and setting contain gold, silver and copper.

Context 2267; Find no 06290; Phase 4.

COPPER ALLOY OBJECTS (ILLUS 17–20)

Adrian Cox

The assemblage of 250 copper alloy objects recovered from the excavation includes a range of costume fittings, padlock components, keys, textile equipment, pendants from horse harnesses, rivets, a seal matrix and offcuts of copper alloy sheet and wire.

Assemblages of copper alloy working debris, recovered primarily from Phases 5 to 7, reflect a variety of manufacturing techniques, although there is no conclusive evidence to suggest that all of these were carried out on or near the site. Cold working of sheet metal is the technique most apparent. Many of the artefacts recovered were made in this way. The assemblage from Phase 5 includes several fragments of copper alloy sheet, two of them rolled, perhaps being intended for recycling. Artefacts such as the repair patches from Phases 5 and 6 (eg 144) provide evidence of the repair of copper alloy vessels and other objects on or near the site.

A smaller number of artefacts was made from drawn wire. These include pins and the small chain from Phase 6 (209). Fragments of drawn wire were also found. Although no conclusive evidence of the casting of copper alloy in the vicinity was recorded, several of the artefacts recovered were made from cast metal.

Below is a brief summary of the artefacts recovered, described within functional categories.

Costume fittings (illus 17)

Three circular bosses, representing fittings from clothing or leather belts, were recovered. Each has a small central hole through which a pin or rivet would have been inserted for attachment. The outer rim of no 2 is decorated by a punched dot pattern.

2 **Boss.** Diameter 14 mm; thickness 5 mm

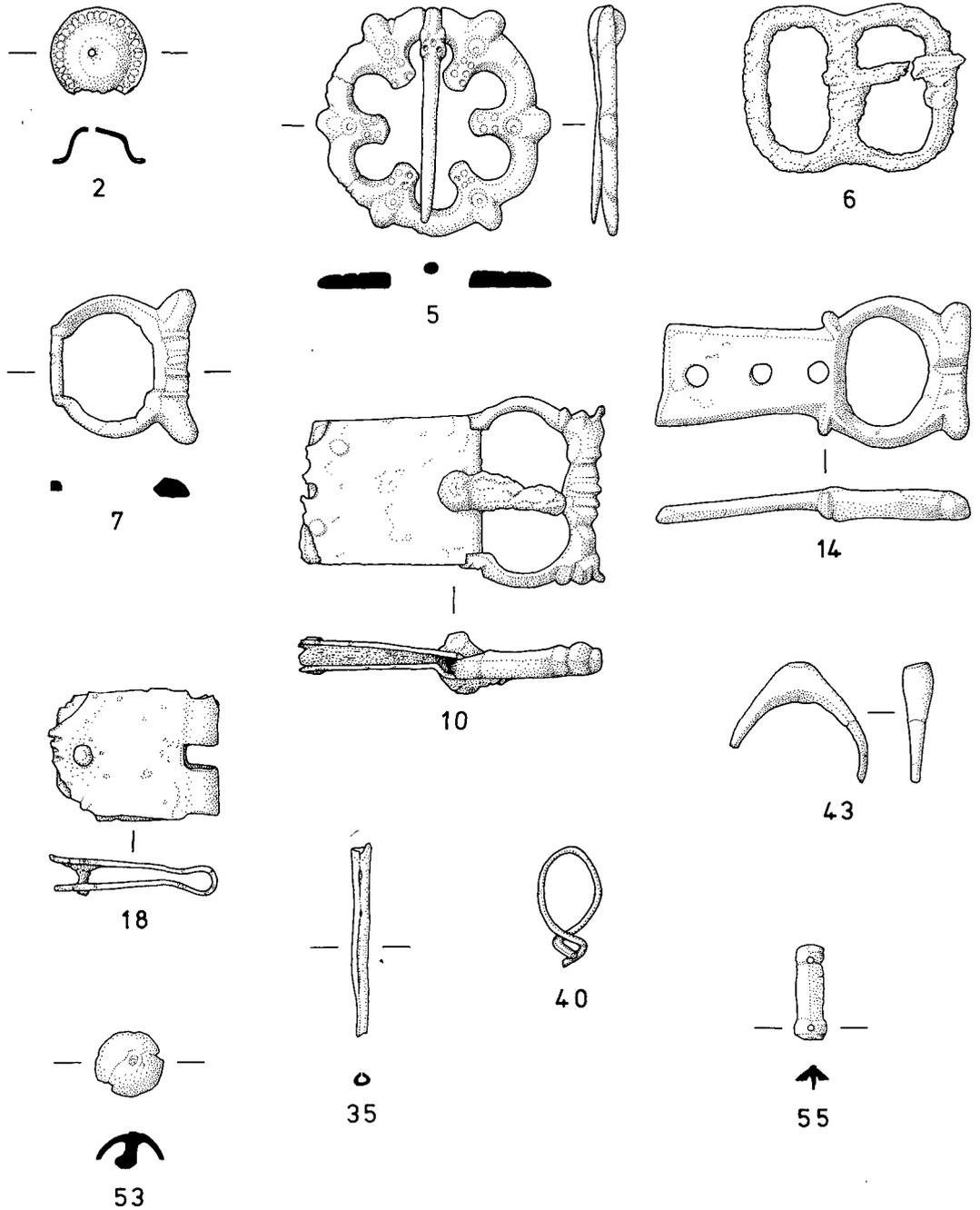
Circular boss with a plain central dome and a flattened, partially broken rim, which is decorated with a regular punched dot pattern. The centre of the dome is pierced (diameter of hole 0.9 mm).

Context 2214; find no 01311; Phase 5.

A decorated annular brooch (5) was found in Phase 5, in association with a coin which had probably ceased to circulate by c 1280. Simpler brooches of this type are known from 13th- and 14th-century contexts (A R Goodall 1981, 68) and were probably functional rather than purely decorative. They were often worn at the neck to close a tunic, or on the shoulder to fasten a cloak (*ibid*).

5 **Brooch.** Diam 34 mm; thickness 5 mm; length of pin 32 mm

Complete annular brooch, decorated on one face with punched ring decoration. The pin pivots on a



ILLUS 17 Meal Vennel: copper alloy objects, scale 1:1

recessed bar and is decorated with four punched dots at its pivoting end. At six points around the circumference of the brooch are small projections. Opposite these are arms projecting inwards, forming a double trefoil shape. The reverse side is flat.

Context 4142; Find no 01628; Phase 5.

A variety of buckle types is represented in the artefact assemblage. Double-looped buckles such as no 6 appear to become common in the 14th century (A R Goodall 1981, 67), although the type has a broad date range. Number 7 is a buckle of a fairly common type dated by Fingerlin (1971, 66) to the latter half of the 13th century. Similar examples have been found in Aberdeen (Stones 1982, 187, fig 107, no 53) and Goltho (Beresford 1975, 92, fig 43, no 8). Number 10 has a moulded frame of a type which is indicative of a 13th- or 14th-century date (A R Goodall 1981, 67).

Number 14 is a buckle incorporating a perforated bar. Examination by X-ray fluorescence revealed that it had been mercury gilded. An object from Exeter (A R Goodall 1984, 340, fig 190, no 79) consists of a buckle at one end and a ring at the other, separated by a perforated bar. It is suggested that this may have served as a strap distributor, possibly on a harness. Number 14, however, shows no sign of having incorporated a ring opposite the buckle. Traces of gilding occur on the edge of the perforated bar where it terminates, an indication that it is not a broken edge.

Buckles were sometimes attached to the ends of belts or straps by means of buckle plates. Five buckle plates (including 18) were recovered, two of which enclose small fragments of leather from belts or straps.

- 6 **Buckle.** Length 31 mm; width 25 mm; thickness 3 mm
Figure-of-eight shaped buckle, complete with pin (length 21 mm). No trace of decoration survives. The object is heavily corroded.
Context 1000; find no 01165; Unstratified.
- 7 **Buckle.** Length 20 mm; width 23 mm; thickness 2 mm
D-shaped buckle, decorated with moulded parallel ridges on upper surface of bar, which also has extended terminals. Flat on back. Bevelled edges. Pin is missing.
Context 1116; Find no 01156; Phase 6.
- 10 **Buckle.** Length 43 mm; width 27 mm; max. thickness 8 mm
Buckle and buckle plates. The buckle frame has curved sides and is decorated by parallel grooves. The pin is of iron. A fragment of leather strap is secured between the plain buckle plates by two small rivets.
Context 2220; Find no 01175; Phase 5.
- 14 **Buckle.** Length 45 mm; width 22 mm; thickness 4 mm
Buckle and buckle plate. The buckle has curved sides and a flat terminal with a groove where the missing pin would have rested. The frame has a small projection at each corner. The integral buckle plate tapers towards the frame and has three circular holes along its central axis. XRF analysis of the object showed that it was mercury gilded and that it is of almost pure copper.
Context 4095; Find no 01212; Phase 5.
- 18 **Buckle plate.** Length 24 mm; width 19 mm; thickness of sheet 0.5 mm
Buckle plate made from a folded sheet, secured by a single rivet at the open end.
Context 4012; Find No. 01336; Phase 5.

Lace tags were used to terminate laces or thongs from garments or shoes. Eighteen examples (mostly incomplete) were recovered. A majority have diameters within the range 1.7–3.0 mm, but four examples have diameters of 3.5 mm or greater and may possibly represent a different functional group. A range of sizes of lace tag has also been noted at other sites, for instance at Leicester (Clay 1981, 137), where 14 examples were found. None of these was associated with the large number of laced shoe fragments found there, suggesting that the tags were used on clothing laces rather than specifically with shoes.

Two distinct types of lace tag were identified among the 39 examples from Northampton

(Oakley 1979, 262, nos Cu253–91). Type 1 tags there cover a broad date range, the majority from 15th- to 17th-century contexts, whilst Type 2 tags there are dated to the mid-16th to 17th centuries (*ibid*, 263). Among the examples from Meal Vennel none can be definitely attributed to Oakley's Type 2, although the incompleteness of many leaves this open to question.

35 **Lace tag.** Length 28 mm; max. diam 2.8 mm

Lace tag made from a tightly rolled sheet, tapering almost to a point at one end.

Context 4006; Find no 01340; Phase 7.

Number 40 is a ring made from a drawn wire with twisted terminals. Such objects have been found at a number of other sites, for instance at Northampton, where seven examples were recovered (Oakley 1979, 260) and Southampton, where examples were found in contexts dated to the 16th and 17th centuries (Harvey 1975, nos 1817–20 & 1871). A similar date is suggested for an example from Bolingbroke Castle, Lincolnshire (Drewett 1976, fig 16, no 78), but possibly earlier ones come from Leicester (Clay 1981, 137, no 55) and Sandal Castle (A R Goodall 1983, 237, fig 2, nos 141–4). One of several examples from Linlithgow (Stones 1989, 159, no 222) had been stitched onto leather, and it is suggested that the objects may have been attached to a form of leather shroud as eyelets and coupled up with wooden toggles or pegs. It seems possible that this type of object was part of a clothes fastening device which may have been employed on a variety of garments, and its widespread occurrence may indicate that it was in common usage over a period of time.

A broken finger ring with a setting, possibly to accommodate a gemstone (43), was found in Phase 5.

40 **Ring.** Length 18 mm; diam of wire 1 mm

Twisted wire ring, made from a length of drawn wire with twisted terminals.

Context 2000; Find no 01350; Unstratified.

43 **Ring.** Surviving external diam 20 mm; surviving internal diam 18 mm

Broken finger ring, with a flat setting at the apex, possibly to accommodate a stone.

Context 2243; Find no 01285; Phase 5.

Three studs were found on the site. Numbers 53 and 55 represent very different forms, the former having a domed, circular head and a central shank, while the latter is a sub-rectangular stud with a small pin at either end.

53 **Stud.** Diam 10 mm; thickness 4 mm

Stud with a plain, curved, circular head. A rivet projects from the centre of the concave side.

Context 2182; Find no 01627; Phase 6.

55 **Stud.** Length 14 mm; width 4 mm; thickness 4 mm

Sub-rectangular stud with a ridge along its central axis and a small pin for affixing at either end.

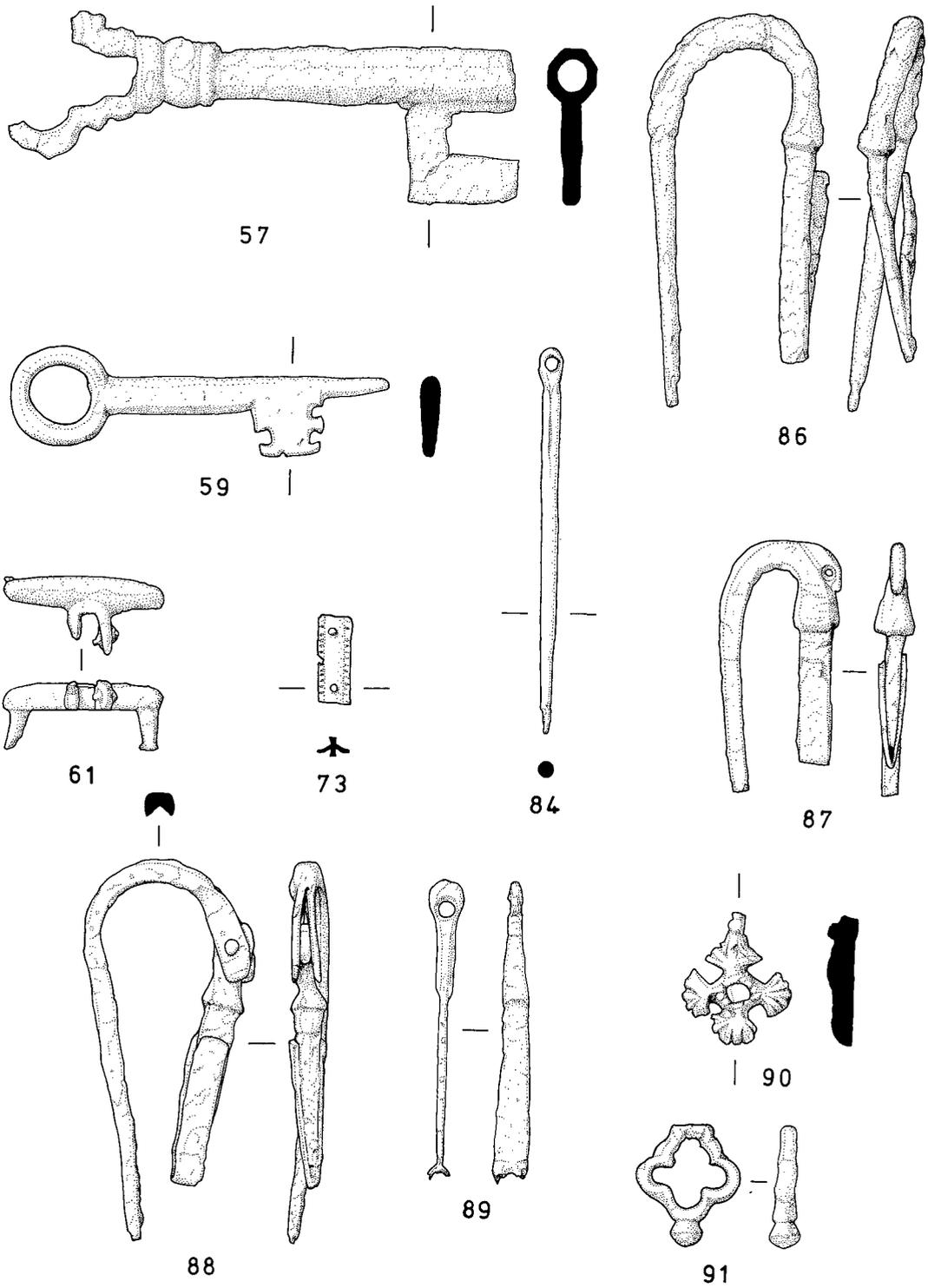
Context 2286; Find no 01260; Phase 4.

Keys (illus 18)

Four keys of copper alloy were recovered. Number 57, from a context dated to the 14th or 15th century, has a faceted shaft and a decoratively shaped bow, although it has a simple form of bit. Number 59, from a context of similar date, has a solid shaft which projects to a point, a feature which also occurs on a key from Kirk Close, Perth (Ford 1987a, 126, fig 61, no 28), from a 14th-century context, and on examples from Kings Lynn (Geddes & Carter 1977, 288, fig 130, no 29) and Exeter (A R Goodall 1984, 344, fig 193, no 181).

57 **Key.** Length 77 mm; broken diam of bow 22 mm

Key with a solid shaft with eight linear facets. The bit has a single, wide ward cut. The bow is set



ILLUS 18 Meal Vennel: copper alloy objects, scale 1:1

centrally on the shaft and its sides are stepped and curved for decorative effect. Approximately half of the bow survives.

Context 2242; Find no 01293; Phase 5.

59 **Key.** Length 58 mm; diam of bow 15 mm

Complete key with an oval cross-sectioned, solid shaft which projects to a point. The bow is circular and is set centrally on the shaft. The bit has three ward cuts.

Context 4095; Find no 01616; Phase 5.

Mount and fittings (illus 18)

Recovered from the same deposit as a seal matrix (117, below) was a mount (61) of the type used on a belt or saddle for hanging a pendant such as 90 or 91, or other decorative devices. One of the suspension arms of 61 has a small broken pin through it, and the other arm, although broken, has a space for the pin to continue through. Two fittings which would have performed a similar function were found at Northampton (Oakley 1979, 252, fig 109, nos 41–2) in contexts dated to the 15th century on the basis of coin evidence. A small, rectangular fitting from Phase 5 (73) is one of several of broadly similar form recovered from the excavation.

61 **Mount.** Length 25 mm; width 10 mm; thickness 13 mm

Mount for a belt or harness, used to suspend another object such as a pendant. There are two suspension arms, one with a small pin through it. The other arm is broken.

Context 1092; Find no 01596; Phase 5.

73 **Fitting.** Length 13 mm; width 5 mm; thickness 3 mm

Fitting consisting of a curved plate with upper, convex, face decorated along long edges by a pattern of punched triangles, now very worn. A rivet projects from the plate at both ends.

Context 4068; Find no 01622; Phase 5.

Needles (illus 18)

Of the seven needles recovered only one (84) is complete. Each is made from a tightly rolled copper alloy sheet.

84 **Needle.** Length 58 mm, width at eye 3 mm

Complete needle made from a tightly rolled sheet.

Context 4201; Find no 01225; Phase 1.

Padlock components (illus 18)

During the medieval period the barrel padlock was in almost universal use (I H Goodall 1981, 60). Copper alloy examples may have been used in conjunction with strap hinges and hasps to secure the lids of chests and boxes. Numbers 86, 87 and 88 are spring and bolt mechanisms from such padlocks. Barrel padlocks were opened using keys such as 89. When inserted into the padlock, a key of this type would depress the springs on the internal mechanism, thus opening the lock. Components of iron padlocks were also recovered (see below).

86 **Padlock mechanism.** Length 60 mm; width 27 mm; max. thickness 6 mm

Spring and bolt mechanism from a barrel padlock. The spring is heavily corroded and only half of it survives. The bolt terminates in a point.

Context 1180; Find no 01217; Phase 5.

87 **Padlock mechanism.** Length 38 mm; width 19 mm; max. thickness 6 mm

Spring and bolt mechanism from a barrel padlock. The bolt is rectangular in cross-section. There is a small, countersunk hole, possibly for suspension, at the top of the loop.

Context 4068; Find no 01599; Phase 5.

- 88 **Padlock mechanism.** Length 57 mm; width 26 mm; max. thickness 5 mm

Spring and bolt mechanism from a barrel padlock. The spring and bolt are attached by a rivet which forms a pivot between them, allowing movement.

Context 4207; Find no 01288; Phase 5.

- 89 **Padlock key?** Length 45 mm; width 5 mm

Probable padlock key, with the bit missing. The rectangular cross-sectioned shank widens to a shoulder and terminates in a centrally set, circular suspension loop.

Context 4301; Find no 01290; Phase 1.

Pendants (illus 18)

Numbers 90 and 91 may be pendants from horse harnesses. Decorative pendants, varying greatly in form, were a regular feature of medieval horse furniture. They appear to have been most widespread in the 13th and 14th centuries. Pendants were attached to the harness in several ways. Normally a fitting such as 61 was used. The fitting would have been attached directly to the leather straps, and the pendant would have swung from it.

- 90 **Pendant.** Length 20 mm; width 17 mm; thickness 4 mm

Cruciform pendant with three expanded terminals, with a decoration of radiating grooves on each. The elongated fourth and uppermost terminal is broken. This terminal would probably have incorporated a loop for suspension. In the centre of the pendant is a roughly circular setting with a bluish enamel or glass inlay, the identification of which was confirmed by SEM micro-analysis. Particles rich in silver and mercury were also found during the examination, suggesting that the object had almost certainly been mercury silvered.

Context 2015; Find no 01202; Phase 7.

- 91 **Pendant.** Length 19 mm; width 16 mm; thickness 3 mm

Pendant with an open centre, its circumference consisting of four rounded lobes. The lowest lobe has a small sphere attached, forming the bottom of the pendant. The uppermost lobe has a flattened terminal.

Context 3101; Find no 01203; Phase 6.

