

Excavation of the settlement at 13-21 Castle Street, Inverness, 1979

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SUMMARY

Excavation revealed a sequence of medieval settlement from the 13th to the 15th centuries. After an occupation on developed agricultural soil was destroyed by fire in the middle of the 13th century, the site was allowed to decline until the beginning of the 14th century. At this point three properties were laid down on Castle Street, the property boundaries surviving to the present day. The 14th-century buildings were made of timber, usually with sillbeam walls on the street front. On two occasions in the 15th century these properties were burnt down; the burning preserving some organic materials. In the middle of the 15th century the frontage was extended westwards over the existing road. No significant deposits survived after the 15th century.

HISTORICAL BACKGROUND

The burgh of Inverness is first recorded in 1189 in a charter of King William the Lion. This charter refers back to an earlier charter of David I who reigned from 1124 to 1153. Although it is not confirmed by archaeology it is probable that the castle, the foundation of the medieval town, occupies the site used by King MacBeth in the 12th century and perhaps by King Brude in the 7th century.

The town developed in the 12th century as the royal centre for the lowland kings in the Highlands and, because of this position as the seat of the sheriffdom, Inverness was subject to several raids by independent-minded highlanders, especially the Lords of the Isles. In 1189 King William ordered a fosse to be dug around the town and commanded the burgesses to erect a timber palisade behind this ditch. The line of the fosse, illustrated in fig 1, is based on 16th- and 17th-century property records and is used in both Boyd & Mackay (1911) and Gourlay & Turner (1977). It is probable that the original burgh was much smaller and evolved into the size shown. From the evidence it is clear that the fosse was only a limited defence as the town was captured, though not always burnt, in 1163, 1180, 1205, 1228, 1297, 1303, 1307, 1411, 1430, 1455, 1481, 1487, 1491, 1500. However, this sporadic instability was not inevitably harmful as the garrisoning of troops in Inverness, with their various demands on the town's services, must have stimulated the local economy. Being the official outlet for trade in the Highlands, Inverness had the potential for a large export trade in wool, hides, timber and cured salmon. The customs returns show that

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Inverness was the sixth burgh of the kingdom in the 13th century, though it had declined to twelfth position by the 16th century.

Castle Street was traditionally known as Doomsdale, the name referring first to its position adjacent to the Castle, the seat of justice, and second to the original topography of the area which appears to have been almost a ravine, lying between Barn Hill and Castle Hill (fig 1). Doomsdale was the original route to the S and was therefore of some importance. It is unfortunate that the

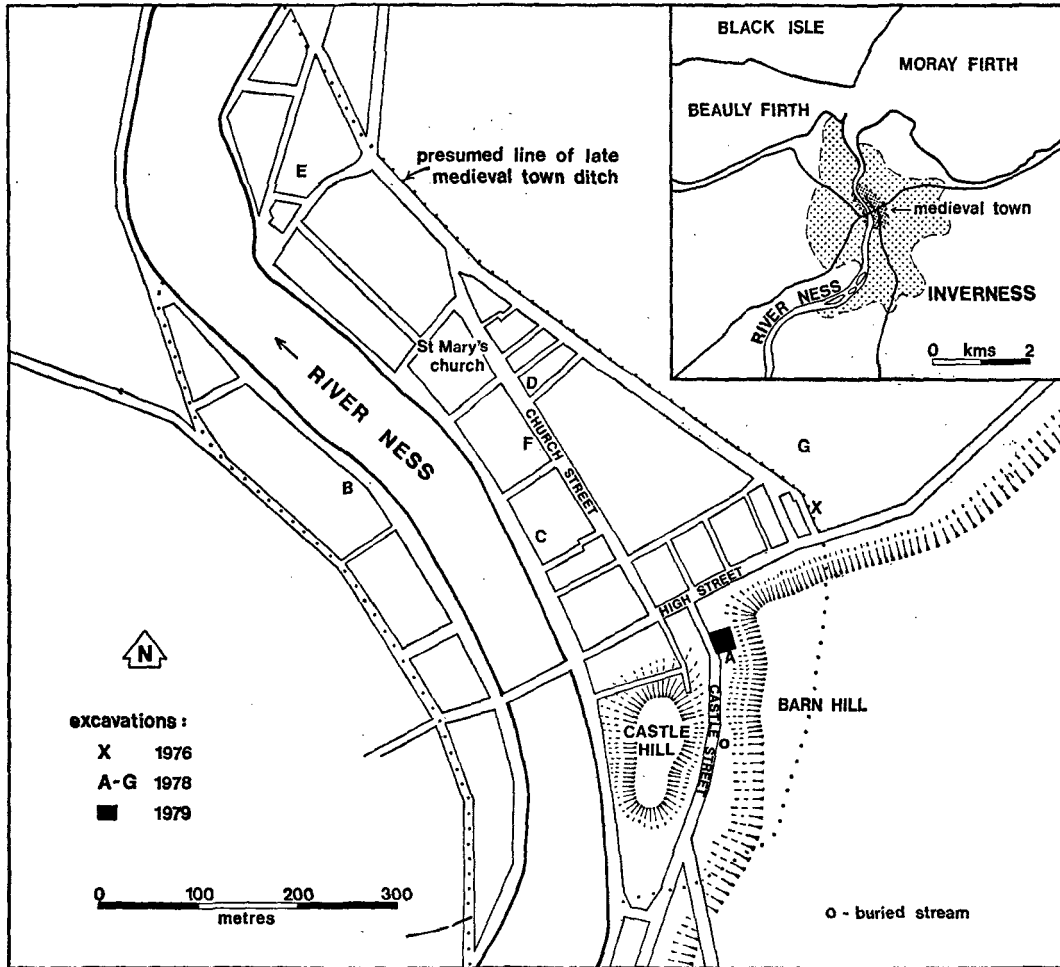


FIG 1 Castle Street: location map

paucity of medieval records means that the earliest reference to settlement in Doomsdale does not occur until 1440, when one John Bathane sells to his cousin Alexander Waus a particulate of land, worth 3s scots annual rent (Fraser-MacIntosh 1875, 110). This is not a large rent for the period, but later documents show that Doomsdale was a relatively prosperous area of Inverness. Indeed the list of families who owned property here in the late 15th and early 16th centuries included several influential burgesses. The popularity of Doomsdale properties is understandable, consider-

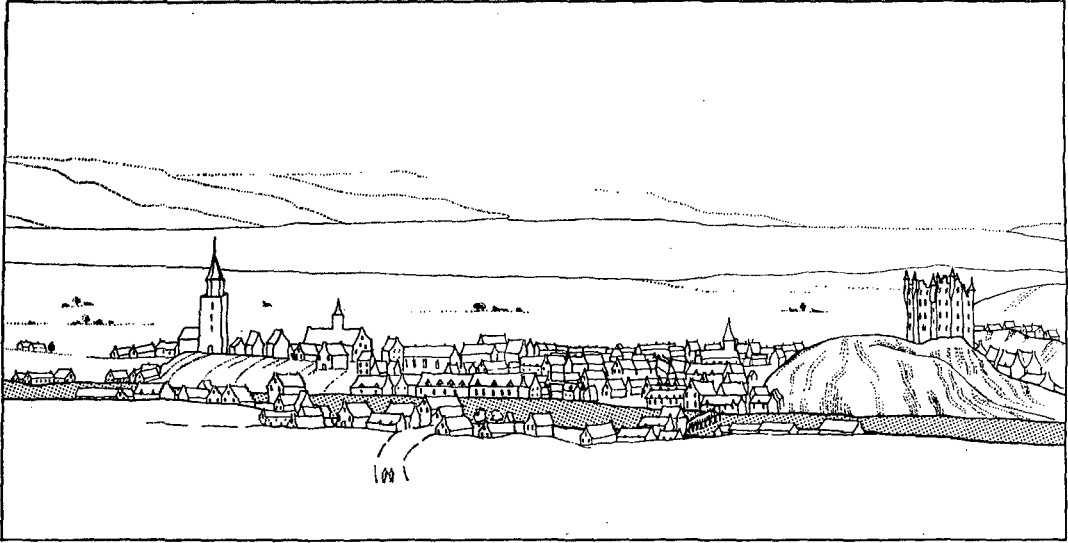


FIG 2 Castle Street: elevation of Inverness showing Castle Street in hollow to the right of the castle. Based on Slezer's engraving of 1693

ing the central position of the street running as it did from the Tolbooth south. It is probable that this position compensated for the restriction on rig length caused by the Barn and Castle Hills.

PREVIOUS EXCAVATION

In 1976, George Duncan excavated across the recorded line of the town fosse (fig 1.X). A ditch was found containing pottery that is dated to not earlier than the 15th century (Gourlay & Turner 1977, 11; R Gourlay pers comm).

Further work by Gordon Ewart, working in 1978 on a number of small sites (fig 1.A-G), showed that little medieval material had survived with only the W side of Church Street and the E side of Castle Street producing stratified deposits. It was the findings of the trial work at Castle Street that led to the excavation recorded below.

CASTLE STREET EXCAVATION 1979

The demolition of properties adjacent to Gordon Ewart's trial excavation meant that the sites of three modern properties were available for excavation (fig 3). Despite the presence of cellars on all three properties it was decided that excavation was justified as over 2 m of stratified medieval deposit had been found by Gordon Ewart. The cellar walls had been removed by machine prior to the excavation and initial work was concentrated on drawing the resulting upstanding sections. The excavation was expanded to a total of 12 weeks' work with a team of six excavators when it became clear that the medieval property lines mirrored the modern walls. Excavation to the W revealed a medieval road line and in conjunction with the sections it was possible to establish the basic dimensions of the properties fronting this road. Some internal details were recovered from the area excavated to the S of cellar 1. In general, the preservation of organic materials was poor, particularly on the E side of the site which was more freely drained. Because of the truncation no sampling policy was followed. Some material was preserved in and

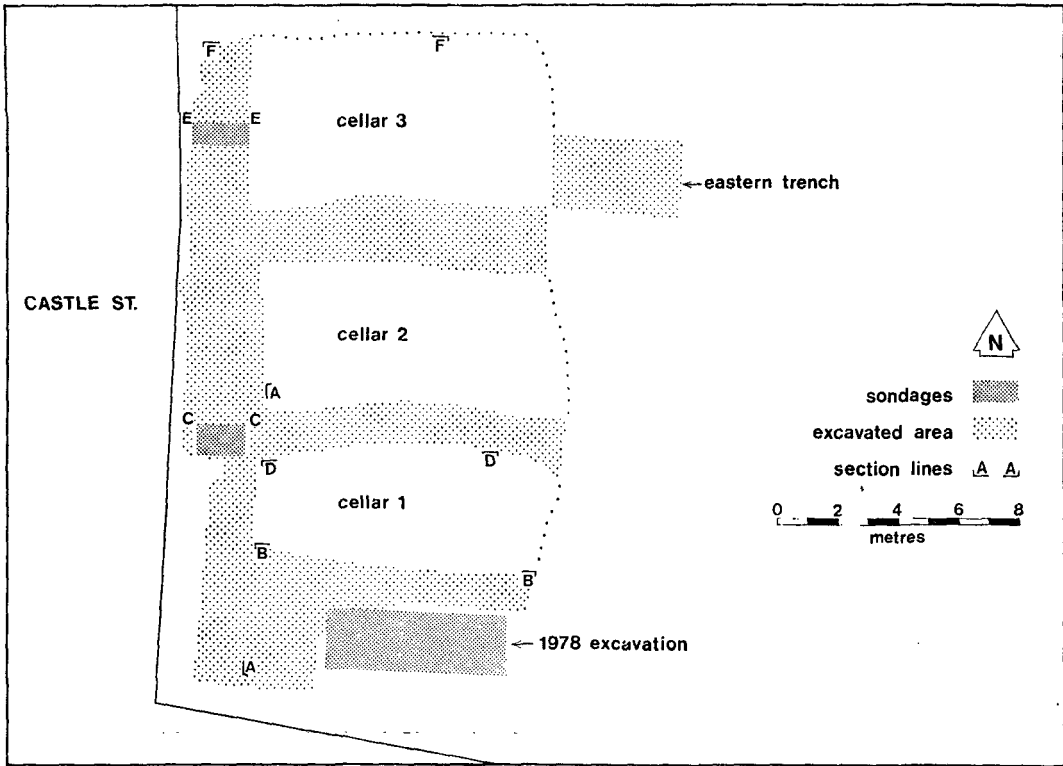


FIG 3 Castle Street: excavated area

below the midden levels of phase 3 and after the two fires of phases 6 and 7. These three horizons, the midden and the two fires, were most important in linking up the discrete parts of the site and they provided the basis for the phasing presented below. It must be stressed that the nine recorded phases are artificial, if convenient, divisions within a sequence of continuous occupation. Much of the interpretation relies on sections drawn from the sides of the cellars (pl 27a) before the sectional material was excavated as well as sections drawn from two sondages cut on the W side at the end of the excavation (fig 3). The site was, in effect, an unorthodox box section excavation. Because of the truncation, the arguments for the the sequence that are offered are complex. A more detailed report on the stratigraphy will be lodged with the National Monuments Record of Scotland, 54 Melville Street, Edinburgh. This includes appropriate plans, sections, matrices and full specialist reports. In this published version certain controversial points of stratigraphy are discussed in detail as they are crucial to the interpretation. For ease of reading the context numbers have been altered so that the initial digit refers to the phase to which the context is ascribed. Thus post 405, though referred to in phases 5 and 6 is considered to have been erected in phase 4. Only contexts that are illustrated in plan or section have been numbered.

TOPOGRAPHY OF THE MEDIEVAL SETTLEMENT

The ravine known as Doomsdale was initially formed by the deposition of glacial gravels and sands which were subsequently eroded to create the Barn and Castle Hills. The gully between these two hills, in which Castle Street now lies, was deepened, if not created, by a stream flowing

down towards the River Ness. A strong flow of water is still evident (D Sinclair pers comm) under a property S of the area excavated (fig 1.O).

Over the glacial gravels revealed on site, a series of aeolian and marine sands were recovered to a maximum depth of 0.9 m. This sequence included a Mesolithic occupation dated to c 5000 BC which was sealed by two successive marine inundations. The soil development and the Mesolithic occupation will be discussed more fully in a separate paper in a forthcoming PSAS.

The post-glacial sands were sealed by a gleyed A_2 horizon nearly 80 mm thick which had formed below a very dark grey silt. The gleying was restricted to the E side of the site. Because of the gleying and the high humus content of the silt from which it formed, it is considered that this had become a stagnant and perhaps marshy soil. It was above this soil that the first evidence of post-Mesolithic settlement was noted.

PHASE 1 (figs 4, 13–15)

Across the site, but particularly on the E side where the slope of Barn Hill is evident, a series of discrete stone and silt layers, 100, formed. These were interpreted as being derived primarily from hill wash and tumble. However, human activity was indicated in a 20 mm thick layer of charcoal and red silt within 100 recorded in cellars 1 and 2 (fig 14) and a piece of lead piping (fig 21.1) which was recovered 100 mm above this burning layer from the S section in cellar 2. It is possible that the hill wash and tumble is itself the result of human action, as the clearing of vegetation on the Barn Hill would increase erosion.

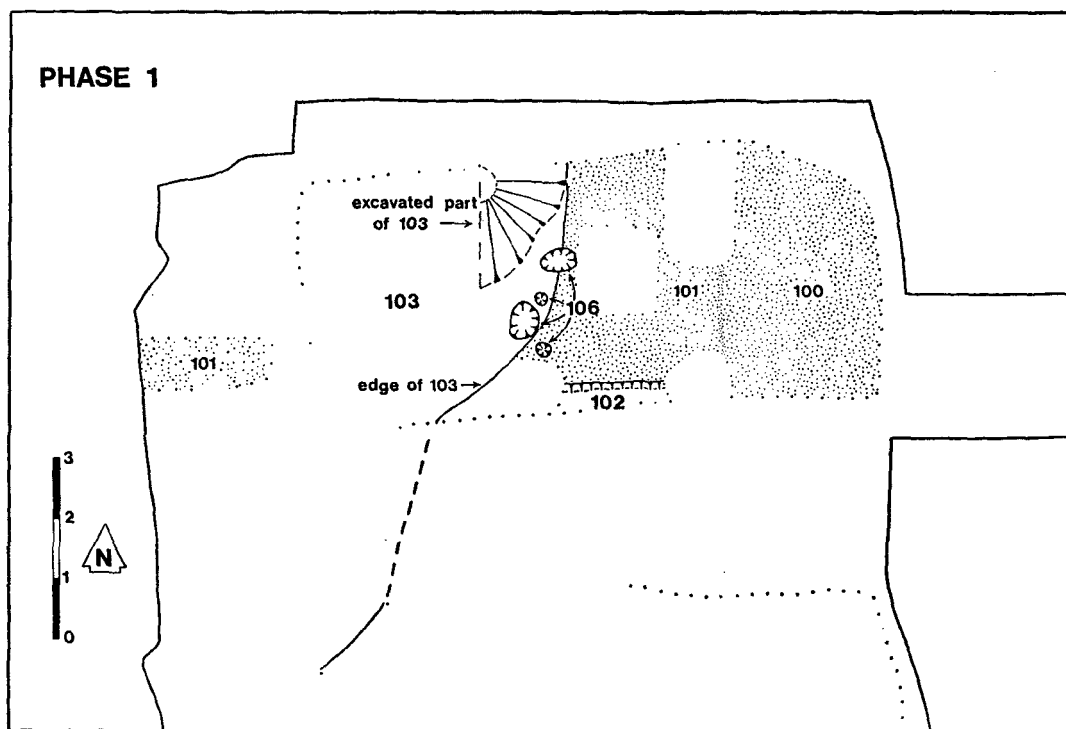


FIG 4 Castle Street: phase 1 plan

On the W side of the site in cellar 3 there was a dark grey–brown silt, 101, up to 0.6 m thick (fig 15). The depth of the silt and its consistently stone-free nature suggested that this was a tilled soil. Features 102, 103 and 106 were cut into 101. In all three cases the edges of the features were indistinct, so that it was not possible to say whether 102, 103 and 106 were cut after or during the accumulation of silt 101. It is reasonable to suppose that this ‘fuzziness’ on the edges was caused directly by tilling or indirectly by ancient earthworm or root activity as both earthworm and root action would be increased in a more freely drained and enriched soil.

102 was partially revealed as the N part of a gully 0.3 m deep, disappearing into the S section and cut by later features to the W and E. Its primary deposit was a peaty midden 20–30 mm thick which included fragments of pottery and leather. This was sealed by a silt deposit similar to 101. The function of 102 could not be inferred.

103 was a massive pit at least 4 m wide by 1.5 m deep. It was recorded as extending at least to the W end of cellar 3 where it showed in the side of later pit 208. 103 may have extended further to the SW as a depression was noted in silt similar to 101 in the NW corner of cellar 2. The primary fill recovered, layer 104, was a red silt similar to that recorded in the SE of the site within layer 100. The secondary fill of pit 103 was a series of silts, 105, similar to the general silt layer 101. 105 included a greater amount of humic and stone material than 101. The purpose of such a large pit is not clear, though the size of it may indicate a defensive rather than industrial use.

To the S of pit 103 were four irregular holes, 106, from 0.15 to 0.4 m wide and 0.15 m deep. These were interpreted as decayed tree stump holes, though their position on the edge of pit 103 may indicate a deliberate construction, particularly if pit 103 had a defensive function. A silt layer, 107, similar to 101 was recorded at the S of the area (fig 14).

Finds

Only one piece of pottery, a fragment of a bearded face mask was found in silt layer 103 and this may be intrusive from phase 2. A better date is supplied from the remains of the jug found in gully 104. Though a parallel has not been found, it would appear to be a 13th-century form (fig 18.1). A fragment of a horseshoe (fig 21.3) was found in pit fill layer 105.

PHASE 2 (figs 5, 14, 15)

Over the silts of phase 1 a timber building was constructed that lay mostly under the present Castle Street. Only one wall, the E wall, was recovered. It consisted of three upright oak planks 0.2 m wide by 0.1 m thick, set in grey–green clay 0.25 m thick. Wall 200 was too substantial to be other than structural. To the W of the wall was an organic deposit 10 mm thick subsequently sealed by a silt layer 80 mm thick. These layers, numbered 201, are interpreted as floor deposits (fig 15). They were sealed by a layer of charcoal and burnt clay, 202, and it would appear that this building was burnt down.

Lying to the E of the building and not directly related to it, was a gravelled area, 203, defined on its E side by a double wattle or two-phase wattle fence, 204. Two of the five stakes recovered were burnt, though there was no trace of burning in the surrounding deposits. The lack of posts associated with fence 204 would suggest it was not structural and therefore that 203 was a gravel path bounded by 204. However, the two layers lying directly above 203 (205, a structured midden deposit extending over 1.6 m E of 204, which included bracken stems and dung mixed with grass and straw, and 206, a layer of white sand) were evidently floor levels (fig 15). This was particularly clear with sand layer 206 as its E edge was defined by a partially robbed out wattle

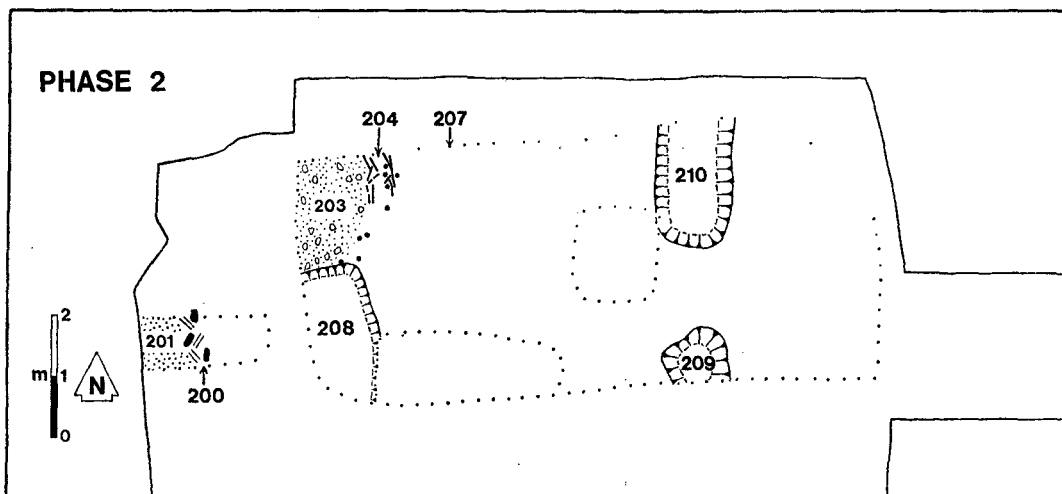


FIG 5 Castle Street: phase 2 plan

fence, 207, lying 1.6 m E of 204. There was no evidence for either 205 or 206 being exposed to weathering.

