

Burgage plots of medieval Perth: the evidence from excavations at Canal Street

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ABSTRACT

An excavation was carried out by the Scottish Urban Archaeological Trust Ltd in the backlands of South Street, Perth, in 1985. Four burgage plots were identified with occupation spanning the mid-13th to the early 15th centuries. Evidence for malting, in the form of a kiln and coble, was recovered in an area relatively undeveloped until the 18th century. The excavation was funded by the Manpower Services Commission Community Programme, with additional funding for post-excavation analyses and the preparation of this report provided by Historic Scotland.

INTRODUCTION

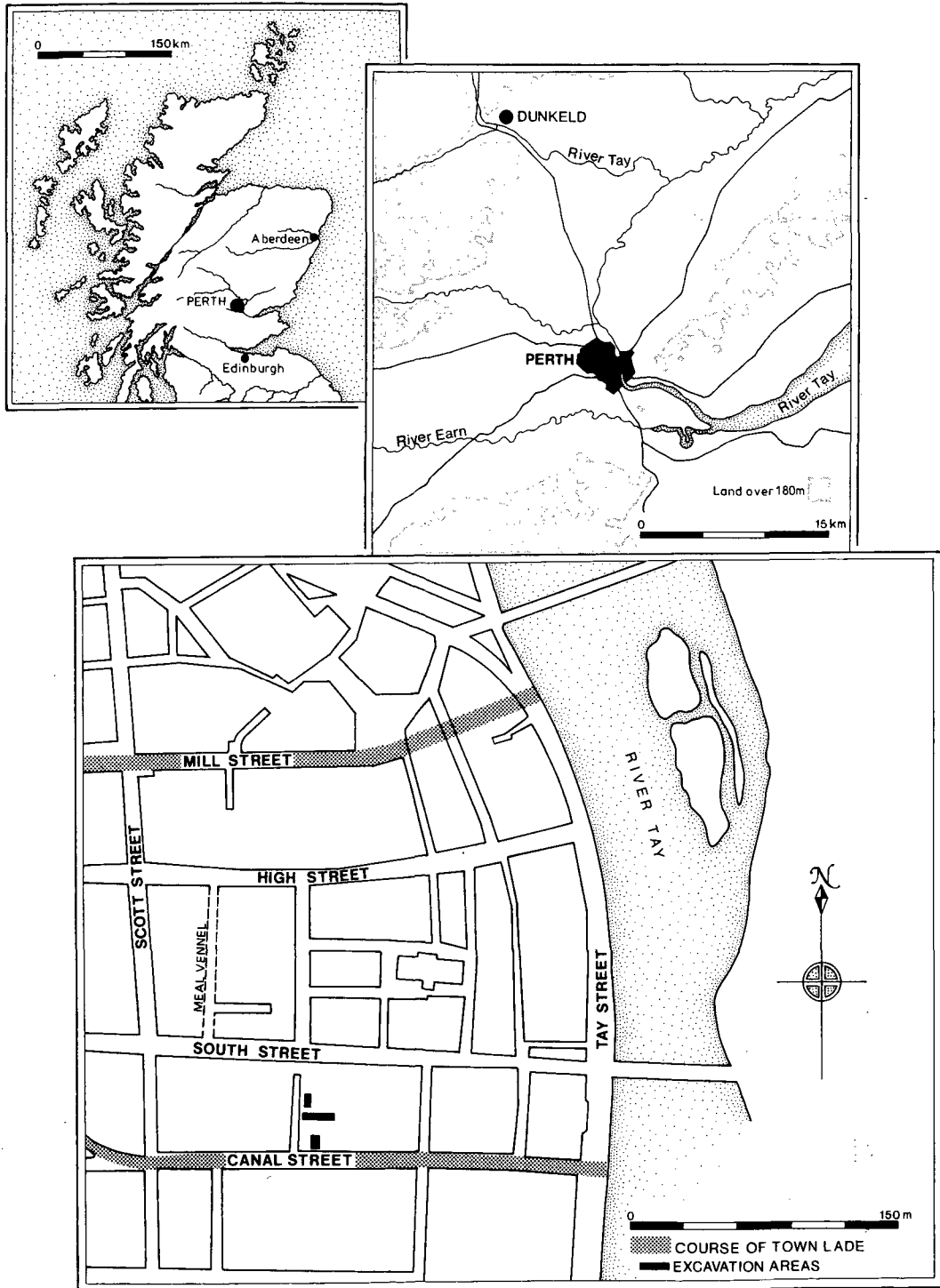
The excavated site, 35–43 Canal Street (NGR: NO 118 233), undertaken in advance of the construction of a multistorey car park, lies on the southern edge of the medieval burgh, in the backlands of properties that fronted onto South Street (illus 1). The town ditch, or lade, lay a short distance beyond these plots to the south. In all, three excavations were carried out within the development area over a period of some eight years, from 1978 to 1985. This, the final excavation (Canal Street III), was undertaken between the months of July and December 1985, and was funded by the Manpower Services Commission Community Programme. Additional funding, for post-excavation analyses and for the preparation of this report, was provided by Historic Scotland. The results of both previous excavations (illus 2), Canal Street I excavated in 1978–9, and Canal Street II excavated in 1981, have been published (Blanchard 1983; Spearman 1987).

HISTORICAL BACKGROUND

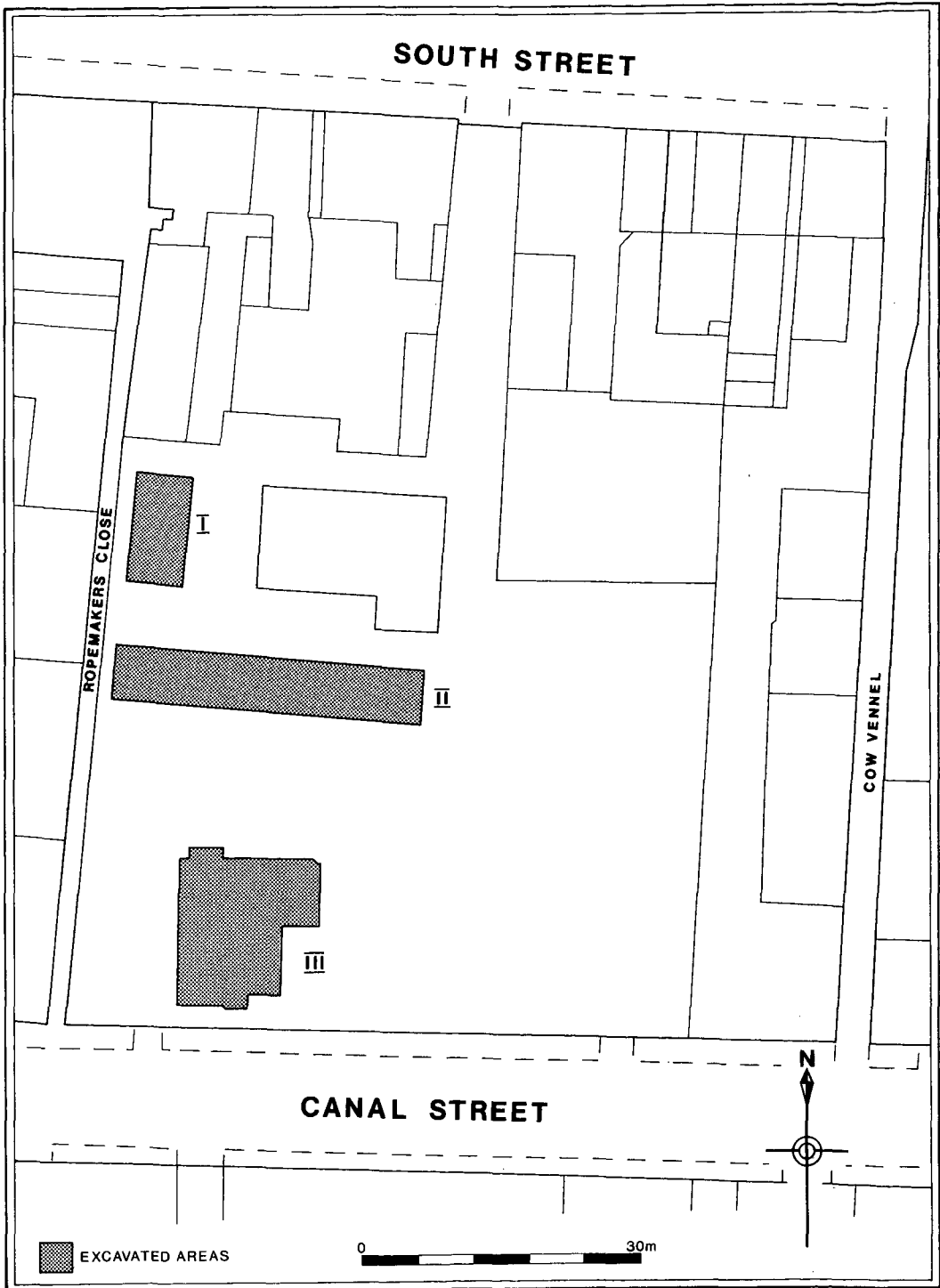
The earliest settlement at Perth is widely accepted to have been located along the west bank of the River Tay (Duncan 1975, 467), in what is now Watergate, and was almost certainly in place by the 12th century. Gradually, settlement expanded westwards, but still retained its original north/south alignment. By the mid-12th century, however, there were at least two major changes to the town plan, which saw the establishment of High Street and a shift in the axis of the burgh to an east/west alignment (Spearman 1988, 56).

It is generally accepted that South Street was secondary to High Street. The dating of South

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ILLUS 1 Canal Street III, Perth: site location. (Based on the Ordnance Survey map © Crown Copyright)



ILLUS 2 Canal Street III, Perth: trench location. (Based on the Ordnance Survey map © Crown Copyright)

Street, however, and its relationship to Meal Vennel, the putative western limit of the mid-to late 12th-century expansion of the burgh, is obscure. The earliest surviving direct reference to South Street is from the early 13th century, but two documentary references from the late 12th century hint at an earlier date for its foundation. The first, a charter of William I (1178 × 87), refers to ‘two ports’ (*Regesta Regum Scotorum*, ii, no 223). It seems likely that there were ports on High Street and South Street at this time, located at either end of Meal Vennel (Spearman 1988, 51). Similarly, a further charter of William I (1178 × 95) refers to William’s ‘new burgh’ (*Regesta Regum Scotorum*, ii, no 278). In his detailed study of the burgage plots in medieval Perth, Spearman noted the ‘remarkable regularity’ of the plots associated with South Street, east of Meal Vennel, and suggested that settlement here may indeed have been a deliberate creation of William I (Spearman 1988, 51).

Excavations in 1981 in the backlands of South Street revealed a carefully laid-out sequence of plots which overlay evidence of earlier activity (Spearman 1987). It would seem, then, that South Street was in existence by the second half of the 12th century, but that properties were perhaps not laid out formally until the end of the 12th or at the beginning of the 13th century (Spearman 1987, 59).

Analysis of the *Rental Books of the King James VI Hospital* (Milne 1891), which refer back to the late 16th century, indicates that there were then eight or nine burgage plots located between Ropemakers Close and Cow Vennel (Smith & Spearman 1983). By the 17th century, however, some property amalgamation had taken place along this section of South Street. Cartographic evidence indicates that this was particularly the case around Ropemakers Close, which was probably a later insert between existing burgage plots (Spearman 1988, 61).

The occupations of the tenants of these properties are also recorded in the *Rental Books* (Milne, 1891); they included maltmen, merchants, glovers, tailors and clerks, with a particular concentration of fleshers around Cow Vennel. Canal Street was gradually developed from the early 18th century onwards, during which time the town lade, over which it was built, was culverted, and tenement housing and industrial yards were established along both frontages.

The mill lade, which runs along present-day Mill Street, drew water from the River Almond and powered mills from at least the mid-12th century. The exact date of foundation of the lade at Canal Street is not clear, but it may date to the early 14th century, when, on the orders of Edward I, a ditch was to be dug around the town (Stavert 1991, 22). A stone wall was also constructed along its inner edge, possibly replacing an earlier wall. The turbulent years of the early part of the 14th century saw this wall first razed by Bruce, then rebuilt by Edward III. It remained standing until the 18th century, though nothing is visible today.

RESEARCH OBJECTIVES

Previous archaeological work in the vicinity and historical research led to the following research objectives:

- 1 To identify any evidence of occupation that pre-dated the establishment of the first South Street burgage plots.
- 2 To characterize the pattern and nature of the property boundaries in the Canal Street area and, in particular, to ascertain the degree of correspondence between the boundaries recorded by excavations at Canal Street II and those described by the present report, from excavations at Canal Street III.
- 3 To determine whether particular industries were concentrated in the backlands.

- 4 To test whether the properties and occupations recorded in the *Rental Books of the King James VI Hospital* (Milne 1891) can be identified archaeologically.
- 5 To examine the nature of the burgh defences.

THE EXCAVATION

The proposed development threatened a large area of backlands of potentially medieval origin. There were, however, restrictions on time and resources, and therefore an area of 15 m by 15 m, close to the Canal Street frontage, was proposed for excavation, though this was later 'stepped in' to 13 m by 13 m for safety requirements. The selected area lay only 13 m south of the 1981 limit of excavation (Canal Street II), and was positioned to pick up the projected alignment of properties boundaries which had previously been identified by the Canal Street II excavation.

Modern made-ground was removed by machine until the first visible archaeological features were exposed at a depth of approximately 1 m. After machining, a further 1 m of stratified deposits was recorded and excavated by hand down to natural subsoil, a compact silty clay encountered at between 3.7 m and 4 m OD. Six phases of medieval activity were identified, spanning the 13th to 15th centuries. The foundations of a large 19th-century tenement building were also revealed (Phase 7).

At least four properties were identified, designated Plots A, B, C and D, in order from west to east. In Phase 1, they were assigned lower case letters (Plots a, b and c) because the boundaries were not definite and did not correspond closely to Plots A-D in subsequent phases. To provide a framework with which to study the changes in the layout of the plots, the labels have been kept consistent throughout the seven phases, although it is not certain that, for example, Plot A in Phase 2 represents the same property as Plot A in Phase 3.