Pins (illus 19)

Several pins and pin fragments were recovered. Numbers 95 and 96, both from Phase 7, were made from drawn wire, the head consisting of a small coil of wire, attached either by an adhesive substance or by soldering. A larger, one-piece pin from Phase 5 (101) has a bulb-shaped, unevenly faceted head. No. 102, from a pit fill in Phase 2, is a decorated pin, similar to an example from Aberdeen for which pottery evidence suggests a 14th-century date (Stones 1982, 187, fig 107, no 56). More recent excavations at 80–86 High Street, Perth, produced a further pin of this type (Cox forthcoming b).

- 95 **Pin.** Length 42 mm; width at head 3 mm; diam of shaft 0.9 mm

Complete pin made from drawn wire. The head consists of two turns of wire, wound around the top of the shaft in a spiral fashion.

Context 2019; Find no 01178; Phase 7.

- 96 **Pin.** Length 40 mm; width at head 3.3 mm; diam of shaft 0.9 mm

Complete pin made from drawn wire, with a wire-wound head. The head consists of two turns of wire, wound around the top of the shaft in a spiral fashion.

Context 3015; Find no 01348; Phase 7.

- 101 **Pin.** Length 88 mm; width of head 4 mm
Complete pin with a circular cross-sectioned shaft and an unevenly faceted head.
Context 3194; Find no 01229; Phase 5.
- 102 **Pin.** Length 94 mm; diam at head 7 mm
Decorated pin, with a conical head and a circular cross-sectioned shaft. The head is decorated by three grooves running from the apex out towards the rim. On the upper part of the shaft there is a spiral ornament and below this there is a pattern of crossed lines. The lower part of the shaft is undecorated.
Context 4254; Find no 01261; Phase 2.

Rivets (illus 19)

A total of 14 paperclip rivets (eg 115 & 116) was found, a majority coming from Phases 6 and 7. This type of rivet was commonly used in repairing vessels and examples occur on the probable vessel repair patches recovered from the excavation, including 144 (below).

- 115 **Rivet.** Length 26 mm; width 19 mm; thickness 5 mm; thickness of sheet 0.5 mm
Complete paperclip rivet, made from a single diamond-shaped sheet with its corners removed.
Context 4075; Find no 01620; Phase 7.
- 116 **Rivet.** Length 17 mm; width 23 mm; thickness 3 mm; thickness of sheet 0.3 mm
Complete paperclip rivet, made from a single diamond-shaped sheet.
Context 4206; Find no 01231; Phase 4.

Seal Matrix (illus 19)

A seal matrix, perhaps held as a badge of office by a wealthy local merchant, was found in an extensive loam deposit in Phase 5. Its means of suspension is missing, so it is uncertain as to whether it would have been worn about the owner's person, for instance around the neck. This possibility seems the most likely, but an alternative might be that the seal matrix was suspended from the small mount (61) recovered from the same context.

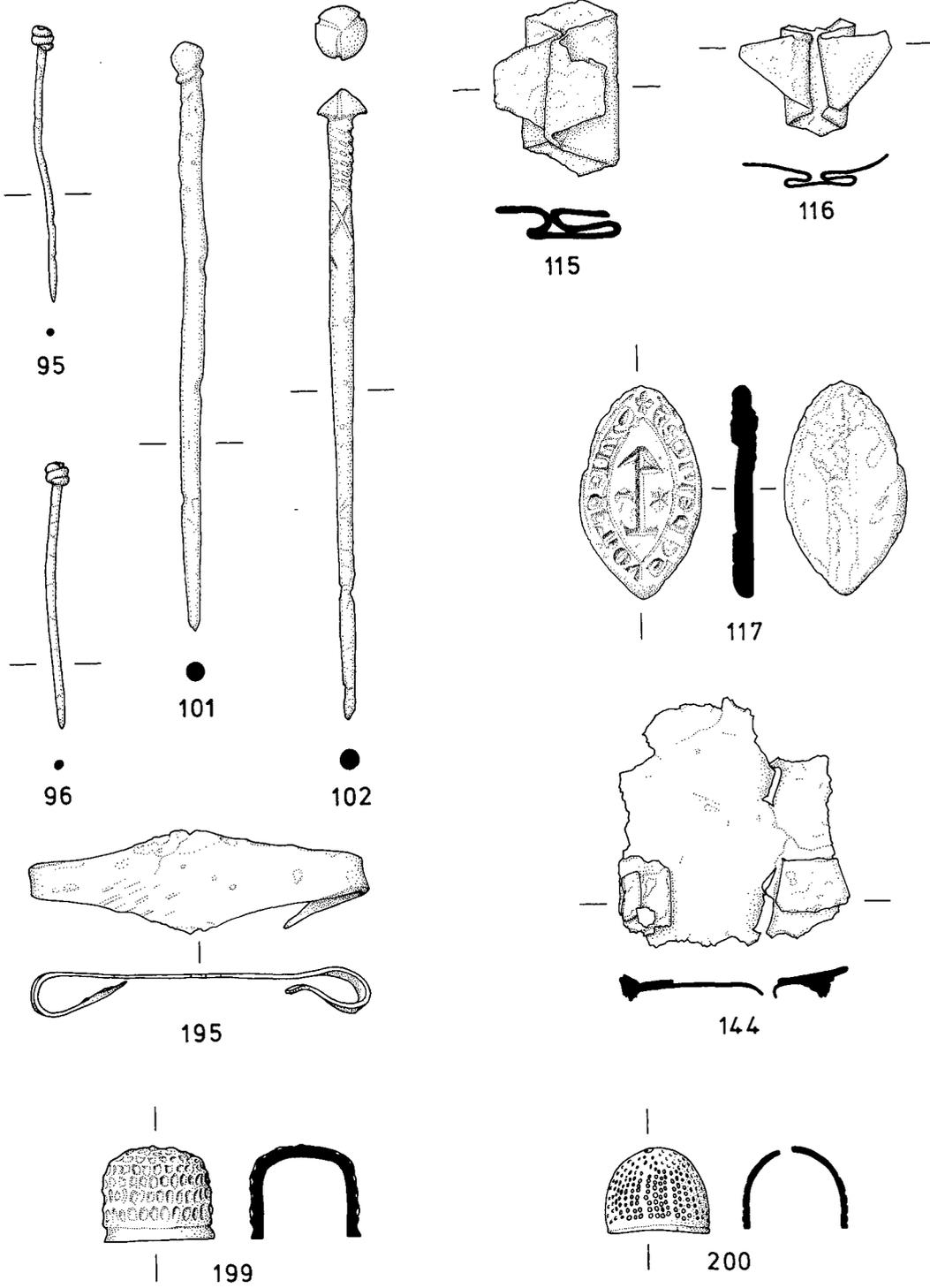
Central to the design on the obverse is a symbol resembling the figure 4, which is associated with the merchant guildry. It has been suggested that it represents the arms of a weighing device. The symbol is depicted on 15 gravestones in the Greyfriars Cemetery in Perth, many of which date from the 18th century and on which the symbol usually denotes a shopkeeper (SUAT 1988, 18). Clearly the symbol is of greater antiquity, as it appears, for example, on the arms of Walter Chepman and Andrew Myllar, to whom James IV granted a licence to set up the first Scottish printing press in 1507 (Nichol 1975, 71).

- 117 **Seal matrix.** Length 32 mm; width 18 mm; thickness 2 mm
Symmetrical seal matrix, with convex edges meeting at the upper and lower apexes. The obverse side is decorated with a symbol resembling the figure 4 in its centre, and around the perimeter runs a legend, which has not been deciphered. On the reverse side are the remains of a rib, running centrally from top to bottom. This may originally have terminated in a loop for suspension.
Context 1092; Find no 01335; Phase 5.

Sheets and strips (illus 19)

A quantity of sheets and strips was recovered, many of which may represent offcuts from the cold working of sheet metal on or near the site. Some examples have scored lines running alongside knife-cut edges. Some sheet fragments have been rolled or folded, suggesting that they may have been intended for recycling.

Number 144 is one of three probable patches for the repair of sheet metal vessels. In addition



ILLUS 19 Meal Vennel: copper alloy objects, scale 1:1

to the paperclip rivets surviving *in situ*, there are linear perforations in 144 to accommodate additional rivets. Vessel repair patches were found at Mill Street, Perth (Ford 1995, 961), and a fragment of a heavily patched bowl was recovered at Linlithgow (Stones 1989, 160, 236). Both these examples include paperclip rivets *in situ*. Number 195 may have been cut to shape for the production of a paperclip rivet.

144 **Sheet with rivets.** Length 37 mm; width 35 mm; thickness of sheet 0.3 mm

Sheet with broken edges. Two paperclip rivets are attached, and there are two additional linear perforations, possibly to accommodate further rivets. This was probably part of a repair patch for a vessel.

Context 3038; Find no 01244; Phase 6.

195 **Strip.** Length 51 mm; width 16 mm; thickness 1 mm

Diamond-shaped sheet with ends folded over. It possibly represents a blank for a paperclip rivet.

Context 4068; Find no 01208; Phase 5.

Thimbles (illus 19)

Two thimbles (199 & 200) were recovered. They are markedly different in form, 199 being of cast metal and thick in section, and 200 being of sheet metal. Among the well-dated thimbles from Exeter, 199 is most closely paralleled by an example dated to the second half of the 15th century (A R Goodall 1984, 345, No. M213).

199 **Thimble.** Length 13 mm; external diam 17 mm; thickness of wall 1 mm

Complete thimble with moulded dimples over external surface. A plain band runs around the mouth. Linear file marks are visible across the mouth.

Context 3072; Find no 01209; Phase 6.

200 **Thimble.** Length 12 mm; external diam 16 mm; thickness of wall 0.7 mm

Complete thimble with punched dots over external surface. In one place the punch penetrated thimble wall. A hole pierces the apex of the thimble.

Context 4017; Find no 01210; Phase 7.

Tweezers (illus 20)

Tweezers were often used as toilet implements, and the simplest types were made from a plain folded strip of copper alloy, as illustrated by a pair from Goltho (I H Goodall 1975, 93, No. 35). Number 201 is almost exactly paralleled by a pair from Northampton (Oakley 1979, 256, Cu73) and Goodall (1981, 67) cites two similar examples from Old Sarum now in Salisbury Museum. It has been suggested (Rahtz 1960, 27) that elaborate tweezers with expanded rectangular ends were used to hold open the pages of a book or in handling gold leaf, rather than having a toilet use. The sliding loop on the arms of 201 may be particularly appropriate to the function of holding open the pages of a book. The dating of tweezers of this type is difficult as there appear to be no well-dated, close parallels. The possible origins of the type are discussed by Oakley (1979, 256).

201 **Tweezers.** Length 57 mm; width 20 mm

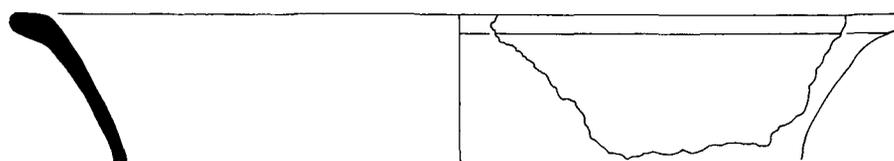
Shovel-headed tweezers with one terminal missing. The surviving trapezoidal terminal is decorated on its external surface with a punched V pattern. The small, moveable loop probably enclosed both arms to hold the tweezers in position.

Context 1058; Find no 01211; Phase 7.

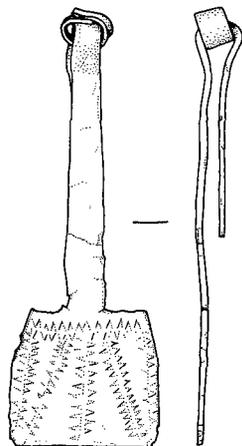
Miscellaneous (illus 20)

From Phase 5, 205 is a fragment of a cast vessel. Small chains such as 209 were made from drawn wire and were used for the suspension of a variety of objects.

205 **Vessel.** Length 45 mm; depth 23 mm; max. thickness 3 mm



205



201



209



209

ILLUS 20 Meal Vessel: copper alloy objects, scale 1:1

Rim fragment of a vessel with an out-turned rim. This fragment indicates a vessel rim diameter of 120–30 mm.

Context 3084; Find no 01275; Phase 6.

209 **Chain.** Lengths 79 mm and 36 mm; diam of wire 0.9 mm

Two lengths of chain interpreted as parts of a single object. The links are mostly S-shaped and are made from circular cross-sectioned wire.

Context 2188; Find no 01200; Phase 6.

LEAD ALLOY OBJECTS

Adrian Cox

The character of assemblages in Phase 5 suggests that the working of both copper alloy and lead alloy may have been carried out in the vicinity. Small-scale workshop activity appears to be indicated.

Several pieces of once-molten lead alloy were recovered, in addition to knife-trimmed and folded sheet offcuts and a possible lead pin. Pottery vessels had also been repaired using lead plugs or patches; two examples of the latter (eg 277) were found *in situ* at the edges of pottery sherds. Lead alloy offcuts, sheet fragments and once-molten spillage waste were also present in other phases of the excavation.

277 **Vessel repair.** Length 40 mm; width 8 mm; thickness 15 mm

Small vessel repair used to join two sherds of pottery in Perth local fabric. A hole was drilled in each sherd, a lead strip passed through them and its ends joined to form a continuous bonding strip. The vessel repair is *in situ*, securing two sherds. (Not illustrated).

Context 3175; Find no 03022; Phase 5.

IRON OBJECTS

Adrian Cox (illus 21–4)

with a contribution on the metallurgy of the knives by P Harrison

A large assemblage of iron artefacts (some 240, not including nails and miscellaneous fragments) was recovered from the excavation. Dress accessories, horse equipment, household ironwork, tools and structural ironwork are all represented.

Bars, rods and sheets of iron were recovered from throughout the archaeological sequence. Bar iron was the blacksmith's raw material, with the addition of available scrap iron which would have been forged down on an anvil. The quantities found at Meal Vennel may, however, be more indicative of localized workshop activity than industrial-scale iron-working. Other excavated smithies, such as that at Waltham Abbey (Goodall 1973, 170), have produced many more pieces of bar iron.

The iron artefacts assemblage is summarized below within functional categories.

Arrowheads (illus 21)

Barbed and socketed arrowheads such as 281 were used in hunting from the 14th century onwards, not being capable of penetrating the tougher defensive armour used in battle. Number 281 is similar to an example found at Goltho (Goodall 1975, 88, fig 41, no 97). Number 282, from an earlier context, has a leaf-shaped tip and may possibly be a military arrowhead. A similar example was found at Urquhart Castle (Samson 1982, 468, fig 2, no 15). Arrowheads have been recovered from previous excavations in Perth (Ford 1987c, 130–1, nos 62–5).

281 **Arrowhead.** Length 60 mm; width 18 mm; thickness 10 mm

Complete barbed and socketed arrowhead. The shaft is circular in cross-section, widening at end for attachment to a wooden shaft. The barbs have fine edges and meet at the tip.

Meal Vennel; Context 4062; Find no 01454; Phase 7.

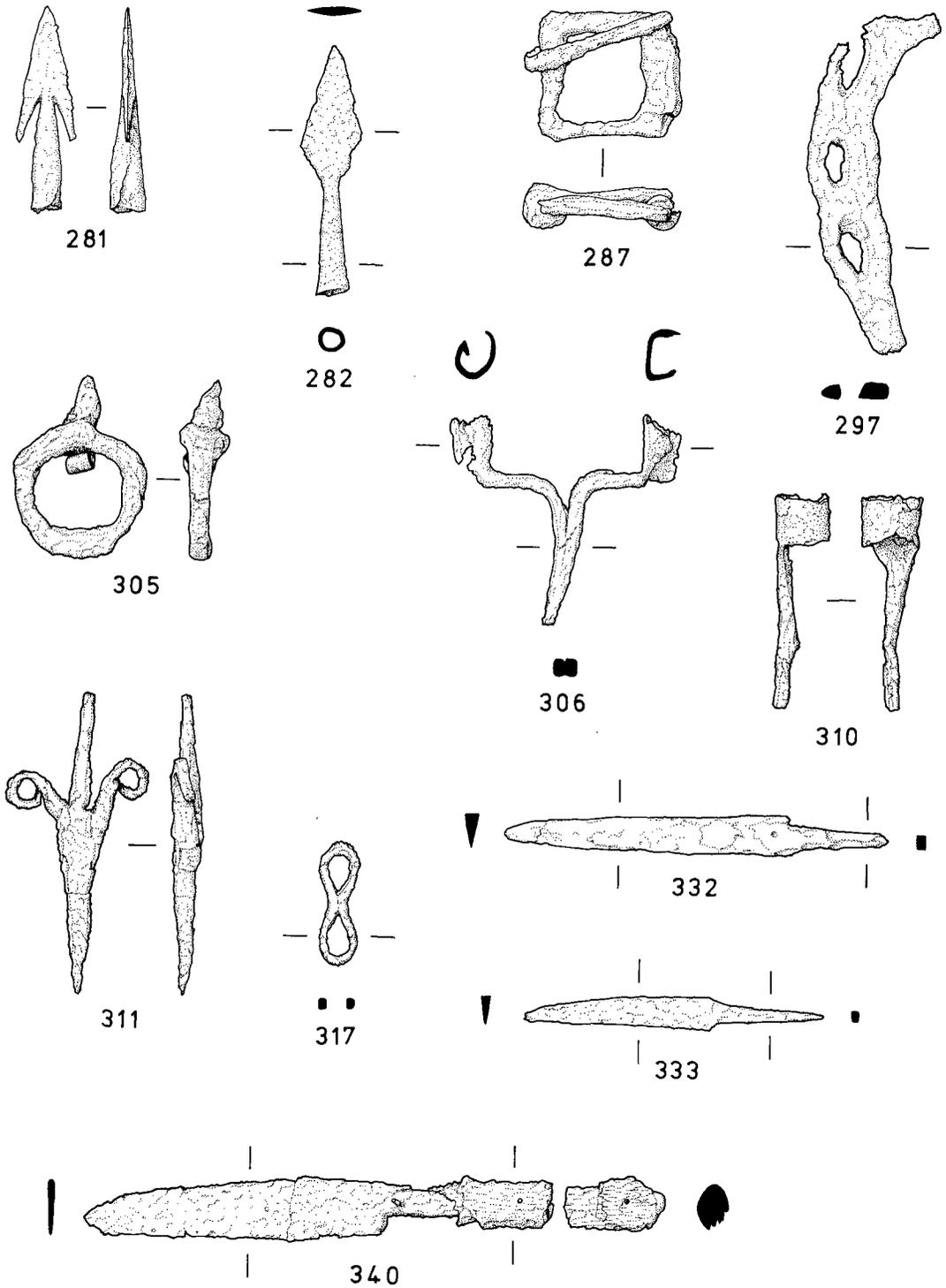
282 **Arrowhead.** Length 74 mm; width 17 mm; thickness 10 mm

Arrowhead with a leaf-shaped tip and hollow, circular cross-sectioned stem. The stem is hollow to accommodate a wooden arrowshaft.

Meal Vennel; Context 4183; Find no 02929; Phase 4.

Buckles (illus 21)

A total of five iron buckles was recovered, exhibiting a variety of form and size. The pin of one of the larger buckles (287) rests against a sheet metal cylinder, a feature also present on two examples from Northampton (Goodall 1979, 274, fig 120, nos 90, 98), one of which comes from a mid-13th-



ILLUS 21 Meal Vennel: iron objects, scale 1:2

to late 14th-century context and the other from a 16th-century or later deposit. Number 287 probably falls between these two date ranges.

- 287 **Buckle.** Length 45 mm; width 38 mm; thickness 9 mm
Rectangular buckle, with a complete pin resting against a sheet metal cylinder.
Meal Vennel; Context 2192; Find no 01515; Phase 6.

Horse equipment (illus 21)

A total of 11 horseshoes is represented, but only one is nearly complete. Two examples (eg 297, found in Phase 1) exhibit features of an early type of horseshoe which does not appear to occur later than the 13th century. They have a narrow width and nail-holes with deep countersinkings which push the edge of the shoe outwards to give it a characteristic sinuous outline. Fiddle key shaped nails were used to attach horseshoes of this type. Two horseshoes with rectangular, lightly countersunk nail-holes, may possibly belong to a transitional type of horseshoe typical of the second half of the 13th century and the early part of the 14th century (Clark 1986). The remainder of the fragments are from horseshoes of later types and are larger and heavier than the earlier examples, a reflection on the increasing size of the horses themselves. Some differences in shape noted among the horseshoe assemblage are likely to be a result of the difference in shape between front and rear hooves. Front hooves are more rounded, whereas rear hooves are narrower and more oval in shape (*ibid.*).

Other finds of horse equipment include a six-pointed rowel from a rowel spur from Phase 6 and a group of four incomplete and heavily corroded rowel spurs, joined together by corrosion products, from a pit fill in Phase 7. This latter find may indicate that horse equipment was being manufactured as part of smithing activities in Phase 7.

Swivel rings such as 305 were used on the ends of chains, affording greater manoeuvrability to suspended objects. They were also used in tethering horses, as is suggested for four examples from Urquhart Castle (Samson 1982, 466, nos 3–6).