Gravel 203 was cut by pit 208 which was estimated as being c 4 m long by c 2 m wide. The two sides excavated were cut vertically and formed a right angle with each other. This suggests a timber lining, though none was found. Pit 208 was at least 1.75 m deep, not being bottomed. One of the secondary fills included pieces of burnt daub and grass which may have been derived from layer 202 to the W. Unfortunately there was no stratigraphic connection between these two contexts.

Two pits, 209 and 210, were found further E under cellar 3. Both pits were filled with a cess-like material formed of soft brown-yellow clay with large numbers of fish bones and seeds, the seeds from 210 being primarily bramble. The cess-like material was a secondary fill of pit 209, the primary fill being redeposited silt and sand. Pit 210 had a suggestion of a timber lining and was almost completely excavated being 2 m long by 1.2 m wide. It is probable that 210 was a cesspit. The primary function of 209 was not evident.

At the S end of the site only a small area was sampled in this phase. Traces of a wattle fence, 211 (fig 14), were found and this was set on the same N-S line as fence 204. If these fences were connected they may represent an early property boundary extending S from the High Street. However this remains contentious.

Finds

Pottery includes Scarborough phase II fabric, Yorkshire and white gritty fabrics, indicating a late 13th to early 14th century date.

PHASE 3 (figs 6, 13-16)

The division between phases 2 and 3 is arbitrary. A low level of occupation continued and was succeeded across the whole site by the dumping of amorphous midden material, layer 300.

At the N end fence 207 was replaced by another feature, 301. This was probably not a wall as it consisted of a plank of wood set on edge supported by a number of small stakes. In section a series of structural midden deposits and a lens of slag and charcoal, 302, were noted abutting

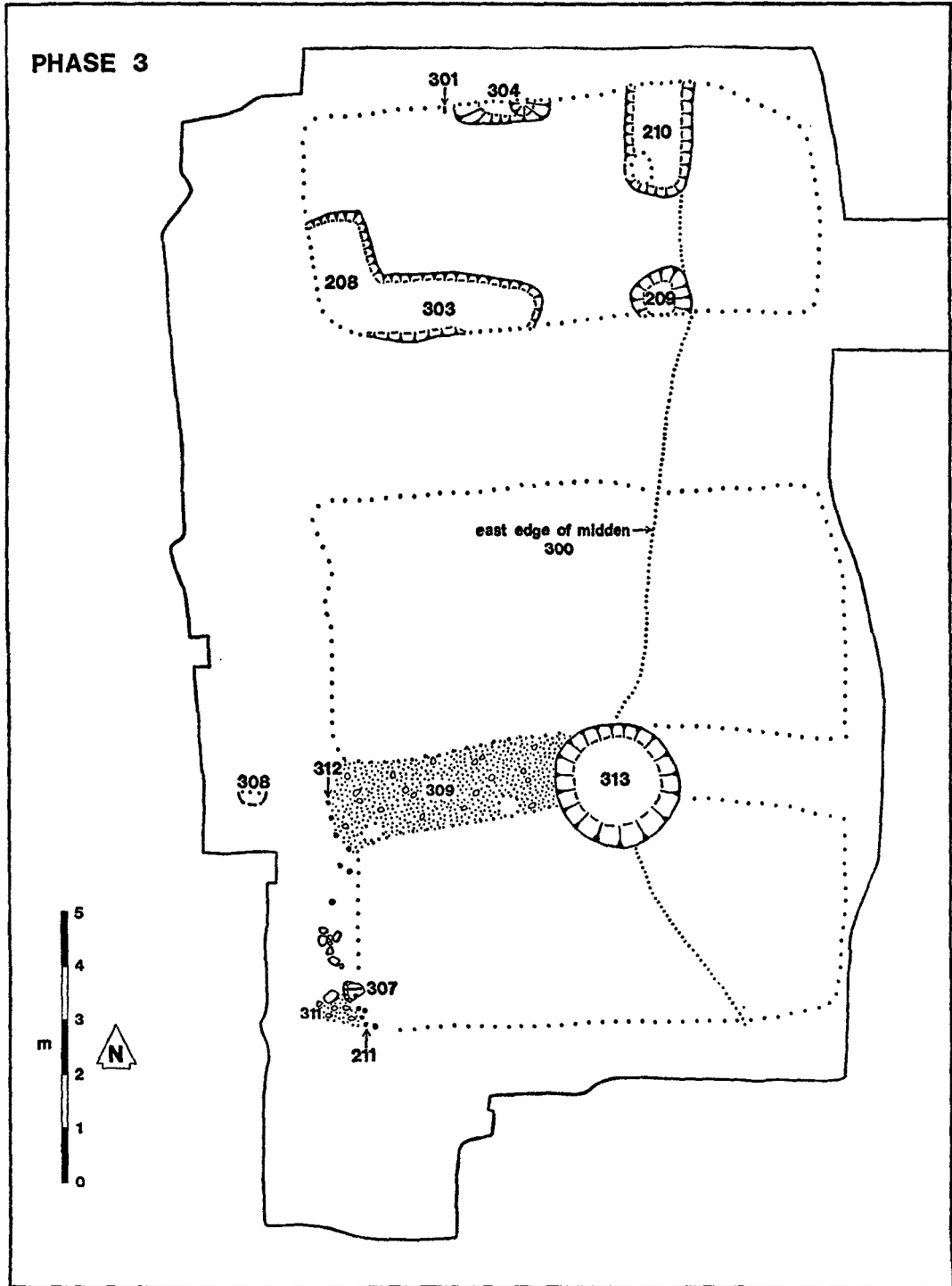


FIG 6 Castle Street: phase 3 plan

feature 301. Pit 208, partially infilled, had a gully feature, 303, 1.2 m wide by 0.3 m deep cut in from the E side. Gully 303 turned sharply to the S 2.8 m E of pit 208. As with pits 209 and 210, gully 303 and pit 208 were sealed by midden layer 300. In this area, 300 consisted of a black-brown peaty silt with large quantities of iron slag, particularly in pit 208 where the deposit was much deeper. That this midden is more than one dump is evident from the digging of pit 304 at the N end of the site. The function of pit 304 is not evident but it was clearly dug during the accumulation of midden layer 300.

At the S of the site a dark brown humic silt, 305, developed respecting fence 211 which must have continued in use. Over 305 and to the W of fence 211, was 306, a layer of charcoal and peaty silt (fig 14). This may have been contemporary with feature 307, a heavily disturbed pit 0.3 m long by 0.2 m wide. One side of the pit was lined with wood and the fill included small amounts of iron slag and charcoal. 308, a bowl-shaped feature lined with iron slag, was also cut into layer 305.

A lens of fine gravel, 309, less than 10 mm thick was found on the baulk between cellars 1 and 2. A more substantial deposit of gravel, 310, was recorded in the S sondage (fig 14) and from its position appeared to be a road surface similar to those recovered from phase 4 upwards. However, such a surface was not recovered in the N sondage and it is probable that gravel 311, which lay above 306 and abutted fence 211, formed part of the same deposit as 310.

It was over all these layers that the amorphous midden layer 300 was dumped. 300, here, was very similar to the material further N, including fragments of wood and leather as well as bone, pottery, shell and lumps of iron slag. The unstructured and silty nature of the midden suggested that 300 had been used as an agricultural soil after it was dumped. A few stakes, 312, were found running N-S on a line similar to that followed by fence 211. No other evidence of division was recovered.

Pit 313 was cut near the top of the midden. It was nearly vertical, 2.1 m deep by c 1.7 m wide. There was no evidence for a lining and its primary deposit consisted of redeposited gravel and sand 0.3 m thick. The narrowness of the pit would suggest it was not dug to extract gravel which, in any case, could have been more easily obtained from the Barn Hill behind. It is not clear what the original function of this pit was.

Finds

A large amount of imported pottery, mostly English, of a late 13th to early 14th century date; three sherds of Perth local fabric were found but no Inverness local material. Several pieces of metalwork, including a copper alloy pin, a barrel padlock and a small iron awl were found. Within the midden layer, 300, large quantities of animal bone were found as well as leather and textile scraps and large quantities of iron slag which are discussed more fully below.

PHASE 4 (figs 7, 13-15)

At this point there was a drastic reorganization as distinct properties were laid out fronting a medieval road that extended 1 m into the excavated area, 3.5 m E of the present street. The properties laid out align closely with modern property boundaries; for convenience the excavated evidence is described by property.

The phase 4 road level, layer 400, recorded in the S sondage consisted of two dumps of sand and fine gravel, each 100 mm thick. It was not clear whether these two deposits were part of the same surface or part of two separate roads. Neither was it clear whether layer 400 abutted or was cut into by wall 419 of a structure to the E. In the N sondage the road levels were more

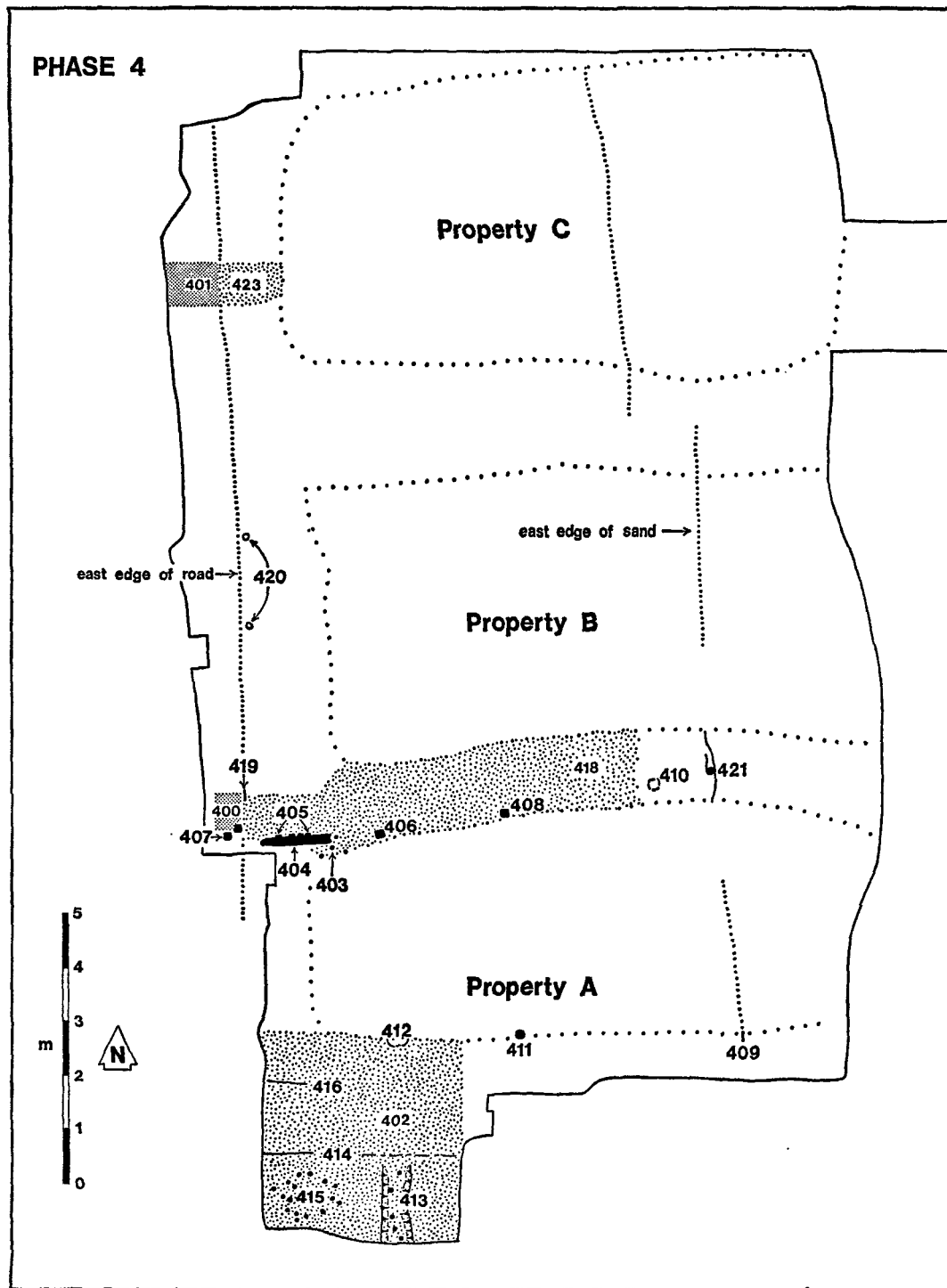


FIG 7 Castle Street: phase 4 plan

obscure and though 401 could be identified as a probable road layer, 0.19 m thick, consisting of cobble-sized stones, a relationship between 401 and layers to the E could not be established.

On property A, at the S, a large deposit of sand, 402, 0.5 m thick was laid on the surface of midden layer 300 running back 8.5 m from the estimated street front. The W boundary was not recovered and its position was estimated from the S sondage and the wall line recovered from phase 5. The S limit of sand 402 was not found, though it has been assumed to lie under the masonry wall that marks the modern property boundary. This is a reasoned assumption given the close correlation of the other medieval property boundaries with modern property lines. Also a property width of at least 8 m is larger than the 7 m widths of Properties B and C.

On the E side the sand rested against the layers below but on the N and W where the ground level fell away, some form of revetting would have been needed. It appears that on the N side an undaubed wattle fence, 403, was inserted into the midden, and sand 402 was tipped from the S until it abutted or lay over fence 403.

As indicated above, the W limit of the sand lay outwith the excavation so no trace of revetting was recovered on this side. A building was then constructed using the surface of 402 as its floor (fig 13). The N wall, 404, of this structure was formed from an oak sillbeam, now much decayed, with an internal groove estimated as 50 mm deep by 50 mm wide. No wall was recovered rising from sillbeam 404 and from the slumping of sand 402 over the sillbeam it is thought that the wall had been removed. The act of removal suggests timber worth salvaging rather than decayed wattlework and it may be that plank walling was used here. A series of five stakes, 405, as is shown in fig 7, lay aslant to the N of sillbeam 404. It is considered that these were inserted before Property B was settled, their function being to restrain the wall lying in sillbeam 404 from expanding with sand 402 behind it into Property B. 404 appeared to abut post 406, an irregularly shaped oak post 0.13 m diameter set 0.3 m into the midden below. At the E the sillbeam had been cut away but may have extended to post 407, 0.18 m square and set 0.5 m into the midden. Nearly 2 m E of 407 was another post, 408, 0.14 m square and set 0.6 m into the midden. These features were interpreted as the N wall of a building constructed on Property A. The absence of any form of walling between these posts is unexplained.

The E wall may have been constructed at the edge of sand 402 where a wattle smear 409 was recorded in section. There is slight evidence for the N wall extending E of post 408, as a possible post socket, 410, 0.25 m wide and 1.35 m deeper than the top of the midden, was discovered in the section of pit 313 c 2 m E of post 408. It is possible, however, that the wall represented by 409 may belong to a subsidiary structure abutting the main building that lay further W. Some support is given to this theory by the survival of post 411 almost directly S of post 408. 411 was not excavated, but it was clear from the section (fig 13) that it was set 0.3 m into the midden and that the deposits to the E and W of this post differed substantially. A shallow posthole, 412, 0.3 m deep was recorded S of post 406. The post was removed at a later date so its dimensions are not known.

Within this building the remains of a clay-daubed wattle wall, 413, ran 1.5 m N from the S of the property. The wall was set in a gully 0.3 m wide by 50 mm deep and consisted of two rows of stakes. This probably joined with a vertical stake or plank wall, 414, that was only observed in the E facing section (fig 13) as a baulk lay over its presumed line. A different series of sand and organic lenses had accumulated to the S of 414 than to the N of it. A circular feature, 415, 0.8 m in diameter was defined to the S of 414 by a double row of stakeholes. To the N of 414 was a curious feature, 416, which consisted of a wooden plank with iron rivets set on edge and extending 1 m from the W section. It did not extend to the main E facing baulk and there were no signs of a soil division in the baulk. The floor levels, 417, within this structure, as with the other structures

recovered, consisted of a series of lenses of sand/clay/gravel or organic trample never more than 150 mm thick and usually no more than 10 mm thick. Though there were distinct soil differences in various parts of this building, it was not possible to separate these into the distinct functions they may have represented. There were also various stakeholes, which formed no consistent pattern, apart from features 413 and 415.

On Property B to the N, 418, a deposit of sand of 0.18 m maximum thickness was deposited which could not be distinguished from sand 402 to the S. 418 was a floor deposit and suggests that the development of Property B was contemporary with the development of Property A, even if the floor level was up to 0.4 m lower (fig 13). There was no evidence of a S wall for this building and therefore the wall within sillbeam 404 must have been common. Stakes 405 were originally interpreted as forming part of a wall for a building on Property B but there was no evidence for stakes E of those excavated and it is very unlikely that such stakes could have been removed without leaving evidence. The W wall, 419, was revealed in section as being of plank or vertical stake construction. Since there was no evidence of penetration into the earlier levels, it was almost certainly of the former kind. The wall was supported by gravel 400 on the W and sand 418 on the E. A series of posts, 420, c 0.1 m in diameter appeared as voids under gravel 500 of the phase 5/6 road surface and they presumably supported wall 419. There were probably more posts than were revealed as this upper road was not removed. The E limit of this building was not established as sand 418 died out 6.5 m E of the street frontage where it slumped into pit 313 but there was a rotted post and wattle feature, 421, that lay 8 m from the frontage and ran N-S. This may be the E wall of the building. Because of pit 313 it is not certain whether 421 belongs to this or the next phase. The N division was not recovered in this phase though it is assumed to be 7 m N of sillbeam 404 as this line was noted in phases 6-9.

The floor deposits, 422, on Property B were broadly similar to those on Property A. They consisted of a series of ash/sand and organic lenses. Though they accumulated more quickly than 417, the floor levels on Property A, there was no evidence that these deposits were deliberately dumped, except in pit 313.

On Property C no walls or fences were identified though floor deposits 423 were observed in the section (fig 15) and these died out 7 m from the street front.

Finds

There is a very distinct change from imported pottery to local fabrics. A proportion of imported material does survive, though most of this may be residual in the fill of pit 313. Both bone and pottery came mostly from secondary fills in pit 313. A scrap of lead from 313 may indicate metalworking in the area. This phase probably dates from the early to mid-14th century.

PHASE 5 (figs 8, 13-15)

The properties established in phase 4 continued in use, though the buildings were adapted and replaced. Property A was subdivided into two units. Whether there was a division of ownership was not evident, and the two units may only reflect different functions on one property. For convenience, they are listed as A1 and A2.

The frontage continued as before and further road surfaces were laid down. Three separate road deposits, 500, were noted in the S sondage whereas only two, 501, were noted in the N sondage. Since these were not excavated they could only be compared visually; as before, they consisted of gravel and sand.

On Property A1 a new W wall was formed from two oak sillbeams, 502 and 503, both too distorted by fire for their original dimensions to be recorded. Between them lay a post, 504, a

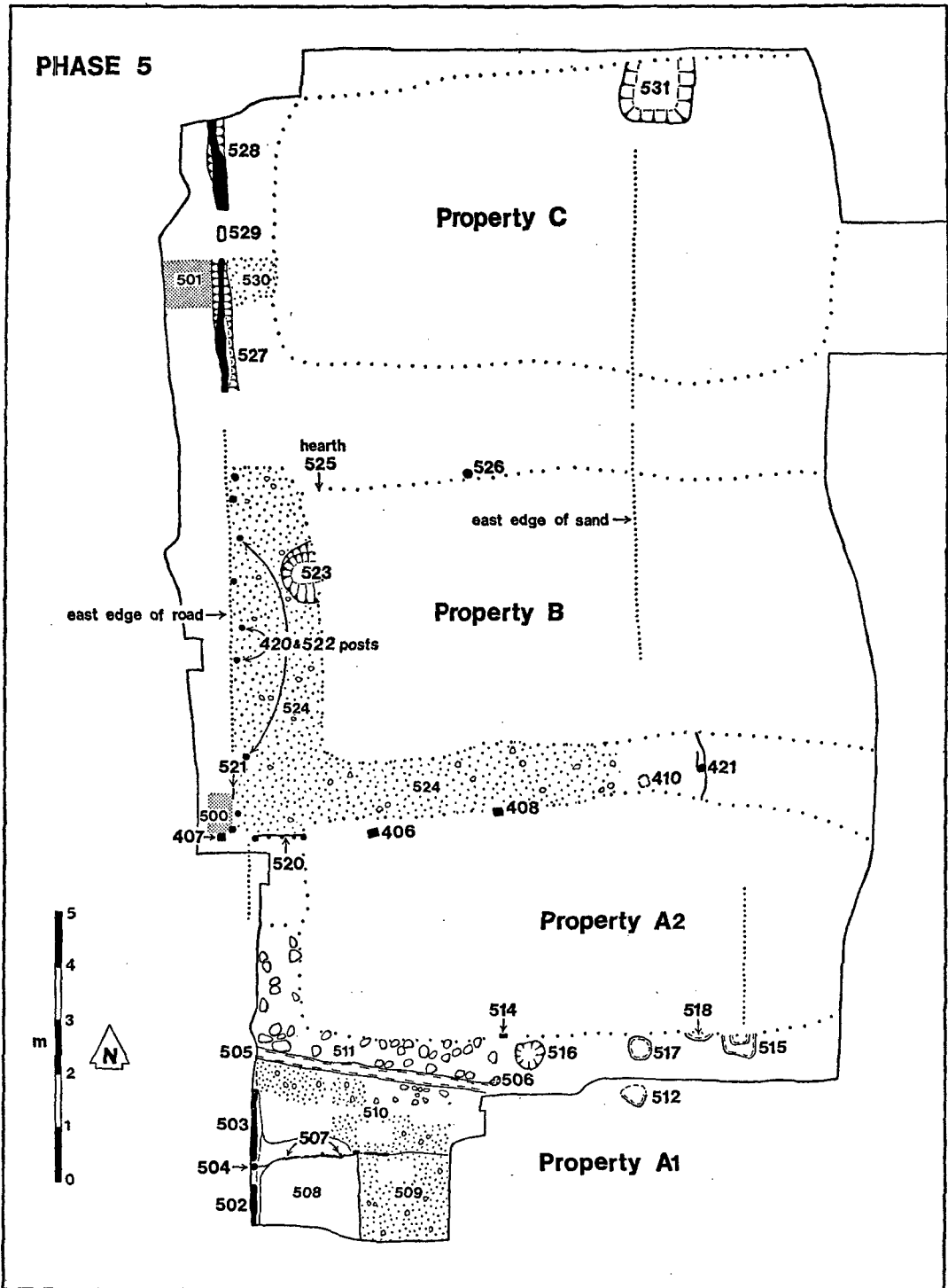


FIG 8 Castle Street: phase 5 plan

minimum of 0.1 m square. As the road level to the W was an estimated 0.2 m lower than the sillbeams, this wall may have been insecure on its sand base. However, as it is thought that the gable was constructed on the W and S walls (from the depths of posts 406 and 408) this new W wall may not have needed additional supporting posts. It is probable that the sillbeams contained a plank wall, as a plank feature, 604, was preserved by fire in phase 6. Neither the S nor the E wall was recovered though the E wall probably lay 4 m from the frontage. The N wall, 505, lay 3.5 m N of the postulated S boundary. It was formed from a single sillbeam. It was not clear what form of walling 505 contained. In section it produced a broad groove 0.15 m wide, but this may be deceptive, being the result of decay and collapse. The E end was defined by a post, 506, 0.15 m square and the W end was clipped by a modern masonry wall.