THE ARCHAEOLOGICAL SEQUENCE

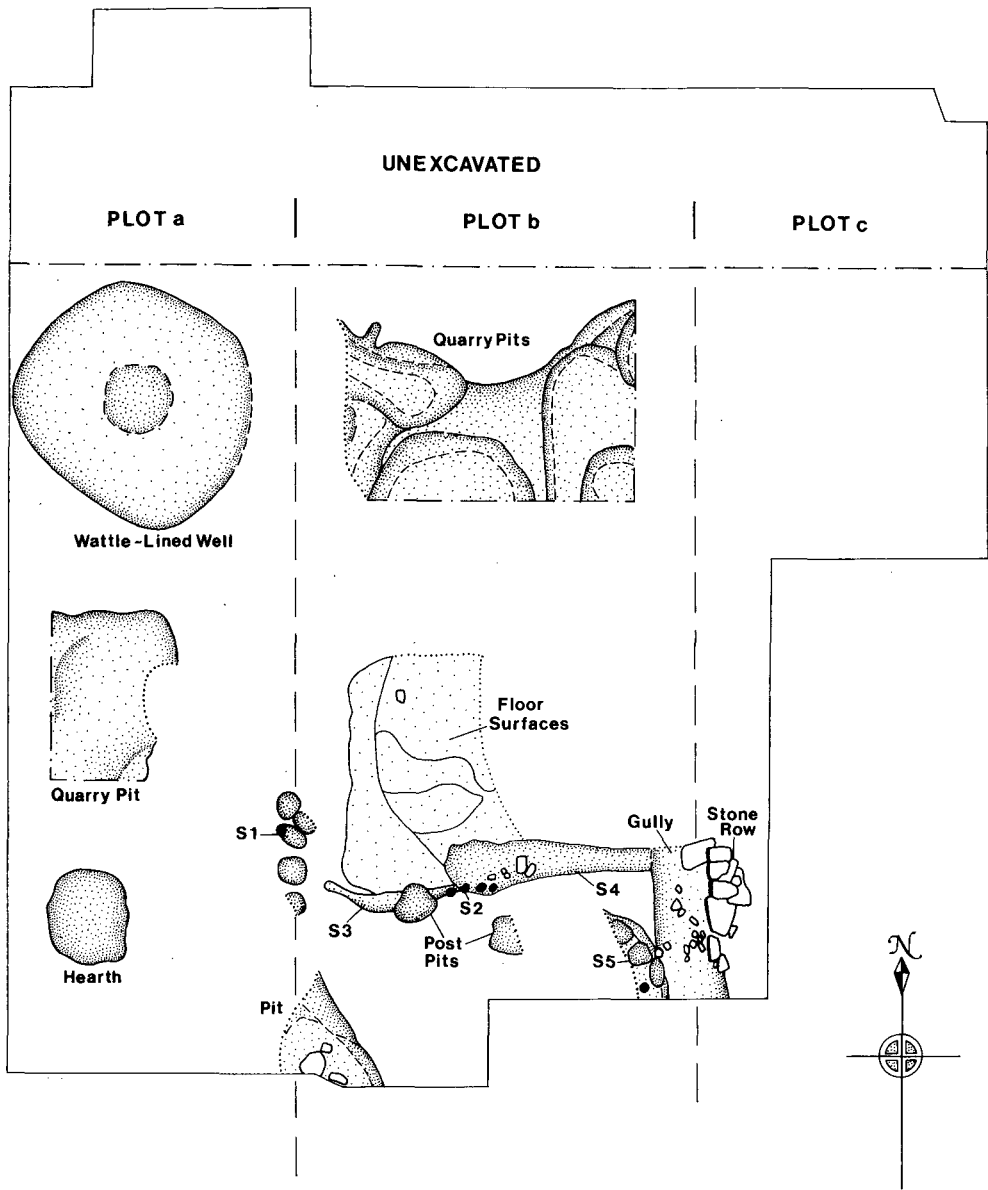
PHASE 1: 13TH-CENTURY EXPANSION (ILLUS 3)

The earliest activity on the site comprises a number of pits and post-holes, a wattle-lined well and a hearth, all cut through or overlying the subsoil. The truncated remains of floor surfaces and beam slots may define the south-western corner of a building, probably a workshop, which in turn had possibly replaced an earlier structure, which was defined by a series of post-pits along roughly the same wall-lines. Although no definite property boundaries could be placed within this phase, the clustering of a number of features hints at their existence. Three possible plots were identified (plots a, b & c), with only one completely spanned by the excavation area. This plot (plot b) measured approximately 5.5 m in width, the other two plots a minimum of 4 m.

The pottery assemblage from this phase indicates a date range of mid-to late 13th century (Cheer, below), which correlates broadly with the establishment of those properties discovered in the Canal Street II excavation. The more diagnostic artefacts from this phase include glazed ceramic roof tile fragments (see Cox, below), a probable hone fragment (Artefacts Catalogue, no 65) and a padlock mechanism (no 53).

Plot a

Well In the north-western corner of the property was a large, circular wattle-lined well-pit. Measuring approximately 3.2 m in width, it was cut to a depth of at least 2.5 m. The lower fills were waterlogged, with wood and wattle fragments preserved, and contained fragments of ceramic roof tiles. The well appears to have been



CANAL STREET

Phase 1



ILLUS 3 Canal Street III, Perth: expansion; S1-5-Structural features. (Phase 1)

deliberately backfilled or 'plugged' with a mixture of soils, the uppermost fill sealing the edge of the cut. Two substantially complete cat skeletons were found in the backfill, one displaying knife cuts consistent with cat skinning (Smith, below). To the south of the well was a large, shallow quarry pit, only 0.36 m deep.

Hearth A hearth was situated in the south-western corner of the plot, and comprised a sequence of three, loosely compacted charcoal-rich loams. The soils immediately around the hearth, possibly derived from rake-out, were also burnt. The hearth appears to have been used for only a short period of time.

Plot b

Quarry pits A group of eight, shallow, irregularly shaped and intercutting pits was located at the northern end of the plot. Three distinct episodes of pitting could be distinguished but the sequence of fills was broadly similar. The pits were initially backfilled with disturbed soils, one containing a spring mechanism from a barrel padlock. The upper fills comprised upcast from a continuing process of pit digging, backfilling old pits with material excavated from newly cut pits.

The high density of pits of similar character within such a small area, and the manner in which they had been backfilled, indicate that they were probably quarry pits for clay. Although not particularly deep (most were less than 0.4 m, in depth) they would have produced enough material for a single floor surface, for example. The density of pits in this one location also indicates that they were confined within a single property; however, no evidence of any property boundaries was found.

In the south end of the plot, and continuing beyond the limit of excavation at that point, was another pit. The base of the pit had been lined with a layer of flat stones which may have provided the base or support for a structure within the pit itself.

STRUCTURAL FEATURE 1 (S1)

A series of six post-holes, set within a north/south aligned trench (not illustrated) may originally have contained the timber foundations of a building or structure. The western edge of the trench had been truncated by later features. The post-holes and the trench contained a single fill, suggesting that the posts were removed and the whole feature backfilled in one event. Alternatively Structural Feature 1 may represent the boundary between two properties, Plot a to the west and Plot b to the east.

STRUCTURAL FEATURE 2 (S2)

Structural Feature 2, represented by an east/west alignment of five stake-holes, with a possible sixth stake-hole located slightly farther to the south, was probably contemporary with Structural Feature 1. Two of the stake-holes were considerably larger than the other four, and may have been small post-pits. If contemporary, Structural Features 1 and 2 may have formed the south-western corner of a building.

STRUCTURAL FEATURES 3 & 4 (S3 & S4)

After Structural Features 1 and 2 had fallen into disuse, a third, comprising a linear slot, was established (Structural Feature 3). Re-establishing the same alignment as Structural Feature 2, it probably represents the remains of a sill beam. Associated with it was a series of floor surfaces, further examination of which identified carbonized oats and barley (Fairweather, below), unburnt animal bone fragments and possible slag deposits. A second slot (Structural Feature 4), slightly farther north, may have represented an eastern extension to Structure 3. The wall foundations and the floor levels indicate two successive structures here, probably workshops, though the debris which had accumulated over the floors indicates that a range of activities took place within the building(s) rather than any single function.

OTHER POSSIBLE STRUCTURES

The south-eastern corner of Plot b was heavily disturbed by later activity but the truncated remains of other structural features were visible. These included a foundation trench (S5), within which were set four post-holes, and immediately to the east, a linear cut or gully. The latter was backfilled before a row of stones was laid along its eastern edge. The linear cut and the stone row may have divided two properties, Plots b and c, with the stones replacing a ditch or gully as the property boundary.

PHASE 2: PROPERTY BOUNDARIES (ILLUS 4)

A number of features in Phase 1 hint at the existence of burgage plots, though no physical boundaries had been constructed at that stage. In Phase 2, however, plots were laid out formally on the ground for the first time, the boundaries of which were defined by a series of shallow gullies. The truncated remains of three gullies, set on a north to south alignment, defined two complete burgage plots within the excavation area (Plots B & C) – both of which measured c 4 m in width – and also formed the boundaries of two others (Plots A & D) which were only partially excavated. Little activity was identified in these plots, other than pit-digging in Plots C & D. The pottery retrieved from Phase 2 deposits was broadly similar in date and type to the Phase 1 assemblage, and indicates a late 13th to early 14th-century dating bracket. The small number of finds associated with this phase includes glazed roof tile fragments.

Property boundaries

All three gullies were shallow, varying in depth from 0.16 m to 0.25 m in depth, but otherwise differed in shape, size and form; the curious central boundary terminated at a distinct butt-end similar to the two boundaries in Phase 4 (below). These variations suggest that property boundaries were established by the individual tenants, though the original plots themselves were measured out by officials known as ‘liners’, and that each tenant was responsible for the maintenance of only one of the two boundaries which demarcated an individual plot. The absence of silts in the base of the cuts and the loose compaction of the fills suggest that the gullies were either cleaned out regularly before being backfilled, or that they were in existence for only a short time. As Phase 3 introduced some amalgamation of the properties (below), all three gullies may have been backfilled and levelled simultaneously as part of some general reorganization of the burgage plots.

Plot C

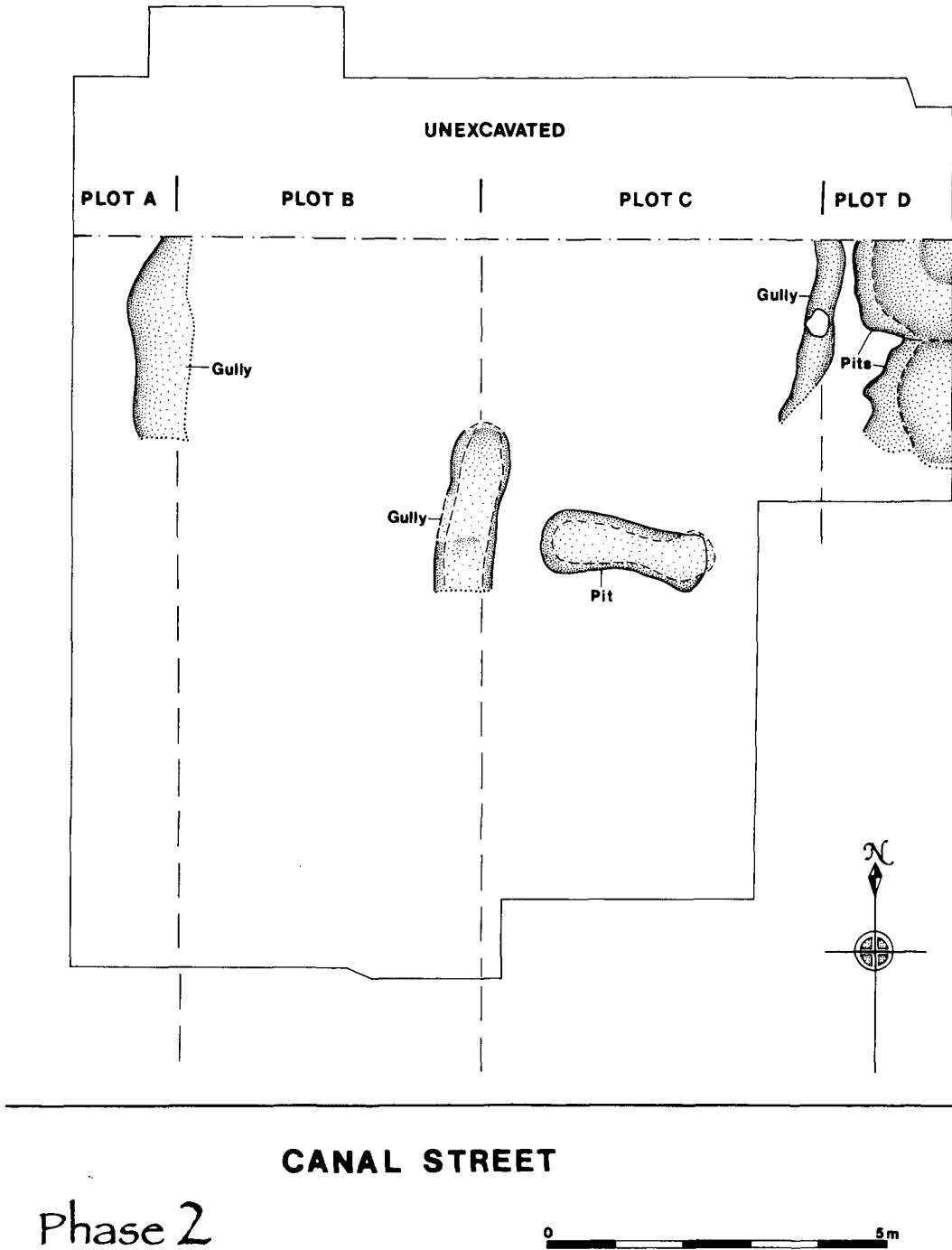
An east/west aligned cut in Plot C must almost have blocked access to the southern end of the property. This steep-sided, flat-based pit may have represented an internal property division, though no evidence survived to suggest any specialized activities within the plot.

Plot D

Two shallow, intercutting pits were located within Plot D, close to and respecting the property division. Both cuts were similar in shape, form and depth (c 0.25 m deep) and, cutting natural subsoil, were probably quarry pits.

PHASE 3: PROPERTY AMALGAMATION (ILLUS 5)

A number of pits on the projected alignments of the gullies, together with the deliberate backfilling of at least one of them, indicate that the original property divisions were later abandoned. The four



ILLUS 4 Canal Street III, Perth: property boundaries (Phase 2)

properties established in Phase 2 were instead reorganized and amalgamated into two larger plots (Plots A + B and Plots C + D). Neither was completely spanned by the excavation area, but Plot A + B measured at least 5 m in width and Plot C + D a minimum of 6.5 m. The division between the two properties was provided by a newly constructed stone pathway. There was clearly then, an element of continuity, represented by the conscious refinement of the earlier Phase 2 property divisions.

Pottery recovered from this phase indicates that the plot reorganization took place in the early 14th century. A key (Artefacts Catalogue no 45), a knife blade (Cox 1993), a heckle tooth (no 38) and a horseshoe (no 43) were among the more diagnostic finds retrieved at this level.

Property boundary

A short stretch of stone pathway, or dry stone walling, in the central area of the trench, represented the boundary between the two new properties: the amalgamated Plot A + B to the west and Plot C + D to the east. It comprised a single course of sandstone blocks, with smaller stones used as packing between the blocks, bedded on a layer of broken sandstone and river-smoothed pebbles. The construction was fairly coarse and there was no evidence of any mortaring. Measuring over 1 m in width, it is more likely that this was a pathway rather than a wall, and it seems likely that it was common to both properties.

Plot A + B

Quarry pits At the northern end of the plot was a row of five, intercutting pits. All varied in size, shape and form, with flat, concave and V-shaped profiles represented. The two largest pits were backfilled with a single dump of domestic refuse, which included frequent fragments of animal bone (Smith, below). The often shallow and irregular nature of these cuts, which ranged in depth from 0.3 m to 0.9 m, indicate they had been dug initially as quarry pits, possibly to extract clay for floor surfaces. Finds recovered from the backfill of these pits include ceramic roof tiles, a fragment of a horseshoe (Artefacts Catalogue, no 43) and a knife blade (Cox 1993).