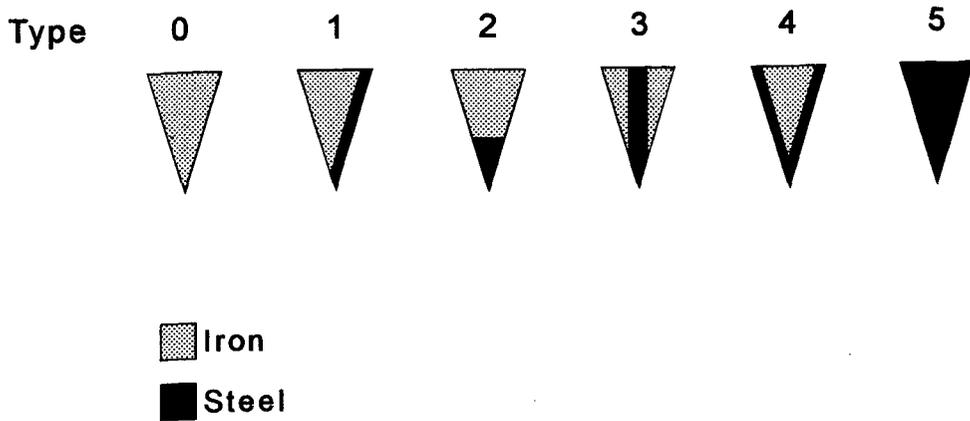
- 297 **Horseshoe.** Length 102 mm; width 22 mm; thickness 5 mm
Horseshoe fragment with a sinuous outline. Two oval-shaped nail-holes and part of a third survive.
Context 3295; Find no 01463; Phase 1.
- 305 **Swivel ring.** Length 52 mm; width 40 mm; thickness 15 mm
Incomplete swivel ring with a sub-rectangular cross-sectioned loop.
Context 2102; Find no 02923; Phase 7.

Household ironwork (illus 21)

Two types of candlestick are represented; socketed (eg 306 & 310) and pricket (eg 311). Socketed candlesticks have a socket into which a candle is inserted, set at the end of a pointed shaft. The shaft could be driven into woodwork or into crevices in stonework. The double socketed candlestick (306) would have held two candles. Home-made, socketed candlesticks continued in use well beyond medieval times, often being found in smithies and workshops (Salaman 1975, 264).

Pricket candlesticks had spikes onto which a candle was impaled; also having a pointed shaft for driving into woodwork or into crevices in stonework. In some cases the shaft was vertical (as in 311) and in some cases angled.

- 306 **Candlestick.** Length 66 mm; width 67 mm; diam of sockets 17 mm
Double socketed candlestick, consisting of a central, vertical spike and horizontal arms turned upwards at the ends, flattened and curved round to form two sockets for holding candles. The object has been



ILLUS 22 Meal Vennel: blade construction types

made from a single piece of iron, with the central part hammered to form the pointed, rectangular cross-sectioned spike.

Context 1017; Find no 02918; Phase 6.

310 **Candlestick.** Length 64 mm; diam of socket 19 mm

Socketed candlestick, made from single iron rod, hammered flat at the top end and curved round to form a circular socket for holding a candle. The shaft is rectangular in cross-section and may have had a pointed end (now missing).

Context 4044; Find no 02924; Phase 7.

311 **Candlestick.** Length 89 mm; width 43 mm; thickness 8 mm

Pricket type candlestick, almost complete. It has a rectangular cross-sectioned shaft, terminating in a point, and a central spike with a missing tip for the attachment of a candle. There are two rectangular cross-sectioned side scrolls.

Context 4128; Find no 01459; Phase 2.

Fragments of four iron chains were found. Number 317, from Phase 1, represents the earliest occurrence and is a single, figure-of-eight shaped link. Eye bolts, used for the suspension of chains or other objects, were also recovered, one example having part of a chain link attached. Several hooks were also found.

317 **Chain link.** Length 36 mm; width 12 mm; thickness 4 mm

Complete figure-of-eight shaped link. The arms of the loops are square in cross-section.

Context 4227; Find no 01533; Phase 1.

Knives (illus 21–3)

A total of 44 knives was recovered from the site. The range of forms represented is considerable, reflecting the variety of types in use in medieval and post-medieval times. Twenty of the knives are of whittle tang type (eg 332, 333 & 370), nine of scale tang type (eg 340), and 15 of indeterminate type as they consist of blade fragments only. The term whittle tang denotes a tang inserted into a solid handle, whereas scale tang denotes one onto which plates or scales are riveted, forming a composite handle.

A study of over 300 knives from London (Cowgill *et al* 1987) showed that all knives there dating to before the beginning of the 14th century were of whittle tang type. The earliest scale tang

knife in the London collection came from a mid- 14th-century context. After c 1360, however, over half the knives were of scale tang type. From the 14th century onwards, increasing specialization of knives is evident. Among the whittle tang knives, three examples have the remains of wooden handles attached, although on all three examples the handle survives in a mineralized form and only traces remain. More complete examples come, for example, from King's Lynn (Goodall & Carter 1977, 294, fig 133, no 20) and London (Cowgill *et al.* 1987, 79, fig 55, no 7).

Two of the knives incorporate a hilt plate, at least one example of which was plated with copper alloy. The blade back of 370, from Phase 1, is decorated with strips of inlaid copper alloy wire. Another example of an inlaid knife blade is known from Oxford (Hinton 1977, 142, fig 25, no 5), and a late 13th-century knife from London is decorated on the back and sides of the blade with applied silver wire in shallow grooves (Cowgill *et al.* 1987, 81, fig 55, no 25).

The most complete of the scale tang knives is 340, from Phase 7, which has a near complete blade and parts of a bone handle. Mineralized remains of a scale handle also survive on another knife.

X-radiographs of the knives were examined for traces of cutlers' marks, but none were apparent. Species identification of the bone from 340 is by C Smith.

332 **Knife.** Length 117 mm; width 12 mm; thickness 4 mm

Complete whittle tang knife blade. The blade back and edge converge gradually towards the tip.
Context 1125; Find no 01425; Phase 6.

333 **Knife.** Length 91 mm; width 9 mm; thickness 2 mm

Whittle tang knife blade with a straight edge. The blade back and the edge converge gradually to meet at the missing tip. The tang terminates in a point.
Context 1177; Find no 01464; Phase 2.

340 **Knife.** Length 201 mm; width 20 mm; thickness (at handle) 10 mm

Scale tang knife with part of its bone handle surviving. The blade is almost complete. The handle was derived from a large ungulate long bone shaft. A small iron rivet occurs at the junction of the blade and tang.

Context 2102; Find no 01478; Phase 7.

370 **Knife.** Length 108 mm; width 16 mm; thickness 7 mm

Nearly complete blade and whittle tang. The blade back dips as it approaches the tip. The edge is straight. Along the blade back is a copper alloy inlay decoration consisting of two parallel strips with semi-circular projections along their lengths. There is no co-ordination between the projections on the two strips.

Context 4415; Find no 01443; Phase 1.

Metallurgy of the knives

Paul Harrison

Knives are interesting metallurgically as the smith has to overcome a problem with the materials. Iron is flexible but will not take a hard edge, whereas steel is brittle but can be made to form a sharp edge. Also there are several types of steel that can be formed by varying the carbon content and by quenching and tempering the metal. Knives are also a relatively common archaeological find, so that trends and changes in technology can be followed.

Samples were taken from 23 of the 44 knives and consisted of between 1–4 triangular sections, removed with a hacksaw, lubricated with oil. Of the 23 knives, 19 had metal cores and four were totally corroded, while the structure of only one of the knives could be determined by X-radiography alone. The sections were embedded in resin, polished and etched with nital (1% nitric acid in alcohol). The majority were then coated with carbon and analysed with an energy dispersive Scanning Electron Microscope (SEM). Etched blade sections were examined to identify the blade construction types

TABLE 2
Blade construction types (decimals represent blades that may fit into two categories).

Phase	Type						Quenched	Total
	0	1	2	3	4	5		
1	–	–	–	–	–	–	0	0
2	>1.0	–	1.0	–	–	–	0	2
3	–	–	1.0	–	–	1.0	2	2
4	–	1.0	1.0	–	–	–	1	2
5	1.0	–	0.5	–	–	0.5	1	2
6	–	0.5	1.5	2.0	–	–	2	4
7	–	0.5	2.5	–	3.0	1.0	5	7

according to the classification by Tylecote & Gilmour (1986), and to determine whether the blades had been quenched or not.

Type 0: iron only

Type 1: steel along side of blade

Type 2: steel edge welded to the iron

Type 3: layers of iron and steel

Type 4: steel V enclosing an iron core

Type 5: steel only

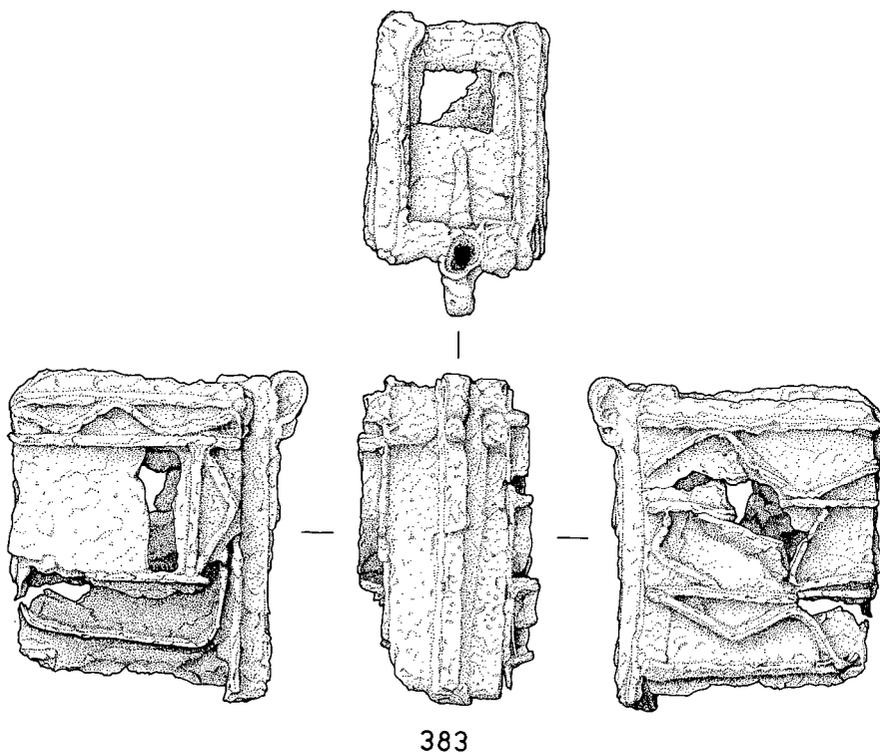
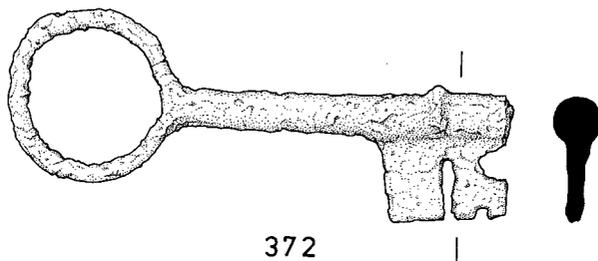
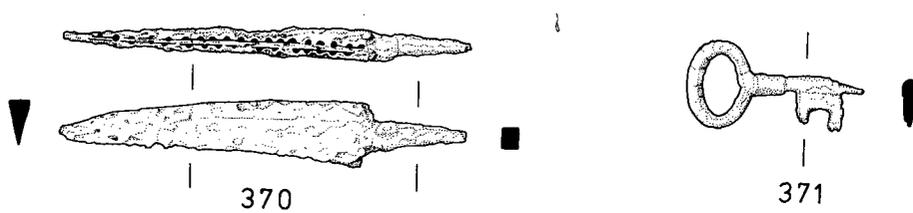
The general quality of smithing of the blades is high. The trend seems to be that while there is a general decline in Type 0 blades, there are also few Type 1 blades present. Type 2 blades seem to be present throughout the sequence, while Types 3 and 4 make their appearance in Phases 6 and 7. Quenched blades form only half the total number of blades, until Phase 7 when they become the majority.

The samples were analysed with an energy-dispersive SEM. The presence of copper, manganese, phosphorus and lead was recorded in the iron and steel from each sample. Several patterns can be seen in the results. The iron does not contain copper, unlike many of the steel samples. In Phase 7 the steel that contains copper tends not to contain manganese, whereas most of the earlier steels contain manganese and not copper. This might point to a new ore source being used in Phase 7 or a change in the smelting process. Nearly all the iron samples contain phosphorus to some extent, a likely result as British iron ore tends to be rich in phosphorus. The level of manganese is also very high for bloomery iron, and all but six of the iron samples contained it. Skelton's *Economics of Iron and Steel* (1924) criticizes Scottish cast iron for its high manganese content. The high levels of manganese found in the iron from Perth may therefore indicate that the iron is of local origin. The presence of minor elements has shown some trends but it cannot be used to provenance the iron more closely as so many other things such as the flux, the lining of the furnace and recycling also effect the composition.

Locks and keys (illus 23 & 24)

The larger keys found on the site (eg 372, from Phase 6) are probably door keys. Smaller examples such as 371, from Phase 7, may have been used to lock caskets or boxes, and are comparable in size to the smaller copper alloy keys recovered (eg 59, above).

371 **Key.** Length 47 mm; width of bow 23 mm; length of bit 10 mm



ILLUS 23 Meal Vessel: iron objects, scale 1:2

Complete key, possibly for a box or casket. The key has an oval bow, centrally set on the circular cross-sectioned shaft. The bit has a single ward cut.

Context 1036; Find no 02928; Phase 7.

372 **Key.** Length 135 mm; width of bow 44 mm; length of bit 20 mm

Complete key, with a solid, circular cross-sectioned shaft, increasing in width towards the bit. The circular bow is set centrally on the shaft. The bit has a central ward cut and another, smaller one near its terminal.

Context 1087; Find no 01422; Phase 6.

The spring and bolt mechanisms of three barrel padlocks and two fragments representing parts of the outer casings of such padlocks were found. Number 383 is an almost complete casing of a padlock operated by a key inserted from the side rather than through an end keyhole. This is also suggested for a padlock from Skeldergate, York (MacGregor 1978, 45, fig 27, no 2), which, like 383, has brazed decoration and an external tubular bolt housing. Padlock casings were often decorated by attached strips or ribs, and all of the examples from Meal Vennel, along with one from Scott Street, illustrate this. The raised ribs may have performed a dual function, being both decorative and protecting the padlock casing from hammer blows.

383 **Padlock casing.** Length 85 mm; width 75 mm; thickness 43 mm

Casing of a rectangular padlock with a keyhole in one face. It was made from iron, plated with copper, and thin sheets of copper were also used in its manufacture, brazed onto the faces. Survival of the copper component varies greatly. Strips of iron were attached edge-on, probably by brazing, to both faces of the casing. A tubular bolt housing runs down one side of the padlock. The internal mechanism is entirely missing.

Context 4184; Find no 04290; Phase 2.

As described above, medieval barrel padlocks were opened using keys which were drawn or pushed along the springs of the internal mechanism, depressing them and thus opening the lock. Number 387 has a bit form similar to that of an incomplete padlock key recovered during a watching brief at High Street, Perth (Ford 1987c, 133, Fig. 66, No. 87). Number 388 is of a similar form to an example from Kirk Close, Perth, from a 14th-century context (*ibid.*, no 86).

387 **Padlock key.** Length 102 mm; width at loop 17 mm; width of bit 11 mm

Barrel padlock key. The shaft is rectangular in cross-section and terminates in a loop at its upper end, which is set at 90° to the shaft. The bit is set laterally to the shaft and consists of two narrow prongs. The shaft has a shoulder at its limit of insertion into the padlock.

Context 2218; Find no 01417; Phase 5.

388 **Padlock key.** Length 98 mm; width at loop 14 mm; width of bit 9 mm

Barrel padlock key with square cross-sectioned shaft, widening to a shoulder, and terminating in a flattened, circular suspension loop. The bit is set laterally on the shaft and has radiating wards. It is probably incomplete.

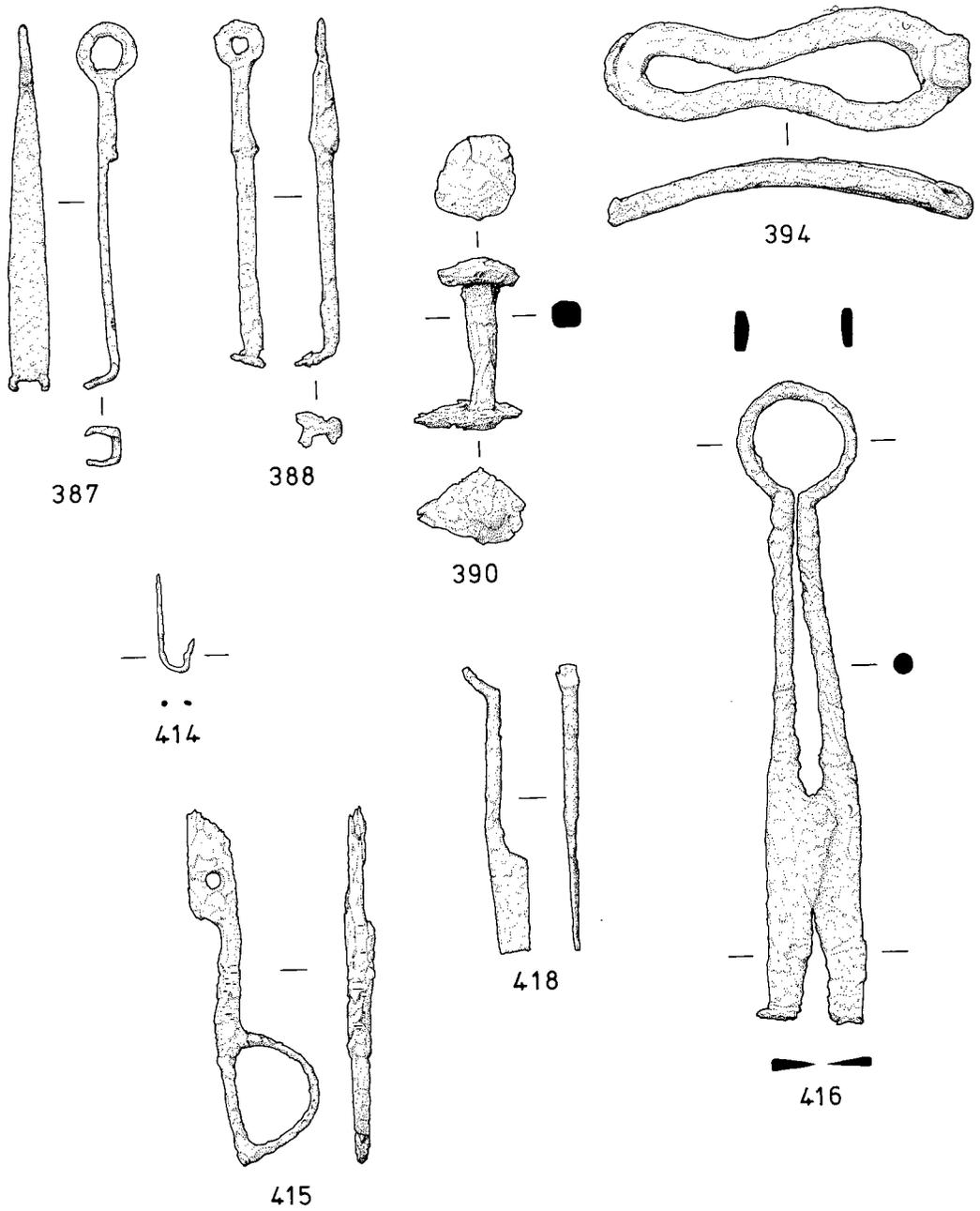
Context 4350; Find no 01403; Phase 2.

Structural ironwork (illus 24)

Three clench bolts (eg 390) were recovered. These were used to secure a double thickness of timber and consist of a nail, which would be driven through the timbers, and a rectangular or diamond-shaped plate called a rove, which would be placed over the tip of the nail. The tip of the nail would then be clenched to secure it in position.

390 **Clench bolt.** Length 45 mm; diameter of nail head 24 mm; length of rove 31 mm; width of rove 22 mm
Clench bolt consisting of a nail with a circular head and a square cross-sectioned shaft, and a diamond-shaped rove.

Context 4066; Find no 01527; Phase 7.



ILLUS 24 Meal Vennel: iron objects, scale 1:2

Hasps (eg 394) were used in conjunction with staples and padlocks to fasten doors and gates or to secure the lid of a chest. One loop would be attached to the door or lid, and the other closed around a staple fixed into the doorpost or side of the chest. A padlock could then be fitted onto the staple.

394 **Hasp.** Length 105 mm; width 34 mm; thickness 6 mm

Figure-of-eight shaped hasp with rectangular cross-sectioned sides.

Context 3026; Find no 01491; Phase 7.

Three hinge pivots were recovered from the excavation. These were used to hang doors and shutters. Eleven U-shaped staples, which could have been used in conjunction with hasps such as 394 in the fastening of doors or gates or in closing the lids of chests or boxes, were also found. The staples came mainly from Phases 5 to 7.

Tools (illus 24)

414 is a fishing hook, recovered from a pit fill in Phase 4. Fishing hooks were also made from copper alloy, as illustrated by an example from Northampton (Oakley 1979, 260, no Cu102).

414 **Fishing hook.** Length 28 mm; width 16 mm; diameter of shank 1.3 mm

Fishing hook, made from a circular cross-sectioned wire with the end beaten to form a triangular, pointed barb. The shank is flattened at its upper end, possibly to accommodate an eye (now missing) for suspension.