A new division, 507, replaced wall 414. 507 consisted of a clay-daubed wattle wall that ran 1.8 m E from post 504 before forming a doorway at least 0.65 m wide. A clay line indicated that the wall probably continued further E. Within this S chamber there was a division in soils with the area, 508, to the W of the doorway being formed of clay and later of fine gravel. The area to the E, 509, was c 100 mm lower and had been subject to more wear so that distinct layers were less evident; in general it was stonier here. To the N an irregular shaped area, 510, was defined by wall 507 and sillbeam 505. This was up to 50 mm lower than the area to the S and also appeared to have been subject to some wear. The deposit consisted mostly of fine gravel which had been compacted.

On Property A2 it is thought that the front of the property was not covered by a structure. A layer of large cobble stones, 511, was deposited and the organic lenses that lay over this were very silty and amorphous, as if they had been disturbed by water. Sillbeam 505 formed the S boundary which probably continued E on this line as was suggested by a posthole, 512, found on Gordon Ewart's excavation. It is probable that a building stood at the E end of this property as a large dump of gravel, 513 (fig 14), was tipped from the W and lay over wattle 409 and the trample deposits to the W of 409. At the W end of gravel 513, post 411 appears to have gone out of use and been replaced by a horizontal piece of wood, 514, perhaps a sillbeam, that was only recorded in section (fig 14). 5.2 m E of 514 there was a shallow cut, 515, perhaps a posthole, that defined the E wall of this structure. The S wall was indicated by three shallow postholes, 516, 517 and 518. As post 408 lay almost directly N of post 514, it is possible that this structure on Property A2 used a wall running the full width between Properties A2 and B. This would give a building 4.5–5 m wide. The floor deposits were not investigated though a layer of clay, 519, was recorded in section and partially in plan.

On Property B, the S wall which had previously been a common wall between Properties A and B was rebuilt in wattle, 520, with supporting posts 80 and 30 mm in diameter set 0.2 m apart. Posts 407, 408 and probably 406 remained in use to support wall 520. The E wall was not recovered, though the sections show the sand floors finishing 7.75 m from the frontage. It is possible that post and wattle feature 421 either belonged to or survived until this phase. The W wall remained on the same alignment as phase 4. Plank wall 419 was replaced by a clay wad 30 mm thick, 521, which is interpreted as the remains of a wattle fence. It is possible that posts 420 continued in use, though they may have been replaced by posts 522. Posts 522 had diameters from 0.14 to 0.20 m and at this phase were about 0.4 m deep. These posts were first noted in phase 6 and no postholes were recorded, nor was there evidence of gravel being compressed as would happen if the posts had been hammered in. It is for these reasons that posts 522 are ascribed to phase 5. In section, a pit, 523, was recorded 4.4 m N of wall 520 and this may indicate the N wall of the building or, more plausibly, an internal division as there was a soil difference to the N and S of 523. To the S of this pit was a series of floor lenses, 524, similar to the material recorded

previously. To the N there were signs of intense burning in the section which may be the remnants of a hearth, 525. There appeared to be a division down the baulk between cellars 2 and 3 that was probably the property division. This division lay 6.5 m N of wall 526, 4 m E of the frontage was a post, 526, 0.2 by 0.16 m and this aligns directly with post 408 to the S. To the E of this post a series of floor deposits had accumulated and they died out 4.4 m from post 526. In section (not illustrated) a V-shaped gully, suggestive of a fence line, was noted but this was not recovered on excavation. In conclusion, the main structure on Property B appeared to be 7 m wide by 7.5 m long with a possible division 4.5 m from the frontage and another 4.4 m from the S wall.

On Property C a sillbeam structure was erected on the frontage which is estimated to be 6 m wide. Two sillbeams, 527 estimated as being 3 m long and 528 estimated as being 2 m long, adjoined a post, 529, 0.2 by 0.1 m. The sillbeams were very decayed, but appeared to be squared and probably grooved to take plank walling rather than being the plate for a wattle wall. A series of sand, midden and ash lenses, 530, were noted as forming the floor for this structure. From the section the building appeared to be 7.75 m long with a division 4.5 m from the frontage. Behind this building was pit 531 which lay directly above cesspit 210. 531 was clay lined, either to seal the odorous deposit below or to hold some liquid. Only the N edge of this pit was found, the S edge having been largely removed by the cellar cut, and it was not possible to distinguish in section between the fills of 531 and the material into which it was cut.

It is clear that the hill wash silting continued as was seen in the unillustrated E trench which could not be phased and with silt layer 532 (fig 14) which was sealed below gravel 618.

Finds

There was little difference from phase 4; local pottery predominates but a few sherds of Yorkshire ware were recovered from house floors. This phase probably dates to the mid-14th century.

PHASE 6 (figs 9, 13–15; pl 27b)

There was no distinct break between this and the previous phase. The division is made to simplify description, particularly of the information recovered from a fire which destroyed structures on all three properties.

As before, the road level was built up. In Property A1 a small fragment of gravel, 600, was recorded to the W of sillbeam 503. This lay over two stone slabs, 601, in total 1.3 m long which appeared in section to lie W of 503 and N of post 504. These slabs are interpreted as forming part of a doorway. Gravel 600 was 50–100 mm higher than the level to the E of sillbeam 503. A further layer of gravel, 602, was noted in section W of Property B. This was shown in plan to be composed of compacted gravel with the stones averaging 50 mm in diameter. Further N, next to Property C, another gravel layer, 603, was uncovered which had stones of a smaller diameter from 20 to 40 mm. There was a patch of larger stones, 0.7 m wide, immediately W of post 529 which may represent a reinforcing of the surface in front of a doorway. Since the whole frontage could not be excavated this cannot be confirmed.

On Property A1 the same structure as recorded for phase 5 continued in use with the same internal division. 604, a plank feature preserved by fire, was made of oak planks pegged into a tapering batten at right angles to the planks. The planks varied from 0.12 m to 0.3 m in width and were c 50 mm thick. This feature is interpreted as part of a door. Further sand lenses accumulated within this building and the N half was more obviously an entry, as compacted cobbling 605 lay to the E of sillbeam 503. Also the floor level remained 40 mm lower than in the S half of the building, where new floors were laid. The W half was up to 0.3 m higher as a deposit of fine

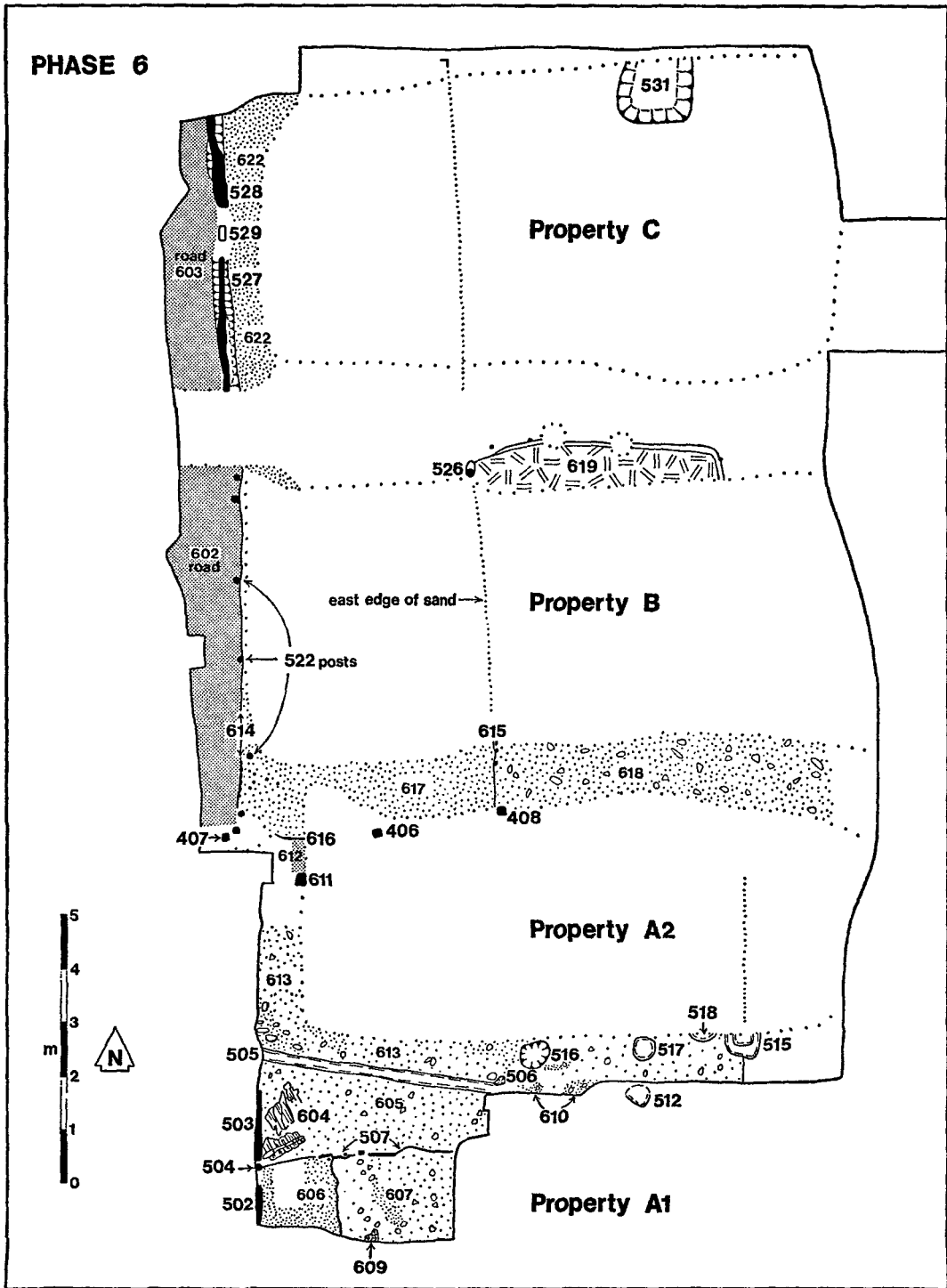


FIG 9 Castle Street: phase 6 plan

sand, 606, was laid here over the more amorphous sand and midden material, 607. After the fire a certain amount of carbonized material, 608, was preserved in the hollows in the building, the SW end being noticeably free of such material. Most of this carbonized material was probably derived from the roof or walls as wattles were found intermixed with grasses. It is unlikely that the grass was bedding material as it was not compacted under the wattles. A small group of rye seeds, 609, was found carbonized in an oval patch 0.2 m by 0.26 m. It is likely that they had spilled out, perhaps from a bag hanging from the roof.

From the section it appears that sillbeam 505 went out of use. However, this was not the case on excavation and it is likely that the silt recorded as filling 505 was derived from the robbing of the wall after the fire. The N wall may have been extended further E as two pads of gravel, 610, 0.8 m in diameter by 0.1 m thick, lay in this position and have been tentatively interpreted as post pads.

A new structure was evident on the front of Property A2 which had previously been thought to be a courtyard; 3.2 m N of 505 was another timber, 611, almost certainly a sillbeam. As only 0.2 m length survived of 611 it is difficult to be positive about this. However, 612, a 0.8 m wide patch of gravel to the N of 611 was almost certainly a path between Properties A2 and B. It is probable therefore that 611 was the N wall of a building and organic trample layers 613 accumulated within the structure to the S of 611. Neither the E nor the W wall of this building was recovered. Since the phase 5 building further E continued in use it is likely that this W structure abutted the E one, making a building c 5 m long.

On Property B new wattle and daub walls were erected though the same timbers remained as previously. The W wattle wall, 614, shifted a maximum of 100 mm N of the position taken by the previous wall, 521. The W face of 614 had been burnt and had fallen away whereas the E face had survived unburnt as yellow clay 30 mm thick. The wall was set 0.2 m into the ground where it was only 50 mm thick, though it possibly re-used some of the clay recorded with wall 521 to make a wall 0.15 m thick. On the W wall post 420 clearly had gone out of use as they were sealed by gravel 602. This left posts 522 which were spaced roughly 1.5 m apart. The building was shortened, perhaps because of slumping into pit 313, by bringing the E wall, 615, further W. It ran N from post 408 to post 526, a timber 0.17 m square. The S wall, 616, superseding 520, was daubed with clay to a minimum thickness of 0.12 m and was probably much wider as it was set in a sloping gully 0.3 m wide by 0.12 m deep next to wall 616. This made a structure 6.5 m long by 4.5 m wide. As previously, sand/clay and gravel floor deposits, 617, accumulated. At the time of the fire, the floor of the building stood 0.1 m above the level of the road.

To the E of wall 615, a layer of gravel, 618, 0.3 m thick was deposited to fill the hollow caused by pit 313. Further N the remains of a clay walled and floored structure, 619, were found. This was 4.5 m long by over 0.8 m wide. The N wall, which was the best preserved, survived to 0.1 m in height and consisted of yellow clay, 0.1 m thick supported by vertical stakes.

In the area between Properties B and C there were a number of burnt posts. As the phase 6 burning was not easily separated from later fires it was only possible to phase the posts illustrated.

On Property C the same frontage as recorded for phase 5 continued in use. Neither the S nor the E wall was recovered but the position of the E wall, 620, was evident in section (fig 15) and like that on Property B this had shifted further W to form a building 4.5 m wide. The section would suggest that 620 was a wattle wall and this was similar to the N wall, 621, which was recovered in a small sondage to show that the building was 6.5-7 m long. Within this building a substantial deposit of sand, 622, 120 mm thick was laid down. Enough of this sand survived at the W of the building to show that there was no central division running E from post 529. Over this sand a series of compressed midden lenses accumulated which were thickest 1 m from sillbeam

528. Further E they were sealed by a thin spread of charcoal and daub, 623, which may have derived from the E wall. About 0.2 m N of wall 621 a sillbeam was noted, presumably the remains of a structure on the next property.

Finds

The pottery is similar to phase 5 with occasional Yorkshire sherds among the local material. An arrowhead on the floor in Property A, context 617, was the only significant find apart from the Siegburg stoneware beaker (fig 20.37) that is dated typologically to the late 14th century. The date for this phase is probably from the late 14th to early 15th century.

PHASE 7 (figs 10, 13–16; pl 28a)

After the fire that terminated phase 6, considerable tidying up was necessary before re-building could take place. On all three/four properties burnt timbers had been salvaged and daub from the walls, fired red by the heat of the fire, was levelled before new floor deposits were laid down.

Over the road there was very little evidence of burning with only a few flecks of charcoal and a thin skin of daub, 700, separating 602 and 603 from the next road levels. In front of Property A1/A2 no road levels were recovered. On the Property B frontage new road levels were not deposited until the main structure was rebuilt. The first road level consisted of two deposits, 701 and 702, as illustrated. 702, which lay to the N of 701, was probably a patch where 701 had eroded. Neither deposit had a good metalled surface which suggests that they were not competently laid down. They were replaced by another two layers, 703 and 704, which did have more compact surfaces. 703 only extended 1 m into Property B. Its average stone diameter was 30–40 mm whereas that of 704 was 20 mm. The two deposits had been laid together and must be seen as separate loads of gravel rather than as separate constructions. Between Properties B and C there was a modern drainpipe and it was not possible to show whether there was a division in the road gravels on the property line. There was only one road level in this phase fronting Property C. This layer, 705, was badly eroded, though the remnants of its surface showed that the average stone diameter was 20 mm as 704.

On Property A it appears that Properties A1 and A2 were redeveloped together. Sillbeams 502, 503, 505 and 611 remained in the ground though the walls they contained were removed as were posts 516, 517 and 518. Over these was laid a deposit of burnt daub, 706, which sealed most of the area. It was particularly concentrated to the N of wall 507 and S of sillbeam 505 and here it may have fallen N rather than being deliberately laid down. Another concentration of daub was noted to the S of sillbeam 611 and a further deposit to the S of posts 516, 517 and 518. There was not sufficient daub within sillbeams 502, 503 and 504 to suggest that they had contained clay-daubed walls and it is unlikely that the burnt daub would be removed after the fire. Indeed the survival of carbonized grasses in 608 and rye seeds in 609 would indicate that most of the daub lay where it had fallen. Over the burnt daub was laid a deposit of gravel, 707, 0.2 m thick, which was tipped from the E end of the site until it reached the frontage; a distance of almost 12 m. It sealed Properties A1 and A2 without distinction. On this was laid a sillbeam of alder, 708, over 4 m long, though part of this was obscured by an area of gravel 1.2 m wide. This may represent a doorway though no posts to make a door frame were found. 708 formed part of a building with similar dimensions to the previous structure on Property A1, though the alignment changed slightly. 709 in this sillbeam were possibly upright ash planks, as they appear too wide to be staves for barrel 718. The W wall was not recovered, though its position can be estimated from an extension of the frontage on Properties B and C. The E wall was formed by gully 710, 0.15 m wide by 0.12 m deep.

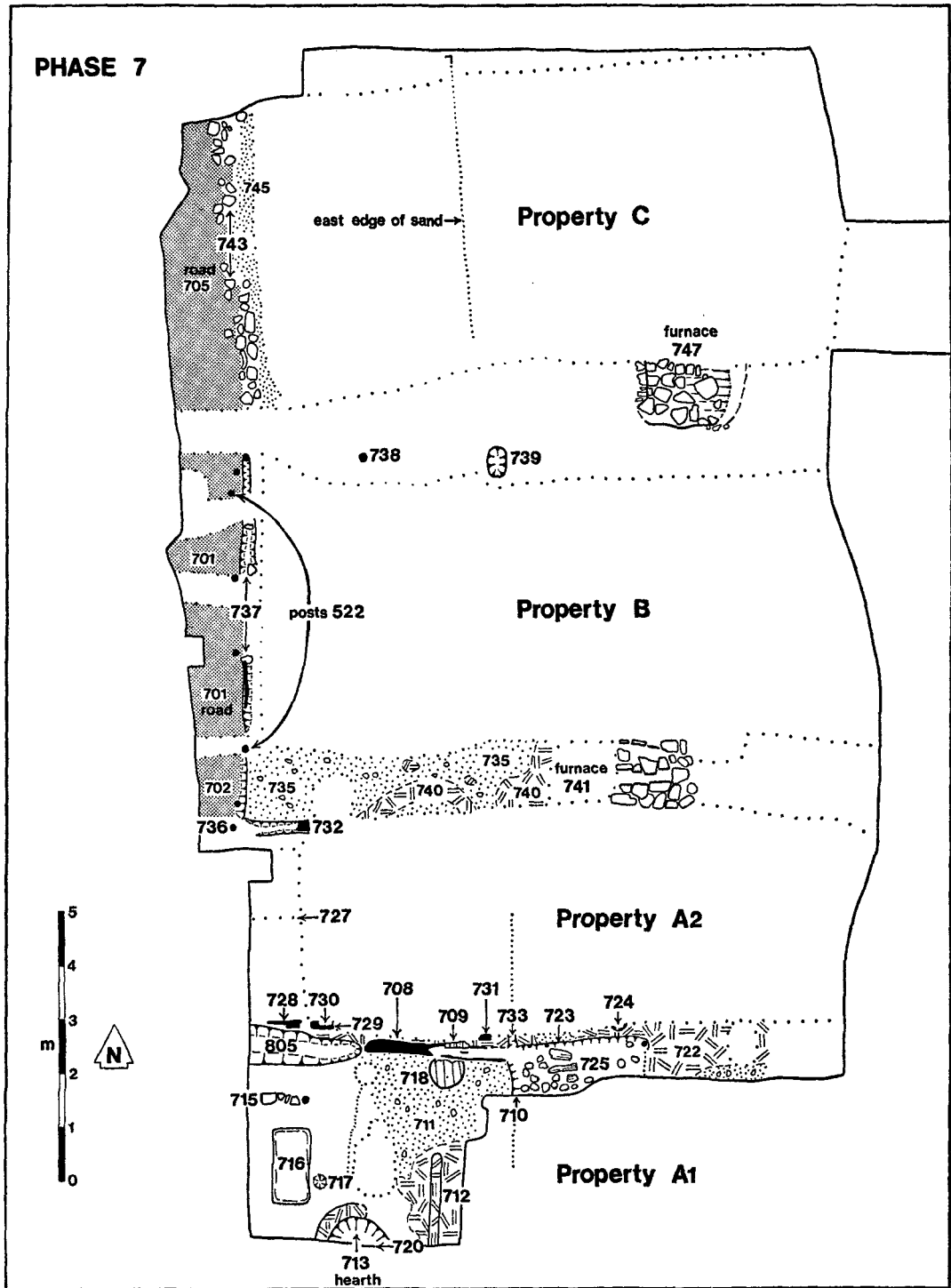


FIG 10 Castle Street: phase 7 plan

Within this building various small floor deposits accumulated including a gravel deposit, 711, as illustrated. There was an internal division 1 m W of the estimated line of the E wall, 710. This was first represented as a line of stakes, then as a line of stones and finally, as illustrated, as a wad of clay, 712. This formed an oblong 1.8 m long and 0.2 m wide standing 50 mm proud of the surrounding clay. A further patch of clay, 713, was found defining a semi-circular hearth at least 1.3 m wide. This contained a deposit of pink ash, the result of low-intensity heat. Apart from context 525 this was the only hearth feature identified as lying within a building and it appeared to have had a short life. Both 712 and 713 were sealed by an accumulation of organic midden lenses, 714, all less than 5 mm thick. At the NW a group of stones, 715, was laid parallel to, and 1 m S of, sillbeam 708. At the E end of 715 was a posthole. 715 appears again to have been some form of internal division. Pit 716, 1.4 m by 0.8 m by 0.45 m deep lay to the S of 715. This feature was robbed out after the burning that ended this phase but from the squared sides and fragment of wood with an iron nail, it seemed to have contained a wooden box of some kind worth salvaging. A small posthole, 717, was found on the E edge of this pit, as illustrated; its purpose is not known.