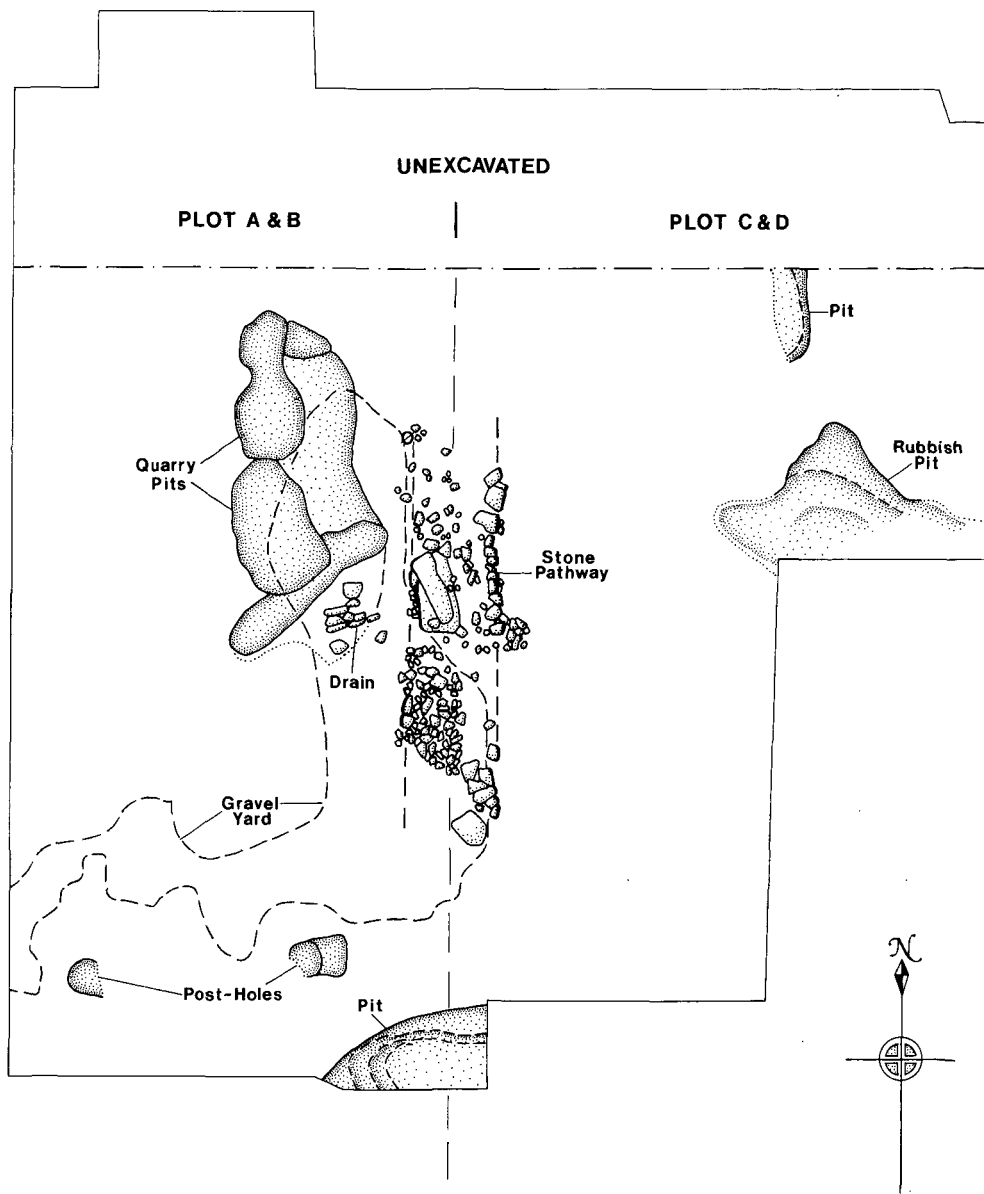
At the southern end of the plot was a large pit, up to 0.65 m deep and recut at least twice. The small area available for excavation, revealed a vertically sided pit with a concave base, containing a thick clay fill. As the pathway did not extend this far south, the relationship between these quarry pits and the property boundary remains uncertain.

Gravel yard and drain Overlying the southern end of both the row of quarry pits and the pathway was a sequence of gravel spreads which probably formed a slightly later yard surface. The gravel spreads did not extend into Plot C + D, suggesting that the property division remained in use. Immediately to the west of the pathway and also sealed by the gravel was a short stretch of a stone drain. It was constructed of thin, end-set sandstone blocks aligned approximately east to west and bedded down onto a gravel layer. Finds recovered from the yard include a small key (Artefacts Catalogue, no 45), which may have been used to lock a chest or box, and fragments of copper alloy and iron sheet.

Situated in the south-western corner of the plot were two post-holes which may have been related; if so, they may have supported a light structure or internal fence, perhaps marking the end of the plot.

Plot C + D

In contrast with Plot A + B, little activity other than pit-digging could be identified in this property. In the north-eastern corner of the plot were the truncated remains of two pits, both of which were backfilled with large stones. The animal bone content in one of the pits indicates that it was used as a rubbish pit.



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Phase 3



ILLUS 5 Canal Street III, Perth: property amalgamation (Phase 3)

PHASE 4: BOUNDARY CHANGE AND CULTIVATION (ILLUS 6)

This phase marks another clear change in the layout of the plots. The property division between Plot A + B and Plot C + D, which had endured from the original laying out of plots in this area (Phase 2), was now abandoned and three new plots were established (Plots A, B + C and D), of which only the entire width of Plot B + C, c 4.5 m, lay within the excavation area. This time the property boundaries were defined by two substantial, butt-ended ditches. The first extensive spreads of turbated loam or 'garden soil', a common feature of medieval backlands, also appeared in this phase, signifying a radical change in the use of the plots, from mainly quarrying and refuse disposal to cultivation. Indeed, no other activity was identified in any of the three Phase 4 plots, indicating that cultivation had by now become the principal backlands activity.

The pottery assemblage associated with this phase indicates a mid-14th century date. The more diagnostic finds retrieved include a hasp (Artefacts Catalogue, no 37), two knives (Nos 47 & 49) and a horseshoe (Cox 1993), all inclusions in the backfill of the two ditches.

Property boundaries

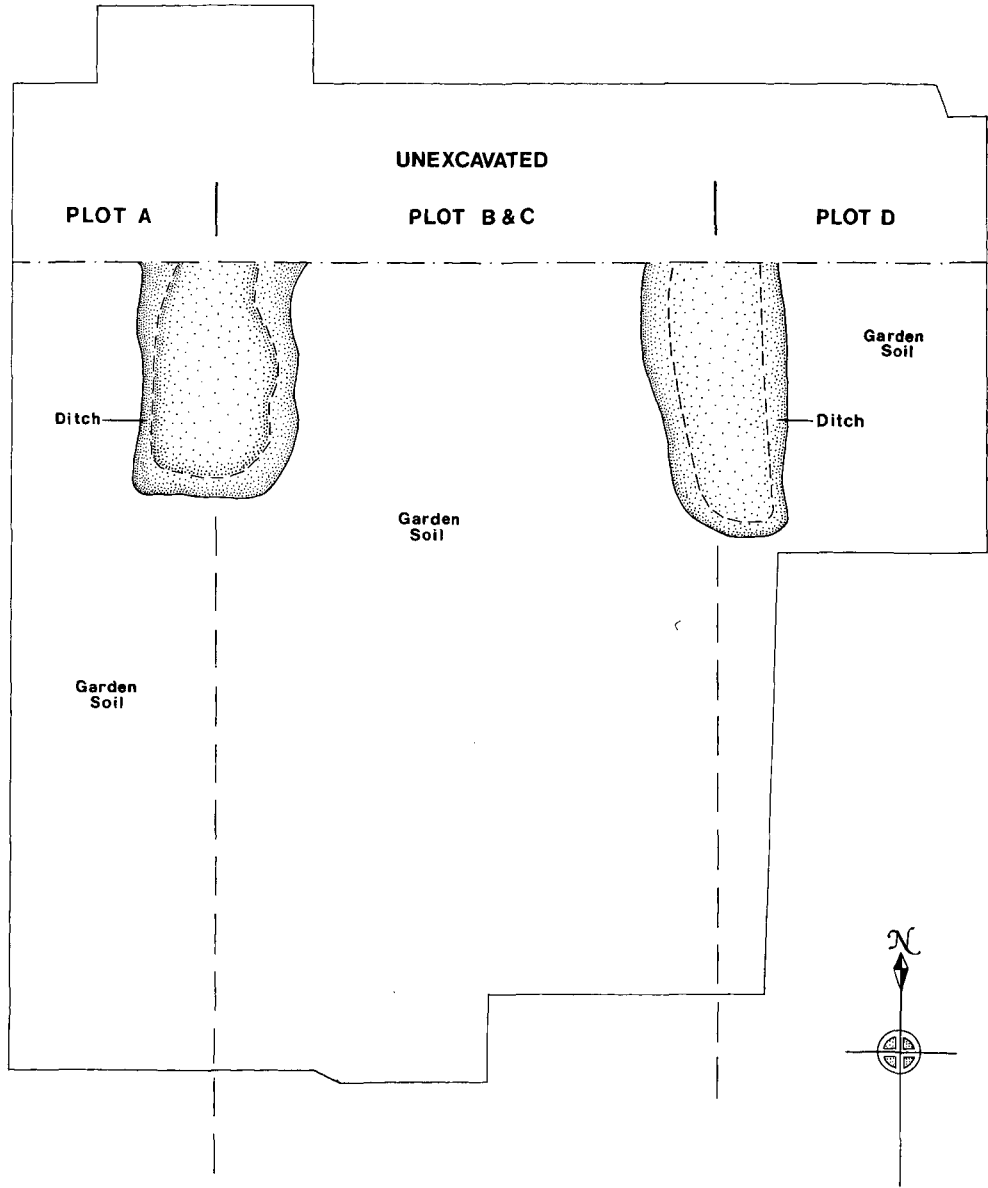
The western ditch, which marked the division between Plots A and B + C, terminated to the south in a deliberate butt-end. This substantial feature, cut to a depth of c 1.30 m with steep sides and a flat base, contained only three fills. A small patch of silting represented the primary fill. The thickness and uniformity of the two upper fills, which also contained frequent bone and charcoal fragments, indicates that it was deliberately backfilled. Finds recovered from the ditch include a scale tang knife, with surviving wooden scales (Artefacts Catalogue, no 49).

The eastern ditch, marking the division between Plots B + C and D, was broadly similar in shape and form, and terminated at approximately the same point as the western ditch. Only two fills were present, the upper of which contained frequent charcoal fragments and some large stones. A horseshoe and a hasp (Artefacts Catalogue, no 37) were recovered from the fills of the ditch, together with a fragment of another scale tang knife (Cox 1993).

The slight differences between the two ditches suggests that they were dug by the tenants of the adjoining properties (rather than by the single tenant of an individual property). Both, however, appear to have been backfilled at the same time, perhaps in advance of another reorganization of the plots. The butt-end to both ditches is an unusual feature and implies that the burgage plots did not extend as far south as the edge of the excavation, nor indeed as far as they had in earlier phases. Even taking into account the effect of truncation from later phases of activity, none of the property boundaries established in Phases 1–4 can be traced as far as the southern limit of excavation. Other features, however, such as post-holes and pits, occurred farther south than the terminations of the property boundaries, which might suggest that an area of common ground existed here, perhaps from Phase 1 onwards.

Garden soils

The development of garden soils at this time indicates that crops were now being grown across all three plots and is the chief evidence for a change in the principal use of the backlands from quarrying, rubbish disposal and semi-industrial activity to small-scale but intensive cultivation. Whether these soils were deliberately introduced, or represent earlier deposits reworked *in situ* is unclear. 'Garden soils' are a common feature of medieval backlands, and in St Andrews, for example, deep deposits of these soils have been identified on a number of excavations. Broadly dating to the late 14th and 15th centuries, these were found to have sealed industrial features such as ovens and kilns (Hall 1985). More importantly, perhaps, the significant depths of these deposits, measuring over 1 m in thickness, suggests that they were deliberately introduced. Alternatively, the spreads of garden soils



CANAL STREET

Phase 4



ILLUS 6 Canal Street III, Perth: boundary change and cultivation (Phase 4)

identified at both St Andrews and Canal Street III may represent the reworking of earlier deposits, an interpretation that would go some way towards explaining the apparent lull in activity during Phases 2 and 3 of the latter.

PHASE 5: INDUSTRIAL ACTIVITY (ILLUS 7)

The three plots established in the previous phase remained more or less intact, though the boundaries themselves shifted slightly. The result was an enlarged central plot (Plot B + C), measuring c 9.5 m, within which all recognizable activity was contained.

The two most substantial and complex structural features found during the excavation, a stone-built kiln, and a large clay-lined, timber-revetted pit were both constructed within the same property and at approximately the same time. The two features represent the two main stages in the process of malting.

The pottery assemblage from this phase indicates a late 14th to early 15th-century date. Reused timbers from a clinker-built boat (Artefacts Catalogue, no 88), a horseshoe (no 44), several crucible fragments (see Cox, below), two needles (nos 9 & 51) and an iron plate lock (no 50) were among the more diagnostic finds from this phase.

Property boundaries (illus 8)

The western boundary ditch established in Phase 4 was abandoned, the edge of the plot and its alignment was shifted slightly, and a new boundary, in the form of a shallow gully (c 0.16 m deep), was inserted. This was the first boundary to continue uninterrupted from north to south, over the full length of the excavated area. Marking the division between Plot A and Plot B + C, it continued over a distance of at least c 11.50 m. The fills of the gully contained considerable quantities of charcoal which are likely to have derived from the kiln located at the northern end of the plot. More interestingly, the fills suggest that the tenant of Plot B + C maintained this property boundary and not the eastern or stake-built one.

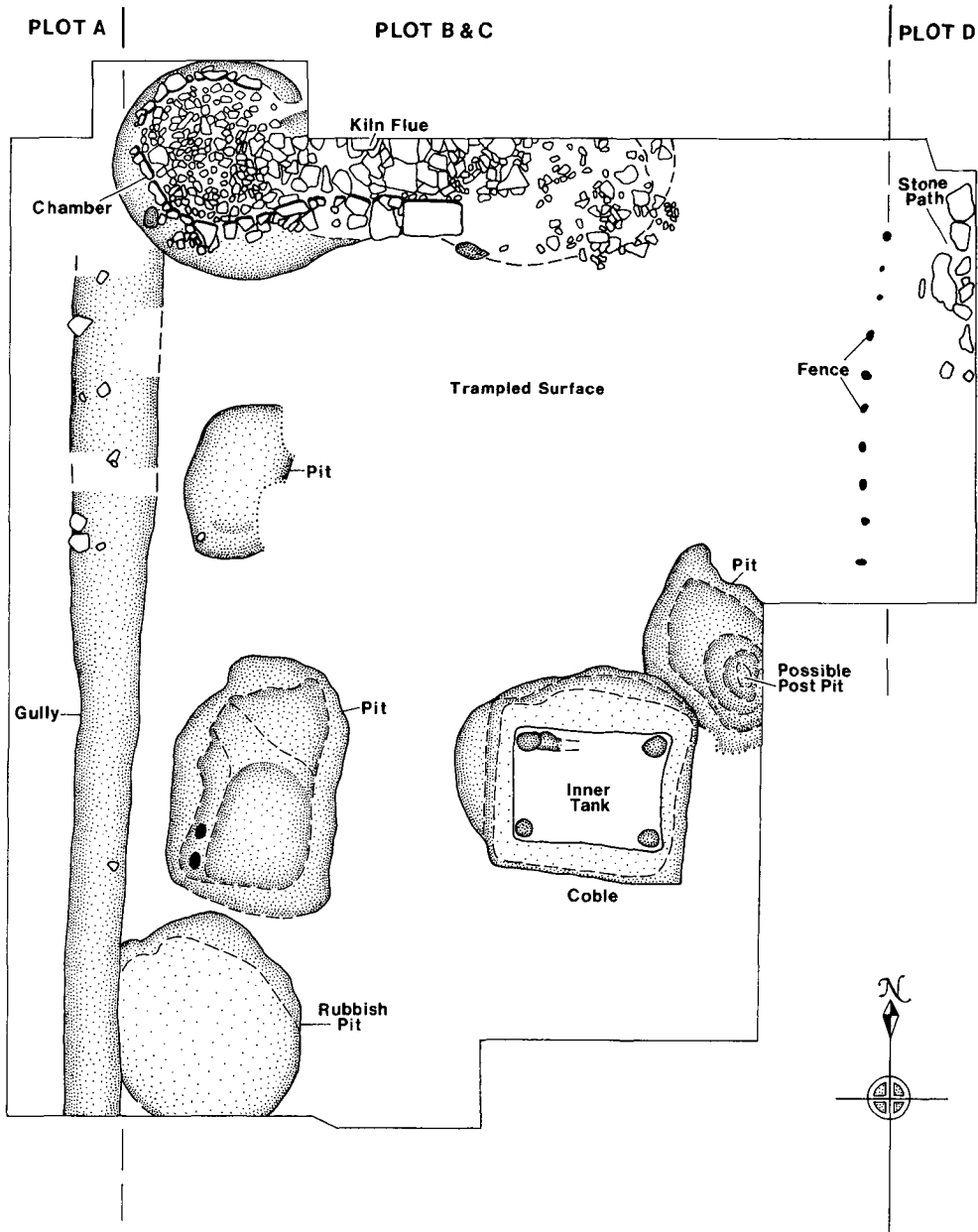
Traces of a wooden fence, which survived as a line of 10 stake-holes, marked the division between Plots B + C and D, with seven of the stakes preserved as rotted timber in the bases of the cuts (see illus 8). The alignment of the fence was skewed slightly towards the north-east, and the southern end was truncated by the foundations of a Victorian tenement building.