Context 4180; Find no 01416; Phase 4.

Scissors were introduced into Europe in the sixth or seventh century but only came into widespread use in the late 13th or 14th century. While small shears were used for domestic purposes, scissors may have been preferred by tradesmen such as hatters, glovers, tailors and barbers (de Neergaard 1987, 60). The D-shaped handle bow of 415 is similar to that of scissors from London dated to the early to mid 14th century (Cowgill *et al.* 1987, 114, 369), whilst decoration with overlaid silver wire occurs on the blades of slightly earlier shears from London (*ibid.*, 107, nos 316–17).

415 **Scissors.** Length 101 mm; width of bow 27 mm; width of blade 13 mm

Part of a pair of scissors. Part of one of the scissor blades survives (the tip is missing) along with its shaft and bow. There is a circular hole through the centre of the blade to accommodate a rivet which would have acted as a pivot for the two blades. Wound around the stem is a silver wire, only traces of which survive. Its survival is best on the back or outer edge of the shaft. The bow is D-shaped and its edges are rectangular in cross-section.

Context 4180; Find no 01550; Phase 4.

Shears were used in the shearing of sheep and napping of cloth, but the majority were smaller and would have been more appropriate to domestic functions such as cutting thread or hair. The overall dimensions of 416 put them above the normal size range of domestic shears, but the blades are probably not long enough for use in sheep shearing. The relatively wide span across the diameter of the handle bow would mean that a strong cutting action could be attained, whilst the long handle and slender blades might be suitable for an accurate and continuous cutting action (de Neergaard 1987, 58). The size and form of 416 suggest that they may have been used in cloth cutting or in aspects of tailoring, but they cannot be attributed definitely to a particular purpose. Number 418 is part of a pair of shears of the smaller, domestic variety.

416 **Shears.** Length 177 mm; width 34 mm; thickness 11 mm

Shears, almost complete. The ends of both blades are missing. The bow is oval, with rectangular cross-sectioned sides and the handle arms have circular cross-sections.

Context 1000; Find no 01554; Unstratified.

418 **Shears.** Length 80 mm; width 9 mm; thickness 6 mm

Part of a pair of shears, including parts of the blade and handle. The handle had a plain, circular bow.

The handle arm is sub-circular in cross-section. There is a small recess at the junction of blade and handle arm.

Context 4062; Find no 01497; Phase 7.

STONE OBJECTS (ILLUS 25 & 26)

Adrian Cox

A component of the smithing workshop identified in Phase 7, no 522 was used as a base for an anvil. It was set horizontally in a surround of sandstone rubble packed with sand.

522 **Anvil base.** Length 625 mm; width 580 mm; thickness 170 mm

Roughly rectangular block, smoothed on its upper face but with roughly finished sides. A rectangular slot (length 190 mm; width 185 mm; depth 90 mm) has been cut into the upper face to accommodate the foot of an anvil. Tool marks are clearly visible on the sides of the slot. (Not illustrated)

Meal Vennel; Context 3006; Find no 05664; Phase 7.

Number 524 is a probable gaming piece carved from jet. It was recovered from a garden soil in Phase 6. Evidence for the working of jet and lignite comes mainly from York, Dublin (Wallace 1981, 26) and Jarlshof (Hamilton 1956), suggesting a connection with Scandinavian influence and tastes (Mann 1982, 46).

524 **Gaming piece.** Length 27 mm; width 20 mm; thickness 12 mm

Carved jet gaming piece, possibly a chess piece, rectangular in cross-section with chamfered edges, and tapering from a flat base towards a curved terminal. Knife marks made during manufacture are visible just below the terminal, but apart from this the surfaces are smooth and the terminal itself is slightly worn, suggesting that the object had been quite frequently handled.

Context 3213; Find no 03804; Phase 4.

Hones were used to sharpen knives and other implements. Various types of stone were used for this purpose, although those which consist of a hard mineral set in a softer matrix were widely preferred for their superior honing properties (Moore & Oakley 1979, 280). Hones were often pierced near to one end for suspension from a belt, so that they could be worn about the person. Larger hones may have hung in a workshop. The two examples from Meal Vennel (526 & 527) are both pierced and both show signs of wear from use.

526 **Hone.** Length 105 mm; width 18 mm; thickness 19 mm

Irregularly-shaped hone, roughly sub-rectangular in cross-section, pierced near to one end. The hole is countersunk from both sides. One face is markedly smoother than the other three.

Context 1087; Find no 03795; Phase 6.

527 **Hone.** Length 52 mm; width 16 mm; thickness 8 mm

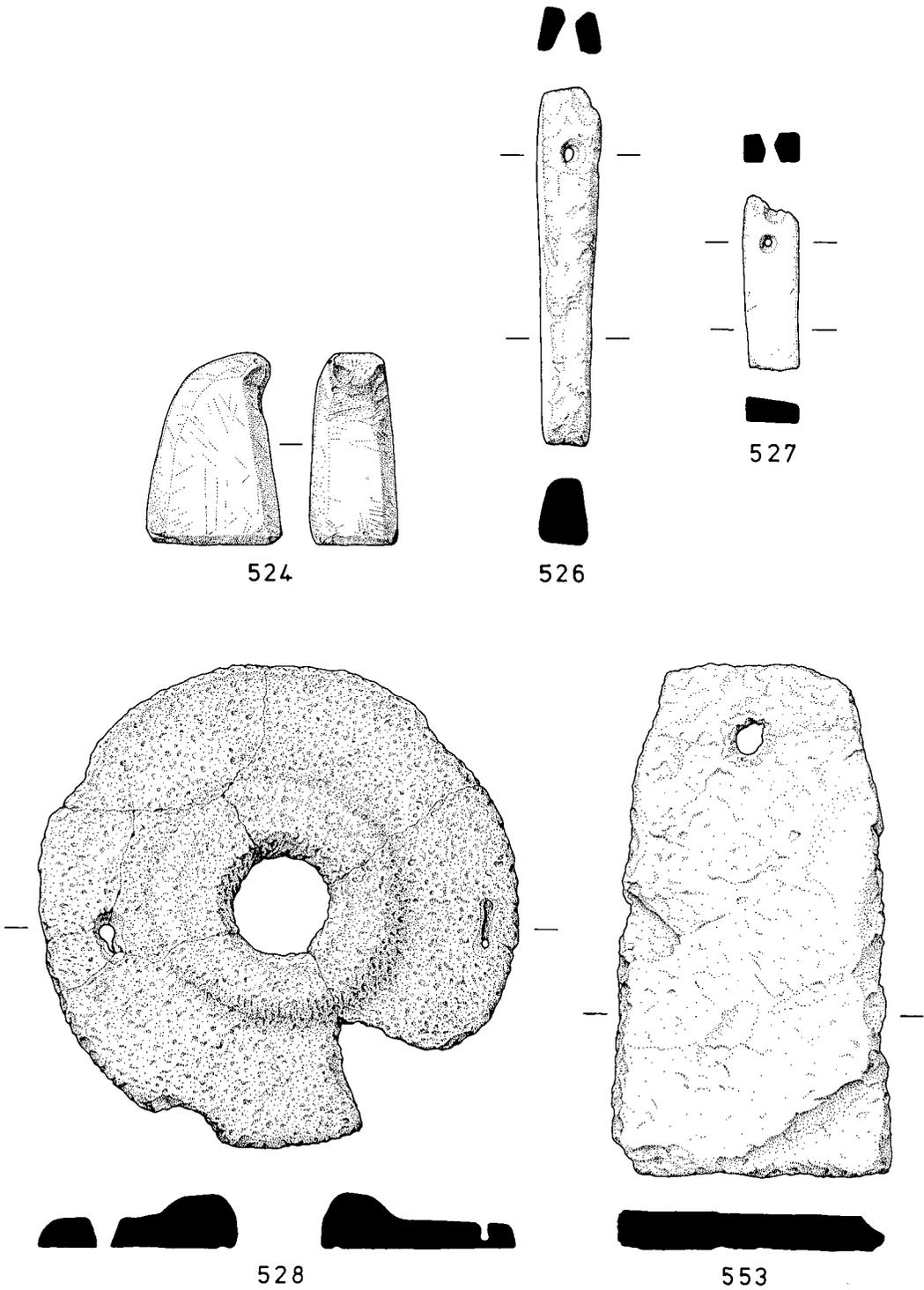
Rectangular cross-sectioned hone, pierced near to one end. A notch at the upper end may have been used for sharpening needles and other fine points.

Context 1092; Find no 03802; Phase 5.

Fragments of four quernstones were recovered. Three of those represented (including 528) are upper stones from rotary querns. Number 528 has a circular socket which penetrates the stone, and directly opposite this is a shallow linear groove cut into the surface. This quern may have been rotated by two people sitting opposite each other. It was found in Phase 2, overlain by a deposit of ash and apparently re-used as a hearth base. The stone may have shattered as a consequence of heating and cooling.

528 **Quernstone.** Diam 580 mm; max. thickness 66 mm

Near complete upper stone of a rotary quern, composed of six conjoining fragments. A linear handle



ILLUS 25 Meal Vennel: stone objects, No 524 scale 1:1; Nos 526 & 527 scale 1:2; No 528 scale 1:8; No 553 scale 1:4

socket exists close to the outer rim, and opposite this is a small, circular hole. There is a broad, raised collar around the central hole.

Context 1397; Find no 05663; Phase 2.

Twenty-nine stone slate fragments and a single complete slate (553) were recovered. Stone slates of this type were found in previous excavations in Perth at Kirk Close and Canal Street (Ford 1987d, 150) and at the Carmelite friary (Stones 1989, 149). Those represented at Meal Vennel probably fall within a fairly narrow size range. Considerably larger slates occur among the group from Kirk Close and at Cinema House, St Andrews (Cox forthcoming a).

553 **Roof slate.** Length 305 mm; width 169 mm; thickness 19 mm

Complete slate, tapering slightly at its upper end, with a hole (diameter 19 mm) near to one edge. The hole is cut from both sides.

Context 3157; Find no 05643; Phase 5.

Six spindle whorls, all of stone, were recovered from Phases 5 to 7. Spindle whorls were used in the hand spinning of wool or animal hair into yarn. Number 565, from Phase 5, is similar to an example recovered from the 1985 excavations at Canal Street, Perth (Cox, this volume). Number 566, also from Phase 5, has radiating bands of decoration. Number 569, from Phase 6, is decorated by encircling grooves.

564 **Spindle whorl.** Diam 29 mm; thickness 12 mm; weight 17 g

Complete, biconical spindle whorl with a flattened base and upper surface and a circular, central hole (diam 8 mm). The surface shows evidence of knife trimming or finishing. The edges of the hole exhibit evidence of wear from use, and the body of the whorl bears numerous scratches, radiating from the centre.

Context 1020; Find no 03799; Phase 7.

565 **Spindle whorl.** Diam 45 mm; thickness 7 mm; weight 30 g

Complete, discoid spindle whorl with a circular, central hole (diam 9 mm). Undecorated.

Context 1213; Find no 03786; Phase 5.

566 **Spindle whorl.** Diameter 34 mm; thickness 23 mm; weight 30 g

Complete, biconical spindle whorl with flattened base and upper surface and a circular, central hole (diameter 9 mm). The surface is decorated by radiating bands of incised, crossed diagonal lines. Four bands decorate the upper half of the whorl, and another four decorate the lower half. These two sets of bands interlock.

Context 1280; Find no 03803; Phase 5.

569 **Spindle whorl.** Diam 33 mm; thickness 24 mm; weight 28 g

Complete, globular spindle whorl with a flattened base and upper surface and a circular, central hole (diameter 10 mm). The surface shows evidence of knife trimming or finishing and is decorated by three turned grooves. The edges of the hole exhibit evidence of wear from use.

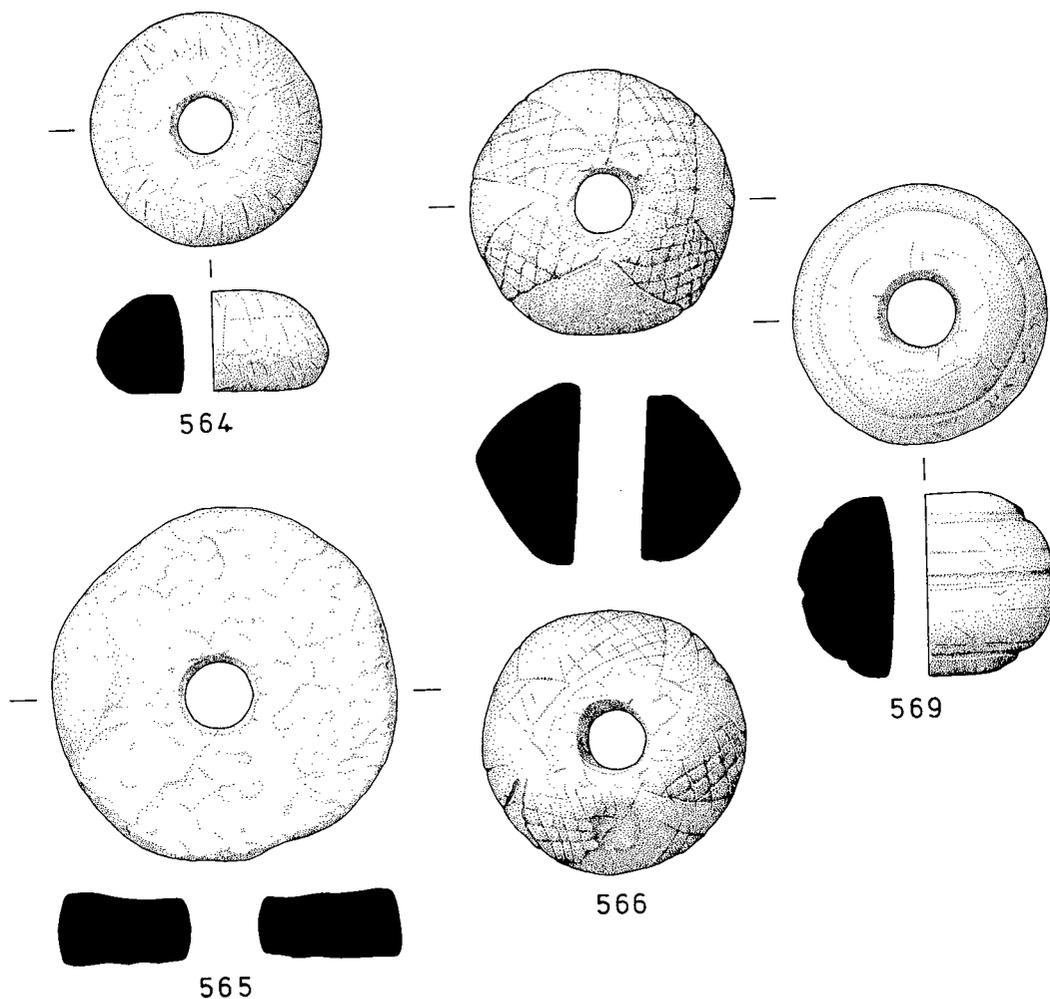
Context 3098; Find no 03797; Phase 6.

BONE AND ANTLER OBJECTS (ILLUS 27)

Adrian Cox

with species identification by C Smith

Beads such as 572 were made from large ungulate long bone shafts. Possible evidence for their manufacture comes from Coventry (Gooder *et al.*, 1964) and elsewhere, in the form of long bone fragments drilled with circular holes. The circular discs of bone thus produced would have been pierced through the centre and finished, possibly using a lathe. Trimmed, longitudinal splinters of long bone shaft, possibly waste from bead-making, were found at Northampton (Oakley 1979, 318, no WB97). A pierced rough-out of a bead was also found at Northampton (*ibid*, 318, no WB96).



ILLUS 26 Meal Vennel: stone spindle whorls, scale 1:1

Beads produced by this latter method would necessarily have had to be small in size, limited by the thickness of the wall of the long bone shaft.

572 **Bead.** Diam 11 mm; diam of hole 3 mm; thickness 8 mm

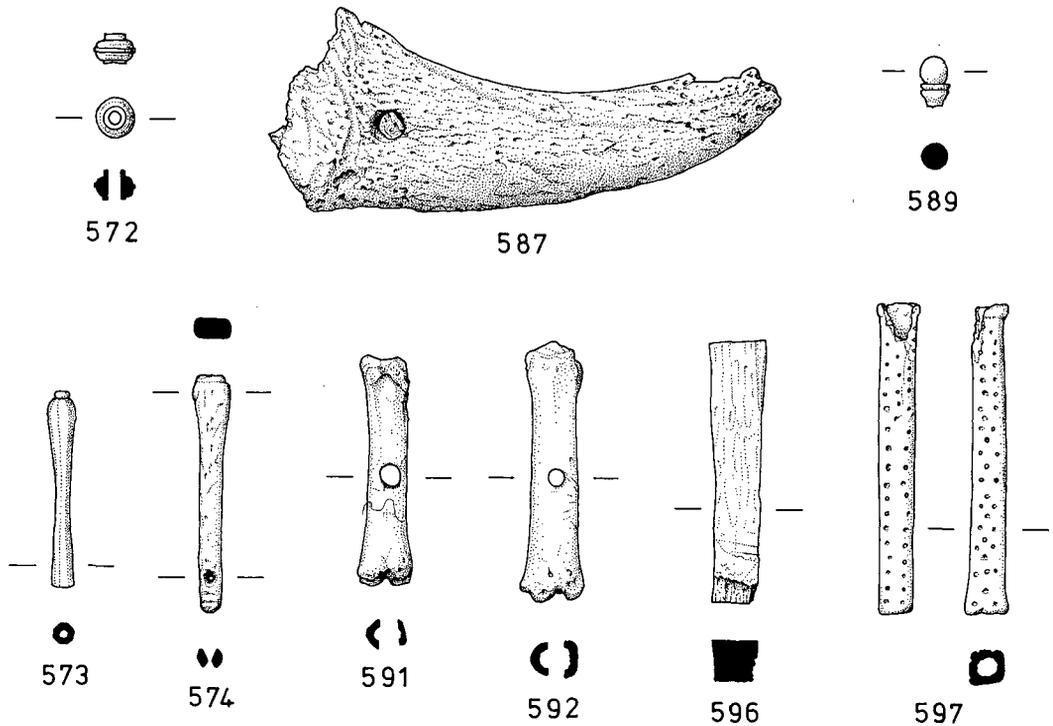
Derived from a large ungulate long bone, most probably of cattle. A circular, lathe-turned bead with a raised rim around the central hole.

Context 3061; Find no 01121; Phase 6.

Number 573 is a polished handle from a small implement, possibly an item of toilet equipment. Number 574 is one of two possible handles which appear to have been derived from red deer antler.

573 **Handle.** Length 51 mm; max. diam 8 mm

Possibly derived from a large ungulate long bone shaft. Polished handle, pared to form eight facets at the end into which a metal blade would have been inserted. The opposite terminal is bulb-shaped. A hole



ILLUS 27 Meal Vennel: bone and antler objects, scale 1:2

has been bored through the centre of the shaft. This is probably artificial as it does not follow a natural marrow cavity.

Context 2243; Find no 01124; Phase 5.

574 **Handle?** Length 62 mm; max. width 10 mm

Possible handle, probably derived from red deer antler. It has been trimmed and smoothed on all sides. A small hole has been bored through the narrow end, probably for suspension.

Context 3169; Find no 01117; Phase 5.

Perforated bones and horn cores

Eight bones, five of sheep or goats and three of cattle, were found to have holes bored through their proximal surfaces. Rough holes were sometimes made in the ends of bones so that the marrow could be extracted, but these holes are circular and have been neatly drilled or bored, suggesting a different

purpose. Two perforated cattle horn cores were also found. The hole through 587 is smooth-edged and penetrates one surface only, whereas that in the other horn core is rough-edged and penetrates both surfaces. Prummel (1978, 405) has suggested that rough-edged holes may have been made by driving a hook into each horn in order to hang up the carcass or skin for butchering or drying. Smooth-edged holes through horn cores may have been made for some other purpose.

587 **Perforated horn core.** Length 133 mm; diam of hole 9 mm

Cattle right horn core. A smooth-edged hole has been drilled neatly through the posterior surface near the base of the core. The hole penetrates the medullary cavity but does not extend right through the core. Context 2000; Find no 01130; Unstratified.

Horn-working evidence

The presence of numbers of cattle, sheep and goat horn cores, particularly in Phases 1, 2 and 7, may be interpreted as evidence for horn working in the vicinity. Evidence of horn working was also present at Scott Street (see below), where 13 horn cores were recovered from the fill of a cask-lined well. No horn artefacts or offcuts were recovered from either site, but this is not surprising since horn is composed of the protein keratin, which decays rapidly in almost all burial conditions, including waterlogged ones (Watkinson 1987, 75–6).

Pins

A bulb-shaped head from a pin or similar artefact (589) was found in Phase 4. Part of a trimmed and polished pig fibula shaft, possibly representing a pin fragment, was also found in this phase.

589 **Pin head?** Length 13 mm; max. width 6 mm

Origin unknown. Lathe-turned fragment, possibly the head of a pin or similar implement. The head is bulb-shaped with two flanges below it. The shaft is missing.

Context 3151; Find no 01127; Phase 4.