Over gravel 711 a similar deposit of fine gravel was laid down and on this a wooden barrel, 718, was placed. This was preserved by the later fire referred to above. This fire also carbonized a wooden paddle, 719, and a group of flax seeds, 720. These seeds lay in a position very similar to the position noted for rye seeds 609 and under a deposit of carbonized twigs and charcoal silt, 721. 721 included a group of burnt grasses. These overlay grey-brown clayish soil intermixed with burnt wattling. As the grasses lay above the wattle and clay soil it is unlikely that they were floor material. It is possible they represent the remains of a roof. The grasses have been identified by D Habershaw, College of Agriculture, Edinburgh, as oat straw (*Avena sativa*).

To the E of gully 710 were the remains of a structure that extended a further 2.5 m E. It was cut into a layer of clay, 722, that also extended into Property A2 which lay over gravel 707, showing that this structure was secondary. The N wall, 723, was the only wall to survive of this structure and it was badly preserved. It was difficult to decide whether it was of wattle or plank construction. As shown in plan, the remains of three posts were found. A post, 724, lay 0.2 m N of wall 723 and may relate to this building or more probably to Property A2. To the S of wall 723 was a layer of large stones, 725, on the surface of which were the remains of two planks. It is possible that these were part of walling 723 but it is more likely that they were floor planks as stones 725 were very uneven.

On Property A2 to the N of sillbeam 708, a series of deposits, 726, accumulated that appeared to respect a cut feature, 727, that lay 2.5 m N of 708. As feature 727 was itself cut by a modern drain little can be said save that it may represent the N wall of a building abutting sillbeam 708. Over 726 lay clay 722 and two short lengths of sillbeam 728 and 729 were set on this, only 0.1 m N of sillbeam 708. Both 728 and 729 had been well preserved by the burning to reveal a central groove 20 mm wide, presumably cut to take a plank wall. Sillbeam 729 was cut by or was cut around post 730 which was c 0.1 m in diameter by 0.1 m deep. As this post was later robbed out it is not easy to be definite about this relationship. It is noteworthy that the post was not positioned between the two sillbeams where it would have given more structural strength. A further fragment of carbonized wood, 731, was recorded 2.8 m E of 729 and was probably part of this sillbeam. 3.7 m N of sillbeam 728 and 729 was another sillbeam, 732, which formed a common wall between this property and a structure to the N on Property B. 732 was set in a gully 0.14 m wide by 0.1 m deep. The possible structure on Property B was probably about 5 m long as a gully, 730, 0.25 m wide by 60 mm deep was noted extending N from gully 710.

On Property B a similar process of reconstruction was followed to that on Property A.

Posts 406, 407 and 408 were dug out, while posts 522 continued in use. A considerable amount of burnt daub, 734, had accumulated particularly near the front of the property and this was sealed by a layer of gravel, 735. This gravel did not extend more than 5 m from the street front, though no wall was evident to restrict it extending further E; over this gravel a new structure was built. The S wall was sillbeam 732, previously referred to. Post 736, which was 0.1 m in diameter, replaced post 407. No other posts were found E of this, though such posts may have lain outside the excavated area. The W wall was a very decayed sillbeam, 737, that was cut into gravel 735, and lay c 0.1 m above road surface 703/704. It appeared that posts 522 continued in use, as there was no evidence for their removal or for their being covered by road surfaces; since destruction by fire caused the removal of the S and N wall posts this is somewhat surprising. Presumably sufficient remained of posts 522 for other posts to be jointed on to the stubs of them. The N wall was represented by posthole 738 which included a post socket 0.18 m in diameter by 0.25 m deep, and posthole 739 which was 0.3 m deep. 739 probably represented the NE corner of the building though no E wall was recovered. A series of floor lenses, including a layer of clay, 740, were recovered. 740 probably slumped into pit 313, as a similar clay was noted over layer 618. But there was a break in stratigraphy here which is unfortunate as the Sieburg jug (fig 20.37) was found beneath the clay. Additional evidence for the line of the E wall was supplied by furnace 741 which was cut into the layers slumping into pit 313. The furnace lay above a deposit of burnt daub that is thought to be part of the phase 6 burning. The furnace itself was heavily robbed with only traces of the flue surviving. This is discussed more fully in R M Spearman's report (p 347).

There was a soil division 0.1 m N of post 739 and this is presumed to mark the division between Properties B and C. As with Properties A and B, burnt daub, layer 742, was laid down or collapsed after the phase 6 burning. There was no evidence of timbers surviving the fire. Unlike Properties A and B a load of gravel was not deposited on top of daub 742 before the structure was rebuilt. No wall was recovered on the S of the property. The W wall, 743, lay on an irregular line of stones 0.35 m wide. The top of the wall was roughly level with road surface 705. Over 743 were found fragments of a badly decayed timber, presumably part of a sillbeam. The N wall was recorded, in a small sondage, as lying 6 m N of the boundary between Properties B and C: it also was of sillbeam construction. From the N section (fig 15) it appeared that the E wall, 744, of this building was constructed of clay daubed wattle which lay 4.4 m from the frontage. The floors, 745, within this building consisted of a series of organic and clay lenses which could only be examined in section. There was a suggestion in section that a 1 m wide timber floor may have existed E of wall 743 and a group of three slots, 746, 80 mm wide by 80 mm deep was recorded cut into daub 742 (fig 15). These were not noticed further E where a more distinct clay floor was evident. Outside the building the remains of a clay-bonded stone furnace, 747, 1 m by 1.2 m were found and these are discussed further in R M Spearman's report (p 351).

After this all three properties were consumed by fire which destroyed all the standing buildings.

Finds

The pottery is mostly local but includes Yorkshire fabrics in contexts that are not residual and a Sieburg stoneware handle that is of a late 14th-century type. Finds include an iron auger and a fragment of an iron lock on Property A as well as several more amorphous objects on Property C such as a piece of lead sheet and an eroded knife blade. A springer from a stone window and a possible stone mortar were found. The fire carbonized several organic objects mentioned above. An early to mid-15th century date is likely for this phase.

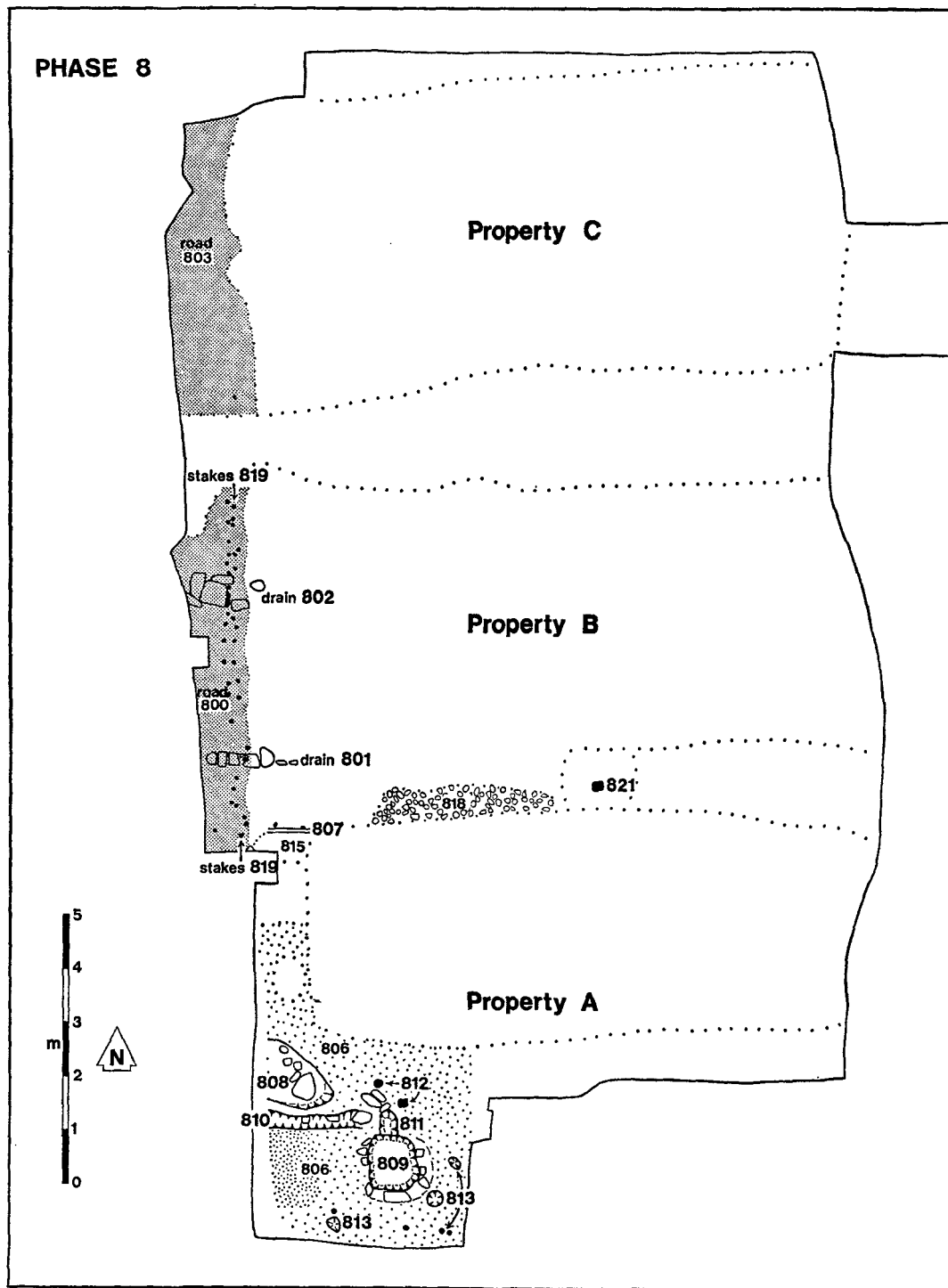


FIG 11 Castle Street: phase 8 plan

PHASE 8 (figs 11, 13-17)

After the destruction of the structures at the end of phase 7, considerable reconstruction was necessary. This was broadly similar to that undertaken after the phase 6 fire, save that only on Property A were large amounts of sand and gravel dumped as flooring. The evidence for the survival of the phases 4-7 property boundaries is less clear as a considerable area of the site was disturbed by post-medieval or modern developments. As the property boundaries do continue to the present day it is likely, however, that there was continuity.

The road levels were once again only recovered on Properties B and C. 800, the material used in front of Property B, was much coarser than the earlier surfaces as it included stones up to 0.2 m in diameter. This coarse metalling which formed a compact surface was necessary to seal two drains, 801 and 802, that ran W from Property B to empty into the street. The drains were substantially built, being 0.2 m wide internally and up to 0.1 m deep. Drain 801 clearly sealed one of the 522 posts. In front of Property C was 803, a similarly coarse layer of stones of an average stone diameter of 80 mm.

On Property A1/A2 burnt daub 804 collapsed over both areas. It is considered unlikely that much of the daub was disturbed and redeposited as the fragile carbonized grasses amongst 722 were preserved below the daub. Some tidying up did occur as the W end of sillbeam 708 was robbed out through the digging of gully 805 (fig 10). On top of the daub a small gully running E-W and no more than 10 mm deep lay to the S of wall line 715; the purpose of this is not known. It may represent a water runnel, created perhaps by rainwater dripping off a stub of wall on 715. This seems a little unlikely in view of the severity of the phase 7 fire. Above the daub was a thin layer of silt, interpreted as trample prior to rebuilding. The first stage was the depositing of a layer of gravel 0.1 m thick, 806. It was only after this gravel had been laid that pit 716 was robbed. It is difficult to explain why this feature had been left in position after the clearing of the site immediately after the fire.

It is not clear whether a structure was built on Property A1/A2. No distinction between Properties A1 and A2 was recorded and it appears that they were treated as one.

As before, the frontage at the W could not be determined though its position could be estimated from Property B. The proximity of hearth 808 to this line would mean that either the immediate area of the hearth was open to the street or that the W wall was built of stone. The possible positions of the E and S walls were outside the excavated area. The N wall is presumed to be wall 807, a stake and clay wall 60 mm thick. Because of a break in stratigraphy it is not certain whether this wall belonged to Property A or B but it is probable from the deposits on Property B that wall 807 was the N wall to property A.

The internal area was heavily disturbed first by two industrial features, 808 and 809, and secondly by modern intrusions as this level lay directly below modern deposits. A fuller description of both 808 and 809 is presented in R M Spearman's report (p 351), where he interprets 808 as an open hearth and 809 as a stone- and clay-walled cistern.

Within this area was a possible internal division represented by 810, a gully 1.75 m long and 0.25 m wide by 40 mm deep, which ran E-W and contained three stones flat side uppermost that may have supported a timber sillbeam. These stones may be connected with a group further E that is more probably related to the use of feature 808. However, it is unlikely that a timber wall vulnerable to fire, or a stone wall obscuring access to the hearth would have been placed so close to feature 808. Gully 810 was probably related to another gully, 811, which was 0.4 m deep by 0.25 m wide. This ran for only 0.55 m before entering feature 809. Originally this was interpreted as part of 809 since no N wall survived for this cistern, but it is more likely that 811 was the remains of an internal timber division directly related to gully/wall 810. 811 did not extend S

beyond 809 and it would therefore have been a short division wall. Two substantial posts, 812, were recorded to the N of 810 and 811. The most westerly was contained in a posthole 0.25 m in diameter and 0.45 deep with a post pipe 0.12 m in diameter, the post pipe being sealed by a group of stones probably related to the use of hearth 808. The other post, lying to the NE of 810, was in a posthole 0.27 m in diameter by 0.47 m deep, being revealed as a clearly squared post pipe 0.18 m wide. To the S was a group of shallow depressions, 813, some clearly stakeholes while others were too broad for this, the biggest being 0.2 m in diameter by 0.16 m deep. Their function is not clear and they were not related to feature 810, as the identical clay, 814, used to bind the stones and seal the base of 809 overlay stakeholes and the larger holes as well. The clay is shown on fig 17 in connection with features 808 and 809; it was probably more extensive originally. To the S of wall 807 was a layer of brown silt, 815, with iron hammer-scale. This hammer scale may have been derived from smithing connected with hearth 808, though layer 815 was sealed by 816, a layer of clay similar to 814.

On Property B there was no evidence for gravel or sand being deposited over burnt daub, 817, that sealed the phase 7 building. Instead a series of fine cobbles, 818, was laid down. These were probably connected with road layer 800, which extended beyond the W boundary of Property B. This boundary, 819, was an undaubed wattle fence without the support of substantial posts and cannot have been structural. It appears that at least the W half of this property was open, though some activity is indicated by having two drains, 801 and 802, emptying into the street. Cobbles 818 were succeeded by a layer of larger cobbles, 820, which extended 6.5 m E of the road and abutted a large post 821, 0.15 m square by 1 m deep (fig 16). This was substantial enough to have formed part of a building, though obviously one post is not enough evidence on which to reconstruct a building.

Property C, as with Properties A and B, was reconstructed over a layer of burnt daub, 822. It is clear from the N section (fig 15) that a new building was constructed, probably using sill-beams. In this section there was a plinth of stones, 823, 0.1 m higher than the floor deposits to the E and road surface 803 to the W. Some of the large stones on the E edge of 803 may be part of this sillbeam support, though this was not evident during excavation. Road 803 was the only deposit excavated in this phase on Property C, though in section (fig 15) E of this there was a deposit of sand and gravel, 824, covered by a dark brown silt. This was in turn sealed by a further deposit of burning, 825.

Finds

Few finds were recovered in this phase and a date to the middle of the 15th century can only be suggested from the material found in phase 7.

PHASE 9 (figs 12, 13-16)

No deposits survived on Property A after phase 8. On the boundary between Properties A and B, wall 807 was replaced by a sillbeam wall, 900, which was set in clay above a foundation of cobble stones. In total this wall and its foundation were 0.5 m wide. Due to modern intrusions the relationship between road 800 and wall 900 was not recovered. The road may have continued in use, though fence 819 would have rotted away. To the N of 900 was 901, an oval feature 0.5 m deep, which had a Caithness flagstone base, bonded in shell mortar. To the E of this was a layer of sand, 902, which ended 7 m from the earlier frontage. The edge of the sand was defined by gully 903, 0.3 m wide by 0.18 m deep and a posthole, 904, 0.4 m in diameter by 0.2 m deep. The posthole lay within the sand 0.2 m from the gully. To the E of gully 903 was a clay-bonded stone furnace, 905, described more fully in R M Spearman's report (p 352).

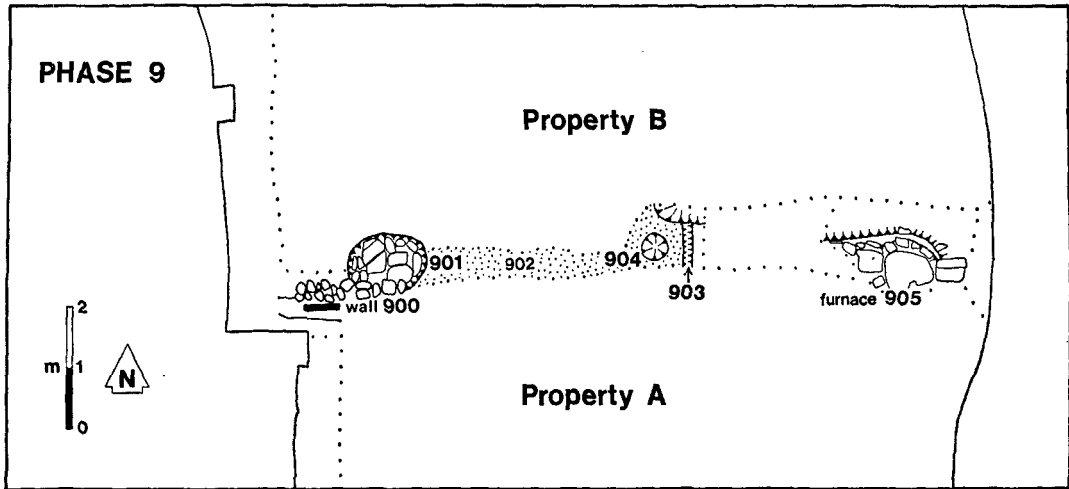


FIG 12 Castle Street: phase 9 plan

It is possible that wall 900 extended over road 800 as an encroachment on to the street was recorded on Property C in this phase (fig 15). This appeared as sand deposit 908 whose E boundary corresponded with the W frontage recorded for phases 4–8. Originally this was thought to be the bedding material for a 19th-century wall but the section and the two postholes on this E boundary, whose fill included burnt daub, show that this was a stratified floor deposit.

Finds

No significant finds were recovered in this phase and dating is not possible.

POST PHASE 9 (not illustrated)

After phase 9 a number of unrelated features were found dating from the 16th to the 19th centuries. These included a clay-bonded stone wall above wall 900; a well and associated cistern constructed from Caithness flagstone and probably dating to the 17th century; an 18th-century rubbish pit whose finds are illustrated in fig 20.38, 39; a 17th-century posthole?; two large undated postholes? filled with leaves of clay; and a 19th-century pit with a timber base dated by a silver fourpence to later than 1830.

THE FURNACE REMAINS

R M Spearman

INTRODUCTION

The term 'furnace' is adopted here as a general title for any structure built for the production and utilization of heat generated by the combustion of fuel. Such a term may be preferred to 'kiln' or 'oven' as these are sometimes regarded as interchangeable. Moreover 'kiln' and 'oven' tend to suggest functions for the structure when in fact it is often the function which is under debate. Only rarely is any diagnostic material recovered from a furnace by excavation. In part this is because of the problems of preservation, but many processes were carried out in containers or superstructures which were salvaged or demolished when the furnace was abandoned, removing any trace of the specific work of the furnace. Much of the understanding of such features must therefore be based on any structural components which may survive. Furnaces may be seen to have three main structural units: the air intake, the fire area, and the working

chamber or container. Each of these units has a variety of designs which help to indicate the range of functions of the furnaces.