Plot B + C

Pits A group of large, intercutting pits had been dug in the south-western corner of the plot, two of which are of particular interest. The southernmost pit, cut to a depth of over 1.5 m, was initially used as a rubbish pit, and contained midden in the lower fills, before being backfilled with a mixture of soils and small quantities of rubble. Included in the backfill was an assemblage of metalworking debris, comprising five fragments of crucibles or moulds, charcoal fragments and small quantities of coal and slag. Two needles (Artefacts Catalogue, nos 9 & 51) were also recovered.

Immediately to the north lay a large sub-rectangular pit, in places up to 1.7 m deep. Internally, a narrow ledge had been scarped along the western side of the pit, approximately 0.45 m down from its top edge, and two, closely set post-holes cut into its south-west corner. Midden material contained in the base of the pit is, perhaps, more likely to reflect its secondary use as a rubbish pit; the post-holes and the sheer size of this pit suggest that its original function may have been of an industrial nature, rather than for rubbish disposal. Finally, the pit was backfilled and the area levelled over.

Pits were also dug elsewhere on the plot. Just inside the eastern boundary was a large irregular pit, with a possible post-pit cut into the base of it. Large stones found throughout the lower fills suggest that it was deliberately backfilled before a spread of garden soil was deposited over the area.

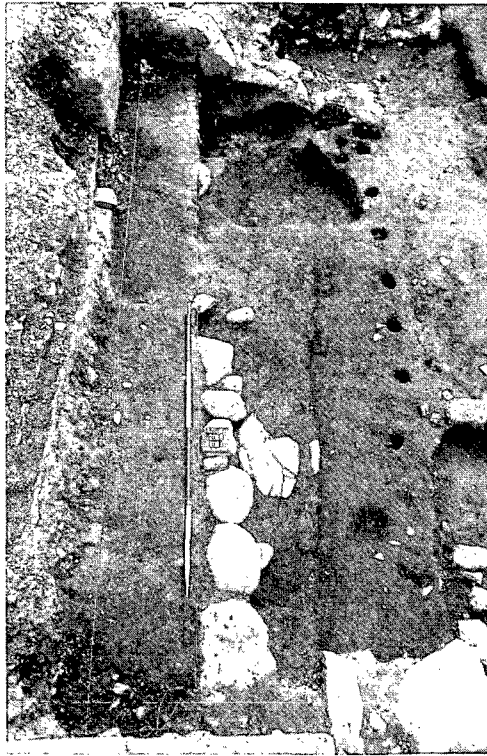


CANAL STREET

Phase 5



ILLUS 7 Canal Street III, Perth: industrial activity (Phase 5)



ILLUS 8 Canal Street III, Perth; property boundary between Plots B + C (to right of post-holes) and Plot D (to left); the stones formed a rough pathway within Plot D. (Viewed from north)

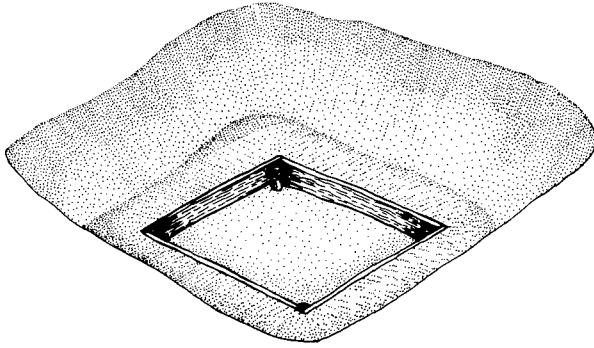
Coble In the south-eastern corner of the plot was a large, roughly square-shaped pit in which three distinct phases of use could be identified (illus 9). It was originally constructed as a clay-lined pit, c 1.8 m deep, within which a smaller, secondary tank was cut. The inner tank was revetted with edge-set wooden planks pressed into the clay and kept in position by four corner posts. Two planks survived *in situ* on the south and east sides and, on removal, were found to be reused boat timbers (see Cox, below). Robbed in antiquity, the other planks and the corner posts were visible as impressions in the clay lining of the walls and floor of the tank.

This watertight structure has been interpreted as a coble. Barley would have been first steeped in water in the coble, essentially a large vat, until germination took place, before being transferred to a kiln where it would have been dried. The end product, malted barley, would then be used for the brewing of beer. The practice of malting is recorded in the *Rental Books* (Milne 1891), and malt barns and cobles are specifically mentioned as being sited in this area.

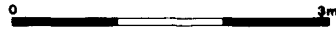
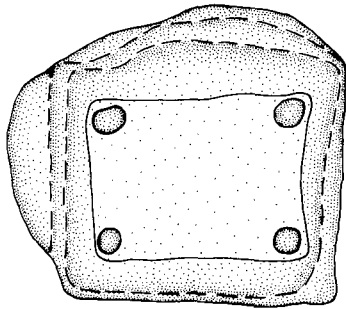
The coble then fell into disuse, was partially robbed of timber and a small pit dug in the centre of the tank. Midden-like material, including wood and straw fragments, together with some large stones were then dumped sealing the floor and the edges of the inner tank. Analysis of these fills identified large quantities of wood fragments and wads of horse or cattle hair (Fairweather, below).

Thick dumps of clay were then laid down, sealing the midden and creating a new structure with a distinctly stepped profile (illus 10). A series of four steps on the south side of the pit led down to a narrow east to west aligned trench in the base of the cut (illus 11). This again formed a watertight structure, which may have functioned as a second, cruder version of the earlier coble. However, this cannot be ascertained on present

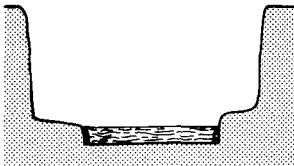
RECONSTRUCTION OF COBLE (PHASE 1)



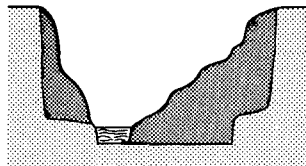
GROUND PLAN OF COBLE (PHASE 1)



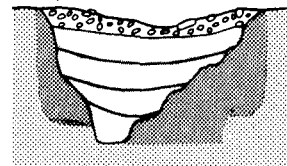
THREE PHASES OF THE COBLE



PHASE 1



PHASE 2



PHASE 3



ILLUS 9 Canal Street III, Perth: the coble



ILLUS 10 Canal Street III, Perth: coble, second phase of construction

evidence and an alternative interpretation is that the feature was re-lined for use as a tanning pit. A sequence of organic-rich, waterlogged fills was contained within the clay tank, including large quantities of twig, shell, coal and charcoal fragments, wads of clay and unidentified fibrous material. This mixture suggests secondary dumping rather than primary use. The pit was finally backfilled and levelled with rubble during Phase 6 (below).

Kiln Roughly contemporary with the coble, a large stone-built, grain-drying or malting-kiln was constructed in the north-eastern corner of the plot. Keyhole-shaped in plan, it measured c 7.60 m by 3 m, with a short flue at the east and the chamber located at the western end (see illus 12 & 13). Like the coble, it had a complex history of use before it, too, was backfilled and levelled with rubble.

Prior to the construction of the stone walls, a keyhole-shaped cut was dug to a depth of c 1.05 m. More precise cuts then marked out the foundations for the walls and floors of the main chamber and the flue. A wall, 0.46 m thick and standing to a height of 0.68 m, formed the main body of the kiln and enclosed a circular main chamber, c 2.5m in diameter. To provide a more solid base for the flue wall, nine posts or piles, surviving only as post-holes, were driven into the base of the cut. Most of the flue wall had been robbed out leaving only the lowest foundation course intact, which comprised a single dressed sandstone block and a number of smaller stones set in clay. Where the flue entered the main chamber, a beam slot had been let into the internal wall face. The beam – a timber or iron joist – would have supported a raised pallet of straw or twigs, overlain by a blanket of woven horse hair or some similar material. Grain was spread over this and was dried by the hot air circulating below, entering the bowl via the flue (illus 14). During one of the later phases of use, the beam slot was ‘plugged’ with clay.

Analysis of the floor levels has provided an opportunity to study the history of the kiln. In total, four floor surfaces were laid down within the chamber and flue, each separated by deposits of ash and peaty material that had accumulated through use. The floors differed in composition but generally comprised thick layers of



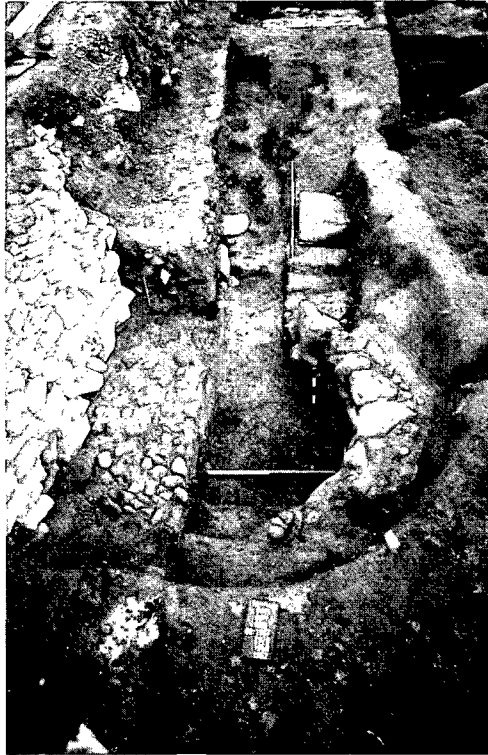
ILLUS 11 Canal Street III, Perth: close-up of coble; the timber exposed is from the first phase of construction

clay embedded with stones or large rounded pebbles. In the flue, where the thickest deposits of peaty material had accumulated, large stones were, on occasions, simply pressed into the underlying deposits to form a new surface. By the time the final floor was laid down, it was level with the top of the retaining wall in the chamber. The heat within the kiln had turned this clay floor a variety of reds and pinks, the different colours reflecting the progressive transfer of heat from the flue through to the chamber. The discoloration and partial baking of the clay floor and walls at the mouth of the flue, where it entered the main chamber, indicates that the highest temperatures in the kiln were reached here.

Beyond the eastern end of the flue were dumps of peaty material. Similar deposits were found by the mouth of the flue, and from within the kiln itself. Analysis of these deposits, however, did not fully substantiate its identification as peat, which could have been used as a source of fuel for firing the kiln. Alternatively, and perhaps more likely, the material within the kiln appears to be the remains of a turf roof over the flue which had occasionally collapsed, partly or completely during the life of the kiln. The peaty deposits outside the kiln, therefore, probably represent a ready-stacked supply of turf to be used for running repairs to a turf-roofed flue. The kiln was backfilled and levelled with rubble in Phase 6 (below).

Plot D

Lying within Plot D, and immediately east of and adjacent to the fence-line separating Plot B + C from Plot D, was a stone pathway (illus 8). It comprised two groups of stones, which included large,



ILLUS 12 Canal Street III, Perth: general view of kiln with flue at top of photograph (east) and chamber at bottom (west)

river-smoothed pebbles. A reused stone with a groove on its upper face was also found incorporated into the pathway.

PHASE 6: LEVELLING AND PATHWAYS (ILLUS 15)

The kiln, coble and pits were all backfilled and levelled, after which three new property boundaries were laid out. This time, they defined four plots, two of which were completely spanned by the excavation area: Plot B measured c 4 m and Plot C c 5.5 m in width. Little other activity was identified during this phase, and it is not at all clear what functions these new plots fulfilled.

The pottery assemblage recovered reflects a late 14th- to early 15th-century date for this, the penultimate phase of recorded activity on the site. Stone roof slates (Cox, below), a decorated bone mount (Artefacts Catalogue, no 81), and a copper alloy needle (Cox 1993) were among the more diagnostic finds, most of which were recovered from the backfill of the kiln.

Levelling

At the beginning of this phase, both the kiln and coble were backfilled and levelled with sandstone rubble. A large assemblage of roof tiles and a decorative bone mount, probably from a box or casket, were recovered from the backfill and levelling deposits. Elsewhere across the site, rubble was used to level the numerous pits



ILLUS 13 Canal Street III, Perth: view of chamber with floor half-sectioned; the linear feature below the floor is an earlier property boundary, over which the kiln was constructed

and hollows, surviving from earlier phases of use of the site. The rubble and roof tiles used to fill the deeper features across the site suggest a major phase of building demolition in the vicinity, but whether this material was derived from a building on this plot, or from elsewhere within the town, is difficult to say. Buildings which had fallen into disrepair provided convenient quarries for the townsfolk. However, even by this phase (late 14th to early 15th century), stone buildings were somewhat rare in medieval towns, with timber still the most commonly used material.

Property boundaries

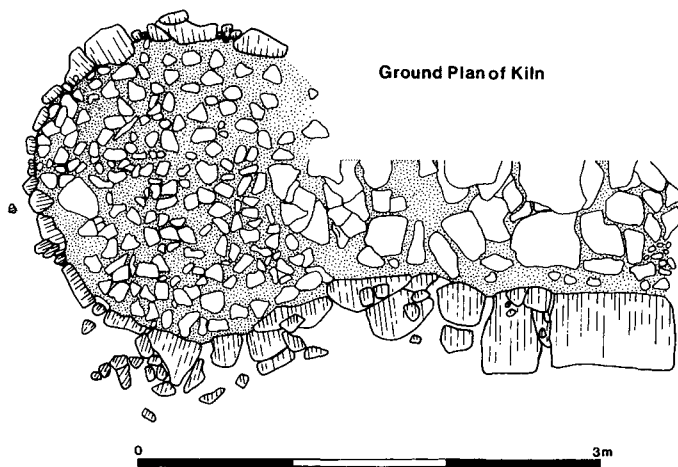
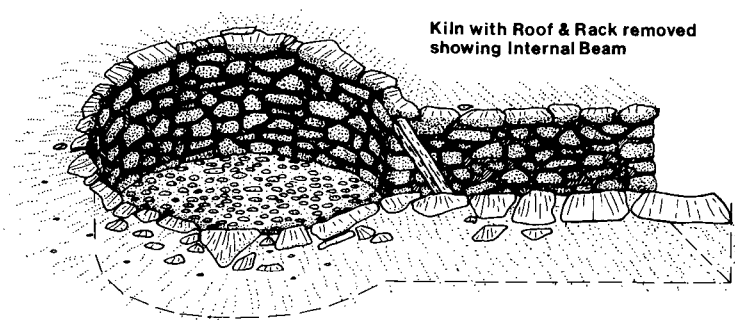
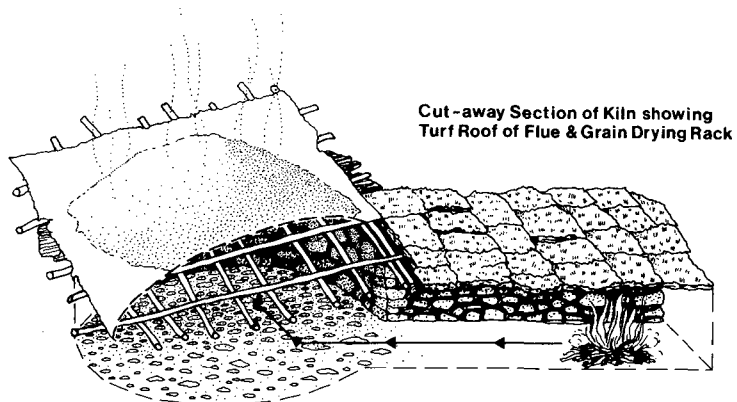
Three stone pathways were established during this phase, defining two complete properties (Plots B and C) and part of a third (Plot D). In effect, Plot B + C from Phase 5 had now been sub-divided into two separate plots (Plots B and C).