Number 591, from Phase 2 and 592, from Phase 5, are pig metatarsals, modified by a single perforation cut through the centre of the shaft. These objects, commonly called toggles, have been interpreted as bobbins for winding wool (eg Wild 1970) or as clothes-fastening devices (e.g. Curle *et al.* 1954). They are commonly found on medieval sites but there are also analogies in the North European Late Iron Age, where they have been identified on the basis of contemporary folk parallels as buzzbones: musical instruments or playthings to be mounted on a twisted string and spun (Lund 1981, 256–7). Scottish parallels include examples from St Nicholas Farm, St Andrews (Cox 1995, 64, illus 11, no 20), and Cinema House, St Andrews (Maxwell forthcoming).

591 **Toggle or buzzbone.** Length 60 mm; max. width 14 mm; diam of hole 6 mm

Pig right metatarsal III. The proximal end of bone has been trimmed or damaged. The distal end is unworked. A smooth circular hole has been bored through the midshaft in an antero-posterior direction.

Context 1408; Find no 01119; Phase 2.

592 **Toggle or buzzbone.** Length 68 mm; max. width 17 mm; diam of hole 5 mm

Pig right metatarsal IV. The proximal facet is eroded or trimmed. The distal epiphysis is unfused. A smooth-edged hole has been bored through the diaphysis in an antero-posterior direction. Knife cuts are present on the medial aspect of the diaphysis.

Context 3138; Find no 01128; Phase 5.

Antler offcuts

A small assemblage of antler offcuts was recovered from Phases 1, 2, 3 and 5. One offcut (596) may represent an unfinished artefact or a core piece from which slices have been taken.

- 596 **Unfinished artefact?** Length 69 mm; max. width 15 mm; max. thickness 14 mm
Possibly cut from cortex of red deer antler. Evidence of sawing is visible on all faces of object. Possibly a core piece from which slices have been taken. The object is rectangular in cross-section and wedge-shaped.
Context 2242; Find no 01126; Phase 5.

Miscellaneous

Number 597 is an object made from a sheep or goat metatarsal shaft, with an irregular pattern of punched dots on two adjacent faces. A similarly modified sheep or goat metatarsal was recovered at Kirk Close, Perth (Ford 1987e, 151, fig 82, no 159), with all four faces decorated with irregularly placed holes. On the Meal Vennel example the dots do not penetrate the bone wall and are more numerous, evidence of 39 being visible on each decorated face. Both these faces are incomplete as a small fragment is missing from the end of the object. The original number of dots on each face may have been 40. The only complete face of the object from Kirk Close has 10 holes in it. The regular numbers of dots or holes in both objects suggest that they may have been used as tally sticks.

- 597 **Tally stick?** Length 82 mm; max. width 11 mm
Possible tally stick made from a sheep or goat metatarsal shaft. The proximal and distal surfaces have been removed, probably by sawing. All four faces of the shaft (anterior, posterior, medial and lateral) have been smoothed to remove the natural contours of the bone. Two adjacent faces are decorated with a punched dot pattern. There is an incised line near the proximal end of shaft.
Context 1275; Find no 01123; Phase 3.

THE GLASS (ILLUS 28)

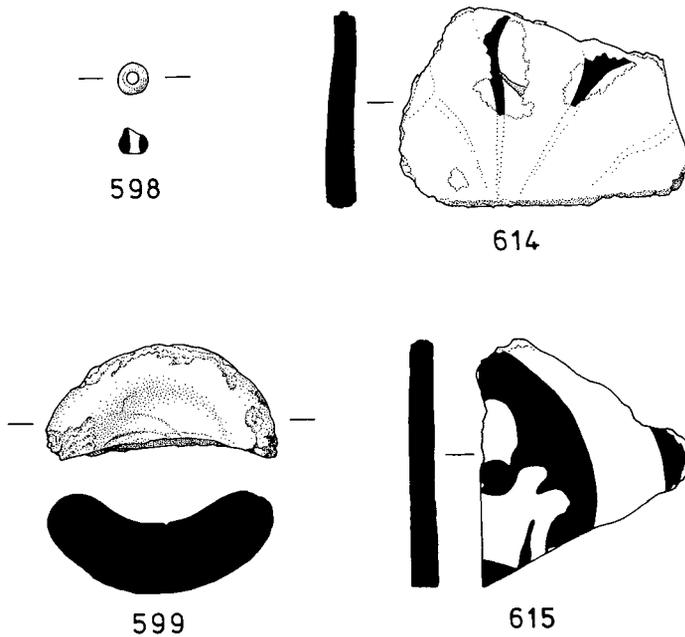
Adrian Cox

The glass recovered from the site includes a single bead (598), part of a probable linen smoother (599) and 14 fragments of window glass. Number 599, representing approximately half of a bun-shaped disc, was found in Phase 7. Both glass and stone objects were used for smoothing linen, and similar objects continued in use until comparatively modern times in Scandinavia (Charleston 1972, 143).

- 598 **Bead.** Diam 4 mm; thickness 3 mm
Circular, green bead with a central hole.
Context 1102; Find no 03134; Phase 7.
- 599 **Linen smoother?** Diam 61 mm; max thickness 21 mm
Part of a probable linen smoother. Approximately half of the object survives. The glass is severely weathered and some disintegration has taken place. The smoothing surface is cracked, and the glass now has a yellowish-brown colouration.
Context 1256; Find no 03130; Phase 2.

Window glass makes its first appearance in Phase 5, although taphonomic factors may have influenced its survival in earlier features. The earlier fragments among the assemblage are all altered and discoloured due to weathering, and in some cases the surface patina has laminated. In two fragments the core of the glass is revealed in its original state. It has a slight greenish colouration due to the presence of iron impurities in the glass.

Two fragments have possibly grozed edges. This is indicated by the presence of a series of tiny conchoidal fractures along straight edges, made when the uneven edges of cut pieces were pared down using a grozing iron or pincers. On two fragments (614 & 615) traces of reddish-brown paint survive. The design on 614 is likely to have come from a grisaille design of the mid-13th century.



ILLUS 28 Meal Vennel: glass, Nos 598, 614 & 615 scale 1:1; No 599 scale 1:2

There is too little remaining of the design on 615 to be certain of the original motif (P Graves pers. comm.). Pieces of glass would have been joined and supported by shaped lead strips or cames. However, none of the pieces recovered show evidence of lead staining from insertion into cames, and only one possible came fragment was recovered from the site.

614 **Window.** Length 39 mm; width 26 mm; thickness 2 mm

Fragment of painted window glass. The glass has weathered and both surfaces have suffered some disintegration. Traces of reddish-brown enamel paint exist on the surviving surface.

Context 3026; Find no 03139; Phase 7.

615 **Window.** Length 32 mm; width 28 mm; thickness 3 mm

Fragment of painted window glass. The glass has weathered and is now entirely opaque. Traces of reddish-brown enamel paint survive.

Context 3084; Find no 03136; Phase 6.

COINS AND A JETON (NOT ILLUSTRATED)

Nicholas Holmes

Thirteen coins and a jeton were recovered, all but one minted before 1400. Owing to shortage of space, only the three items of greatest numismatic interest are discussed and described here, but copies of the full report and catalogue may be obtained from N Holmes at the National Museums of Scotland.

The cut farthing of William the Lion (621) is from a penny of the moneyer Henri le Rus, whose name appears on coins of Perth and on some with no mint attribution. Since only one quarter of the reverse legend is present on this farthing, it can not be assigned with certainty to one or the other issue, but the fact that the legend is blundered, with the E omitted, suggests an unassigned coin

of Burns class IV (Burns 1887, 80–1). Burns published one specimen with this abbreviation in the first reverse quarter (*ibid* 89 and Plate VII, no. 61), and another specimen from the same reverse die is in the collections of the Ashmolean Museum, Oxford (Bateson and Mayhew 1987, Plate 3, no. 78). The Perth farthing has a seven-pointed star in the first quarter of the reverse, as do the two complete pennies, and it is very possible that it was struck from the same reverse die.

The sterling imitation of the Dukes of Brabant (632) is only the second recorded specimen of a coin of this issue. The other is described by Mayhew (1983, 48) as ‘a (?)unique though almost illegible and heavily debased coin from Antwerp’. The reverses of the two coins may well be from the same die.

The English jeton (634) is an unusual find from a Scottish site, although two roughly contemporary examples were found during excavations at Kinnoull Street in Perth (Holmes 1995, 965). Most jetons from Scotland are later in date and of French or German origin.

621 **Farthing**. Silver: diam 10 × 9 mm; weight 0.27 g
William I (the Lion) 1165–1214. Cut farthing from a penny of short cross (third) coinage, probably class IV of this issue without the mint name. Obverse illegible and probably weakly struck. Reverse inscribed ‘+hN’, with a seven-pointed star in the angle of the cross. (Not illustrated)

Context 1249; Find no. 02864; Phase 5

632 **Sterling (crocard)**. Debased silver: diam 18.5 × 18 mm; weight 0.52 g;
die axis 5.0

Dukes of Brabant, sterling of Antwerp, probably *c.* 1296–9. The obverse is inscribed +MO[]JTWERPIE and bears a rosetted facing bust. The reverse is inscribed D[VX]/[BR]A/BAN/TIE, followed by a diagonal stroke above a crescent, and bears a cross with a quatrefoil in the centre and three pellets in each angle. Type as Mayhew (1983), 48 and Plate 9, no. 57a. The coin is unevenly struck, but shows only very slight wear. (Not illustrated)

Context 3155; Find no. 02867; Phase 5

634 **Jeton**. Latten: diam 19.5 mm; weight 1.18 g
English jeton, possibly *c.* 1350–1400. The obverse bears a shield, possibly with three linear bends, and a border of rays. On the reverse is a triple-stranded cross fleury with a lis in each angle and no border. Type as Mitchiner (1988), 126, nos. 294–295a. The jeton is pierced through the middle. The obverse is highly corroded; the reverse shows moderate wear. (Not illustrated)

Context 3000; Find no. 02863; Unstratified

THE FLINT (ILLUS 29)

Jill Harden

Thirteen pieces of flint, including six struck items, were retrieved from the excavation. The flints are what might be expected in soils associated with garden ground in medieval or post-medieval Perth. They reflect the fact that people have inhabited the area since prehistoric times. However, no detailed inferences can be drawn from these few stray finds, weighted as they are on retouched or utilized pieces. Number 635 is of Green’s shaped type DH or Kilmarnock type, usually associated with later Beaker sites (Green 1980).

635 **Arrowhead**. Length 32.2 mm; breadth *c.* 27 mm; thickness 5.4 mm

Barbed and tanged arrowhead. A red-orange, broken but unabraded tertiary flake. Incompletely bifacially retouched to form a triangular shape and then further refined to produce rounded barbs (one of which has broken off) and a tang with a pointed base. The barbs are shorter than the tang.

Meal Vennel; Context 3064; Find no 03781; Phase 6.

CERAMIC ROOF TILES

Adrian Cox

Twenty-two ceramic roof tile fragments were recovered, including both glazed and unglazed examples. None of the fragments have distinguishing features such as peg holes or nibs. Eleven

fragments are of curved tiles and four are from flat tiles likely to be peg tiles. The remainder are too fragmentary to allow their form to be recognized. The small number of tile fragments recovered from this site, with none occurring before Phase 5, may reflect the limited use of tiles in medieval Perth. Evidence from the excavations at Perth High Street suggests that the roofs of buildings investigated there were unlikely to have been completely tiled, but that tiles were used selectively on certain areas of roof (Bogdan & di Falco unpublished).

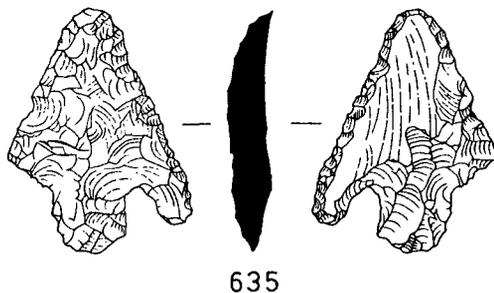
INDUSTRIAL RESIDUES

Adrian Cox

A large quantity of ironworking slag was recovered from throughout the archaeological sequence. Slag was present in all phases, and often occurred in association with deposits of ash, mainly in the fills of negative features. Slag was also used as infill material to repair surfaces such as that of a gravel path in Plot III, Phase 7.

Samples taken from selected major features on the site were sieved into fractions and examined microscopically to identify their inorganic components. This produced qualitative information which, in combination with artefactual and botanical evidence, helped to define the functions of some features. One of the most diagnostic materials identified was iron hammerscale. Both the spheroidal and plate varieties were identified in samples taken from throughout the archaeological sequence, helping to identify deposits associated with ironworking activity. Both varieties of hammerscale are produced by the smithing process, as tiny particles of metallic waste which fly outwards from the point of impact when bar iron is beaten on an anvil. Hammerscale also becomes separated from the metal in a hearth. Particles of spheroidal hammerscale, which would have travelled far enough through the air to cool before striking a hard surface, proved more easily identifiable in the samples, as the fragments of plate hammerscale, produced in the immediate proximity of smithing activity, tended to cluster together. Particles of spheroidal hammerscale proved to be most numerous per unit of volume in samples taken from Phase 7, particularly from the fills of pits in Plot I, which also contained many iron artefacts and large quantities of iron working slag. It appears that the greater part of the debris generated by the smithing complex in Plot II was deposited within negative features in Plot I.

A small number of pieces of once-molten copper alloy was also identified in samples, although no concentrations of this material were evident. The presence of this material may have resulted from the actions of high-temperature processes upon fragments of copper alloy sheet, or as a by-



ILLUS 29 Meal Vennel: flint, scale 1:1

product from the casting of copper alloy. However, there is little supporting evidence for the casting of copper alloy.

Only one possible ceramic crucible fragment (663) was recovered, from a loam deposit in Phase 5. Along with four other vitrified fragments, considered in the light of analysis to be pieces of hearth or furnace lining, 663 was submitted for X-ray fluorescence analysis at the National Museums of Scotland. The form and vitrified state of the fragment suggest that it was part of a crucible but the analytical results did not provide conclusive evidence of its function. The extensive vitrification on the inside surface suggests that it had been heated from above, which would not normally be the case with a crucible used to melt copper alloy for casting. The fragment could possibly be from a shallow crucible used in precious metalworking (Wilthew 1990), however no supporting evidence for this type of activity was found.

663 **Crucible fragment?** Length 35 mm; width 19 mm; thickness 4 mm

A sherd of East Coast White Gritty ware from a vessel possibly used as a crucible. All edges of the fragment are broken. There is a vitreous deposit on the internal surface. (Not illustrated).

Context 3141; Find no 00526; Phase 5.

THE LEATHER

Clare Thomas

The leather assemblage consists of 76 fragments, comprising mainly of offcuts (24) and scraps (29), but also including a small amount of shoe leather, both soles (9) and uppers (12), as well as two miscellaneous fragments. However, the shoe leather is so fragmentary that it is not possible to define either sole or upper types. This assemblage is characterized by its exceedingly worn and fragmentary state. It includes only very small parts of shoes, and only two offcuts that might be from the cutting out of soles. It does not suggest that leatherworking was carried out on or near the site. It more probably represents domestic refuse.

THE ANIMAL BONE

Catherine Smith

Mammal bone

The mammals identified were cattle, sheep/goat, goat, pig, horse, red deer, roe deer, dog, cat, badger, hare, rabbit, and rat species. A comparison of the relative frequencies of animals present indicated that, as at urban medieval sites throughout Scotland, the remains of cattle predominated greatly over those of the other domestic animals, while wild animals such as deer occurred only infrequently (see Tables 3 & 4). Because of the importance in terms of revenue of the hide trade to the economy of Scotland in the medieval and immediate post-medieval periods, it is likely that cattle were raised primarily for their hides rather than for their meat. Evidence of the late age of death of the great majority of the cattle at Meal Vennel and at similar sites throughout Scotland (Hodgson 1983, 12) tends to support this view.

The dominance of cattle over sheep/goat was most marked in later medieval Phases 4–5; however in Phases 6–7, the number of sheep/goats showed an apparent increase with respect to cattle which may be related to the fluctuating importance of wool in the Scots economy. A study of the Exchequer Rolls of Scotland has revealed periods of decline and growth in the exports of wool

TABLE 3
Total numbers of bones, arranged by species and phase.

	Phases 1–3	Phases 4–5	Phases 6–7	Total
Cattle	622	1550	1645	3817
Sheep/goat	227	362	818	1407
Goat	25	28	10	63
Pig	66	121	122	309
Horse	10	17	54	81
Red deer	1	3	2	6
Roe deer	–	6	1	7
Dog	5	22	95	122
Cat	8	5	17	30
Hare	–	2	2	4
Rabbit	–	–	1	1
Rat <i>sp.</i>	–	–	1	1
Badger	–	–	1	1
Domestic fowl	15	22	111	148
Goose				
(Grey/ domestic)	7	11	18	36
Duck.				
(Mallard/ domestic)	3	3	5	11
Wigeon	–	1	–	1
Barnacle goose	–	–	1	1
Buzzard	1	–	–	1
Cormorant	1	–	–	1
Raven	–	–	1	1
Small goose <i>sp.</i>	1	–	–	1
Corvid <i>sp.</i>	1	–	–	1
Wader <i>sp.</i>	–	2	–	2
Unidentified bird	–	2	–	2
Fish	87	68	136	291
<i>Subtotal</i>	1080	2225	3041	6346
Large ungulate	960	1831	2276	5067
Small ungulate	270	339	656	1265
Indet. mammal	619	1211	1474	3304
<i>Subtotal</i>	1849	3381	4406	9636
<i>Grand total</i>	2929	5606	7447	15982

Note: Deer antler fragments unattached to skulls are omitted.
Fish bones are not identified to species.

during the late 15th to late 16th centuries (Guy 1986, 63), corresponding roughly to post-medieval Phases 6–7 at Meal Vennel. Perth was considered to rank fourth in importance among the burghs of Scotland as far as customs revenues were concerned (*ibid.*, 62) and it is possible that the animal bone evidence may be reflecting a local period of growth in the Scottish wool trade.

Evidence for involvement in production of hides and woollfells came from cuts on the skulls and lower limbs of cattle, sheep/goats and horses. The solitary cut bone of dog may indicate the production of pelts, as might a hacked badger bone, these single finds indicating home consumption rather than export. However, as late as the 18th century, dog skins were being imported from Scotland into France, there to be converted into shoe uppers (Morrison 1796–1806, VII, 412).

Further evidence of animal-based activity was provided by the antler offcuts retrieved from both medieval and post-medieval contexts. It was noteworthy that the antler fragments were not accompanied by proportionate numbers of other bones of red and roe deer, a feature noted at many early settlements in Northern Europe (MacGregor 1989, 107). The implication is that the antlers had been brought to the site specifically for artefact production. Antler possesses greater mechanical

TABLE 4
Percentages of food forming mammals from 13 sites in Perth, based on fragment count.

	Cattle	Sheep/goat	Goat	Pig	Horse	Deer
High Street	63.5	22.2	4.9	8.3	1.0	0.1
St Ann's Lane	57.6	32.8	*	8.9	0.4	0.2
Methven Street	81.5	17.3	*	1.2		
Kirk Close	76.1	18.7	*	4.8	0.2	0.1
Mill Street	62.7	26.3	4.1	3.8	3.0	0.2
King Edward Street	62.6	23.3	2.8	10.5	0.5	0.3
Kinnoull Street	63.1	29.3	*	7.6		
Blackfriars House	67.1	21.4	11.4			
Scott Street	66.7	27.8	0.2	3.0	2.1	0.2
Canal Street I	58.2	32.1	0.1	5.8	3.6	
Canal Street II	67.7	27.1	*	3.4	1.8	
Canal Street III	66.0	28.1	*	4.5	1.3	0.1
Meal Vennel Phases 1-3	65.4	23.9	2.6	6.9	1.1	0.1
Meal Vennel Phases 4-5	74.3	17.4	1.3	5.8	0.8	0.4
Meal Vennel Phases 6-7	62.0	30.8	0.4	4.6	2.0	0.1

Notes: Loose teeth and unattached antlers are omitted from the fragment count.

* indicates that sheep and goat are expressed as one figure.

strength than more readily available long bones obtained easily from food refuse, and was thus preferred for the production of objects which were to be subjected to heavy and regular wear, such as combs (*ibid.*).

Evidence from abnormal bones may indicate the reason for culling some of the cattle; bones were found displaying the symptoms of conditions such as osteoarthritis, spavin, high ring bone and laminitis. It is possible that some of these animals may have been plough oxen, drafted out because of their inability to work through lameness.

As regards the size of the domestic animals, there appears to be no change in their typically small stature between the early and post-medieval periods at Meal Vennel. This is not surprising, since deliberate attempts to improve the quality of Scottish livestock do not seem to have been instigated until the late 17th and early 18th centuries, and even so these experiments by forward-looking landowners have been described as a 'straw in the wind' (Lenman 1977, 23). Stock-rearing improvements, accompanied by new methods in pastoral farming, spread only gradually throughout the country during the course of the 18th century through the efforts of, for example, the Honourable Society of Improvers formed in Edinburgh in 1720 (Smout 1972, 272, 276).