The air intake

- 1 Forced draught: involving the use of a bellow or bellows to provide considerable control over the atmospheric conditions and temperature within the furnace. The air intake could be increased or reduced as required and if necessary larger or additional bellows could be applied. The bellows could be worked by hand or by animal or water power depending upon the size, force and duration of blast required.
- 2 Natural draught: where chimneys and flues were used to encourage air flows. Some control over the fire could be exercised by stopping-down the chimney or flue, thereby reducing the air intake to the furnace.
- 3 Open fire: where no attempt was made to control the air intake, and the fire was simply controlled by the addition of fuel.

The fire area

The construction of the furnace directly affected the maximum quantity and concentration of fuel and therefore the atmospheric conditions, duration of burning and temperatures attainable. The main factor in this was the ratio of height to width: width also affected the working area available. The building materials also affected the retention of heat by the structure.

The working chamber

- 1 Direct: where the fuel and working material were mixed; often to encourage changes in chemical composition.
- 2 Indirect: where the working material was heated by or through a container or structural component of the furnace which was in contact with the fire.
- 3 Removed: where the working material was heated by gases drawn off from the fire.

In addition to these three main structural components with all their permutations, furnaces frequently possessed additional features which were not necessarily essential to their primary operation. These included working areas, stoke holes, rake-outs, ash pits and so forth which help to identify how the furnaces functioned. Further features such as tap holes and moulding hearths may even help to define the processes carried out at the furnace. Some indication of the temperatures achieved in the furnace may be gained from the heat damage suffered by the structural remains but prolonged or repeated exposure to low temperatures may have a similar appearance to brief high-temperature working. Nevertheless such information taken in conjunction with the design of the furnace structure helps to indicate its general function such as metal smelting, baking, drying, boiling, etc. There are, however, no hard and fast rules, and it must be remembered that a furnace structurally capable of high temperatures might also be operated well below capacity.

THE FURNACES

Feature 741 (figs 10, 16)

This feature was cut away by cellars to the N and S, and by demolition and robbing in the medieval period. The area was one of general sinkage into an earlier pit, 313. This sinkage was deepened to provide a setting for feature 741, which was 0.62 m deep by 3 m long and at least 1 m wide. The E side of this sinkage was lined with a sub-rectangular arrangement of clay-bonded stones, while the W side took the form of a slightly deeper pit.

The area of surviving lining in the E of the features consisted of a paved platform of flat stones set in clay, lying 0.15 m below the medieval ground level. The exact size and shape of this platform is uncertain but would seem to be c 1 m across. Fragments of clay-bonded stone walling enclosing this platform survived to the N and E. The E wall was 0.4 m wide, but no walling survived above ground level. The clay bonding and stones of the floor and walls showed signs of prolonged or intense baking and burning. A substantial flue ran E-W below the level of the platform, terminating against the E wall and sloping to the W at an angle of 15° to the horizontal. The opening of the flue into the W pit area was 0.4 m square with substantial vertical stone supports and a collapsed capping stone. The floor of the pit forming the W side of the feature was 0.3 m below the base of the flue. It is uncertain whether or not the W part of the feature was also lined because of later robbing. The pit floor was approximately 0.9 m in diameter.

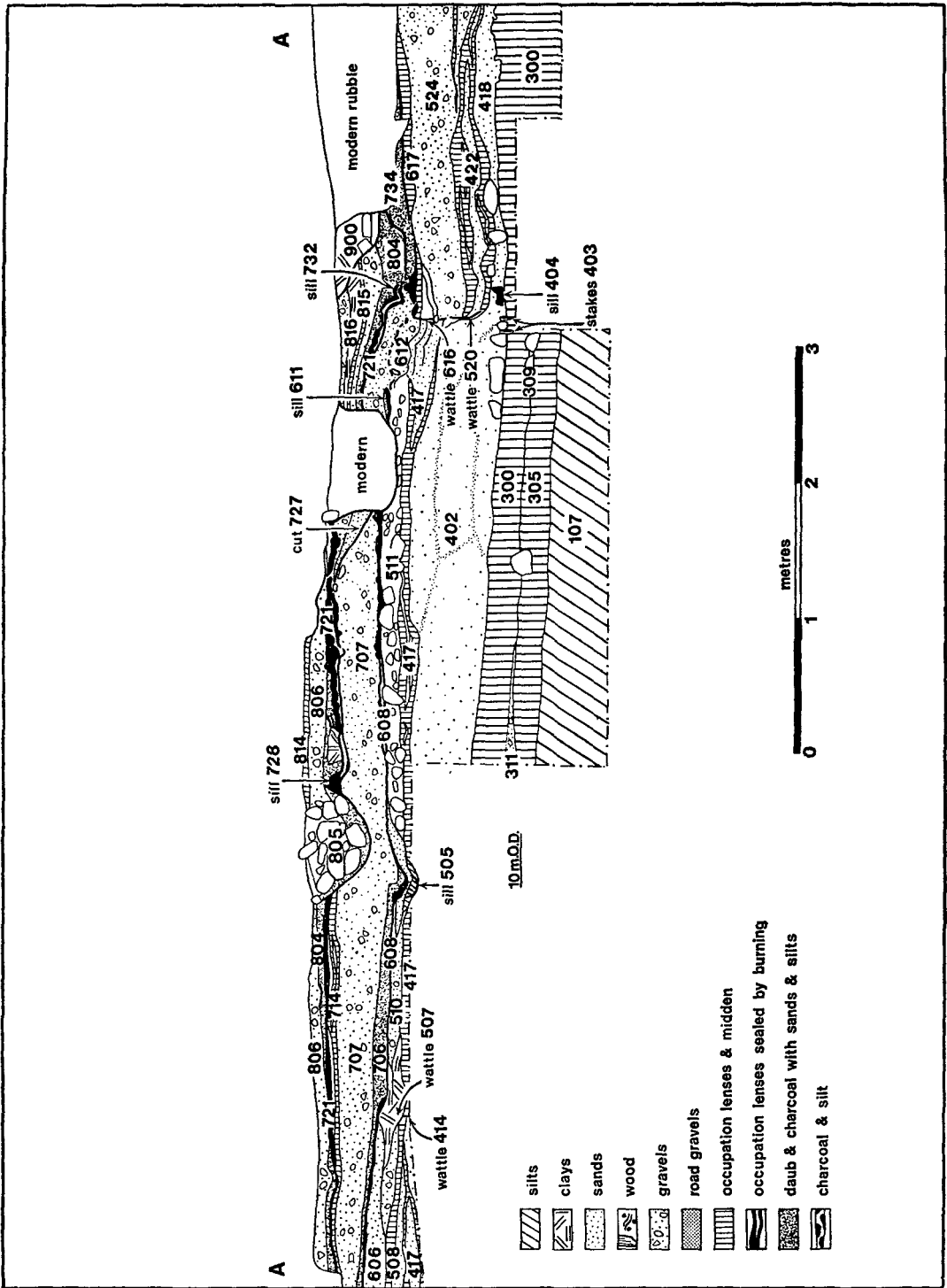


FIG 13 Castle Street: section A-A

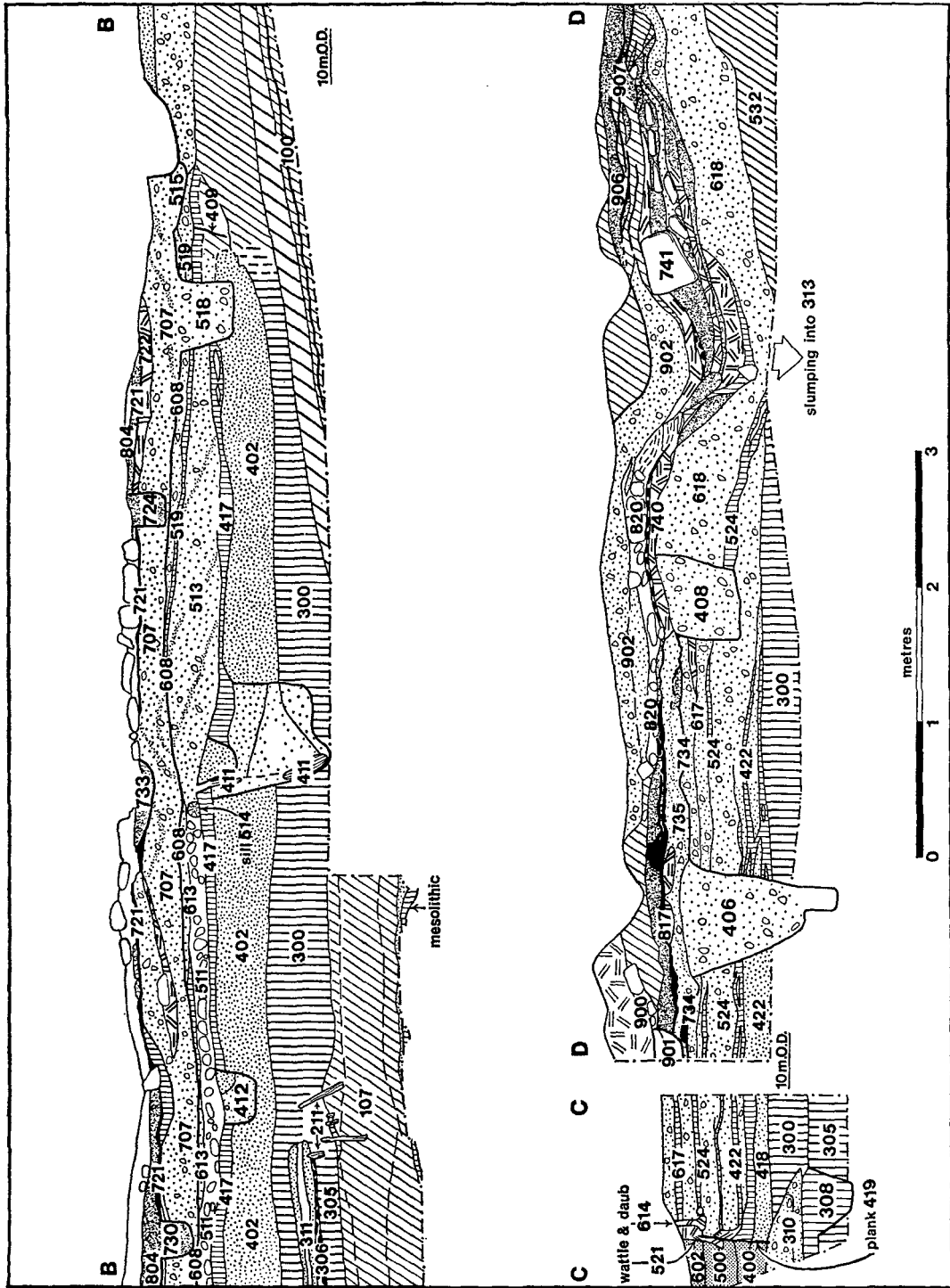


FIG 14 Castle Street: sections B-B, C-C and D-D (section B-B reversed)

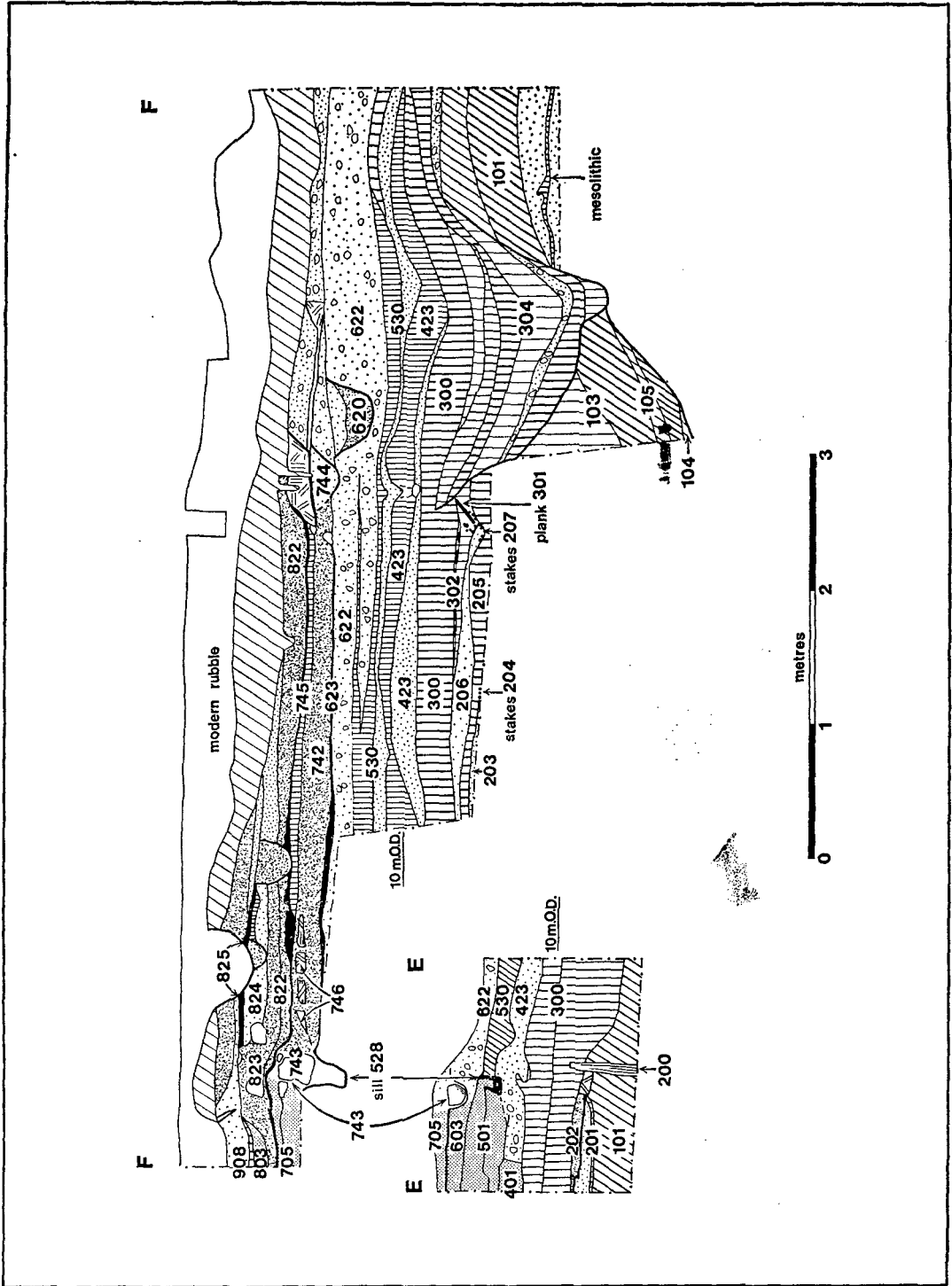


FIG 15 Castle Street: sections E-E and F-F

The flue was filled with a mixture of silt, ash, charcoal and clay. Over both the flue deposits and the burnt platform were lenses of white silty ash mixed with charcoal. These lenses had been disturbed during the robbing of the flue and similar ash had also collapsed into the robbing of the W part of this feature. The entire feature was backfilled with a substantial amount of clay, baked daub, charcoal, ash and burnt stones.

This structure consisted of a stone-lined hearth area to the E with an air intake flue leading in underneath the hearth from the W. The robbing of the hearth area in conjunction with the different fills of the flue and hearth would suggest that the flue had originally been covered with either stones or hearth tiles. The flue may also have been used as a rake-out into the western parts of the feature. This W pit area would therefore have provided a working area for control of the flue and may also have doubled as a stoking area for the hearth itself.

No diagnostic material was recovered from this furnace and no metalworking debris was associated with this phase. It is therefore difficult to attribute any specific function to this furnace. However furnaces of this 'natural draught' type are widely described in medieval and post-medieval treatises, eg the *Libellus De Alchimia* (Heinze 1958, 15), Biringuccio's *Pirrotechnia* (Smith & Gnudi 1942, 71-2) and Ercker's *Treatise on Ores and Assaying* (Sisco & Smith 1951, 254-6). In these examples the principal use of such furnaces was for heating crucibles held within a hearth chamber. Alternative uses are shown in other illustrations, such as the 15th-century dyers' vat in Singer & Holmyard (1956, fig 333) which shows a boiling vat located over a hearth supported by surrounding walls. This is consistent with the demolition of the superstructure of the furnace to recover such a vat, the building material having been discarded and thrown back into the feature.

Feature 747 (fig 10; pl 28b)

A substantial area of sinkage into an earlier backfilled pit, 209, was lined with a rectangular arrangement of stones, 747. The feature was 1.4 m by at least 1.2 m, being cut away by cellarage to the N. The base and three surviving sides were lined with dark brown clay and a mixture of sloping and coursed stones. The overall inclination of the lining was to the NW. All surface stones demonstrated some smoke blackening, although the clay was not noticeably baked. The feature had been backfilled with clay and stones similar to those used in the lining.

No diagnostic material was recovered from this feature and its function remains unclear. To judge from the backfilled material it would seem that the sides of the feature had extended above ground level and had either been demolished or had collapsed into the feature itself. Unfortunately, the upper levels of the feature and surrounding area were immediately overlain by modern deposits. Severe disturbance meant that no other features could be firmly associated with this structure although a gully, 0.4 m wide by 0.15 m deep extended for 1 m W of the W wall of the main feature. These remains suggest that this was a drying or smoking chamber of a low-temperature natural draught furnace, similar to malt- or corn-drying furnaces. The hearth area and flue may have lain to the N and would have been removed by cellarage. Such furnaces are well known from recent excavations, for example Dairy Park, Dunrobin (Close-Brooks 1980, 337), and the Barrow, Rutland, with its rectangular drying chamber (Bolton 1960, 128-31).

Feature 808, with associated features 809, 810 and 811 (figs 11, 17)

This area had been severely robbed and scarped, with modern deposits directly overlying what remained of the surviving features and fragmentary layers. It is therefore possible that these features were not strictly contemporary.

A gully, 810, 0.25 m wide and surviving to a depth of 0.04 m, ran E from the W edge of the excavation for 1.75 m. There it terminated against a N-S gully, 812, 0.25 m wide, 0.55 m long and 0.4 m deep, and an associated posthole, 811, containing a post pipe 0.12 m square and 0.45 m deep. These features contained a quantity of stone rubble and are taken to represent the remains of robbed-out walling.

Abutting the S end of gully 812 was a complex pit feature, 809, c 1.35 m square and at least 0.5 deep. This feature had been partially robbed by a later pit 0.9 m square and at least 0.2 m deep. The original cut edge and primary lining of unburnt yellow clay and stone rubble survived. Feature 809 seems to have been carefully lined, the inner lining having been deliberately removed. The clay and stone outer lining would suggest that this was intended to be a water-tight tank. The shallow depth of the removal cut might imply that part of this tank was originally above ground level, but no estimate of height is possible.

To the N of gully 810 an area of intense burning was noted extending 1.2 m E from the W edge of

the excavation and being at least 1.2 m in diameter. At the centre of this area was a substantial stone c 0.6 m square: this had been fragmented by heat, and soil below the stone was scorched to a depth of 0.3 m. Fragments of baked stones and sand formed an irregular ring around the central area of burning. To the N of this were laid a number of less severely burnt cobbles set in sand.

This would appear to be the base of a fairly high temperature furnace or one which was used over a considerable period of time. The hearth stone was positioned with one corner towards the wall line represented by gully 810. The furnace may therefore have been built against this wall but there is little evidence of any structure around the furnace itself. This may well have been removed by later scarping so that there remains the possibility that the furnace itself was walled. The cobbling to the N of the furnace would have provided a working area. No metalworking debris was recovered directly associated with this furnace although a few pieces of clinker again emphasize the temperatures reached. The lack of metalworking debris may also be due to scarping as some hammer-scale smithing waste was recovered from context 815, to the N of this furnace but within the same property.

This furnace area was unfortunately heavily disturbed by later occupation. The appearance of these features is not inconsistent with a forced draught smithing furnace and quenching tank. A very similar smithing was described by Theophilus in his *De Diversis Artibus* (Dodwell 1961, 65). Here the furnace was built against a low clay and timber wall through which light bellows were operated.

An analysis of the clinker is stored in the archive.

Feature 905 (fig 16; pl 28c)

This feature consisted of an area of burning associated with an oval of clay-bonded stones, 1.7 m long by c 1 m wide. The S side of the feature had been partially cut away by a cellar but on the N side a stone- and baked-clay bank, 0.15 m wide, defined the outer edge of the main burning. Further burnt daub was recovered from a layer, 906, which sealed the feature. Incorporated with the clay bank and extending NE from the main area of burning was a partly disturbed area of paving. One stone at the junction of the paving and bank had been roughly tooled to provide a step of 0.03 m aligned with the long axis of the oval. The interior of the feature was filled with a light grey silty ash, 907, mixed with fine droplets of heavily corroded lead; 380 g of this material were recovered, several pieces of which had solidified on the stone base of the feature. These basal stones were partially fractured but no lead was recovered from these fissures. The basal stones had a slight inclination towards the W. The same ash, 907, was found to extend into an adjoining hollow W of the main oval of stones. The ash did not contain any substantial quantity of lead oxide.

This seems to have been quite a large open-fire furnace enclosed by a low clay wall. Its oval shape and the lack of any wicker impressions in the surviving walling would imply that there was no dome over this furnace. The paving to the NE of the furnace would have provided a working platform adjacent to the structure. The tooled stone at the junction of the furnace and this platform may have been re-used from elsewhere as there is no indication of this being essential to the working of the furnace. The break in the walling at the W end of the furnace may have been used to rake-out ash in that direction.

The function of this furnace is extremely difficult to understand. The presence of lead in the ash fill suggests some related lead working but neither the ash nor the furnace structure showed signs of lead oxide or any staining from lead vapours. It is unlikely therefore that this furnace was for lead liquation or cupellation, unless that work was being done in crucibles or tests. However, no such containers were recovered from the excavation. Equally no lead ore and associated smelting waste was recovered so that the furnace is unlikely to have been used for smelting. The most probable explanation is that the lead was being warmed prior to working. This would be consistent with the apparent low temperature of the furnace and the potential heat retention of the substantial hearth stones of the furnace floor.

Various fragments of heavily corroded lead were recovered from phases 3, 6 and 9, although they were not associated with any structures (see finds nos 8, 10 and 16). Analysis of the lead fragments from furnace 905 is stored in the archive.