The westernmost pathway marked the division between Plots A and B. It was constructed of large flagstones, kerbed on both sides, and laid on a bedding of sandy loam and small pebbles. The northern end of the pathway was truncated and only the bedding layer survived in the south. A sherd of Rhenish Stoneware, which dates from between the mid-14th and mid-15th century, was found in the bonding material of the pathway (Cheer, below).

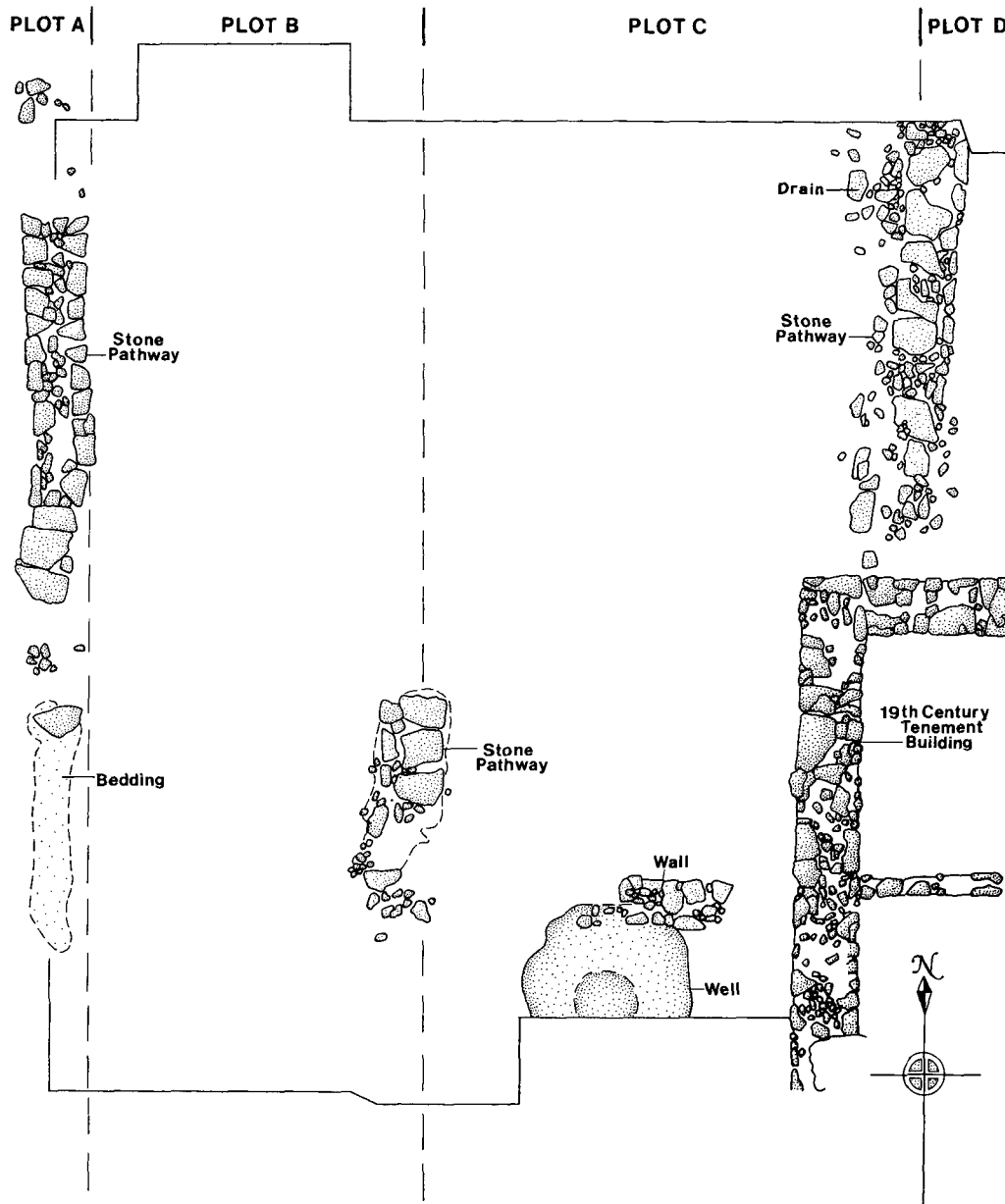
The central pathway, comprising flagstones bonded by a clay loam, marked the division between Plots B and C. The eastern edge was regular, but with no evidence of any kerbing, and the western edge was truncated.

The easternmost pathway marked the division between Plots C and D. Like the boundary it replaced, it too was skewed to the north-east. It continued beyond the north section, and was truncated to the south by the

Reconstruction of Grain Drying Kiln



ILLUS 14 Canal Street III, Perth: reconstruction of grain-drying kiln



CANAL STREET

Phase 6 & 7

0 5m

ILLUS 15 Canal Street III, Perth: Phase 6 Levelling and pathways; Phase 7 Street frontage (Phase 6 & 7)

foundations of a Victorian tenement. Kerbed on the east side, it comprised flagstones bonded together with clay.

There are broad similarities in the construction of the three property boundaries, the choice of pathways rather than ditches or fences and the nature of the bedding and bonding materials, but minor differences, such as the use of kerbing for example, again suggest that each was constructed by the respective tenants.

Plot C

In the north-eastern corner of the plot, adjacent to the pathway, were the remains of a stone drain, contained within a cut lined with small stones.

PHASE 7: STREET FRONTAGE (ILLUS 15)

The features recorded in this phase represent the change in use of this part of the town from backlands to street frontage – a gradual process which began in the 18th century. The finds recovered from this final phase of activity on the site were of 19th-century date (Cox 1993). Modern features, such as soakaways, drains and pipe trenches were also recorded.

In the south-eastern corner of the trench were the substantial foundations of a large stone building. Of the three walls, the two thickest formed the north-western corner of the building, and the third an internal, partition wall. Interestingly, the western wall lay on the roughly the same alignment as the earlier stone pathway, reflecting the continuity of property boundaries from the late medieval period through to more recent times. This building would have fronted onto a back lane which lay between the end of the plots and the town lade. The exact date for the construction of this building is uncertain, but cartographic evidence indicates that by the 1770s, when the first detailed surveys of the town were undertaken, the southern end of the South Street plots had largely been developed. Canal Street itself was established as a thoroughfare when the lade was culverted, a gradual process which began in the late 18th century.

A stone-lined well, which appears to have been inserted through the base of an earlier pit, was constructed at the south end of the plot. When the well had fallen into disuse it was capped with sandstone blocks and the well-pit backfilled with rubble. Partly truncating the northern edge of the well was a short stretch of wall, possibly an internal property boundary. Aligned east to west, it comprised sandstone blocks, of which only the lowest course survived, set within a foundation trench packed with rubble.

SPECIALIST REPORTS

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

THE POTTERY (illus 16)

Peter Cheer

Numbers in brackets refer to the accompanying catalogue.

Phases 1–4

Residuality of the pottery proved to be a serious problem in the Canal Street II excavations (MacAskill *et al* 1987). The extent of residuality on this site has proved impossible to examine closely given the lack of chronologically sensitive fabrics.

The medieval material from these phases presents a picture that is familiar from other sites in Perth with mid- to late 13th- to 14th-century phases. The assemblages are dominated by Perth Local Ware with next in importance White Gritty Ware (in this case probably produced in Fife). The imported wares are mainly from Yorkshire followed by Low Countries wares. The Low Countries material from the nearby excavations, Canal Street I (Blanchard 1983) and Canal Street II (Spearman 1987), were considered by Frans Verhaeghe in a review of medieval Low Countries pottery in Scotland (Verhaeghe 1983, 8–9). Both those excavations produced sherds of Aardenburg type ware from late 13th-century to mid-14th century contexts with Redwares becoming more common post-c 1350. There are 18 sherds from vessels in this fabric type from Phase 1 of the Canal Street III excavation. Amongst the sherds of Low Countries Greywares from Phase 1 are at least two that can be positively identified as the so-called Low Countries 'blackware' (eg 10). This technique of making the greyware pots less porous occurs during the 13th century and at the beginning of the 14th (Janssen 1983, 172). There is a single sherd of red-painted Pingsdorf Ware from a Phase III context, an imported fabric which dates from the 10th to 13th centuries but which must be residual in this context.

The earliest of these assemblages could date as far back as the mid- to late 13th century, based on the presence of Yorkshire Ware and the relative proportions of Perth Local and White Gritty Wares. The sherds of stoneware from Phase III are very small with an average weight of 2.4 g, also four out of the five are from a soil layer whose status is uncertain. They are, therefore, not considered important to arguments over dating. Phase 4 contained two sherds of stoneware (one Langerwehe, one Siegburg) which suggests a date of c 1350 or slightly later.

The Farmers' (1982) dating of Type 1 Scarborough Ware was not used in formulating this interpretation for reasons given in the General Discussion below. If it was accepted, then the date range could extend slightly earlier.

Phases 5–7

These assemblages present a similar picture to those of earlier phases, but the imported wares include early Valencian Lustreware (1) and Langerwehe stoneware. Fifteenth-century Valencian Lustreware has also been found on excavations at Whitefriars (Hall 1989), Meal Vennel and Scott Street (Cheer, this volume) in Perth. It is probable that most Valencian Lustreware in medieval Scotland came via the Low Countries where it is not an uncommon find.

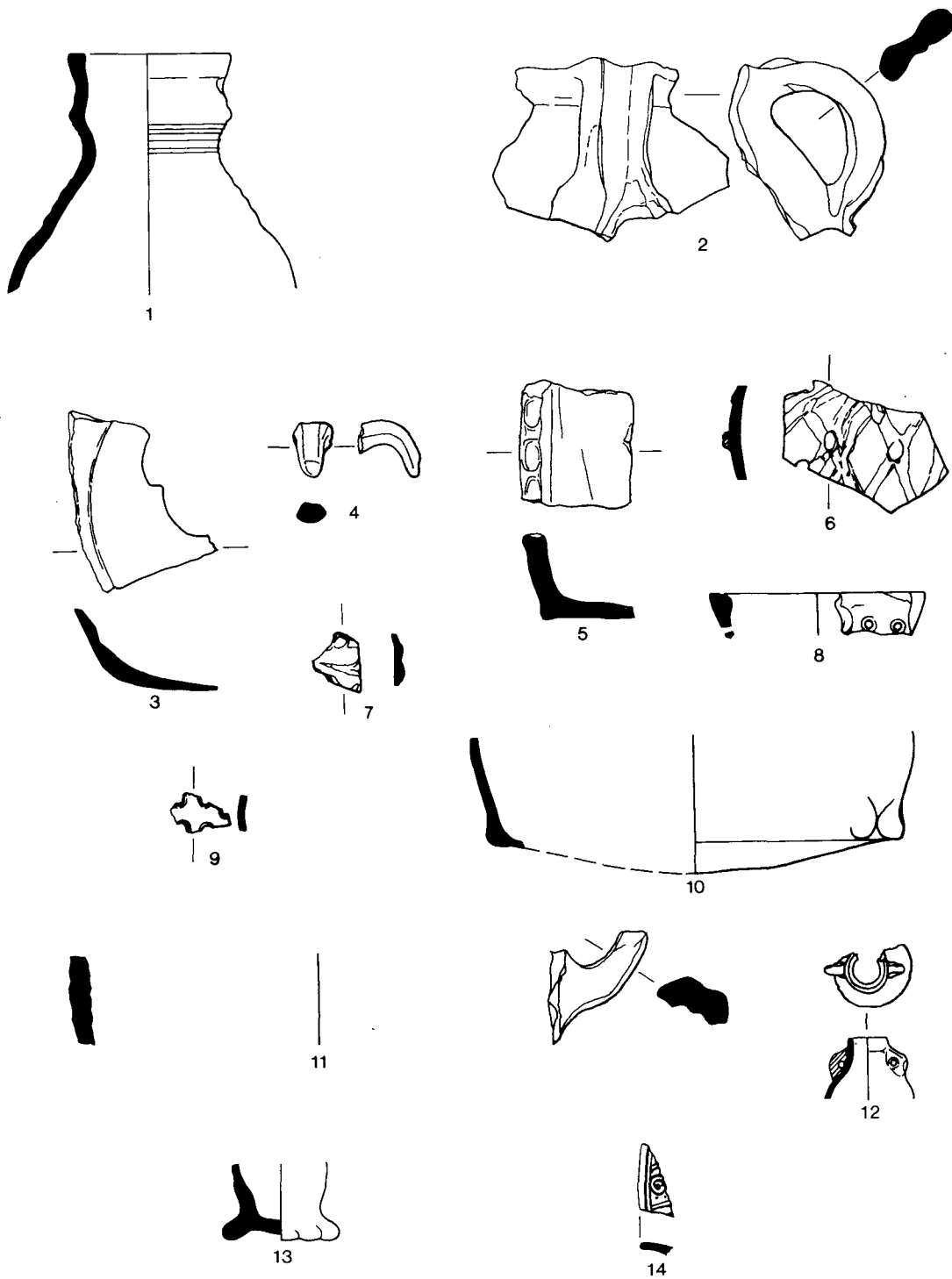
The sherds of Langerwehe stoneware include one (Context 6006) from a large Hurst Type III jug (1977) which have a date range of c 1350–1450. The chamber pot (2) from Phase 5 has a similar date range.

The lack of reduced Scots Greenware, that begins to appear in Perth from the mid-15th century, or Raeren stoneware, that becomes common after c 1475, suggests a late 14th-century to early 15th-century date for the medieval material from Phases 5 and 6. This is consistent with findings from other excavations in Perth that have produced little or no pottery dating between the late 15th and 19th centuries. The presence of a waster from Phase 5 is discussed below.

The features in Phase 7 are clearly of 19th- or 20th-century date, but contained a small quantity of residual medieval pottery (17 sherds, 15 of which were Perth Local Ware). Two post-medieval sherds were also recovered.

THE POTTERY: DISCUSSION

This assemblage is broadly similar in both date and content to that from sites reported on in MacAskill *et al* (1987). The wide date ranges assignable to medieval ceramics from Perth combine with



ILLUS 16 Canal Street III, Perth: pottery (scale 1:4)

the problems of residuality common on urban sites to limit their use as chronological tools. However, the similarity of the assemblages from features in Phases 5 and 6 may suggest that the industrial use of the site was not prolonged, or more probably that material from a similar source (probably domestic refuse) is represented on the site in both phases.

No definite pottery kiln sites have been found in Perth to date. The probable kiln site noted by Stevenson & Henshall (1957) may be discounted, as an examination of the material in Perth Art Gallery & Museum, on which they based their conclusions, failed to show any clear evidence of a pottery production site (D Hall, pers comm). The presence of a definite waster in Phase 5 with glaze spreading over the broken edge of the sherd cannot be taken as clear evidence for a kiln nearby. This is only one small sherd and may have travelled some distance before being deposited on the site. On analogy with medieval urban pottery industries elsewhere the kilns would probably have been sited on the edge of the built-up area to minimize the risk of fire and the effects of atmospheric pollution (Musty 1974, 58).

A base sherd in Phase 5 showed evidence of having had circular pieces removed from it, possibly for secondary use. Two joining bodysherds (6) in Phase 3 have holes drilled through them for an uncertain purpose.