Bird bone

Bird species found at Meal Vennel included domestic fowl (*Gallus gallus*), domestic or greylag goose (*Anser anser*), mallard or domestic duck (*Anas platyrhynchos*), barnacle goose (*Branta leucopsis*), wigeon (*Anas penelope*), cormorant (*Phalacrocorax carbo*), buzzard (*Buteo buteo*), raven (*Corvus corax*) as well as birds identified only as corvid, possible wader and small goose species. The most numerous avian species was the domestic fowl, followed by goose (see Table 3). These birds, along with most of the wild species found at the site, would have contributed to the diet of the inhabitants of the medieval town. However, buzzards and ravens, which have been found at other sites in medieval Perth (eg Canal Street III; Coleman, this volume) were unlikely to have been eaten by humans. All of the bird species recovered from Meal Vennel may still be found in Perthshire, dependent on the time of year.

BOTANICAL REMAINS

Alan Fairweather

Thirty samples were selected for analysis, from major features throughout the stratigraphic sequence. Sub-samples of 500 ml were taken from each of the selected samples, and these were soaked and wet sieved into fractions of the following particle sizes: >2 mm, >1 mm, >500 micrometres and >300 micrometres. These were then examined microscopically. An initial examination was undertaken to identify inorganic components within each sub-sample (see Cox, Industrial Residues, above); thereafter the sub-samples were examined in order to identify the botanical remains. This report briefly summarizes the main findings. The full results can be found in archive.

Wood charcoal fragments, oats (*Avena*) and barley (*Hordeum*) were present in samples taken from the grain-drying kilns in Phase 1. Small fragments of clay were present, which may have come from the kiln linings. These contained carbonized straw or grass remains.

Ash deposits from Phase 2, possibly associated with ironworking, yielded abundant wood charcoal fragments, carbonized grains and one awn of *Avena*, but very few other plant remains. Samples taken from the floor levels of a building in Phase 3 yielded wood charcoal fragments and several individual seeds of 'weed' types, including spurrey (*Spergula arvensis*) and sheep's sorrel (*Rumex acetosella*).

Numerous carbonized grass or straw stems were present in samples from the floor surfaces of the stone buildings identified in Phase 5, and from the fill of a hearth in the same phase. The hearth fill also contained a greater abundance of grass seeds and carbonized *Calluna* leaves than the other samples, in addition to a bracken fern pinnule (*Pteridium aquilinum*) and carbonized *Avena* grains. Remains in the floor samples were mainly carbonized, as in the other samples, but the non-carbonized material was distinctive in its preservation as most remains were partially mineralized. Nearly all the carbonized material from the floor was clean. This would be consistent with a puddled clay floor or a wet floor kept dry by the use of strewn plant material. The paucity and species of remains, however, are not indicative of material one might use for this purpose. It would seem more likely that the small amount of material found had been incorporated in the flooring by trampling or deliberate puddling.

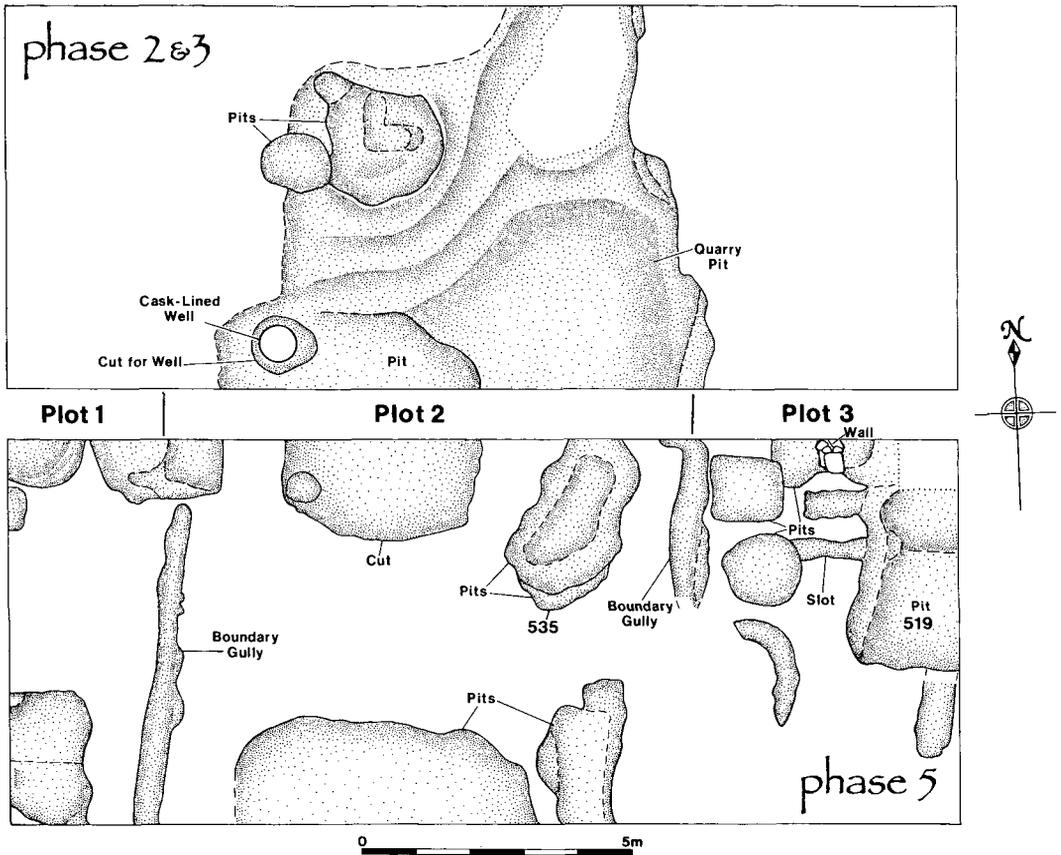
Grains of *Avena* were present in most of the samples to a greater or lesser extent. Nearly all were carbonized. Only one fracture scar of *Avena fatua* (wild oats) was found but it is probable that a proportion of the oat grains found belong to this species. *Avena strigosa* was the most commonly encountered carbonized material apart from wood charcoal fragments.

Other than those mentioned above, species most commonly encountered include *Chenopodium album* (fat hen), which was the most common weed species, *Corylus avellana* (hazel) as carbonized nutshell fragments, *Poa sp.* (meadowgrasses) and *Sagina spp.* (pearlworts).

EXCAVATIONS AT SCOTT STREET

Jonathan Burrows

This site was situated in the backlands of 68–86 Scott Street and 69–83 Canal Street (NGR: NO 117234), in the south-western corner of the medieval burgh (illus 2). The excavation was carried out between April and July 1989. Three trenches (A, B & C) were excavated; the main trench (Trench A) measured 17.6 m by 7 m, Trench B measured 17 m by 1.1 m and Trench C measured 7 m by 1.5 m. The excavation was designed to locate midden and deep occupation deposits, and to discover whether a ditch located during the Meal Vennel excavations (Phase 1)



ILLUS 30 Scott Street: Phases 2 & 3 and Phase 5, principal features

continued to the south of South Street. By laying out Trench A from east to west it was hoped that it would cross the backlands of at least three early South Street properties. The archaeological sequence was divided into seven phases of activity. The following account refers exclusively to Trench A (illus 2), in which the majority of features was recorded; excavation of Trenches B and C is described separately, below.

PHASE 1: EARLIEST ACTIVITY

Overlying natural sand was a sequence of five extensive sand and loamy sand deposits which may represent disturbed or redeposited natural subsoils. These deposits contained few inclusions but did produce one sherd of 14th-century Scarborough ware, from a pottery assemblage of four sherds. However, this may have derived from intrusive pit-digging in later phases.

PHASE 2: QUARRY PIT (ILLUS 30)

A substantial pit, possibly a quarry pit for the extraction of sand, had been cut into the central area of the trench. This was partly filled with two silty clay deposits and a sand deposit. These thick,

aceramic, primary fills lay horizontally within the quarry pit, and may have been deposited in a short space of time, given that there were no signs of erosion or weathering to the quarry sides and there were few finds present.

PHASE 3: CASK-LINED WELL (ILLUS 30)

Overlying the eastern edge of the quarry pit was a sequence of dumped layers, some of which contained organic material such as straw and twigs, as well as a small amount of animal bone. The inclusions probably represent domestic waste from nearby properties. Pottery recovered from these deposits gives a date range around the mid- to late 13th century.

Cutting the primary fills of the quarry pit was a roughly cylindrical pit which contained a wooden cask (Artefacts Catalogue no. 39), interpreted as the lining for a well (illus 7). The small gap between the cut and the cask was backfilled with a brown clay loam to hold the cask in place. The cask consists of sawn staves bound by rings made of split withies. Fragments of timber found in the uppermost fill of the well-shaft may represent the remnants of a lid for the well. Holes had been bored just above the lower end of each of the cask staves, almost certainly to prevent the collapse of the cask by allowing the ground water to pass freely through its sides (Cox, below).

There was a large amount of animal bone in the fills of the cask-lined well. Of particular interest was the high concentration of horn cores, 13 of which came from the uppermost fill of the cask. Some of the cores showed signs of knife cuts at their bases suggesting that there had been small-scale horn working in the vicinity.

Three further pits cut the western edge of the quarry pit. Their shape, form and fills suggest that the two larger pits were probably domestic rubbish pits. The function of the smallest of the three pits was unclear.

PHASE 4: BACKFILLING OF QUARRY PIT

The upper level of the quarry pit was backfilled with a thick homogenous clay deposit. As the upper edges of the quarry pit showed no signs of weathering or erosion, it appears that the final infilling occurred in a short space of time, possibly during a reinstatement of the land. The pottery assemblage recovered from this phase indicates a late 14th-century date.

PHASE 5: PROPERTY BOUNDARIES AND PIT COMPLEX (ILLUS 30 & 31)

The site was, for the first time, divided into three properties (Plots 1, 2 & 3) by two boundary gullies, lying to either side of the infilled quarry pit. These provided the only evidence for property boundaries on the site and closely resembled gullies found on the nearby Canal Street II excavation (Spearman 1987, 76–7). The positions of the two gullies correspond with the burgage plots known to have existed in this area in the 19th century (OS map 1863).

Within Plot 1 there was a number of pits which may originally have been cut for the extraction of sand, but which were later reused as rubbish pits. Within Plot 2, a large, sub-oval pit (Context 535) cut the infilled quarry pit. This pit was later interpreted as a possible wattle-lined well on the basis of remnants of *in situ* wattling revealed at its base on the southern side, although there was no evidence for a well-shaft through the quarry pit fills. This possible well pit was later recut and the abundance of pottery and animal bone recovered from the



ILLUS 31 Scott Street, Phase 5: pit complex, Plot 3, looking north

primary fill of this latter cut indicate that it had been reused as a rubbish pit. The fills also contained horn cores, again indicative of hornworking in the vicinity.

To the south, two further pits cut the infilled quarry pit. The westernmost of these had been used as a rubbish pit and contained animal bone and pottery in its fills. The fills of the other pit, on the other hand, contained no finds and its function remains unclear. Lying to the north of these pits were two deposits which may have been used to level up the slumped fills of the quarry pit. Cutting one of these deposits was a sub-circular feature of uncertain purpose.

In the northern area of Plot 3 were two sub-rectangular pits, a circular pit and a slot. The size, shape and

depth of these pits corresponds with features interpreted as tanning pits from excavations in Northampton and Aberdeen (Williams 1979, 103; Evans 1987, 18). However, none of the pits was clay- or plank-lined and there were no traces of lime residue or other deposits normally associated with the tanning process. Only the south-western corner of a large, deep sub-rectangular pit (Context 519) was exposed. Amongst its fills was a brown peat-like deposit with a high organic content, which had a strong dung-like smell. It is possible that this pit was used in the bating process, during which hides were immersed in a mixture of dog dung (also bird droppings) and warm water (Williams 1979, 101). A thin layer of sand over this deposit may have been inserted to seal the dung and contain the smell. The nature and composition of the fills above this sand were markedly different and suggest that the pit had been reused as a domestic rubbish pit. However, the evidence for its primary function remains inconclusive.

To the west of Pit 519 was a circular pit with near vertical sides and a flat base. The assemblage of finds recovered from its upper fill reflects domestic refuse. Connecting Pit 519 and the circular pit was a slot, aligned east/west. These three features appear to be contemporary with each other, and, if Pit 519 was used in the tanning process, then possibly all three features were associated. Alternatively, they could be interpreted as forming a cess tank complex, in which the main tank may have been Pit 519, the slot representing the overflow and the circular pit the sump.

To the north of these were a further two pits. Finds recovered from their fills suggest that they may have been used as rubbish pits. Cutting the easternmost of these was the foundation trench for a wall consisting of two courses of unmortared, rough hewn and squared stones, aligned north/south. Only c 0.60 m of this wall was revealed, the remainder continuing beyond the northern section.

In general, the composition of the fills provided little evidence for specific functions for many of the pits from this phase. However, the few finds that were recovered from the fills probably represent domestic refuse and may not reflect primary usage. Both the pottery and the other finds support a date range between the 14th and 15th centuries for this phase.

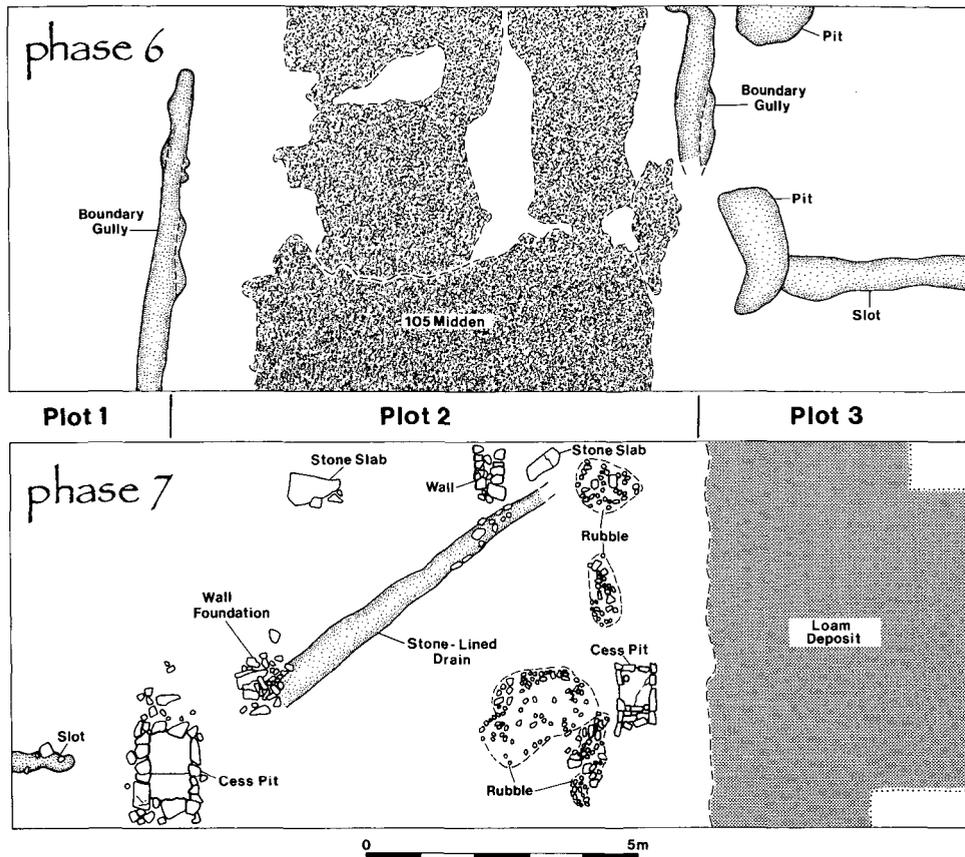
PHASE 6: MIDDEN AND MISCELLANEOUS CUT FEATURES (ILLUS 32)

The two boundary gullies established in Phase 5, demarcating Plots 1, 2 and 3, were still in use in this phase. Sand and loam was deposited in the area west of the quarry pit (Plot 1). Cutting these deposits were four irregular-shaped cuts of uncertain purpose. A rich midden was deposited across Plot 2, containing within it the largest assemblage of finds found on the site; these are dated to the early to mid-15th century. The midden comprised four loam deposits, the most extensive of which (Context 105) contained large sherds of unabraded pottery (Cheer, below) and a considerable amount of animal bone (Smith, below). Horn cores with cut marks, which may have been waste from horn working, were also found. On Plot 3 an extensive clay deposit was cut by two pits and by an east/west slot which may have been an internal plot division. Whilst the original function of the northernmost pit is uncertain, it was possibly later used for the disposal of rubbish.

PHASE 7: CANDLEMAKER CLOSE (ILLUS 32)

In Plot 1 a sand deposit with a compacted surface was cut by a small slot.

Within Plot 2 was a number of post-medieval stone features, which were possibly remnants of buildings fronting onto Candlemaker Close. Two stone slabs lay in the northern part of the excavated area, but their fragmentary nature made it uncertain as to whether they formed part of a floor surface. Four distinct rubble deposits could have been demolition debris of buildings fronting onto the Close. To the east of these was a single surviving course of a rectangular cesspit, built of 19th-century brick and probably associated with the Co-operative Society buildings. To the west of this were three surviving courses of a rectangular, stone-built cesspit, which contained 19th-century glass and pottery. This cesspit and a stone-lined drain may have been associated. Remnants of a wall foundation



ILLUS 32 Scott Street: Phases 6 and 7, principal features

overlay the west end of the drain and, therefore, probably post-date it. The wall foundation, which was of uncertain alignment, comprised a loose arrangement of bricks, rough-hewn stones and fragments of wood bonded with mortar. A short length of stone wall, aligned north/south and continuing beyond the northern section, may have been part of a building on Candlemaker Close. It was constructed of dry stone and stood to a height of three courses.

On Plot 3, in the north-eastern and south-western corners of the site, two extensive clay and loam deposits were cut by two substantial foundation blocks, which probably supported part of the 19th-century Co-operative Society buildings. One of the loam deposits appeared to have been considerably disturbed as it contained large amounts of animal bone, a coin of Mary Queen of Scots struck in 1557, and 38 sherds of modern pottery.

TRENCH B (ILLUS 2)

A second trench, aligned east/west, situated c 30 m to the south of Trench A, was excavated to locate the projected continuation of the Phase 2 quarry pit, which, when it was first exposed in Trench A, was initially thought to represent a ditch. However, excavation in Trench B established that it did not extend that far south. This, together with the irregular shape of the feature, confirmed that the cut was probably a large quarry pit.

Within Trench B a shallow well pit was recorded in section, its base lined with wattle. Sand formed the primary fill at the bottom of the well and would seem to have been the result of erosion. The secondary fill may represent the collapse of the well edges, whilst the upper fills were probably the result of dumping or deliberate backfilling of the well.

TRENCH C (ILLUS 2)

A third trench, aligned north/south, was excavated in the south-eastern part of the site. No archaeological features or deposits could be identified in this trench.

SCOTT STREET: SPECIALISTS' REPORTS

Summary discussions by material type are presented below. Full reports can be found in the project archive, which has been lodged with the National Monuments Record of Scotland.

THE POTTERY

Peter Cheer

With the exception of Phases 5 and 6, the site did not produce a large amount of pottery and little can be reliably deduced from it. What pottery there was supports a late 14th- to 15th-century date range for Phases 3 to 7. The Scarborough ware from Phase 6 (Farmer 1979, Type 2) would suggest an earlier start for the date bracket because of its unabraded condition, however this need not be the case. The production dates of Scarborough ware are still unclear, a decade after debate on the subject was opened (Farmer & Farmer 1982; Pearson 1982; Watkins *et al.* 1982). The assemblage of pottery from the Phase 6 midden/levelling deposit (Context 105) contained many large unabraded sherds (average weight 22.7 g). This lack of abrasion may suggest that the deposit had seen little or no disturbance and accumulated over a short period of time.

The pottery from Context 105 dates from the early to mid-15th century, although its deposition may represent a short-lived event in the history of the site. The Low Countries Redware, Beauvais and Langerwehe stonewares would support a late 14th- to 15th-century date. The sherd of early Valencian lustreware from Phase 5 should date between 1375 and 1425 and can now be added to the small group of this fabric from excavations in Perth (see Cheer, above). With a small number of imported sherds, arguments of date that involve the absence of given fabrics are very weak but the lack of Raeren stoneware suggests that the assemblage may predate c 1475 (J Hurst, pers comm).

The size of this assemblage is sufficient to encourage the use of statistical comparison with other published groups from Perth. The closest comparable assemblage is from Pit 128 at Blackfriars House (Hall 1995), which contained two coins of James III (1460–88) and was dated on ceramic grounds to the 15th century.

There were also 24 sherds (441g) of reduced greenware in the Scott Street assemblage. This fabric, the dominant post-medieval pottery type in much of Scotland, was first discussed by George Haggarty (1980). It is unclear when this fabric begins to appear, or how quickly it replaces red earthenwares such as Perth Local Ware. Reduced greenware is known from 15th-century contexts (Jope *et al.* 1959) and is certainly not intrusive at Scott Street. This fabric was absent from the 15th-century pit fill at Blackfriars House, Perth (Hall 1995) but was found in a late 15th-century midden deposit at Bernard Street, Leith (MacAskill *in* Holmes 1985) although it was thought to have been derived from overlying deposits on the Leith site.

The assemblage of pottery from the Scott Street excavation is one of the few late medieval

assemblages from excavations in Perth as, on most other sites in the burgh, the later deposits have been removed by building foundations or cellars.

TABLE 5
Pottery quantification.