CONCLUSIONS

The furnace remains from this site were generally heavily disturbed by robbing and later features. In no instance did their entire plan survive. Any interpretation of their exact function is therefore difficult, especially because of a lack of diagnostic material from in, or around, the furnaces. Structurally, however, these furnaces demonstrate a wide range of designs and therefore potential functions: furnace 741 made use of natural draught to ventilate quite a large fire area which played indirectly on a working chamber or

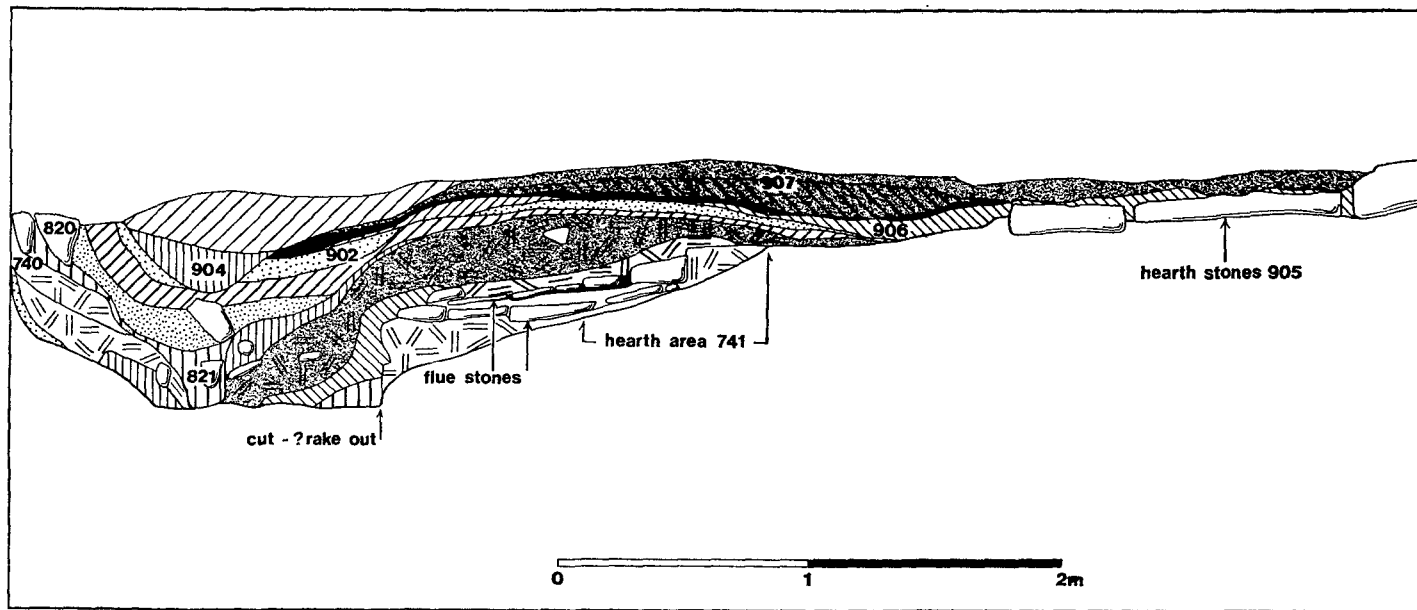


FIG 16 Castle Street: section through furnaces 741 and 905

container; furnace 747 would seem to have used a natural up-draught system to heat a removed working chamber; furnace 808 used an open fire furnace supplemented with forced draught to heat the working material directly; furnace 905 was an open-fire furnace possibly used to directly heat the working material. All of these furnaces were elaborate structures requiring considerable expense and skill. Interestingly the two natural up-draught furnaces made use of sinkage into earlier pits to provide at least some of the necessarily deep foundation and flue footings. Where evidence exists the furnaces appear to have been fuelled with timber.

These furnaces suggest a degree of specialization well beyond what would be required even for substantial domestic use. As a group they also demonstrate quite a significant concentration of industrial working during the later phases of the site. When taken in conjunction with the iron-working debris from the earlier phases of the site, itemized in the next section, this area demonstrates a prolonged, although varied history of industrial use.

PHYSICAL ANALYSIS OF METALWORKING DEBRIS

R M Spearman

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Metalworking debris from the site was provisionally sorted by eye and its magnetic characteristics. Selected samples were then analysed by Dr Slater using standard X-ray diffraction techniques. The results of these analyses and the recording sheets from the initial sorting are stored with the site archive (NMRS): the work is summarized below.

Phase 1 Gully 102 produced 1.015 kg of iron-working slag of a type identified as general waste from a bloomery furnace.

Phase 2 No metal working debris.

Phase 3 Pit 208 (later fill) produced 14.315 kg of iron-working slag. The majority of the slag was iron-rich and may originally have been attached to blooms. In addition there were fragments of siliceous 'tap slag' and pieces derived from furnace structures and lining. The following features produced fragments of general bloomery waste totalling 2.425 kg: pit 209 (later fill); pit 210 (later fill); gully 303; and pit 313. The general midden layers produced 6.233 kg of iron-working slag, most of which was general bloomery waste but the material also included a few pieces of furnace lining. In addition some small pieces of limestone were found. These may have been connected with the waste from iron smelting. They have been identified by G H Collins, Institute of Geological Sciences (NERC). Eight specimens of limestone, some partially burned, were examined. Their source is obscure: they are almost certainly Dalradian in age as several of them are very contorted and brecciated. Three possible sources are suggested, namely Lismore, the Torlundy area of Inverness-shire, or the Cullen-Portsoy area of Banffshire. For geographical reasons, the Cullen-Portsoy locality is favoured, as here the continuation of the Loch Tay limestone crops out on the coast and the material could have been easily shipped direct to Inverness. The other localities are more difficult of access, requiring pack horses or the necessity of the long sea route around the N of Scotland.

Phase 4 A secondary fill of pit 313 produced 0.140 kg of bloomery waste which was probably residual from phase 3.

Phase 5 A tertiary fill of pit 313 produced 3.770 kg of general bloomery waste and produced one piece of roasted calcium carbonate, possibly originally limestone. Material from this fill is not likely to be residual.

Phase 6 A burning layer forming the secondary fill of 531 produced 0.50 kg of general bloomery waste which may be residual.

Phase 7 No metalworking debris was recovered from this phase. (See pp 347-51 for structures 741 and 747.)

Phase 8 One fragment of clinker weighing 70 g was recovered from feature 808 (see p 352). Hammer-scale smithing waste was recovered from context 815.

Phase 9 380 g of lead droplets and run lead were recovered from feature 905 (see p 352).

CONCLUSIONS

The quantity and location of bloomery waste from phase 1 were not significant, although it is important to note the existence of such material at this time, especially in the light of similar material from phases 3 and 5.

The bloomery waste from phase 3 forms both the largest and most varied group from the site. However, no fragments of actual bloom were recovered. This material could therefore be interpreted in any of three ways. It could have been imported into the town for use as hard core; it might have been brought into the town along with bloom itself and discarded prior to the working of the bloom; it could be the debris from a furnace near the site. None of the debris came from features requiring consolidation, rather it had been discarded and was not being used for any deliberate purpose. Of the remaining two possible sources of this material, it seems wasteful to import debris with the bloom, though this remains a possibility. Equally it would be unusual for smelting to be carried out in a town as this necessitates the importation of both fuel and ore. There is therefore no clear explanation of the occurrence of this material on the site. However, faced with the lack of any evidence for the structural use of the slag, one of the latter two explanations seems more likely. The preponderance of bloom waste and the scarcity of furnace lining may imply that this debris was imported along with blooms rather than discarded from smelters within the town.

The small quantity of similar debris from phases 4 and 6 may have been residual but it is possible that debris from phase 5 represents some continuity of earlier working. The hammer-scale smithing waste from phase 8, and possibly the fragments of melted lead from phase 9, again point to the continuity of metalworking on this site.

SMALL FINDS

POTTERY (figs 18–20)

N L MacAskill

The pottery assemblage from the Castle Street site consists of both locally made material and imports from S Scotland, England and the Continent. In the earlier phases a wide range of wares is present in small quantities, many of which remain unidentified. The middle and later phases yielded large numbers of sherds from jugs in the local fabric and a few sherds in other fabrics.

As well as variations of the local fabric, which dominate the assemblage from phase 4 onwards, other identifiable fabric groups include white gritty wares, probably of S Scottish origin; Scarborough jug material and other Yorkshire type wares; a small amount of probable Grimston ware, as well as a number of sherds which probably originate from the E of England but could not be identified more specifically. Also present are a Perth local ware, some copies of Rouen ware, Low Countries greyware and several German stonewares.

The fabric types have been described below and included in Table 1 which shows the distribution by phase on the basis of sherd count, weight and estimated minimum number of vessels. The catalogue of illustrated material provides specific examples, but unfortunately much of the material is too fragmentary to warrant illustration.

Terms used in fabric descriptions

When describing the inclusions which are present, the following terms are used: for frequency, occasional, moderate and abundant; for shape, rounded, subangular and angular; for size, small, medium and large. In frequency description, as a rough guide, for a 25 mm square area occasional means less than 5 grains, moderate means 5–15 grains and abundant means more than 15 grains. In the description of size small means up to 0.1 mm, medium means from 0.1 to 0.75 mm and large means above 0.75 mm.

Fabric group A

The vast majority of the sherds recovered are in variations of this fabric. Although no kiln sites have been located in Inverness or the surrounding area, it is very likely that this ware was produced locally.

The fabric is most commonly oxidized orange or buff in colour, but is sometimes reduced to a medium grey. It is usually quite sandy to the touch and just soft enough to be scratched with a fingernail, but there is considerable variation in both texture and hardness, the reduced material particularly tending to be harder and more brittle. Quartz grits are present in all of the sherds, usually in moderate quantity, rounded or subangular and between 0.2 and 1.0 mm. These are commonly translucent or white. Quite large clusters of small angular fragments of quartz (? quartz sandstone) are also sometimes present. There is usually an even spread of mica through the fabric in occasional to moderate flakes of various sizes,

TABLE 1

This shows the distribution of most of the fabric types present by phase. The fabrics are identified by their code letters, as used in the text, and in those cases where some degree of identification has been possible, by a common name as well. The quantity of material present has been given in three ways: the number of sherds; the minimum number of vessels (in brackets); and the weight in grams

Phase	E1	Rouen copy E2	?Grim- ston E3	E4	E5	E6	Scar- borough C	York- shire D	White gritty B	BL	Early Scots AE	Perth type AP	Local A1	Local A2	Local A3	Local A4	Late Scots AL	Low Countries greywares F	Stone- wares H
1	60 (1) 537 g							1 (1) 6 g											
2							24 (2) 727 g	15 (1) 212 g	5 (1) 38 g	4 (1) 30 g									
3		4 (1) 55 g	3 (1) 12 g	73 (2) 370 g	7 (1) 150 g		3 (1) 39 g	9 (1) 82 g	36 (10) 415 g		19 (7) 130 g	3 (1) 50 g							
4							12 (2) 126 g	4 (2) 59 g	2 (1) 17 g	9 (2) 178 g			217 (12) 5466 g	67 (6) 1350 g	7 (1) 103 g			1 (1) 9 g	
5						8 (2) 102 g	1 (1) 10 g	1 (1) 5 g					6 (2) 182 g					1 (1) 9 g	
6						1 (1) 14 g	1 (1) 10 g						836 (8) 9162 g	6 (2) 137 g	368 (4) 4382 g				11 (1) 222 g
7							11 (2)g 46						142 (9) 1072g	360 (5) 3326g		7 (1) 51 g			
8													47 (8) 452 g				7 (1) 123 g		6 (2) 218 g
9										1 (1) 113			18 (1) 220 g			5 (1) 41 g			

mostly less than 0.2 mm across. Also present in small quantities are black and red ferruginous inclusions, brown earthen inclusions and fragments of unidentifiable rock. Extensive subcategorization of the sherds on the basis of the inclusions was not deemed worthwhile without thin sectioning and expert petrological analysis.

Four basic varieties of the material are subcategorized as an aid to description rather than to establish a definitive catalogue of subtypes.

- A₁ is the standard type: oxidized orange with quartz and mica in moderate quantities. This appears throughout the site after phase 3.
- A₂ covers the grittier oxidized variants with an abundance of medium to large quartz grits. These often have a larger than average uneven spread of earthen and ferruginous black inclusions. This fabric appears in phases 4, 5 and 6.

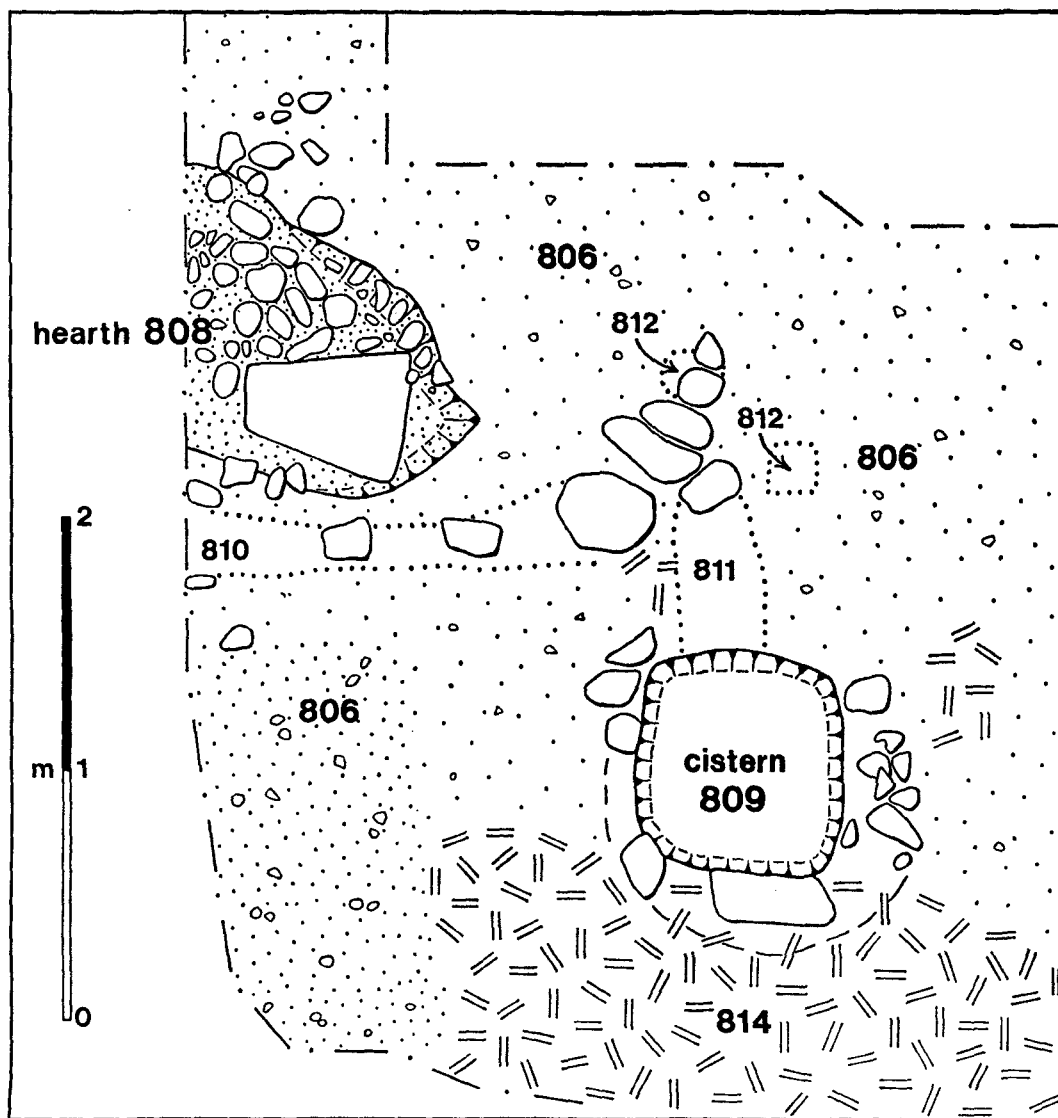


FIG 17 Castle Street: 'industrial' features on Property A, phase 8

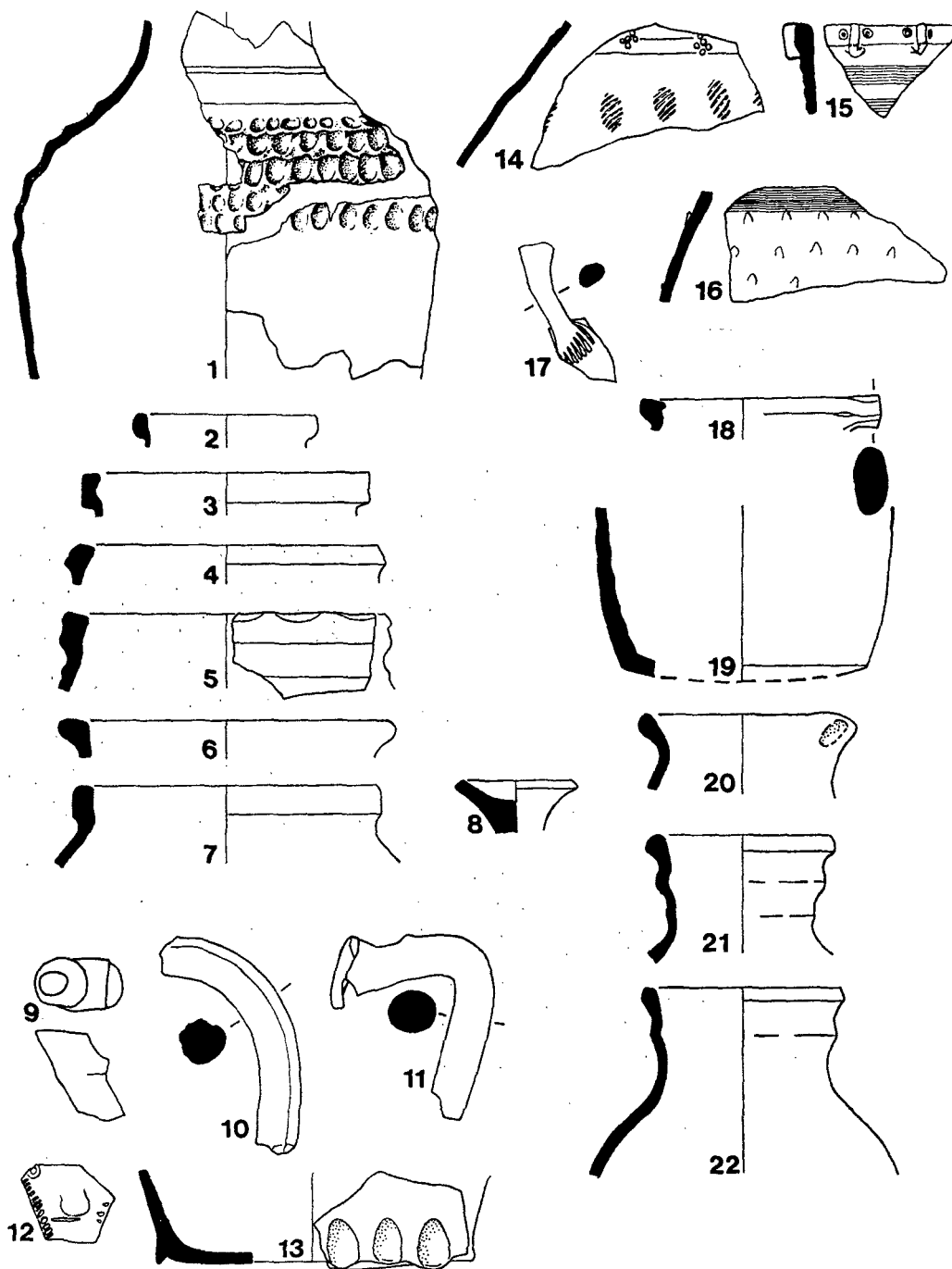


FIG 18 Castle Street: pottery (scale 1:4)

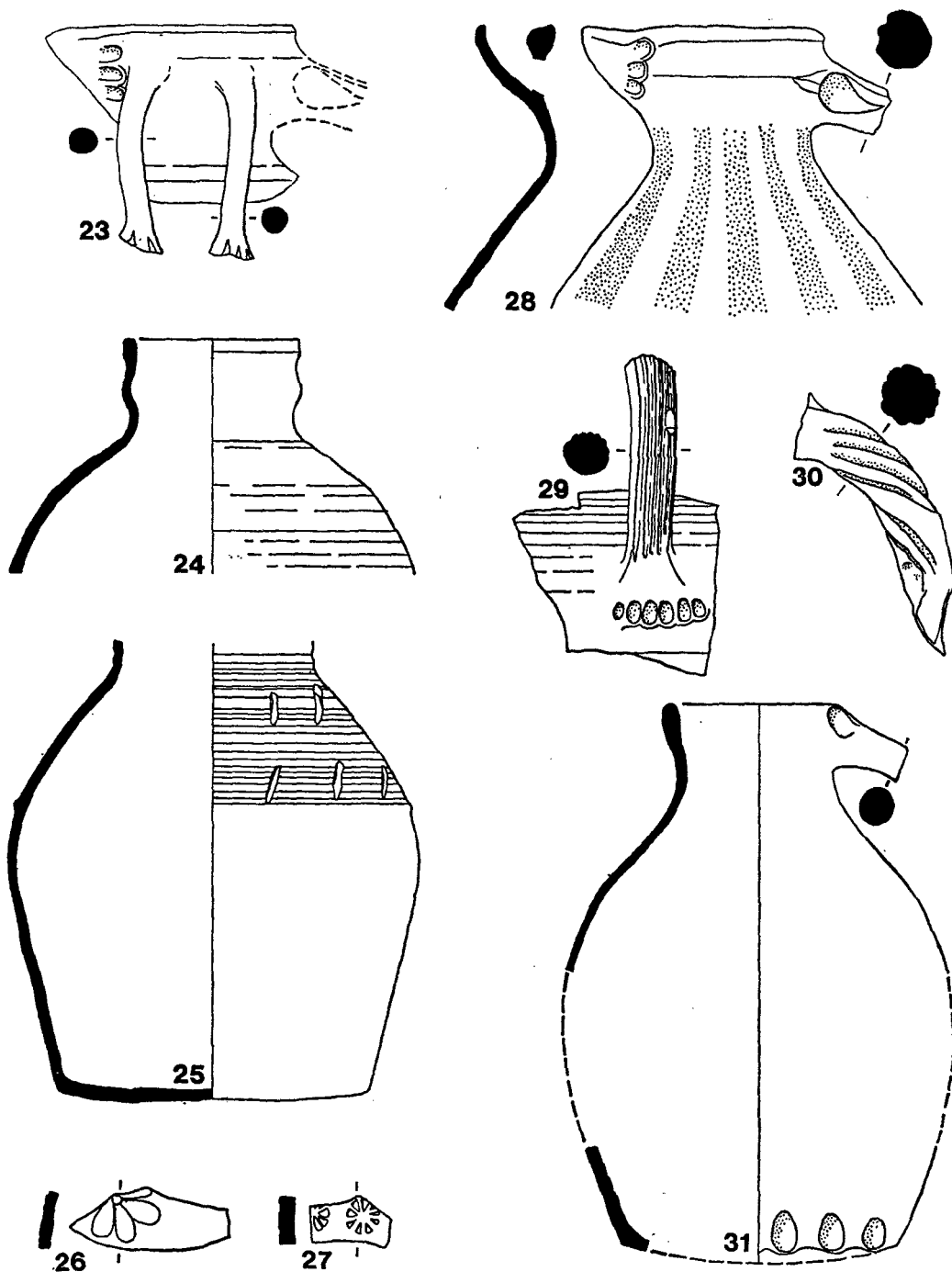


FIG 19 Castle Street: pottery (scale 1:4)