All of the fabrics from this site have been found before in Perth and in similar proportions, but the Langerwehe costrel from Phase 5 (2) is unique. Never a common vessel form, a similar, but not identical complete Langerwehe barrel costrel is illustrated in Hurst *et al* (1986, 189, fig 92–296).

It is, by now, well established that imported pottery forms were copied by local potters but a dripping pan from the site is the first example of this form in Perth Local Ware. Other dripping pans from Perth, such as those from Meal Vennel (Cheer, this volume) have been imported Low Countries Ware. Skillets have been found in Perth Local Ware before, but open forms are always rare.

The long-running debate over the dating of Scarborough Ware cannot be resolved from one site, but this excavation adds weight to the doubts already expressed (Murray *et al* 1982; MacAskill 1987, 101) over the Farmers' dating of this fabric (1982). Type 1 Scarborough Ware has been claimed to precede Type 2 with the transition occurring in the 13th century. Though Type 1 sherds dominated the Scarborough Ware assemblage, from Phase 1, both Types 1 and 2 were found in the late 14th- to early 15th-century phases of that site.

POTTERY CATALOGUE (ILLUS 16)

Numbers in brackets refer to the catalogue of a more detailed report which has been archived with the project records.

Perth Local Ware

- 1 Rim, neck and part of upper body from a jug glazed yellow green on a white slip. Perth Local Ware. Canal Street; Context 6085; Phase 1
- 2 Rim and complete strap handle from a chamber pot glazed green on its external surface. Perth Local Ware. Canal Street; Context 2052; Phase 4
- 3 Base sherd which had pieces removed from it. External thin, yellow-green glaze on underside. Perth Local Ware. (Cat 18) Canal Street; Context 5042; Find no 00831; Phase 5
- 4 Skillet or pipkin handle, spots of thin, brown glaze. Perth Local Ware. (Cat 47) Canal Street; Context 1127; Find no 00837; Phase 1

TABLE 1 Pottery Quantification

British, Unidentified and Post-Medieval

	Phase						Total
	1	2	3	4	5	6	
PL	200 58.5% 2420 g 57.5%	84 66.1% 554 g 63.8%	921 66.9% 8817 g 77.1%	683 82% 12437 g 88.5%	1562 82% 24192 g 85.6%	580 58.7% 7680 g 75%	4030 56100
WG	85 24.9% 1001 g 23.8%	20 15.7% 183 g 21%	405 29.4% 3166 g 25.7%	97 11.6% 810 g 5.8%	230 12% 2276 g 8%	152 15.4% 922 g 9%	989 8358 g
Scar	27 7.9% 331 g 7.9%	17 13.4% 90 g 10.4%		36 4.3% 504 g 3.6%	56 2.9% 1006 g 3.6%	29 2.9% 175 g 1.7%	165 2106 g
York	3 <1% 82 g 1.9%	2 1.6% 22 g 2.5%	10 <1%		318 72 g		
Group X	1 <1% 58 g 1.4%		2 <1% 27 g <1%		26 1.4% 638 g 2.3%		29 723 g
Unid	12 3.5% 107 g 2.5%	3 2.4% 14 g 1.6%	18 1.3% 97 g <1%	5 <1% 92 g <1%	9 <1% 72 g <1%	5 <1% 141 g 1.4%	52 523 g
PM +	1 <1% 5 g <1%		1 <1% 14 g <1%		6 <1% 7 g <1%	210 21.3% 1099 g 107%	218 1125 g
Total	329 4004 g	126 863 g	1357 12193 g	821 13843 g	1889 28191 g	979 10035 g	5501 69129 g
European							
	Phase						Total
	1	2	3	4	5	6	
LCR	7 2% 121 g 2.9%	1 <1% 5 g <1%	9 <1% 57 g <1%	9 1% 106 g <1%	4 <1% 12 g <1%	3 <1% 14 g <1%	33 315 g
LCG	6 1.8% 87 g 2.7%		4 <1% 46 g <1%	1 <1% 10 g <1%	1 <1% 6 g <1%	3 <1% 50 g <1%	15 199 g
Paff					1 <1% 4 g <1%		1 4 g
Rouen			2 <1% 4 g <1%		3 <1% 8 g <1%	1 6 g <1%	6 18 g
Val					1 <1% 3 g <1%		1 3 g

British, Unidentified and Post-Medieval (cont)

	1	2	3	Phase 4	5	6	Total
Ping			1 <1% 2g				
Stone			5 <1% 12 g <1%	2 <1% 92 g <1%	5 <1% 50 g <1%	2 <1% 130 g 1.3%	14 284 g
Total	13 208 g	1 5 g	20 119 g	12 208 g	15 83 g	9 200 g	70 823 g

Key to Table 1

PL	Perth Local Ware	LCR	Low Countries Redware
WG	White Gritty Ware	LCG	Low Countries Greyware
Scar	Scarborough Ware	Paff	Paffrath
York	Yorkshire/possible Scarborough	Rouen	Rouen Ware
Group X	Group X	Val	Valencian Lustreware
Unid	Unidentified medieval	Stone	Stonewares
PM +	Post-medieval		

- 5 Profile of a large open form with internal green-brown glaze. Possibly from a dripping pan. Perth Local Ware. (Cat 15)
Canal Street; Context 4025; Find no 00835; Phase 6

White Gritty Ware

- 6 Joining bodysherds from a jug externally glazed light green and decorated with applied strips and pellets glazed dark green forming a cross hatched pattern. There are two holes drilled through one of the bodysherds. White Gritty Ware. (Cat 1)
Canal Street; Context 1049; Phase 3

Low Countries Redware

- 7 Bodysherd from a jug decorated with embossed floral decoration glazed green brown. Low Countries Redware.
Canal Street; Context 2072; Phase 2
- 8 Rimsherd from a colander glazed dark green on a purple wash. Low Countries Redware.
Canal Street; Context 4073; Phase 1
- 9 Bodysherd from a colander glazed green brown on a purple wash. Low Countries Redware.
Canal Street; Context 4024; Phase 4

Low Countries Blackware

- 10 Joining sherds from the thumbled base of an unglazed jug. Low Countries Blackware.
Canal Street; Context 1125; Phase 1

Rhenish Stonewares

- 11 Bodysherd and strap handle junction from a jug glazed light grey on its external surface. Langerwehe stoneware.
Canal Street; Context 6006; Phase 6

- 12 Rim of a barrel costrel with two ears pierced for suspension loop. External brown glaze. Langerwehe stoneware. (Cat 2)
Canal Street; Context 6018; Find no 00799; Phase 5
- 13 Frilled base from a jug with traces of a brown wash on its external surface. Seigburg stoneware.
Canal Street; Context 2052; Phase 4

Valencian Lustreware

- 14 Rim sherd from an open form. The internal and external glaze is cream with a light brown pattern. Valencian Lustreware. (Cat 1)
Canal Street; Context 6022; Find no 00802; Phase 5

THE ARTEFACTS

Adrian Cox

with a contribution on the coins by Nicholas Holmes

Summary discussions of the artefacts from the excavation are presented below by material type. Numbers within the text refer to the accompanying catalogue entries. More detailed accounts can be found in the archived project records, which also include a discussion of the artefact assemblages by phase.

COPPER ALLOY OBJECTS (ILLUS 17)

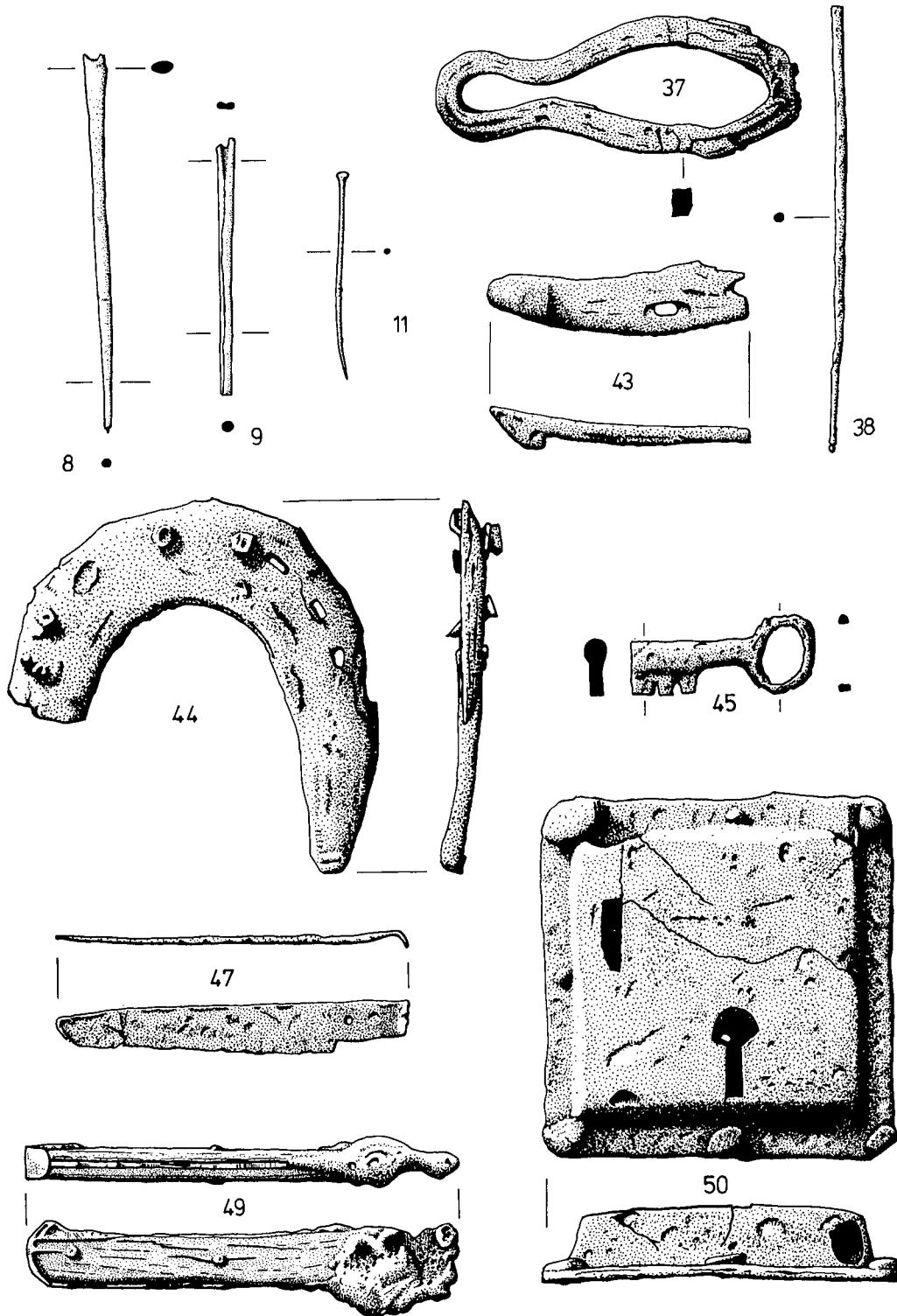
A range of artefacts was recovered, including dress accessories, textile equipment and sheet metal offcuts. Four lace tags, each formed by rolling a copper alloy sheet around the end of a lace or thong, and three needles (including 8 and 9), also made from tightly rolled sheets, were found. The needles are slender and were probably used in the sewing of textiles. The eye of 9 is cut in a countersunk groove, in a fashion similar to that of an unstratified example from Kirk Close, Perth (Ford 1987, 125, fig 60, no 17) and one from Northampton (Oakley & Webster 1979), 256, fig 111, no 82).

A one-piece pin with a conical head (11) is of a type which first appeared in the 19th century (Tylecote 1972).

- 8 Needle. Length 57 mm; max. width 3 mm
Needle made from a tightly rolled sheet. It is broken across the eye.
Context 4025; Find no 00371; Phase 7
- 9 Needle. Length 39 mm; max. width 3 mm
Needle made from a tightly rolled sheet. It is broken across the eye, which is cut in a countersunk groove. The shaft is broken.
Context 5031; Find no 00403; Phase 5
- 11 Pin. Length 31 mm; diameter of head 1 mm; diameter of shank 0.7 mm
Complete pin with a conical head and a circular cross-sectioned shank.
Context 1002; Find no 00324; Phase 7

LEAD ALLOY OBJECTS

Four artefacts of lead alloy were recovered, including two offcuts with trimmed edges, a folded sheet with irregular edges, probably intended for recycling, and a once-molten piece of waste.



ILLUS 17 Canal Street III, Perth: artefacts, nos 8,9 & 11 (scale 1:1), nos 37-50 (scale 1:2)

IRON OBJECTS (ILLUS 17 & 18)

Hasps such as 37 were used in conjunction with a U-shaped staple to fasten doors and gates or to secure the lid of a chest. One loop would be attached to the doorpost or side of the chest, and a padlock could then be fitted onto the staple.

Number 38 is probably a tooth from a heckle. Heckles were used to comb wool and flax in preparation for spinning, and teeth from them have been found in excavations at Kirk Close and King Edward Street, Perth (Ford 1987, 140, fig. 74, no 119; Ford forthcoming). The Kirk Close example came from a context dated to the late 14th century.

Fragments of three horseshoes were found. The earliest of these (43) has countersunk nail holes and a wavy outline. A small key, which may have been used to lock a chest or a box (45), was found in a sandy deposit overlying a gravel yard surface in Phase 3.

The upper fill of the eastern property boundary in Phase 4 contained part of a scale tang knife (47). The left side of the blade, when held with the tip pointing away from the holder, bears a small area of tin. This may either be a small remnant of tin plating or may represent a maker's mark, made initially by a punch and inlaid with tin. Cowgill (1987, 20) notes that modern cutlers term the left side of the knife the mark side and that it is this side which consistently bears the maker's mark on knives from London. The shape of the tinned area on 47 bears some similarity to that of punched marks on some late 14th-century knives in the London collection (Cowgill 1987, 21, fig 6, nos 86, 165, 166).

Recovered from the upper fills of the western property boundary in Phase 4, 49 is part of a scale tang knife with surviving wooden scales. End plates like those on 49 occur on a range of late 14th-century to mid-15th-century scale tang knives from London (Cowgill *et al* 1987, 92–102), but are of copper alloy rather than iron.

An iron plate lock (50) was recovered from the uppermost fill of the kiln flue in Phase 5. Similar examples have been found at Goltho (Goodall 1975, 84) and Writtle (Rahtz 1969, 85). A needle (51) was found in a pit fill, also in Phase 5.

Number 53 is a spring mechanism from a barrel padlock, recovered from the fill of a quarry pit in Phase 1. It is attached to a circular head, in the manner of examples from Goltho (Goodall 1975, 84, fig 39, nos 60–4).