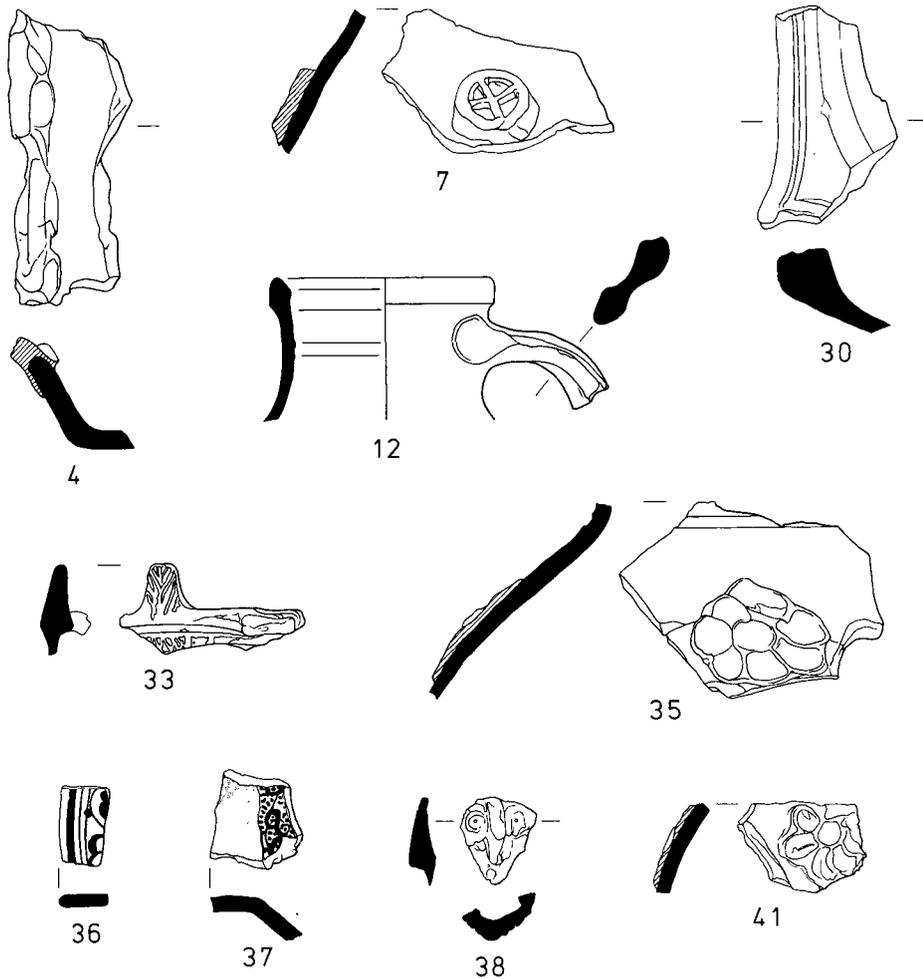
Phase	PL	WG	SCG	SCAR.	STO. BEAU	LCRW	STO. LANG	STO. SEIG	UNID	MOD
1 sc	2	1	—	1	—	—	—	—	—	—
1 wt	6	3	—	17	—	—	—	—	—	—
1 eve	—	—	—	—	—	—	—	—	—	—
2 sc	—	—	—	—	—	—	—	—	—	—
2 wt	—	—	—	—	—	—	—	—	—	—
2 eve	—	—	—	—	—	—	—	—	—	—
3 sc	23	5	—	—	—	1	—	1	1	—
3 wt	513	3.6	—	—	—	6	—	5	5	—
3 eve	0.4	0.1	—	—	—	—	—	—	—	—
4 sc	182	9	—	—	—	2	—	—	2	—
4 wt	494	213	—	—	—	10	—	—	46	—
4 eve	1.33	—	—	—	—	—	—	—	—	—
5 sc	468	39	4	1	—	2	1	1	14	—
5 wt	12291	356	70	10	—	7	9	76	274	—
5 eve	4.6	0.23	—	—	—	—	—	—	—	—
6 sc	987	78	24	5	1	5	1	1	6	1
6 wt	829	1052	441	162	8	134	8	7	38	8
6 eve	6.51	0.38	—	—	—	—	—	—	—	—
7 sc	334	14	1	—	—	2	—	—	1	48
7 wt	5382	111	10	—	—	51	—	—	10	745
7 eve	1.71	—	—	—	—	—	—	—	—	—

Abbreviations in Table 5.

wt	weight (grams)
sc	sherd count
eve(re)	estimated vessel (rim) equivalents (Orton 1975)
PL	Perth Local
WG	White Gritty
SCG	Scots Greenware
SCAR	Scarborough
STO BEAU	Beauvais stoneware
LCRW	Low Countries Red
STO LANG	Langerwhe stoneware
STO SIEG	Siegburg stoneware
VAL LUST	Early Valencian lustreware
UNID	Unidentified Medieval
MOD	Modern

Pottery catalogue (illus 33)

- 4 A slab-built dripping pan with broken handle stubs. Internal patchy, thick green glaze. Perth Local Ware. Scott Street; Context 0103; Find no 00280; Phase 4.
- 7 Decorated sherd with applied circled cross and external thin brown glaze. Perth Local Ware. Scott Street; Context 0156; Find no 00251; Phase 5.
- 12 A jug rim and strap handle with patchy green to yellow-brown glaze. Perth Local Ware. Scott Street; Context 105; Find no 00226; Phase 6.
- 30 A dripping pan rim with internal and external brown glaze. Low Countries redware. Scott Street; Context 105; Find no 00097; Phase 6.



ILLUS 33 Scott Street: pottery, scale 1:4

- 33 Chafing dish with traces of internal yellow glaze and external brown glaze with yellow glazed incised decoration. French
Scott Street; Context 0908; Find no 00035; Phase 7.
- 35 Decorated sherd with applied rosette. External patchy thin green glaze. Perth Local Ware.
Scott Street; Context 0134/0111; Find no 00247; Phase 5.
- 36 Rim sherd from an open form with a glazed decoration, blue on off-white background. Possibly Dutch.
Tin glazed earthenware.
Scott Street; Context 0174; Find no 00255; Phase 5.
- 37 Sherd from an open form with a glazed metallic brown to gold decoration on an off-white to cream background. Early Valencian Lustreware.
Scott Street; Context 0174; Find no 00148; Phase 5.
- 38 Sherd with anthropomorphic decoration (face) from a jug form. Perth Local Ware.
Scott Street; Context 0102; Find no 00224; Phase 7.

- 41 Body sherd with applied rosette with external thin yellow-green to brown glaze. Perth Local Ware. Scott Street; Context 0109; Find no 0246; Phase 7.

COPPER ALLOY OBJECTS (ILLUS 34)

Adrian Cox

Two buckles were recovered from the excavation. The first of these, found in a pit fill in Phase 5 (catalogue no 1), is a strap end buckle with a moulded frame of zoomorphic form. The second buckle, from a pit fill in Phase 3 (2) is a D-shaped example which may have functioned either as a dress accessory or a harness fitting. The buckle pin is missing from no 2, but a similar buckle from Urquhart Castle (Samson 1982, 472, fig 5, no 76) has a pin made from a simple wire with a looped head.

Slender-shafted needles such as no 4, found in one of the upper fills of the quarry pit, were used in the sewing of textiles. Number 6, possibly a residual find in Phase 7, is a wire ring with twisted terminals, probably used as a clothes-fastening device or as an eyelet. Most dated examples fall within a mid- 15th- to 17th-century date range.

Number 9 is a fragment from the rim of a vessel. Its cut or sawn edge may be an indication that copper alloy vessels were recycled when they became damaged or worn out. Evidence for the repair of vessels has been noted from other excavations in Perth (Ford 1987a, 127; Cox above). It seems likely that both repair and recycling of vessels would have been carried out, the response being determined by a number of factors including the condition of damaged or worn out vessels and the availability of resources for recycling the alloy.

- 1 **Buckle.** Length 38 mm; width 18 mm; thickness 8 mm
Strap end buckle with a moulded frame of zoomorphic form. The buckle plate was made from a single sheet, the two sides of which are secured by two circular cross-sectioned rivets. The plate is perforated to accommodate the buckle pin, the point of which is missing. The buckle plate is decorated by lines running parallel to its edges and a series of closely spaced diagonal lines.
Context 0119; Find no 00096; Phase 5.
- 2 **Buckle.** Length 56 mm; width 26 mm; thickness 3 mm
D-shaped buckle. The bar has a small recess to accommodate a pin, which is missing. There are no traces of decoration.
Context 0176; Find no 00153; Phase 3.
- 4 **Needle.** Length 66 mm; width at eye 3 mm
Needle with a circular cross-sectioned shaft, becoming more oval in cross-section towards the eye. The needle is broken across the eye.
Context 0184; Find no 00171; Phase 3.
- 6 **Ring.** Length 16 mm; width 12 mm; diam of wire 1 mm
Ring made from a length of circular cross-sectioned wire with twisted terminals.
Context 0101; Find no 00005; Phase 7.
- 9 **Vessel.** Length 58 mm; depth 20 mm; thickness 6 mm
Rim fragment from a vessel. One edge appears to have been cut or sawn. The rim profile is indicative either of a shallow vessel or of a vessel with a wide, flaring rim, set at a shallow angle. This fragment indicates a rim diam of c 200 mm.
Context 0102; Find no 00029; Phase 7.

LEAD ALLOY OBJECTS

Adrian Cox

A small assemblage of lead alloy waste was recovered, including a single sheet offcut with knife-trimmed edges. This had been rolled and may have been intended for recycling. Irregular, once-molten pieces of lead alloy were also found.

IRON OBJECTS (ILLUS 34 & 35)

Adrian Cox

A possible firesteel (18) was recovered from the fill of a cut in Phase 6. This type of object, sometimes referred to as a strike-a-light, was used with a flint to create a spark. Other Scottish examples have been recovered from excavations at Urquhart Castle (Samson 1982, 469, fig 5, nos 73–5) and a possible example was found at Threave Castle (Caldwell 1981, 112, fig 11, no 94). Firesteels are also known from Novgorod (Thompson 1967, 74–5).

Number 20 is a whittle tang knife, recovered from an extensive clay layer in Phase 7. Number 23, also from Phase 7, is a handle from a folding knife which has been broken and distorted (species identification of the bone from this object was by C Smith; see Catalogue, below).

A decorated padlock casing (25) was recovered from the fill of Pit 519 in Phase 5, a component of an assemblage relating to the later use of this pit for depositing refuse. It was plated with copper alloy, probably both for protection against corrosion and for decorative purposes. The raised ribs on the padlock casing possibly also served a dual purpose, being both for decoration and to protect the object from blows. Number 25 has a separate bolt housing, a feature which also occurs on a padlock casing from Meal Vennel (Cox, above).

A U-shaped staple (28) was found in association with an assemblage of nails and other artefacts in the extensive midden deposits of Phase 6. A total of 95 nails was recovered from the site, and two main spatial and temporal concentrations of nails were apparent. The first occurred in the Phase 6 midden deposits, which yielded 39 nails. Twenty-five of these are either bent or are shaft fragments, indicating that the nails assemblage from the midden deposits consists largely of used and broken examples, as might be expected. The second main concentration of nails was from the rubbish pits of Phase 5, from which 17 examples were recovered.

18 **Firesteel?** Length 88 mm; width 23 mm; thickness 3 mm

Possible firesteel with curved, rectangular cross-sectioned sides. One end is broken.

Context 0106; Find no 00128; Phase 6.

20 **Knife.** Length 133 mm; width 22 mm; thickness 4 mm

Blade and tang of a whittle tang knife. The blade edge is horizontal and the back curves gently towards the tip. The tang is rectangular in cross-section and is set in line with the blade back.

Context 0102; Find no 00008; Phase 7.

23 **Knife handle.** Length 84 mm; width of handle 22 mm; thickness 19 mm

Handle from a folding knife with a hinged blade. The blade, which would have been enclosed by the handle when not extended, is missing. The handle consists of two side plates with bone scales formerly attached by rivets, probably of copper alloy. The scales were derived from a large ungulate long bone shaft. They bear saw marks on their flat inside faces and traces of polish on their convex outside faces.

The two side plates are separated by a rectangular cross-sectioned bar, running along one side of the handle. The cutting edge of the blade would have rested against this bar when the blade was not extended. The bar is secured between the side plates by a single circular cross-sectioned iron rivet, about which it has pivoted. It now rests at an angle to the side plates. It appears that the bar was formerly secured by rivets at both ends, which were broken, and the bar forced out of position.

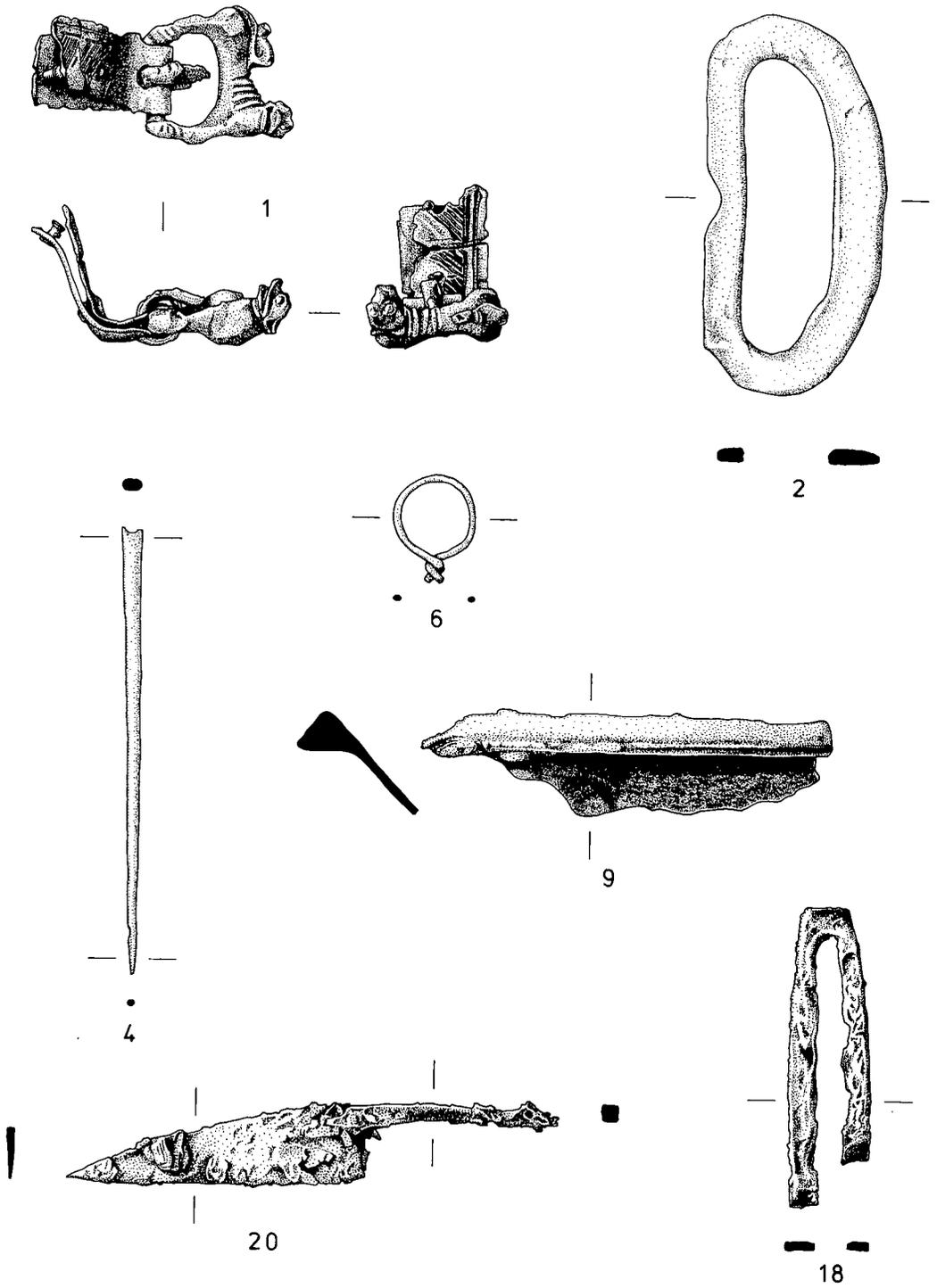
Context 0101; Find no 00002; Phase 7.

25 **Padlock casing.** Length 72 mm; width 47 mm; thickness 26 mm

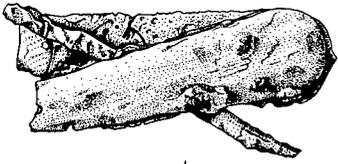
Casing from a barrel padlock, consisting of a tubular housing for the spring part of the mechanism and a separate housing for the bolt. The area between the two is decorated by a series of circular recesses bordered by raised bands. A narrow rib runs down the length of the spring housing. The decoration occurs on one side of the object only. Traces of copper alloy plating survive.

Context 0139; Find no 00183; Phase 5.

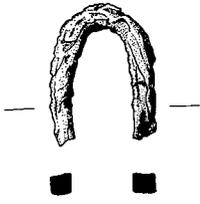
28 **Staple.** Length 34 mm; width 27 mm; thickness 7 mm



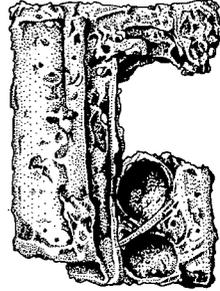
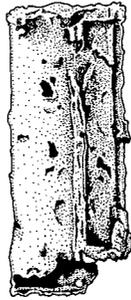
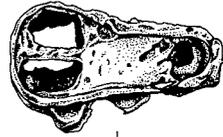
ILLUS 34 Scott Street: copper alloy and iron objects, Nos 1, 2, 4, 6 & 9 scale 1:1; Nos 18 & 20 scale 1:2



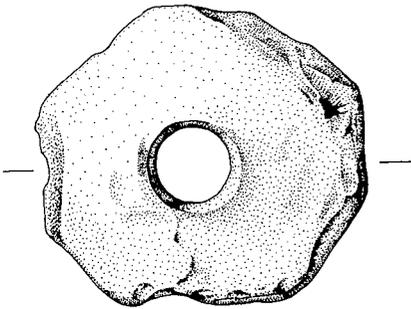
23



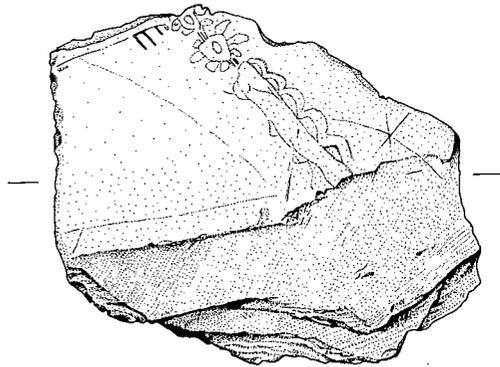
28



25



38



36

ILLUS 35 Scott Street: iron and stone objects, Nos 23, 25, 28 & 36 scale 1:2; No 38 scale 1:1

U-shaped staple with square cross-sectioned arms, the points of which are missing.
Context 0105; Find no 00067; Phase 6.

STONE OBJECTS (ILLUS 35)

Adrian Cox

Two stone objects are worthy of note. Number 36, recovered from the midden deposits of Phase 6, is a slate fragment inscribed with a crude drawing or design. A roughly finished spindle whorl (38) came from an unstratified context.

36 **Inscribed slate.** Length 106 mm; width 95 mm; thickness 7 mm

Fragment of slate, inscribed with a crude drawing or design on the surviving face.

Context 0105; Find no 00088; Phase 6.

38 **Spindle whorl.** Max. diam 44 mm; diam of hole 10 mm; thickness 8 mm

Plain, discoid spindle whorl with a central, circular hole. The outer edge is roughly finished and the object is only crudely circular.

Find no 00258; Unstratified.

THE WOODEN CASK (ILLUS 36)

Adrian Cox

Components of a stave-built, wooden cask (39) were used as the lining of a well cut in Phase 3. Numbers 40 and 41 are parts of a cask head, probably from the same cask or from another of similar size. They were recovered from one of the upper fills of the well and may have been reused as its lid. A nail was driven through the upper end of one of the staves and may have acted as a pivotal point for the lid.

Each stave from the cask is curved and is thickest at its centre, tapering towards each end. The few remaining practising coopers shape or dress each stave by firstly using a draw-knife with a convex blade, called a hollowing knife, to hollow out the inner face. The edges of the stave are then tapered with a few deft strokes from a side-axe (Seymour 1984, 91). The long edges of each stave have been bevelled, an operation performed nowadays using a cooper's jointer, a type of inverted plane. The shape of the staves is critical to ensure a tight fit. Each stave has been bevelled or chimed at both ends, to allow the cask heads to be slipped into position.

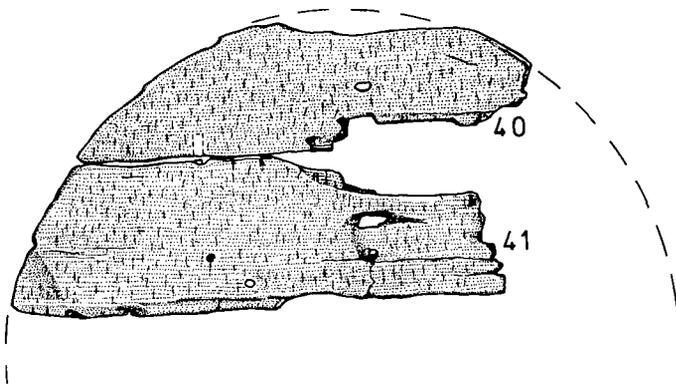
Around the interior circumference of the cask run two grooves with truncated V-shaped cross-sections, one c 70 mm from the upper end and the other a similar distance from the lower end. These are the seatings for the cask heads. A croze, usually a home-made tool, is used by the cooper to cut these seatings. Most of the staves bear tool marks. These are particularly evident on their interior surfaces, where the marks were made probably during the dressing process. Some of the tool marks on the exterior surfaces of the staves may result from scraping the outside of the completed cask to smooth out any rough areas.