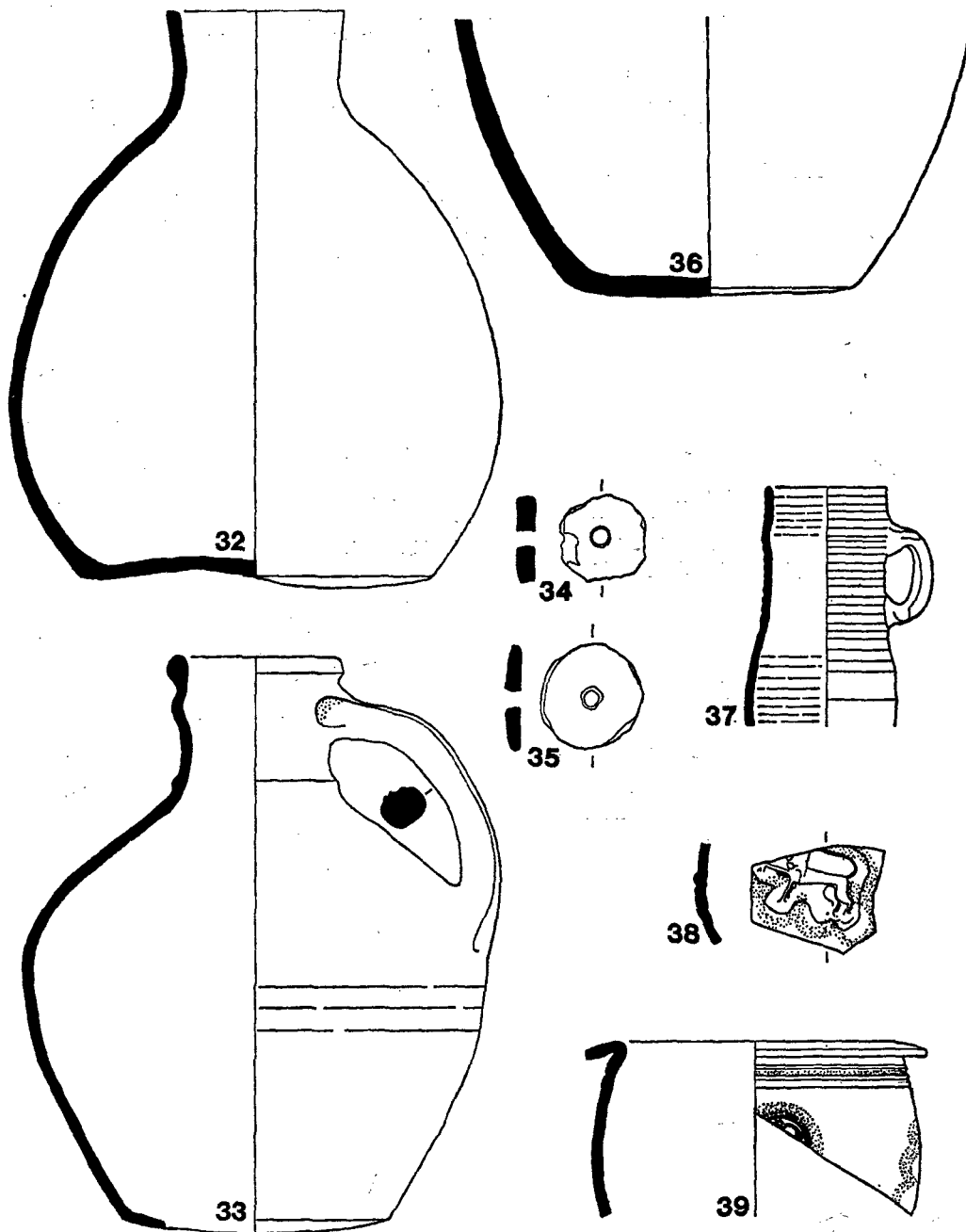


FIG 20 Castle Street: pottery (scale 1:4)

- A₃ covers the reduced ware which varies from a plain medium grey to brownish or pinkish shades of grey. These sherds usually have the normal inclusions but, especially in phase 6, some of the clay has been badly mixed and substantial quantities of earthen inclusions, sometimes as lenses, together with rock grits are present. A₃ is commonest in phase 6 but also appears in phase 4.
- A₄ is a small category, covering the smoother oxidized orange sherds with a very low quartz frequency and moderate mica content. This appears in phases 4, 7 and 9.

Forms and decorations The identifiable vessels in fabric A are all upright jugs, usually ovoid, wheelthrown and simple in design with little decoration. The bodywalls, measured at a point directly below the shoulder, are between 4 and 6 mm thick. Only two complete profiles could be assembled from the sherds present and the only one with a handle is untypically globular in shape (no 33). This is in A₂. Over the whole site, the minimum number of jugs in fabric A is estimated as 60 although the true number is probably considerably higher.

The rim forms are usually simple and upright, most having pulled lips. In the phase 4 material, squared thickening is present on two rimsherds and another two are simple but everted. One rim has rounded internal thickening and a bridge spout (no 23), as has one complete rim from phase 6 (no 28). These are the only bridge spouts present and both have been applied with foliate fingering. One exceptional form from phase 4 is a flat-topped rim to which a handle is joined directly rather than on to the neck (no 18). An unusually small and squat base and body are almost certainly from the same vessel (no 19) which could be a handled deep bowl but is more probably an untypical jug.

The majority of the 34 jug handles are round or oval sectioned, often ridged or ribbed and, in two cases, ribbed and twisted (no 30). Only three examples of strap handles are present, two from phase 4 and one from phase 6. The upper junctions of the handles are invariably double-thumbed, sometimes very carelessly, but more often with decorative as well as functional intent. The lower junctions are nearly always double- or triple-thumbed or decoratively fingered. On two of the jugs, four small additional decorative handles are present on the upper neck and shoulder, the best example of this being from phase 4, which also has a bridge spout (no 23). This form is closely paralleled in jugs from the E coast of England, including Yorkshire wares (Clarke & Carter 1970, 213) and Grimston ware (*ibid*, 207) where the extra handles are part of a more elaborate form of anthropomorphic decoration.

The bases of the jugs are simple in form, most being slightly rounded. Thumbing is present on only two basal angle sherds, one of which is very small while the other has impressions at regular 10–15 mm intervals. The quality of manufacture of the bases is variable, some being warped and of uneven thickness and others being smoothly and uniformly thrown. Some, particularly from later phases, exhibited traces of knife-trimming, and wiping marks are present on many of the lower bodies. The poor quality of many of the surfaces, due to burning or abrasion, makes a proper assessment of variations in surface treatment impossible, but wiping seems to have occurred in all phases, whereas knife-trimming is not evident until after phase 5 and then only on a few sherds.

The forms of decoration used on these jugs are few and simple. As well as thumbing and fingering on spouts and handle junctions, some decorative rilling beyond that occasioned by the normal wheel-throwing process is present, particularly on several neck exteriors and basal-angle interiors. This varies from lines 1 to 2 mm wide to grooves up to 5 mm in width. Dark brown trailed lines, sometimes of slip and sometimes of thick glaze, are present on the shoulders of some jugs (no 18) and one has slightly flattened long pellets of clay applied to the shoulder (no 25). A few bodysherds have stamped decoration, in several cases rosettes and in another, wheel-shaped motifs (nos 26, 27). Unfortunately, neither of these types is present on any of the larger sherds or more complete profiles.

Glaze is present on the external surfaces of the jugs, usually applied by splashing. This often results in unevenness and patchiness especially round the neck and rim which are often wholly or partly unglazed but commonly have drip-runs and splashes running from the body. This indicates that the jugs were stacked upside down in the kiln. Bases are sometimes glazed completely and sometimes only patchily, probably due to splashes and runs from the vessel above during firing. The colour of the glazes varies from yellow-green to orange-brown often with considerable variation on any given jug due to the thickness of the glaze.

Also in fabric A, and probably made from jug sherds, are three spindle-whorls. Two are in A₁, one from phase 8 and one from phase 9 (nos 34, 35). The other, from phase 6, is in A₃ reduced fabric and has been only roughly broken into shape without any finishing.

As well as the main A group, a number of other sherds were present which were of probable local, or at least of Scottish origin. These are dealt with below.

Fabric group AE

This is an umbrella term covering a number of sherds from the phase 3 midden.

- AE₁ is reduced grey material. Seven bodysherds in a hard grey fabric appear to be from two different jugs, one of which has regular applied pellet decoration and orange-green external glaze. The other, represented by three sherds, has applied pinched strips on the external surface with glaze burnt to a dark green colour. These have moderate medium subangular quartz grits, moderate mica and occasional black and brown, probably ferruginous, inclusions. The fabric of these seven sherds bears a strong resemblance to material recovered from excavations in Elgin and classed as a local ware (Lindsay pers comm). Five other jug bodysherds, two conjoined, in a similar hard grey fabric with more abundant quartz grits have stabbed applied line decoration on the exterior in looped and branching patterns, and one also has flattened applied pellets. They are glazed green.
- AE₂ also from phase 3, covers sherds in oxidized fabric types with inclusions similar to the later fabric A. These sherds include three rim fragments, two of which are from thin-walled jugs and have pulled lips. One of these has green external glaze, darkened by burning. The third is thicker and it has a slightly grooved top and orange-green external glaze. Two pieces of handle which are present are in a dark buff fabric with splashes of green glaze. Both are the upper section of the handle and may be from skillets, as they are deeply thumbbed from above and taper from a strap cross-section to a rod cross-section. Two small jug bodysherds in a hard bright orange fabric with green-orange external glaze are also present. These are distinctive in appearance but may be of local origin.

Fabric group AL

This covers wares which are probably of late local origin, deriving from phases 8 and 9.

- AL₁ consists of seven sherds from phase 8 which conjoin to form part of the rim, neck and shoulder of a storage jar. The fabric is brown, hard, smooth and quite sandy and tends to split or flake in layers. Inclusions present are moderate mica, moderate small brown, possibly ferruginous, specks and very occasional medium quartz grains. The rim of the jar is everted with external thickening and there is a double cordon round the shoulder.
- AL₂: twenty-eight sherds from a context post-dating phase 9 are in this grey sandy fabric, apparently all from one thick-walled jug. The largest of these consists of a complete base and large part or the lower bodywall (no 17). The body is 8–10 mm thick and the base varies from 10 to 30 mm. The fabric is dark grey with light grey interior and exterior. Occasional medium angular quartz grains are present. The surfaces are badly decayed, but there are traces of both internal and external green glaze. The lower body exterior has been quite roughly knife-trimmed. The fabric and the thickness and unevenness of the production are typical of late medieval and post-medieval Scottish pottery. These sherds were found in association with six fragments of delftware (see F₇).

Fabric group AP

This fabric type from phase 3 is probably not of local manufacture as it is identical with material recovered from Perth and classed as a Perth local fabric. It is quite hard, slightly sandy and brown with a white wash on the internal and external surfaces. The inclusions present are occasional medium sub-angular quartz grits, occasional mica and occasional brown inclusions. Three sherds are present: one basal-angle fragment and two bodysherds with upper and lower junctions of a fine straphandle. The bodysherds are from 4 to 5 mm thick and are almost certainly from one jug.

Fabric group B

This is a white gritty ware, of a sort which has been recovered from many medieval sites in Scotland, particularly on the E coast of the country. It was probably manufactured somewhere in the S of Scotland.

The fabric is normally off-white in colour, varying from pale brown to pinkish white, with the core sometimes reduced to dark grey. It is hard and the surfaces are quite smoothly finished, with quartz grits protruding. These quartz grits are present in moderate quantities and are medium to large in size and subangular. Occasional to moderate inclusions in a soft brown material are present as well as occasional mica flakes and small black or brown inclusions.

Forty-three sherds in this fabric were recovered, from phases 1 to 5. Ten of these are rimsherds, all from phase 3. Two of these rims are from jugs and eight are from cooking pots. The jug rims are simple and upright, one rounded and the other squared (nos 2, 3). The cooking-pot rims are from at least six

different vessels, all with distinctive rim forms which show some degree of external thickening. Three of these are squared, one with a deep internal concavity and another, thicker, with thumbed decoration on the outer rim angle (nos 3, 5). The other three cooking pot rims are rounded and one is sharply everted, creating a thick lip with a flat top surface. One fragment of a straphandle is present. Its fabric is grittier than usual and it has green glaze on the outer surface.

Of the three basal angles present, one, from phase 3, is from a jug and is well-thumbbed on the lower body wall at 35 mm intervals and the other two are from thin-walled cooking pots and are undecorated and blackened by burning. One of these is from phase 3 and the other is the only sherd in this fabric from phase 5. The bodysherds are mostly fragmentary and undecorated except for two which have a narrow cordon on the external surface and are probably from the necks of jugs. As well as the straphandle sherd from phase 3 which has green glaze on its outer surface, several of the bodysherds have splashes of yellow-green or green glaze. The external surfaces of many of the sherds have been badly blackened by burning.

It is unfortunate that the small quantity of material in this fabric makes firm conclusions about its prevalence and the frequency of different forms impossible.

Fabric group BL

A number of sherds are in fabrics similar to but not identical with the standard B fabric. These have been grouped together as BL, with numbered variations. They appear in phases 3 and 4, with one from after phase 9.

- BL₁ consists of four conjoined jug sherds from phase 3 in a hard grey fabric with white interior and exterior and pale green external glaze. They have occasional large rounded quartz grits and are 3–4 mm thick with regular internal and external rilling.
- BL₂ comes from phase 4. There are eight sherds present which conjoin to make part of the shoulder of a jug with vertical pinched strips running down from the lower neck. The fabric is dark grey with light grey interior and exterior and green external glaze. Abundant medium and large subangular quartz grits are present along with a moderate spread of mica and occasional small buff-coloured inclusions.
- BL₃ refers to one distinctive sherd from phase 4 in a light grey reduced fabric, with pale green glaze. It is probably the upper part of a small lamp or a candle holder (no 8).
- BL₄ is another oddity, this time from phase 9. It is a 65 mm length of a large ribbed oval-sectioned handle (48 mm by 24 mm in section) in a reduced medium grey fabric with a light grey exterior which is well worn and exhibits traces of pale green glaze. It has an abundance of small subangular quartz grits. There is a 3 mm deep lateral groove cut into the edges and outer face, probably made deliberately after breakage to facilitate reuse.

Fabric group C

This group consists of Scarborough ware, of which 53 sherds are present in the assemblage, all from jugs. These have been examined and tentatively divided into Scarborough phases I and II as described by Farmer (1979, 28–31). Six sherds, all basically buff-coloured, are notably softer and sandier than the rest and can be marked with a fingernail. Glaze adhesion is poor in two cases. These are classed as Farmer phase I fabric. The rest are mostly a paler buff colour and are hard and quite smooth. All are glazed dark green.

- C₁ denotes the Farmer phase I material which came from three different phases of the site, 3, 4 and 7. One fragment of a spout, probably tubular, was present in phase 3, along with three bodysherds, one with a cordon on its external surface, one with applied fishscale decoration and one undecorated. From phase 4 there came one thumbbed fragment, probably part of a handle junction, and in phase 7 one upright rim and neck sherd was found with decorative horizontal rilling, external glaze and a stacking scar on the top surface.
- C₂ is the Farmer phase II material which is largely from phases 2, 3 and 4. One simple upright rim is present, externally glazed, with its upper surface badly marked by stacking and with a hole 3 mm in diameter bored in the upper neck. The other rimsherd present has an angled rod handle attached directly to it by internal thumbing. This handle form is untypical of published Scarborough types and may be an imitation of a metal ewer form (no 11). The two other handles which were recovered are both ridged-rod types (no 10), one with part of its thumbbed upper junction. One nearly complete tubular spout is also present (no 9). Four well-thumbbed basal angle sherds were recovered, two

with impressions at quite regular intervals of between 10 and 20 mm and one with a close group of impressions and an unthumbbed space. Nearly all the bodysherds have decoration on their external surfaces, the commonest type being applied lines running vertically on shoulder sherds. Some sherds had pellet decoration, applied singly and slightly flattened or in groups and pressed into fishscales.

A face mask (no 12) which is probably in C₂ was recovered from context 283, the phase 6 midden. A bridge spout which is in the phase 2 fabric was unfortunately from an unphased context.

Fabric group D

Apart from those positively identified as Scarborough ware, there are 37 other jug sherds of probable Yorkshire origin. The earliest of these is a fragment of decorative beard, lenticular in section with incised lines and green glaze on the outer surface. This is from context 103 in phase 1. The rest are from phases 3, 4 and 5.

Two small groups are in particularly distinctive fabric types. These have been called D₁ and D₂. D₁ consists of four bodysherds in a hard, quite smooth fabric, 3–4 mm thick. These have a pale buff interior, grey core and dark green-glazed pale buff exterior. Inclusions are moderate, small to medium, subangular quartz grits, occasional small mica flakes and occasional small or medium soft brown and soft white grains. Three of the four are bodysherds with pairs of incised wavy lines and in two cases applied line decoration, both running vertically. The fourth is probably a fragment of a jug lid and has a pair of incised wavy lines running horizontally on the shoulder. All four are from the phase 3 midden. One other bodysherd has horizontal combed wavy decoration. This is in a medium hard oxidized orange fabric with green external glaze.

D₂ consists of three bodysherds in a medium hard sandy fabric, pale brown in colour with yellow external glaze. It has moderate to abundant small rounded quartz grits, occasional small mica flakes and occasional small brown and white inclusions. Two of the sherds have flattened applied pellets which appear to be in a darker fabric: they are red in colour through the glaze. One of these also has part of a cordon and the sherd without pellets has a single decorative rill.

The other 30 sherds are miscellaneous and mainly fragmentary probable Yorkshire types. All have small to medium subangular quartz inclusions as well as varying spreads of small mica flakes, tiny black coal specks, and soft brown earthen inclusions. All are bodysherds except for two basal angle and three basal sherds. All but two of the sherds have some green glaze on the external surface, ranging from one or two small splashes to, in the majority of cases, a complete covering. Three of the sherds have groups of six or seven combed horizontal lines and one has two thicker incised horizontal lines.

Fabric group E

This group encompasses fabric types which are almost certainly English in origin, but most of which cannot be more closely identified. Most are from phase 3, with others from 1, 5 and 6.

E₁ consists of 60 sherds, all apparently from one jug (no 1), recovered from within 102, a layer in phase 1. The fabric is reddish pink, soft and sandy with moderate small subangular quartz grains, occasional medium mica flakes, small unidentifiable rock fragments and small black and brown, probably ferruginous specks. Due to abrasion of the sherds, few joints could be made but it is apparent that the jug is decorated with two cordons on the lower neck below which is a broad band of fingered impressions which apparently stop at the angle of the shoulder, which seems to have been unusually sharp. The remains of a straphandle junction is present on one of the shoulder sherds but no rim or basal sherds were recovered. A green-orange glaze is present on many of the sherds, especially those with fingered decoration.

E₂ consists of four sherds from phase 3, which have been identified as copies of Rouen ware. These may be from England, but their strong similarity in fabric to the Dutch grey ware which was also found (see F₁ below) makes a Dutch origin seem possible. This has been postulated by George Haggarty for other Rouen copies found in Scotland in the past. Their fabric is medium hard with rough sandy texture and either orange-brown or grey-brown in colour, with grey reduced core. Abundant small quartz grains are present, along with moderate small mica flakes and occasional small dark grey grits. The bodysherds vary from 3.5 to 5 mm in thickness and are externally glazed orange-green in one case or dark green-brown in the other two. The former has a dark brown line

painted on its exterior along which there are applied pellets of clay at 1.5 mm intervals. The other two have applied lines of white clay, pale brown through the glaze and one has small applied pellets in the same white clay. One unglazed basal angle sherd is also present.