- 37 **Hasp.** Length 110 mm; width 41 mm; thickness 8 mm
Figure-of-eight hasp with rectangular cross-sectioned sides.
Context 2052; Find no 00412; Phase 4
- 38 **Heckle tooth?** Length 136 mm; max. diam 4 mm
Possible heckle tooth, slightly curved, circular in cross-section and tapering to a point.
Context 5055; Find no 00467; Phase 3
- 43 **Horseshoe.** Length 78 mm; width 21 mm; thickness at calkin 10 mm
Horseshoe fragment with one intact rectangular nail hole and another incomplete one. The nail holes are countersunk. The heel of the shoe terminates in a calkin.
Context 2067; Find no 00617; Phase 3
- 44 **Horseshoe.** Length 98 mm; width 113 mm; thickness at calkin 8 mm
Part of a horseshoe with possibly seven rectangular nail holes. Two square-headed horseshoe nails survive *in situ*. The nail heads stand proud of the surface of the shoe. The heel of the shoe terminates in a very light calkin.
Context 5016; Find no 00293; Phase 5
- 45 **Key.** Length 56 mm; width of bow 23 mm; length of bit 15 mm
Complete key with an oval bow and a solid, circular cross-sectioned shaft. The bit has two vertical ward cuts.
Context 1031; Find no 00604; Phase 3

- 47 **Knife.** Length 106 mm; width 15 mm; thickness 3 mm
Blade and part of the tang of a scale tang knife. The blade back is straight and the edge rises gradually towards the tip. The tang has a single, circular rivet hole, and is bent and broken, possibly across a second hole. A small area of white metal, identified as tin by XRF analysis, appears on the left side of the blade. Context 2034; Find no 00390; Phase 4
- 49 **Knife.** Length 131 mm; width 27 mm; thickness 15 mm
Tang and part of the blade of a scale tang knife. Remains of wooden scales survive, attached to the tang by three circular rivets. The tang terminates in a downward projection and a curved iron plate or end cap is attached at the terminal. The means of its attachment is obscured. Pseudomorphs of wood survive at the junction of the tang and the blade. The dimensions quoted include these pseudomorphs. Context 6043; Find no 00451; Phase 4
- 50 **Lock.** Length 111 mm; width 105 mm; thickness 22 mm
Rectangular plate lock. Two holes exist in the front of the casing, one a keyhole and the other a rectangular aperture, possibly for the lock bolt. Evidence survives of six or possibly eight rivets around the perimeter of the back plate. An X-radiograph of the object reveals that the internal mechanism survives, but little of its detail can be discerned. Context 1024; Find no 00437; Phase 5
- 51 **Needle.** Length 101 mm; max. width 6 mm
Needle with a circular cross-sectioned shaft, flattened around the circular eye. The point is missing. Context 5024; Find no 00296; Phase 5
- 53 **Padlock mechanism.** Length 74 mm; width 17 mm; thickness 16 mm
Spring mechanism from a barrel padlock. The mechanism is attached to a circular head, and the projecting spine of the mechanism forms a loop on the head. On the head and upper parts of the mechanism traces of copper alloy plating survive. Context 1126; Find no 00629; Phase 1

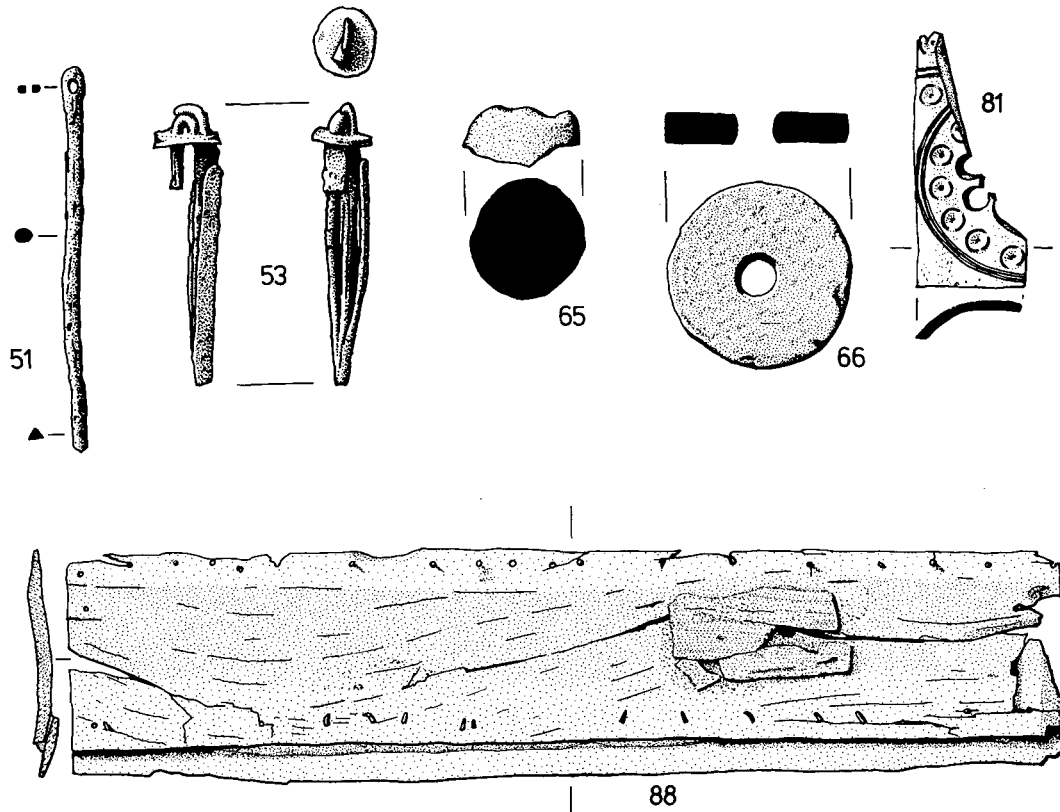
STONE OBJECTS (ILLUS 18)

Number 65, found in a pit fill, may be a fragment of a cylindrical hone; no 66 is a spindle whorl of discoid form, similar to an example from Meal Vennel (Cox, this volume). Both these finds were associated with the earliest phase of activity on the site.

- 65 **Hone?** Length 12 mm; diam 30 mm
Fragment of a possible hone, circular in cross-section and tapering towards one end. The object is broken at both ends. One break is recent but the other exhibits wear from abrasion and may have occurred in antiquity. Context 1127; Find no 00608; Phase 1
- 66 **Spindle whorl.** Diam 49 mm; diam of hole 12 mm (narrows to 10 mm at centre); thickness 8 mm
Spindle whorl consisting of a plain, circular disc with a central, circular hole. The hole has been drilled from both sides. Context 3009; Find no 00591; Phase 1

STONE ROOF SLATES

A total of 39 fragments of stone roof slates was recovered, many of them from deposits in Phase 6 interpreted as backfilling and levelling of earlier features. The fragments are probably from rectangular slates with a hole near to one end to accommodate a fixing nail. The hole may have been countersunk in order to prevent the nail head from standing proud of the slate's surface. A majority of the fragments recovered are small, and the size range of the original slates cannot be determined with certainty.



ILLUS 18 Canal Street III, Perth: artefacts, nos 51–81 (scale 1:2), no 88 (scale 1:12)

BONE OBJECT (ILLUS 18)

(with species identification by Catherine Smith)

Among the bone objects found was part of a decorative mount, possibly from a box or casket (81). This was recovered from the Phase 6 levelling deposits overlying the Phase 5 kiln. It was possibly a residual find. The wide date range of pottery recovered from deposits assigned to Phase 6 is an indicator of the residuality of at least some of the material recovered.

81 **Mount?** Length 66 mm; width 29 mm; thickness 5 mm

Derived from a large ungulate long bone shaft. Possible mount from a box or casket, showing saw marks on the edges and file marks on the face. The face is decorated with incised lines, two forming concentric arcs of a circle, and a ring-and-dot pattern. Each ring in the pattern has a countersunk interior with a central dot. Five complete rings and one partial ring form an arc within that formed by the incised lines. A further complete ring and one partial ring lie outside this arc. Circular holes, penetrating the full thickness of the bone, are also part of the decoration. Trabeculae are exposed on the edge and the undecorated surface of the object.

Context 2006; Find no 00230; Phase 6

BOAT TIMBERS (ILLUS 18)

Timbers from a clinker-built, wooden boat (88) formed part of the lining of a substantial, rectangular pit or coble in Phase 5. Further timbers were identified, lining another of the pit sides, but were not retained.

Clinker-built boats were made in abundance before the development of fibreglass models, their chief characteristic being the overlapping planks which form the shell. The shell is assembled first and the reinforcing frame inserted thereafter. Evidence survives of the attachment of 88 to the ribs which formed part of the frame. The length of the planks and the positions of the nail holes suggest that adjacent ribs may have been between 1.5 m and 1.6 m apart.

Clinker construction relies mainly on the boat timbers swelling to make the vessel watertight (Harper & Johnston 1980, 44). Caulking material has been incorporated between the planks of 88 to seal the join. A weakness or cavity in the broader plank, possibly where a knot of wood became loose, has been repaired using hemp or rope, covered by a textile patch. The boat appears to have been finished with a tar-rich substance, which survives mainly on the exterior surface.

88 Boat timbers. Length 1574 mm; width 365 mm; max. thickness 37 mm

Timbers from a clinker-built wooden boat, consisting of two sawn planks, both of oak, overlapping and joined by a series of clenched iron nails at regular intervals. One plank has a width of 300 mm, the other 101 mm. The width of the overlap is 48 mm. The join between the two has been made watertight by the incorporation of caulking material. The edges of both planks have been bevelled to enable them to fit tightly when overlapped.

The opposite edge of the broader plank has also been bevelled and has a series of nails driven through it at regular intervals, which would have secured an adjacent plank. Remains of caulking material which would have sealed this join are visible in the vicinity of the overlap. From these remains it can be seen that the width of the overlap would have been c 48 mm, as at the opposite edge.

A cavity (length c 65 mm) in the broader plank has been repaired. A quantity of hemp or rope has been hammered into it, and this has then been covered by a textile patch (c 290 mm by 140 mm). A black, tar-like substance adheres to the same side of the plank and probably secured this patch in position. Additional nail holes are visible adjacent to the short edges of the planks. These would have secured either end of the planks to the ribs of the boat's frame.

The surviving nails in the object have circular heads and rectangular cross-sectioned shafts. The object was sawn into two pieces to enable its conservation. A number of small fragments have broken away from both planks.

Context 4016; Find no 00844; Phase 5

LEATHER

A single offcut from leather working (89) was recovered from Phase 1.

89 Offcut. Length 42 mm; width 19 mm; thickness 1 mm

Roughly rectangular offcut with three knife-cut edges. (Not illustrated)

Context 6087; Find no 00284; Phase 1

CERAMIC ROOF TILE

Seventy-nine fragments of ceramic roof tile were recovered. The assemblage consists of a mixture of partly glazed, flat peg tiles and curved ridge tiles, in a moderately coarse, micaceous fabric,

reddish where oxidized and grey where reduced. The fabric is similar to that of Perth Local Ware, and the mottled green glaze present on 45 fragments also resembles that of the local pottery. A late 14th-century to 15th-century date has been suggested for glazed tiles in this fabric from Perth (MacAskill 1987, 156). Pottery associated with the tile fragments from Phase 1 of this site would appear to indicate a mid-13th to early 14th-century date for the earliest assemblage.

Evidence from excavations at High Street and Mill Street, Perth (Bogdan & di Falco forthcoming; Hall 1995b, 970) suggests that buildings in the medieval burgh were roofed with thatch, with ceramic tiles used selectively on the ridges and borders.

MOULD OR CRUCIBLE FRAGMENTS

Seven possible mould or crucible fragments were recovered. Five of these came from the fills of a steep-sided, sub-rectangular pit in Phase 5, in which they were dispersed throughout the middle and upper fills. Abundant charcoal fragments were noted in these fills and small quantities of coal and slag were observed during the subsequent analysis of samples. The appearance of rubble inclusions in the middle and upper fills of the pit indicates that this small assemblage of industrial debris was largely associated with its backfilling. It may have derived from metalworking activities in the vicinity.

With a single exception, the fragments are all curved, and in most cases the fabric is oxidized on the external surface and reduced on the internal surface. The fabric of each fragment has been tempered with grass or straw. No metallic residues are visible on any of the fragments, and none of them shows any signs of vitrification. They were submitted for X-ray fluorescence (XRF) analysis to Paul Wilthew of the National Museums of Scotland, whose reports (Wilthew 1991) are summarized below.

Although traces of copper, lead and possibly zinc were detected in the XRF analyses, they were not present in high enough levels for any metal cast to be securely identified. However, the presence of these elements suggests that a copper alloy may have been cast, but not necessarily one containing more than a trace of lead and zinc, since both these elements can be concentrated in the surfaces of clay moulds and crucibles. The other elements detected would all be expected to be present in the mould fabric.

COINS

Nicholas Holmes

Two coins were found on the excavation and are catalogued below.

- 149 James III copper 'black farthing'; 1st issue (1465–6); 13.5 × 12.5 mm; 0.17 g; die axis c 7.0
 obv: crown? REX : crown
 rev: [_]ILLEA _BU. . . ; saltire flanked by two small saltires.
 Corroded with very ragged edge, only slight wear. Probably lost by c 1470. (*cf* Stewart 1967, 113). (Not illustrated)
 Context 2019; Find no 00271; Phase 6
- 150 Charles II or William II copper bodle; (1677–8 or 1695–7); 20 × 19.5 mm; 1.57 g; die axis uncertain
 obv: illegible
 rev: illegible; traces of a crossed sword and sceptre
 Extremely worn with some corrosion. Probably circulated through much or all of the 18th century (as a farthing after 1707). (*cf* Stewart 1967, 245 or 258–9). (Not illustrated)
 Context 4001; Find no 00216; Phase 6

TABLE 2 Total Number of Bones, Arranged by Species and Phase

	Phase						Total
	1	2	3	4	5	6*	
Cattle	86	2	73	174	388	326	1049
Sheep/Goat	26	1	18	121	142	152	460
Sheep			1	6		8	15
Pig	3	1	1	11	33	18	67
Horse	5		4	1	4	6	20
Roe Deer					1		1
Dog				1	8	3	12
Cat	18				1	1	20
Rat					1	9	10
Fowl	1		1	1	5	3	11
Goose				3		3	6
Duck				1			1
Probable House Sparrow						1	1
Buzzard	2						2
Indeterminate bird					3		3
Fish				3	29	4	36
Sub-total	151	4	98	322	615	534	1724
Large Ungulate	171	8	111	185	437	362	1274
Small Ungulate	26	1	17	45	77	67	233
Indeterminate Mammal	31		57	107	366	262	823
Sub-total	228	9	185	337	880	691	2330
Grand Total	379	13	283	659	1495	1225	4054

* Modern contexts omitted

ANIMAL BONE

Catherine Smith

The following is a summary report on the animal bone from the excavation. A full report has been lodged with the National Monuments Record of Scotland.

MAMMAL BONE

Bones of cattle, sheep/goat, sheep, pig, horse, roe deer, dog, cat and rat species were identified, the numbers of bones from each phase being shown in Table 2.

The assemblage is similar in many ways to collections of bone retrieved from other urban medieval sites excavated in Perth as well as elsewhere in Scotland, in that it is dominated by the remains of cattle and sheep/goat. Carcass analysis revealed that both high meat-yielding bones and low meat-yielding bones were well represented, indicating that the material was probably domestic in origin.

The ages at which animals died at Canal Street III compared well with those at other Scottish urban sites indicating that the production of young tender meat was not the prime motive for killing cattle. The best quality hides were produced only when the beasts had reached maturity, probably at about five years of age, when as a consequence the meat, too, had matured and become tougher, at least by modern standards. Scotland's export trade, and thus her wealth, in the medieval period depended largely on animal-derived goods, such as hides, wool and woolfells (Guy 1986, 64); meat was essentially a by-product of this trade.

In the case of sheep, the cull pattern indicates that the majority of the animals found at Canal

Street III died between the ages of two and four years, which, as Hodgson (1983, 13) has observed, is puzzling since older sheep can still produce good fleeces. It has, however, been surmised that the medieval wool trade was based on flocks kept by rural, not urban communities (Spearman 1988, 137). At Rattray Castle, a medieval rural site 50 km north of Aberdeen, 63% of the sheep died between the ages of four and eight years, in sharp contrast to the situation at large contemporary urban sites such as Perth and Aberdeen (Hamilton-Dyer *et al* 1993). This may indicate that Rattray sold its younger sheep to the burgh market, while retaining the older animals for wool production. The evidence from Canal Street III does not conflict with this model, hinting that the carcasses of older sheep from which the wool crop derived did not reach the burgh market of Perth in any great number.