The rings or hoops securing the staves, only fragments of which survive, were made from split withies of hazel (*Corylus avellana*), between 28 and 50 mm in diameter. At least some of them bore bark. They appear to have been secured by overlapping their ends. The surviving cask head fragments suggest that the head was made from possibly four or five planks, secured by dowels. Numbers 40 and 41 retain parts of the bevelled edge of the head. The modern cooper uses an adze and a heading knife to produce this edge, which then slips into the croze groove (Seymour 1984, 92).

Circular holes have been bored through each stave. Those bored above the lower head seating probably represent a modification to the cask and are connected with its reuse as a well lining. Their



39



ILLUS 36 Scott Street: wooden cask and cask head fragments, scale 1:8

function may have been to facilitate the movement of ground waters between the surrounding subsoil and the interior of the well, thus preventing the collapse of the well under water pressure.

Two possible maker's marks occur on the exterior surface of the cask. In each case the mark has been cut with a sharp implement and cuts across two staves. Each mark consists of a large 'X' with a smaller 'X' at one extremity, and one of the marks includes a further small 'X'. Maker's marks are also known from other medieval excavations, for example at Exeter (Allan & Morris 1984, 309). O'Neill (1984, 64) notes that casks produced in Ireland in the 18th and 19th centuries carried the maker's initials so that the coopers' employer could monitor their workmanship.

The measurements given are those recorded after conservation.

39 **Cask.** Length 1060 mm; max. external diam c 820 mm

Components of a cask made from 28 sawn staves of oak (*Quercus* sp.), bound by a series of rings or hoops of hazel (*Corylus avellana*). The maximum width of individual staves varies from 55 to 146 mm, and each has a maximum thickness of c 20 mm. The upper ends of the staves are abraded and splintered. The rings or hoops survive only as fragments.

Context 0913; Find no 00278; Phase 3.

40 **Cask head fragment.** Length 541 mm; width 165 mm; thickness 13 mm

Part of a cask head associated with 39. It has one curved, bevelled edge and contains nail holes. Conjoins with 41. A dowel hole in one edge aligns with another in 41.

Context 0189; Find no 00186; Phase 3.

41 **Cask head fragment.** Length 505 mm; width 140 mm; thickness 12 mm

Part of a cask head associated with 39. It has one curved, bevelled edge and contains nail holes, one of which is occupied. Conjoins with 40. A dowel hole in one edge aligns with that in 40 and contains the remains of a dowel. In the opposite edge are two further dowel holes.

Context 0189; Find no 00187; Phase 3.

TEXTILES (ILLUS 37)

Thea Gabra-Sanders

Two samples of wool cloth were recovered. One of these (43) featured punched trefoils and is described below. The two samples are in the same basic weave 2/1 twill, also known as three-shaft twill. Three-shaft twills figure prominently in material from medieval sites, nearly 70% of the 293 wool cloth fragments from High Street, Perth, are three-shaft twills (Bennett *et al.*, forthcoming). Comparable cloth types have also been found at Aberdeen (Bennett 1982, 197–200) and at Kirk Close, Perth (Bennett 1987, 159–72). Both samples are of medium weight and although not the best of their kind, they could have been suitable for clothing. The fragments are best interpreted as remnants of clothing with a possible 13th- to 14th-century date. Their use is unknown and the presence of the trefoils difficult to explain. They are most likely from the same cloth as the same type of weaving mistake is present in both fragments. Like the material from High Street and Kirk Close, Perth, they are sufficiently common to suggest local or at least eastern Scottish manufacture.

43 **Wool.** 215 x 150 mm

A fragment of dark brown wool, stained and harsh to touch. The weave is 2/1 twill. Slightly felted on both sides which may be the result of wear.

System 1 (probably warp), Z-spun with high twist, 9 threads per cm.

System 2 S-spun, 10 threads per cm.

Four edges cut on the bias, two sides with an irregular cut fringe. Four punched trefoils in the material which are still attached on one side. Three weaving mistakes and seven knots in the material.

Context 0189; Find no 00184; Phase 3.



43

ILLUS 37 Scott Street: textile, scale 1:2

CERAMIC FLOOR TILES

Adrian Cox

Three glazed floor tile fragments were recovered. Two of these (including 45) were recovered from the extensive midden deposits of Phase 6, for which the pottery assemblage suggests a mid-15th-century date. The fabric of 47, which came from an earlier feature, is coarser than that of the other two tiles, although its glaze closely resembles that on 45.

45 **Floor tile.** Length 117 mm; width 117 mm; thickness 27 mm

Square tile in a fairly fine, orange, sandy fabric with a green to brown glaze on the upper surface. A line of glaze occurs on the base, where the tile has been in contact with others while stacked in a kiln. Splashes of glaze appear on one edge. (Not illustrated).

Context 0105; Find no 00089; Phase 6.

47 **Floor tile.** Length 127 mm; width 70 mm; thickness 42 mm

Tile fragment in a fairly coarse, buff to orange fabric with a green to brown glaze on the upper surface. Splashes of glaze appear on the only surviving edge. The other edges are broken. (Not illustrated).

Context 0176; Find no 00152; Phase 3.

GLASS

Adrian Cox

Glass was recovered from only three contexts: 19th-century vessel glass fragments came from the fill of a stone-lined cesspit in Phase 7 and a mixed assemblage of 18th- to 20th-century date came from an extensive loam deposit in this phase. The total quantity of glass found was small. Number

64 is a piece of waste derived from glass-manufacturing activities. Similar material was recovered from 19th-century building rubble at Tay Street, Perth (Cox 1990).

64 **Waste.** Length 78 mm; width 54 mm; thickness 42 mm

A tapering, roughly cylindrical piece of waste, pale blue, with translucent and opaque bands. (Not illustrated).

Context 0101; Find no 00261; Phase 7.

CLAY PIPES

Adrian Cox

A total of 16 pieces was recovered, all coming either from the final phase of the excavation or from unstratified contexts. The assemblage consists of seven bowls, two heel and stem fragments, two mouthpieces and five stem fragments. Of these, 12 pieces were recovered from a single loam deposit. A full, illustrated catalogue of the pipes can be found in the archive report.

COINS

Nicholas Holmes

One coin was recovered. This coin appears to be perfectly genuine, but it does not bear the heart and star countermark which was applied to all genuine coins of this denomination in 1572. It is probable, therefore, that this coin was no longer in circulation by that year.

65 **MARY** billon plack (1557), Stewart 157; 1.20 gm; diam 26 mm (horizontal); die axis 2.5

Chipped at 5.0–7.0 (obverse). Slight surface corrosion; fairly worn. (Not illustrated).

Context 0101; Find no 00001; Phase 7.

MAMMAL AND BIRD BONE

Catherine Smith

Mammalian remains consisting of bones of cattle (386), sheep/goat (179), goat (1), pig (19), horse (13), red deer (1), roe deer (1), dog (3) and cat (1) were retrieved by hand excavation at the site (numbers of fragments in brackets). Bird bones were few in number, consisting of domestic fowl (8) and domestic/greylag goose (6). Only one fish bone (species unidentified) was retrieved.

The importance of cattle, and to a lesser extent, sheep/goat bones in the assemblage is typical of Scottish urban sites of the medieval period. Over the site as a whole, the age structure of the domestic stock indicates that the majority of the cattle were adult at death, while a comparatively greater number of sheep/goats were culled at a younger age. Since older cattle produce better hides than younger beasts, the late age of death of the cattle, as at Meal Vennel, can be interpreted as an indicator of the importance of the hide trade to the medieval Scottish economy. The small stature of cattle and sheep/goats was comparable with that from other medieval sites in Scotland; as regards their appearance, the cattle were of a shorthorn type, while some of the sheep horn cores resembled those from a modern Soay.

Evidence of small-scale horn working at Scott Street was provided by discarded horn cores of cattle, sheep and goats, which were present in numbers greater than that expected from domestic rubbish. Such higher concentrations were found in the Phase 3 cask well, a wattle lined well in Phase 5 and a midden layer in Phase 6. Some of the cattle skull fragments showed clear evidence of having been chipped in order to remove the portion of the frontal bones which bear the horn cores. However,

the low incidence of fine cut marks near the bases of the horn cores themselves, usually associated with the removal of the outer keratinous covering of horn, was notable. One explanation for the lack of such cut marks may be that in some cases the horn cores, complete with their sheaths of horn, were left aside to allow the connective tissue to rot slightly before use. Thus the horn would slip easily from the cores without the aid of knives. This technique is current amongst modern craft workers and is probably traditional. The absence of horn itself at the site is not surprising since it does not survive well under burial conditions.

Medieval horn workers themselves do not appear to have been affiliated to any of the Incorporated Trades of Perth, perhaps reflecting a lowly status for the craft. Indeed in the early part of the present century the traditional art of horn spoon making was the preserve of travelling people (Baxter 1930, 119, 132).

BOTANICAL REMAINS

Alan Fairweather

Seven samples taken from significant contexts in Phases 3, 5 and 6 were selected for detailed examination. 500 ml sub-samples were taken from each excavated sample, soaked and wet-sieved to produce three fractions, with the following particle sizes: >2 mm, >1 mm and >300 micrometres. In addition, a residue adhering to the staves of a wooden cask (Artefacts Catalogue 39) was sampled and examined. The results are presented below, in phase and context order:

Phase 3

Context 183 A species rich sample which came from the fill of an irregular cut. Most of the material was waterlogged. Carbonized material was represented by *Hordeum* and *Calluna vulgaris* as stems and leaves. Plant species represented by their seeds and fruit were *Urtica dioica*, *U urens*, *Rumex acetosa*, *R obtusifolius*, *Chenopodium album*, *Stellaria media*, *Hyoscyamus nigra*, *Scleranthus annua* (florete) *Rubus fruticosus* agg, *Galium aperine*, *Polygonum lapathifolium* and *Picris hieracioides*. This mix of species dominated in terms of abundance in the sample by *Chenopodium* and *Rumex obtusifolius* and *Polygonum* is a typical weedy flora of waste ground.

Context 184 Context 0184 was a tipped fill. There was very little carbonized material and no cereal grains were recognized. The mass was waterlogged and seemed to have been laid down in layers. Weed seeds were abundant, particularly *Polygonum lapathifolium/persicaria* and *Chenopodium album*. Other species were *Rumex acetosella*, *Calluna vulgaris* (florets and leaves), *Juncus effusus/conglomeratus*, *Galium aperine*.

Context 194 The sample, from the fill of a cask-lined well, contained little carbonized material. A few leaves of *Calluna vulgaris* and a fragment of cereal grain *cf Hordeum* were present. The waterlogged material was rich in seeds and fruits. There was a particular abundance of *Rumex obtusifolius* complete with perianth to confirm identification. Other species present were *Rumex acetosa*, *R acetosella*, *Urtica dioica*, *U urens*, *Arctium lappa* (great burdock), *Polygonum lapathifolium*, *P persicaria*, *Chenopodium album*, *Corylus avellana* (hazelnut fragment), *Stellaria media*, *Raphanus raphanistrum*, *Lapsana communis*, *Rubus fruticosus* agg., *Chrysanthemum segetum*, *Picris hieracioides*, *Hyoscyamus niger* (henbane), *Prunella vulgaris*, *Galeopsis tetrahit* agg, Labiate *cf Stachis* sp also rush seeds *Juncus cf Conglomeratus* and grass seeds *cf Poa* and *Agrostis* spp.

This sample contained a very varied mix of species. Much of this could have fallen in over a period of time or been blown in. Of interest is the presence of henbane and great burdock. The burdock seeds were quite frequent although those of henbane were infrequent. Although henbane has been used medicinally, its presence in such a small amount indicates, here, that it was probably no more than a weed.

TABLE 6
Summary of date ranges for stratigraphic phases at Meal Vennel and Scott Street.

Meal Vennel		Scott Street
Phase 1	1250–1300	Phases 2 & 3
Phase 2	1300–	
Phase 3		
Phase 4		Phase 4
Phase 5	–1400	Phase 5
Phase 6	1400–1500	Phase 6
Phase 7	1500–1700	
	1700–	Phase 7

Context 913 The sample was taken from a residue adhering to the staves of a cask-lined well. The wood fragments had an accretion or film of material adhering to them. These do not appear to have any evident cellular structure or botanical morphology. The material could be a concentration of solute drying on the surface. A close examination of the surfaces of the accretion was made but no intaglio type botanical impressions were found.

Phase 5

Context 120 This sample was taken from the fill of a deep circular rubbish pit and consisted exclusively of carbonized material dominated by large angular pieces of wood charcoal. Identifiable species consisted of grains of *Hordeum* and *Avena*. Also present were seeds and fruits of *Polygonum cf persicaria* and a seed of *Vicia cf faba* as well as *Chenopodium* sp. and one fruit of *Rumex acetosella*.

Context 167 This sample came from the upper fill of a recut wattle-lined wall which had been reused as a rubbish pit. It consisted mainly of waterlogged material which was badly degraded, making identification difficult. Species which were identified from their fruits and seeds were *Ajuga reptans*, *Rumex acetosella*, *R. obtusifolius/crispus*, *Polygonum lapathifolium*, *Chenopodium album* and *Urtica dioica*. Carbonized material was represented by *Calluna vulgaris* and one seed of *Prunella vulgaris*.

Phase 6

Context 106 This sample was taken from the neck of a medieval pot. Amongst the identifiable carbonized material were a few *Calluna* leaves and a floret. In the non-carbonized material were a pinna of *Pteridium aquilinum* and a seed of *Stellaria media*. Examination of the sample did not reveal anything which could shed light on the use of the pot.

Context 150: Context 0150 was a possible midden deposit and the sample mainly consisted of carbonized *Calluna* stems and leaves, from which one carbonized oat grain was retrieved.

DISCUSSION

Adrian Cox

On the evidence of the archaeological stratigraphy, pottery and finds assemblages, it would appear that the seven phases of activity on the Meal Vennel site took place within a period of about 450 years, from the mid-13th century to around 1700. The Scott Street site was less intensively used, yet activities there cover a broader date range, beginning at about the same time as at Meal Vennel but with later post-medieval activity (post c 1700) represented in Phase 7 (see Table 6).

These two excavations within the medieval burgh of Perth have revealed new information on the medieval and post-medieval development of the town and provided opportunities for a number of questions to be addressed.

Early boundary

A ditch running along the Meal Vennel street frontage (Phase 1) was interpreted by the excavator as representing an early western boundary of the town. This interpretation lends support to Spearman's (1988) suggestion that the line of Meal Vennel represented a pause in the town's westward development from the Tay. The excavation site at Scott Street, though located further to the south, coincided with, and was on the same north/south alignment as the Meal Vennel ditch. This means that any southwards continuation of the Meal Vennel ditch should have been observed in the Scott Street excavation and, indeed, a substantial north/south cut (Phase 2, Scott Street) was initially thought to represent the continuation of the ditch. However, the irregular shape of the cut and the narrowing of its northern end indicate that this was, more probably, a large quarry pit for the extraction of sand.

Industrial activities

The grain-drying kilns located in the Meal Vennel excavation (Phase 1) would have lain beyond the boundary ditch and so may have lain outside the early town. Other, similar activities such as metalworking and pottery production were often located outside towns because they represented a considerable fire risk. It appears that grain-drying was taking place on this site from its earliest phase of use in the latter half of the 13th century, and it is entirely possible that the derivation of the street name also stems from this activity and entered common usage at around the same time. The kilns themselves are an important addition to the relatively small corpus of such features known in Scotland.

Both excavations revealed evidence of the repeated digging of rubbish pits, a typical backland activity. During Phase 5 at Scott Street the backlands were used primarily for the dumping of domestic refuse, and in Phase 6 a substantial midden deposit accumulated over a fairly short period of time. The backlands of burgh plots were also typically used to support small-scale industrial activities. At Meal Vennel, a specifically industrial zone was established (see below), while in the backlands at Scott Street there was some evidence of horn-working on Plot 2 and possible evidence of tanning activities on Plot 3. The latter two industries, at least, appear to have been relatively small-scale and may have served only a restricted market.

There is more evidence for metalworking at Meal Vennel. The general picture is that workshops and/or smithy booths were in existence on or very near this site, employing low- rather than high-temperature technologies. Quantities of slag, hammerscale and other metalworking debris were present throughout the archaeological sequence. In Phase 7, the most conclusive evidence of metalworking on the site was revealed, consisting of a forge, a stone anvil base and an ash pit.

Analysis of the *Rental Books of the King James VI Hospital* (Milne 1891) indicates that there were at least six smithies on the western side of Meal Vennel, suggesting that this area was a well-established metalworking district by the 1600s and an important focus for the community of Hammermen. An example of one such entry in the Rental Books is that of Patrick Gow:

Item, that land lying on the west side of the Meal Vennel, sometime pertaining to John Conqueror and now to Robert Conqueror, merchant, his son – bounded betwixt the lands of the heirs of Robert Lamb, Glover, on the south, the smithy booth now of Patrick Gow, smith, on the north and the yard now of

Robert Balneavis, flesher, on the west, and the said Meal Vennel on the east parts, pays yearly to the obits, and now to the said Hospital (Rental Book of 1667–8, page 389).

This same Patrick Gow was a deacon of Hammermen who, when he died in 1693, was buried at Greyfriars Cemetery in Perth. His memorial stone depicts a hand emerging from the clouds to strike an anvil (SUAT 1988). The smithy recorded in Phase 7 at Meal Vennel is likely to be representative of the daily workplaces of this artisan community.

Burgage plot boundaries

The excavation at Scott Street provided an opportunity to investigate the nature of the burgage plots in this area. The relative position and distance (7.93 m) between the two boundary gullies located in Phase 5 corresponds broadly with the extents of burgage plots as shown on two 18th-century maps (Petit 1715/16 and Rutherford 1774). The establishment of these gullies divided the site into three plots and these property divisions remained until the final phase. The east/west aligned gully revealed in Phase 6 may have subdivided Plot 3 into two separate properties; alternatively, it may have been inserted as a later, internal division of the one property. A pattern of repeated adaptation and reorganization of burgage plots has been noted in excavations at Canal Street (Coleman, this volume).

The expanding town

The evidence from the Scott Street excavation supports the suggestion by Spearman (1988, 52) that the south-western corner of the burgh was relatively undeveloped during the medieval period and that building activity only began in earnest in this area around the 17th century.

Rubble deposits revealed at Scott Street in the post-medieval period (Phase 7) may have resulted from the demolition of buildings along Candlemaker's Close. The 19th-century Co-operative Society building foundations and associated features probably removed a large part of the post-medieval stratigraphy, which might explain why no evidence for Candlemaker's Close itself was revealed. The post-medieval archaeology of Perth remains relatively little explored and its potential should not be under-estimated.

In the New Statistical Account of Scotland (1845), Meal Vennel was specifically identified as lying within an area particularly affected by the plague of 1645. Its virulence in this area led to the desertion of some streets around St John's Kirk and Meal Vennel. Although the archaeological evidence perhaps indicates that a number of properties at Meal Vennel were vacant for periods of time in the 17th century (Phase 7), any temporary abandonments need not have been as a direct result of the plague.

CONCLUSIONS

Adrian Cox

The Meal Vennel and Scott Street excavations have increased our knowledge of activities on the peripheries of the medieval burgh from the 13th century onwards. Both excavations enabled hypotheses on the development and expansion of the burgh to be tested, and at Meal Vennel a rare and valuable opportunity was taken to examine features (in this case components of a smithing workshop) referred to in documentary sources and preserved in the archaeological record.

The quantity and diversity of the artefact assemblages, including preserved organic materials such as the wooden cask and woollen textiles from Scott Street and the leather fragments from Meal

Vennel, testify yet again to the exceptional wealth of Perth in the archaeological sense, and the continuing potential of deeply stratified sites in the backlands, as well as on the street frontages. In this respect, the backlands of Perth compare favourably with those in other historic medieval towns in Britain and Ireland with well-preserved archaeological deposits, such as York, London and Dublin. This precious archaeological resource, preserved in backlands and frontage sites, will undoubtedly deserve further attention in the future.

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The Meal Vennel excavation was directed by Linda Blanchard assisted by Lindsay Ross of SUAT. Stratigraphic analysis of the Meal Vennel excavation was begun by Peter Clark, and the final phasing of the site completed by Richard Sermon. The Scott Street excavation was directed by Jonathan Burrows of SUAT.

The Meal Vennel report was written by Richard Sermon and Adrian Cox. The Scott Street report was prepared by Jonathan Burrows, edited by Russel Coleman and revised for publication by Adrian Cox. In writing a combined Discussion of these two excavations, Adrian Cox would like to acknowledge the earlier work of Richard Sermon and Jonathan Burrows.

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The illustrations in this report are by Frank Moran (illus 13–23 and 25–9) and Dave Munro (illus 1–3, 5–10, 12, 30 and 32–7).

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