Skins from smaller fur bearing animals also figured as an item of trade in medieval Scotland, and to find evidence, therefore, of a skinned cat (in the form of knife cuts on a feline skull) at Canal Street III is not surprising (Phase 1, wattle-lined well). Cat fur, though sought after in Europe in the ninth century and fetching high prices, seems to have decreased in popularity by the 13th century, at least in England (Kirk 1977, 33). However, cat pelts were still being sold in Ireland in the 14th century, the rate of tax for export being a halfpenny per hundred (McCormick 1988, 226) while an entry in the *Perth Guildry Book*, dating from 1551, mentions 'cattys skynniss' in a list which also includes lamb, goat and deer (Stavert 1993, 216).

BIRD AND FISH BONE

Although a small quantity of fish bones were recovered they were not identified to species. Bird remains comprised bones of domestic fowl (*Gallus gallus*), goose (*Anser anser*), duck (*Anas platyrhynchos*), buzzard (*Buteo buteo*) and probable house sparrow (*Passer domesticus*) or other small passerine species (see Table 2). The bones of fowl and geese were typical of the small domestic birds of the medieval period, while the solitary bone of duck probably came from a wild mallard (*Anas platyrhynchos*) rather than a domestic breed. Two bones from a buzzard wing were found in the Phase 1 well. Buzzard bones have also been found at Meal Vennel, Perth (Cox *et al*, this volume); such raptors normally feed on small mammals and birds but also take carrion and could thus have made a living by scavenging from the open middens of the medieval town.

BOTANICAL REMAINS

Alan Fairweather

Botanical remains from a total of 25 samples were analysed. A summary of the results is presented below. A full account can be found in the archived project records. Context numbers refer to more detailed reports which form part of the archive.

PHASE 1

Samples from the bottom fill of the wattle-lined well in Phase 1 (Contexts 6087 & 6088) contained mainly waterlogged material with some carbonized grains of *Avena sp* (oat) and one of *Hordeum* (barley), probably *H vulgare*. Much of the sample consisted of wood fragments, evidently parts of the wattle. Other species present indicated plants which could be expected on waste ground, growing close to the well or overhanging it, such as *Urtica dioica* (stinging nettle), *U. urens*, *Polygonum spp*

(knotgrasses), *P. persicaria* (persicaria), *Chenopodium album* (fat hen) *Rumex obtusifolius/crispus* (docks) and *Lapsana communis* (nipplewort).

Samples from a floor layer (Contexts 4076 & 4073) contained mainly carbonized remains. Context 4076 mainly contained carbonized *Avena* grains and a few *Hordeum* grains; some of the 'oat' grains may be attributable to *Bromus* sp. (grass species). The sample from Context 4073 contained one carbonized grain of *Triticum aestivum* (wheat). Non-carbonized plant remains were sparse, consisting only of one seed of *Galeopsis tetrahit* (common hemp nettle) in Context 4073, and one waterlogged fruit of *Urtica dioica* in Context 4076.

PHASE 5

A sample from a pit fill (Context 5037) contained remains of cereals, represented by fragments of carbonized *Hordeum*. The comparative frequency of arable weeds such as *Centaurea cyanus* (cornflower) and *Raphanus raphanistrum* (runch) might indicate that these were the remains of crop-cleaning activities after threshing. Another pit fill (Context 5025) contained wood charcoal fragments, as well as a possible coal fragment. Two carbonized *Hordeum* grain fragments were present. Uncarbonized seeds included one each from the edible *Rubus fruticosus* agg. (blackberry) and *R. idaeus* (raspberry) as well as seeds of ruderal weeds, sedge and rush.

Two samples from the bottom fills of the coble (Contexts 4014 & 4015) were examined. That from Context 4014 contained one carbonized grain of *Avena* and a fragment of *Hordeum*. Waterlogged material contained arable weed seeds as well as a fragment of *Corylus avellana* nut and leaves and stems of *Calluna vulgaris* (heather) and *Erica tetralix* (cross leaved heath). Context 4015 consisted of a quantity of waterlogged wood fragments. Seeds and fruits of arable weeds as well as fragments of fern (*Pteridium aquifolium*) and moss spp. were noted.

Two samples from the secondary fills of the coble (Contexts 4011 & 4009) contained an abundance of weed seeds and fruits. In comparison to the samples from the bottom fills, this could indicate a period of abandonment and local colonisation by ruderals flourishing on an enriched soil in and around the coble, after which a more permanent vegetation of perennial species would have been established.

Four samples from the kiln body (Contexts 6047, 6052, 6054 & 6057) were also examined. A sample of ash within the kiln (Context 6047) contained carbonized grains of *Hordeum* as well as waterlogged seeds of rush and leafy stems of *Calluna vulgaris*. Nearly all of the identifiable material in the sample from Context 6052 (ash within the kiln fire hole) was carbonized and included grains of *Hordeum vulgare* and *Avena/Bromus* as well as ruderal weed species, pinnae of *Pteridium aquilinum* (bracken) and leaves and florets of *Calluna vulgaris*.

A sample of ash from the kiln floor (Context 6054) contained very little organic material other than one *Hordeum* grain, one *Polygonum* sp fragment, one *Chenopodium* sp seed and a few leaves of *Calluna vulgaris*.

A sample from the neck of the kiln flue (Context 6057) contained carbonized *Hordeum* grains and weed species as well as both burned and unburned bone fragments. In samples from the kiln flue cut (Contexts 1050 & 1065/2066), almost all of the identifiable material was carbonized. This included *Hordeum* grains, one awn of *Avena fatua*, weed fragments and *Calluna vulgaris* leaves and stems.

Samples taken from the kiln flue deposits (Contexts 1010, 1011, 1013 & 1020/6039) contained mainly carbonized material, represented by *Hordeum*, *Avena* (cf *sativa* and *strigosa*), arable weed species and *Calluna* leaves and stems.

CONCLUSIONS

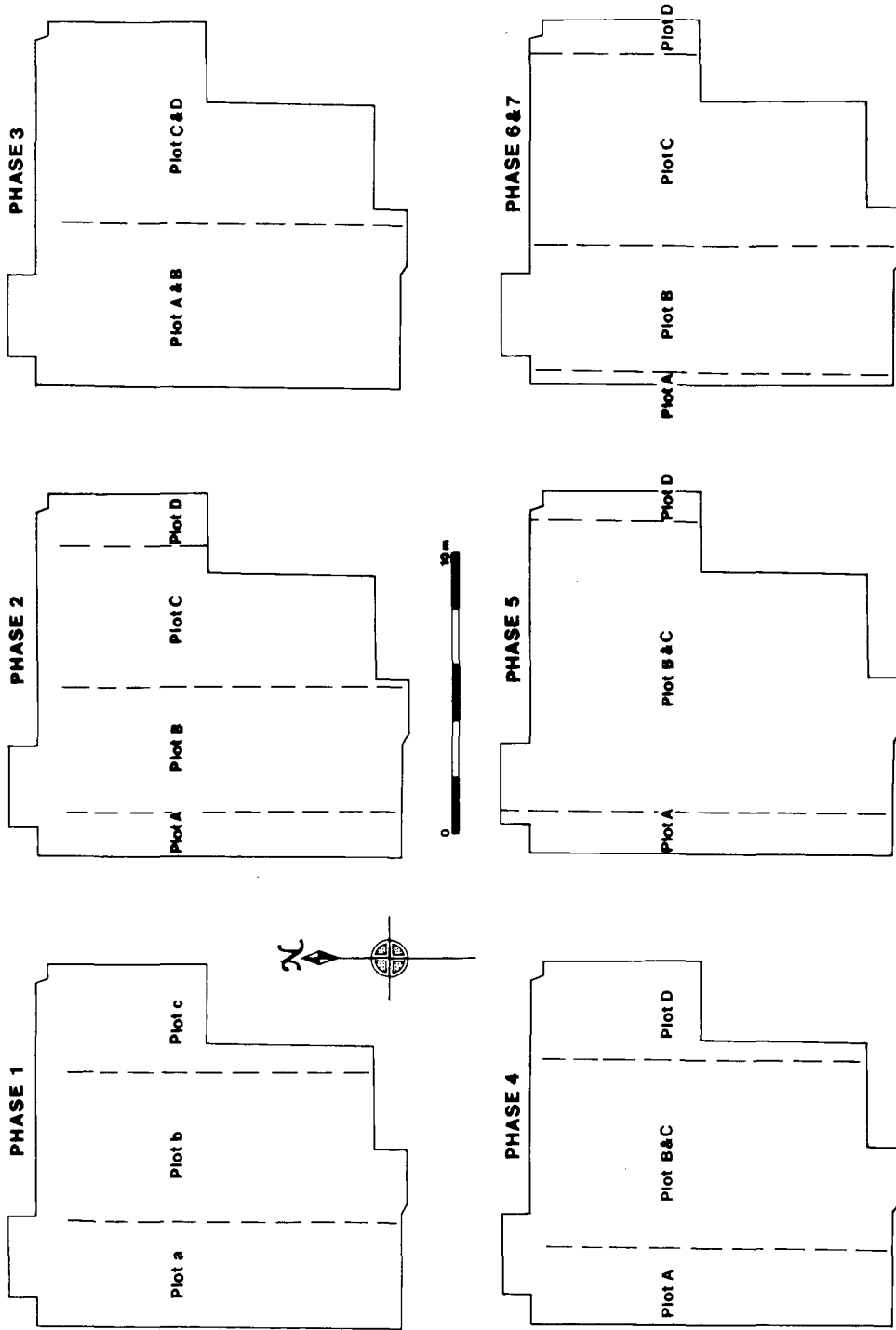
The excavation at Canal Street has provided a further opportunity to study in detail the inner workings of medieval burgage plots: their development and layout, the characteristics of the property divisions, and the nature and extent of backland occupation. All the research objectives were addressed, although all that can be said about the town defences were that they must lie farther south, nearer or indeed under Canal Street itself.

The excavation produced no evidence to support the existence of burgage plots in the late 12th century, indicating that colonization of this part of the town lagged behind the creation of South Street as a main thoroughfare. Interestingly, once colonized, in the mid-to late 13th century, there appears to have been a period of fairly intense activity in Phase I, not matched in intensity until Phase 5, a gap of some 100 years. A similar sequence of events was also identified at Canal Street II, and perhaps reflects an initial need to occupy and use all the newly available land, indicating a rapid population expansion in the early 13th century. The ensuing lull in activity (for an alternative interpretation see Phase 4 above) would correspond with a general economic decline in Scotland throughout the 14th century, the inevitable result of a period of considerable unrest and natural disaster – the Wars of Independence, famine and the Black Death (Lynch 1992, 70–3). Perth's strategic importance on the main route to the North figured heavily in the early years of the Wars of Independence, and the town changed hands several times. A series of famines in 1315–16 and in the later 1330s, was followed by plague epidemics, events mirrored across Britain and continental Europe, and the outbreak of the Black Death in the mid-14th century was the first and most deadly of eight epidemics recorded between 1349 and 1455 in Scotland. The death-toll from the first outbreak was huge with towns in particular the worst affected, and, though difficult to quantify, it is widely accepted that between a third and half of the urban population perished. This picture of declining economic fortunes is repeated at other sites in Perth with vacant plots and a downturn in activity recorded at 103 High Street (Falconer 1992) and 80–86 High Street (Maloney & Coleman forthcoming).

The general pattern in the movements of the boundaries, evident in the expansion, contraction and occasional amalgamation of the plots, probably reflects changes in the density and social organization of the population in this vicinity (illus 19). When the Canal Street II properties are projected southwards onto the Canal Street III excavation, only two phases appear to correlate. Exact measurements are often difficult, but the widths of the complete plots located in the excavation area of Canal Street III varied between c 4 m and 5.5 m in width for single plots, and between 4.5 m and 9.5 m for amalgamated plots. The original Canal Street II plots, however, were generally larger, measuring on average c 7 m but with one narrower plot at 3.5 m (Canal Street II, Period III). Throughout the history of the site they were re-dug or replaced in approximately the same positions (Spearman 1987, 65).

Even allowing for the problems in projecting phasing and linear features from one site to another in urban situations, the lack of correlation between the two sites is significant given that they are only 15 m apart. These discrepancies may, however, be explained by the existence of 'forelands, innerlands and backlands' as referred to in the *Rental Books* (Milne 1891). These indicate that the original burgage plots had been sub-divided (by the late 16th century at the latest). Each of the three areas would then have developed independently. It is possible, therefore, that the plots identified in the Canal Street II excavation lay within an area of 'innerlands', and those of Canal Street III within 'backlands'.

Elsewhere in Perth, excavations on the High Street frontage have shown that plot boundaries rarely moved during the medieval period (80–86 High Street, Maloney & Coleman forthcoming; 103



ILLUS 19 Canal Street III, Perth: development of plot boundaries

High Street, Falconer 1992; & Kirk Close, Blanchard 1987). In marked contrast, the Canal Street plot boundaries were continually being realigned, with plots amalgamated and subdivided. As these plots were between 50 m and 80 m back from the South Street frontage, it suggests that the plot boundaries in the backlands were more informal, whilst those on the the street frontages were more strictly maintained, perhaps because competition for space here was considerably more intensive.

Another feature of the site was the variety of forms the property boundaries themselves took, from narrow gullies to large ditches, timber structures and fences to stone pathways. The evidence from Canal Street suggests that each tenant maintained only one of the two boundaries that defined their respective properties. In one case, it was possible to identify which plot owner maintained which particular boundary; the owner or tenant of Plot B, Phase 5, maintained the east/west boundary. In Phases 2 to 4, during the 13th century, it seems that the property boundaries stopped short of Canal Street, the presumed limit of the burgage plots. This would suggest that an area of common ground existed between the southern end of the plots and the town ditch, possibly providing easy access to the town defences, and beyond to common grazing.

The construction of the kiln and coble in Phase 5 marks the introduction of semi-industrial activity on the site, perhaps about the late 14th century. The presence of both features within the same property boundaries would almost certainly indicate that a single malting operation was taking place. In construction and function there is little difference between a malting kiln and a grain drying kiln, in that the primary purpose of both types of kiln is to dry grain. A malting kiln would be used specifically to dry germinating grain as part of the process of brewing ale. A grain-drying kiln would be used to dry grain harvested wet from the fields, before milling, threshing and storage could take place. The same kiln could in effect be used for both purposes. Keyhole-shaped grain drying or malting kilns are known from other excavations in Perth: at Meal Vennel (Cox *et al.*, this volume) and Mill Street (Brann & McGavin 1995) but these were more commonly constructed of wattle and daub, with clay floors, and were of a slightly earlier date. Three kilns with flues located at the north were associated with 13th-century activity at Meal Vennel. Five kilns were found at Mill Street, four dating to the 13th or 14th century and one to the 16th or 17th century, with flues located generally to the south. Only the latter was built of stone. Fire was a common hazard on kiln sites, and all three sites were deliberately situated at the periphery of the town, near the town lade.

Keyhole- and bowl-shaped kilns had a long currency in rural Scotland. Examples have been found at Barbush Quarry, Dunblane, Perthshire (Barclay *et al.* 1982); Capo in Kincardineshire and Abercairney in Perthshire (Gibson 1988); and Chapelton in Angus (Pollock 1985). Radiocarbon dating of carbonized grain from the Abercairney and Capo kilns indicated dates of use in the 11th and 13th century respectively. Pottery recovered from the Barbush Quarry kiln suggested a date in the 18th century, and the Chapelton kilns have been broadly attributed a medieval date.

Finally, it has proved difficult to pinpoint the individual properties identified in the *Rental Books* (Milne 1891). Documentary analysis of the occupation of the tenants showed a concentration of fleshers around Cow Vennel to the east of the excavation, and of maltmen around Meal Vennel some distance to the west. A mixture of other professionals, however, such as glovers, tailors, merchants, clerks and a maltman are known to have lived in this part of the burgh, at least by the 17th century. Of these trades only the tenancy of a maltman, as indicated by the kiln and coble, could be recognized archaeologically. As both features could be dated to the late 14th or early 15th century, and the documentary sources refer to the late 16th century at the earliest, there appears to have been a tradition of maltmen on this site, perhaps even several generations of the same family.

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