- E₃ consists of three fragments which may well be Grimston ware. Their fabric is grey or brown-grey and sandy and their external surfaces are glazed orange-green. One has part of a cordon on its exterior. They are from phase 3.
- E₄ is a hard gritty fabric type from phase 3 which is similar to but smoother and less sandy than E₃. It is orange when oxidized but is often wholly or partly reduced to a light grey. Sixty-six jug bodysherds are present, 13 of which are slightly sandier than the others. One of the latter has external combed horizontal lines but none of the others is decorated. About half have external glaze, green-brown in colour. Two decorative arms are present, one of which is attached to a bodysherd with the junction flattened and slashed to make a stylized hand (no 17). Three different jug rimsherds in E₄ are present: two are simple and upright, one having a pulled lip, and the other is slightly everted with external thickening, below which is attached part of a broken strap-handle. The sherds in this group are mainly 3–4 mm thick.
- E₅ consists of seven sherds from phase 3 in a hard fabric with reduced grey core and oxidized dull orange interior surface. Moderate to large subangular quartz grits, occasional brown earthen inclusions and small flakes of dark mica are all present. One rim and neck sherd and four conjoined bodysherds appear to be from the same jug. The rim has very distinctive applied zoomorphic faces, there are horizontal combed lines on the neck (no 15) and the bodysherds have horizontal combing and applied pellets (no 16). All have a dull green external glaze.
- E₆ consists of eight sherds, six conjoining, from phase 5 and one from phase 6. These are very similar to some of the Yorkshire-type fabrics, sandy and buff-coloured with abundant small to medium subangular quartz, moderate mica and occasional small dark brown grains. Six of the phase 5 sherds, from context 530, form part of the shoulder of a jug with stamped wheat-ear and berry cluster decoration and green external glaze (no 13). Another very similar one has vertical raised line decoration. The other one is softer and sandier and has a slightly different stamped berry cluster and branched raised-line decoration. Its green external glaze is worn and flaking. From phase 6, one small basal angle sherd is present which is decoratively thumbled and has light green external glaze.

Continental imports

As well as the British wares already discussed a small quantity of imported material from Europe is present. These are Low Countries grey ware, delftware and German stonewares. One tiny green-glazed fragment in a white fabric may be Saintonge ware, but too little is present to be certain.

Fabric group F

This has been identified as Low Countries grey ware. Two bodysherds of this are present, one from context 417 and one from context 613. It is a hard sandy reduced fabric which has a dark grey interior, exterior and core, with thin layers of brown in between. It has an abundance of small rounded quartz grains and very occasional small mica flakes.

Fabric group G

This consists of six sherds of tinglazed delftware of unknown origin, which are undecorated and probably from two dishes. They were found in association with AL₂, a late Scottish fabric, in the fill of a post-medieval pit.

Fabric group H

This covers the four types of stoneware present in the assemblage.

- H₁ includes the earliest stoneware recovered which is the upper body of a Siegburg-type cylindrical jug above context 615 (no 37). The fabric is light grey with clear internal and external glaze. A fragment of handle from a similar vessel in Siegburg ware came from the backfill in pit 716. This ware dates, at the earliest, to the late 14th century.
- H₂ consists of four conjoined bodysherds of light grey stoneware from phase 9 which have been identified (by J C Hurst) as being from Langerwehe.

- H₃ is Westerwald stoneware. Five sherds were recovered from context 601 which post-dates phase 9. These are from at least two chamberpots and are typical products of the Westwold potteries in the late 17th and early 18th centuries (nos 38, 39).
- H₄ is an unidentified stoneware represented by three sherds in a pale fabric with external glaze in dark brown changing to orange, and pale yellow internal glaze. The context of these also post-dates phase 9, as does that of H₅ which consists of a single grey-green bodysherd with regular bands of brown speckling on the exterior and clear internal and external glaze.

Other fabric types

It should be noted that, as well as the sherds in fabric types mentioned above, a number of other fragments of pottery are present. Most of them came from the phase 3 midden and some are badly burnt or decayed. Because of their fragmentary nature and poor condition, very little can be said about them.

Conclusions

In phases 1, 2 and particularly in the phase 3 midden, a wide variety of non-local pottery is present and such material as may be local is present only in small quantities. On the basis of the Scarborough ware and, to a lesser extent, the white gritty cooking pots the midden seems to date to the late 13th or 14th century. Directly after this in phase 4, which is probably in the first half of the 14th century, there is a dramatic change in the pottery evidence as the local ware begins to predominate in the form of jugs in fabric A. This parallels developments in other Scottish burghs, particularly Perth, Aberdeen and Elgin. In Perth a large-scale local pottery industry appears to have started sometime in the first half of the 14th century making cooking pots and, later, jugs (G Haggarty pers comm); in Aberdeen, local pottery production was well under way by 1350 (C Murray pers comm) and this was also the case in Elgin (W Lindsay pers comm). The jugs from Inverness are very similar in form, fabric and glaze to their equivalents from Perth, Aberdeen and Elgin.

The only possible evidence of cooking wares being produced in Inverness prior to the mid-14th century consists of the two skillet handles, fabric type AE₂, which came from the midden. These could, however, have been imported as were the white gritty cooking pots from SE Scotland and the Perth local ware which were also found in the midden. The lack of locally produced ceramic cooking vessels may indicate that metal or other vessels were generally used after the 14th century or may simply mean that no cooking was done at this time on the areas excavated.

The locally produced jugs are of poorer quality than most of the imports in both fabric and workmanship, although they appear to be imitative of the forms of English wares in some particulars. Jugs in Fabric A continue through to phase 9 and later with remarkably little variation. The fabric varies to some extent, being generally grittier in the earlier phases and ending up more uniformly smooth by phases 8 and 9. The only apparent major variation in form is an increase in the size of the jugs between phases 4 and 6.

The change from imported wares to local wares in the mid-14th century appears to have been extensive, although German stonewares were being imported in the late 14th or 15th century and later. Surprisingly sherds of Scarborough ware are present as late as phase 8, probably mid-15th century. These came from well-sealed floor levels and so are unlikely to have been residual. The vessels from which they came appear, therefore, to have been in use well beyond the mid- to late-14th century when the production of Scarborough ware is thought to have ceased.

It seems unlikely that extensive local pottery production arose spontaneously and usurped the market for the superior imported wares. Given the political situation of the times, it is more likely that the development of the local industry was a response to a shortfall in supply from S potteries. The struggle for Scottish independence in the late 13th and early 14th centuries must have disrupted trade with England and possibly with S Scotland. Also the English habit of ceramic use may have spread to the local population thus stimulating the market.

Catalogue of illustrated material

Phase and context numbers are given after a brief description of each piece.

- 1 Four sherds conjoined to form part of the shoulder and neck of a jug in E₁, pink sandy soft fabric. Decorated with two cordons and close horizontal rows of finger impressions. Orange-green external glaze. 2, 102.
- 2 Rimsherd from jug in fabric B, pale cream with grey reduced core. 3, 300.

- 3 Rimsherd from jug in fabric B, pinkish cream blackened by burning on exterior and part of interior. 3, 300.
- 4 Rimsherd from cooking pot in fabric B, cream. 3, 300.
- 5 Rimsherd from cooking pot in fabric B, burnt or stained pale cream. Outer angle of rim is thumbbed and there is a cordon just below the rim. 3, 300.
- 6 Rimsherd from a cooking pot in fabric B, white with grey reduced core. 3, 300.
- 7 Rimsherd from a cooking pot in fabric B, blackened and worn. 3, 300.
- 8 Dish shaped sherd in fabric BL₃, grey with part of pulled lip and broken base extension. Upper surface is glazed light green; sides have splashes of glaze and are slightly blackened by burning: probably a candleholder or small lamp. Unphased but almost certainly phase 4.
- 9 Tubular spout in C₂ Scarborough ware, grey with slightly patchy dark green glaze on most of surface. 3, 300.
- 10 Ridged rod handle in C₂, Scarborough ware, medium grey, with dark green glaze. 3, 300.
- 11 Five sherds forming angled rod handle and junction point of rim and neck in C₂ Scarborough ware, pale orange with dark green glaze. 3, 300.
- 12 Part of a face mask from a jug in light grey fabric, probably C₂ Scarborough ware. The nose is bulbous and the mouth is an incised line. Only part of one impressed eye is present; beard is incised. The top of the mask was previously attached to a jug rim. Green glaze on the outer surface is badly damaged by fire. 3, 300.
- 13 Well thumbbed basal angle sherd in C₂ Scarborough ware, light grey fabric darkened by burning. Dark green glaze on base which has also run on parts of body. 3, 300.
- 14 Six sherds making part of upper body of jug in E₆, pale brown fabric decorated with stamp-moulded wheat-ear motif and raised line and berry cluster. Origin unknown, but probably NE England. 5, 530.
- 15 Rimsherd in E₅, hard grey fabric with orange interior surface. Zoomorphic applied decoration in two places on outside of rim in the form of applied nose with circular stamped eyes. Four small holes run horizontally across the nose, and there is horizontal combing below the rim. Outer surface is glazed green with splashes on top of rim. 3, 300.
- 16 Four conjoined bodysherds in E₅. Horizontal combing and applied pellet decoration. Probably from the same vessel as no 15. 3, 300 and 306.
- 17 Bodysherd with attached decorative arm in E₄, partly reduced orange-grey fabric. Junction is flattened and incised to form a stylized hand. Orange green glaze on exterior of body and on arm, patchy in the middle. 3, 300.
- 18 Three sherds making part of the rim of a jug with upper handle junction attached in A₂, orange. The handle is attached directly to rim, which is flat topped and slopes inwards. Splashes of green glaze are present on the handle and parts of the rim. 5, 510.
- 19 Seventeen sherds conjoined making part of the lower base and body of a squat jug in fabric A₂, orange, almost certainly the same vessel as no 18. Interior is partly rilled and exterior has wiping marks and green glaze with grits and bits of extraneous material stuck to it. Base and walls are slightly blackened by burning. 4, 417.
- 20 Three sherds in fabric A₂ making a jug rim with pulled lip. Orange-brown coloured with dark brown staining on the interior surface. Exterior is partly blackened by burning and has a patch of decayed brown glaze below the lip. 4, secondary fill of 313.
- 21 Rim and neck sherd in fabric A₁, orange-buff coloured. Upper part of body has green splashed glaze applied. Broken handle junction below rim. 4, secondary fill of 313.
- 22 Three sherds making part of rim, neck, handle junction and shoulder of jug in fabric A with orange exterior and grey interior. Yellow-green glaze on shoulder and above the junction of the handle. 4, secondary fill of 313.
- 23 Most of rim and neck of jug in fabric A₁, buff, with bridge spout applied with foliate fingering; beginning of handle junction and four decorative handles, two complete on one side and two partial on the other. Green glaze splashed on neck and handles. 4, secondary fill of 313.
- 24 Nine sherds in fabric A₁ orange, making part of upper body, neck with concavity and rim of jug. Body has muddy green glaze unevenly applied to exterior, which is well rilled. 4, secondary fill of 313.
- 25 Most of the body of a jug in fabric A₁, orange. Upper surface is decorated with rilling and long applied pellets. Some rilling on interior and exterior. Trimming marks on base and lower body. A

- hole has been bored at a point in the body wall 45 mm up from the base. Upper external surface is glazed green. 4, secondary fill of 313.
- 26 Bodysherd from jug in fabric A with stamped rosette decoration. 7, 734.
- 27 Two small bodysherds joined in fabric A₁ orange with two wheeled stamp impressions, 20 mm in diameter. Orange-green glaze on the external surface. 5, 532.
- 28 Most of upper part of a jug in fabric A₃, grey, with bridge spout applied with foliate fingering. Part of ridged rod-handle is also present. Green glaze on neck and body exterior with vertical lines of brown glaze from the neck downwards. 6, secondary fill of 531.
- 29 Four sherds in A₂, hard gritty orange fabric, making part of body of a jug with ribbed rod-handle. Yellow-green glaze on all but inner surface of handle. Foliate fingered decoration at lower handle junction. 4, secondary fill of 313.
- 30 Twisted ribbed rod-handle from jug in fabric A₁ orange with medium grey reduced core. Orange-green glaze on exterior. 4, secondary fill of 313.
- 31 Most of a jug in fabric A, orange with grey core, for which reconstruction was not possible. Rim has pulled lip and body exterior is thumbled at the basal angle. Lower body interior is rilled. External surface is badly burnt, with remains of glaze, probably green. 7, 734.
- 32 Most of the base and a large part of the body and neck of an ovoid jug in fabric A. The clay has been poorly mixed and is streaky – predominately grey with some pink and yellow. The base is badly warped, the interior has a lot of surface striations and there are trimming marks on the lower body exterior. Part of the lower handle junction is present, with foliate fingering. The glaze is badly burnt, but was probably originally yellow-green. 7, 734.
- 33 Most of a globular upright jug in fabric A₁, orange with ridged rod-handle, simple upright rim and cordon round lower neck. Exterior surface was glazed but is badly affected by burning. Interior surface is well-worn. 6, 608.
- 34 Spindle whorl in fabric A₁, orange. There are striations from wiping on the external surface and the interior is finely rilled. The edge appears to have been broken roughly into shape, then abraded slightly in parts to smooth it off. 9, over road 800.
- 35 Spindle whorl in fabric A₁, orange. Interior and exterior are finely rilled. Edges have been smoothed by abrasion. 8, 806.
- 36 Base and large part of body of a jug in AL₂, medium grey, probably late local. Body wall and base are very thick (10–30 mm), the latter unevenly so, with an interior bulge over roughly one-third of its area, more than doubling the thickness. Some broad rilling is present on the interior and exterior surfaces and the lower body exterior has broad knife-trimming marks. Decayed remains of green glaze are present on both internal and external surfaces. Post-phase 9.
- 37 Most of the upper part of the body of a jug in H₁, Siegburg stoneware, light grey fabric with clear glaze. Rilling on both internal and external surface. 6, over 618.
- 38 Bodysherd from a chamberpot in H₃, Westerwald stoneware, light grey in colour, with a lion impressed on an applied clay pad with rosette shape in blue painted around it. Post-phase 9.
- 39 Rim and bodysherd from a chamberpot in H₃, Westerwald stoneware, light grey. Decorative rilling below rim and parts of two stamped decorations all with blue painted lines on them as illustrated. Post-phase 9.

METALWORK (figs 21, 22)

Finds not illustrated are indicated by an asterisk. Dimensions given only for unillustrated finds.

- 1 Piece of lead piping. 100.
- 2 Copper alloy pin. 107.
- 3 Fragment of iron horse shoe. Fill of 105.
- 4 Bent piece of iron. Probably remains of a file. Fill of 208.
- 5 Copper alloy pin. 300.
- 6 Small iron awl, originally hafted. 300.
- 7 Lead-tin bronze barrel padlock. Hexagonal in section and decorated with black-coloured inlay, possibly niello. No spectral differences were shown between the inlay and the main material when these were analysed by X-ray fluorescence by the National Museum of Antiquities Laboratories. 300.
- *8 Folded lead sheet, 30 mm wide by 35 mm total length, 1 mm thick. 300.
- 9 Copper alloy brooch(?) fragment. Secondary fill of 313.
- *10 Strip of lead, 65 mm long, 1–2 mm wide, 1 mm thick. Secondary fill of 313.

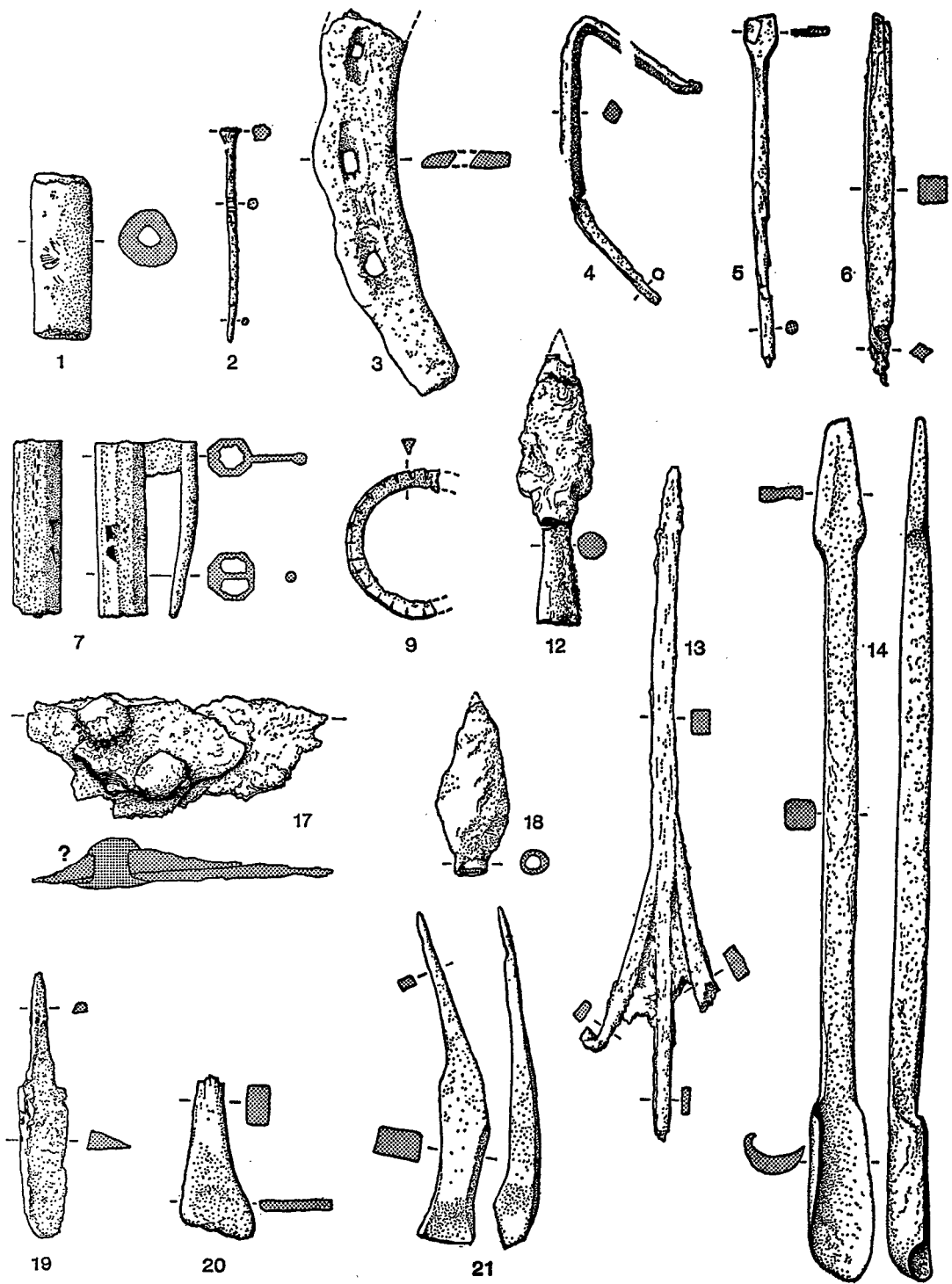


FIG 21 Castle Street: metalwork (scale 2:3 except no 14 at 1:4)

- *11 Heavily corroded remains of lead-tin bronze barrel padlock, similar to find no 7. 48 mm long by 9 mm and 11 mm in diameter. 406.
- 12 Iron arrowhead. 617.
- 13 Internal iron spring from a door lock. 726.
- 14 Iron auger for boring holes of a diameter of 35 mm. 722.
- *15 Iron knife blade, partly corroded so true dimensions not known, 150+ mm long, width 35+ mm, tapering to 18 mm. 4 mm thick at back. 745.
- *16 Lead sheet 90 mm by 80 mm, 1.5–2 mm thick. 745.
- 17 Badly corroded iron object, consisting of two plates riveted together. Possibly piece of plate armour. 804.

Unphased medieval contexts

- 18 Iron arrowhead.
- 19 Small iron knife.
- 20 Incomplete blunt-ended iron object, perhaps a chisel.
- 21 Blunt-ended iron object, perhaps a chisel.
- 22 Twisted iron object with small hook on end, function not known.

These were either from the baulk between cellars 2 and 3, or from the trench cut through the deposits to the E of the main area. The objects illustrated are stratified, but cannot be related to the main phasing of the site. A date in the 14th–15th centuries is likely for them.

Unstratified medieval(?) objects

- 23 Copper alloy, probably brass, weighing 7 g. As some of this material has corroded it is likely to have weighed more. It was marked with four indentations.
- 24 Copper alloy, probably brass, lid for a nest of weights. This distinctive object is German(?) in origin and dates to the 15th or 16th centuries.
- 25 Iron disc recovered above road level 800. The context was contaminated by modern materials but did include a spindle whorl (fig 20.34) which was shaped from a locally made medieval pot. It is probable therefore that this object dates to the mid-15th century. It appears to have been originally a strengthener sewn on a leather garment, such as a jerkin, to reinforce the garment against wear from a toggle.

Various objects were found in the post-medieval contexts. These included part of a pair of iron scissors from the pit containing Westerwald pottery, a thimble from an 18th-century pit, an 1848 silver fourpence, a copper alloy button inscribed 'RICH STANDARD GILT' and a halfpenny dated 1898.

The metalwork finds are consistent with an occupation that included both domestic and small-scale craft industry. Individually none of the objects is typologically distinct. The horseshoe, no 3, is the most distinct, but even this cannot be given a date more precise than early medieval (cf Goodall 1977, 295–6) and a better date is supplied by the phasing. The two bronze padlocks, nos 7 and 11, are a class of object that is commonly found on medieval sites. This hexagonal form is most closely paralleled by examples from a context dated to c 1300 at Århus (Crabb 1971, 191–2). Though they may not have come from Århus, they are likely to have been imported into Inverness. Their occurrence, together with a door lock spring, no 13, points to a concern among the burgesses for the security of their possessions, suggesting a general mistrust of their neighbours. The presence of a possible file, no 4, and scraps of metal such as nos 8 and 16, and particularly the strip of lead, no 10, point to metalworking being one of the trades practised on this site. This would be consistent with the lead-working furnace 905. It is possible that no 17 points to an armourer working on this site and this would be consistent with documentary evidence that suggests that the Doomsdale area was the special haunt of armourers and glovers (Barron 1906).

Arrowheads, nos 12 and 18, may be the result of the same craft being practised, though equally they may only be stray finds. The possible chisels, 20 and 21, and auger, no 14, may show that carpenters were another trade that had members living here; since the buildings were made of wood this ascription is obviously less certain.

Iron nails (Table 2)

- 26 'Fiddle-key' type used in shoeing horses (cf Goodall 1977, 295). Unphased.
- 27 Woodworking(?) nail. 706.

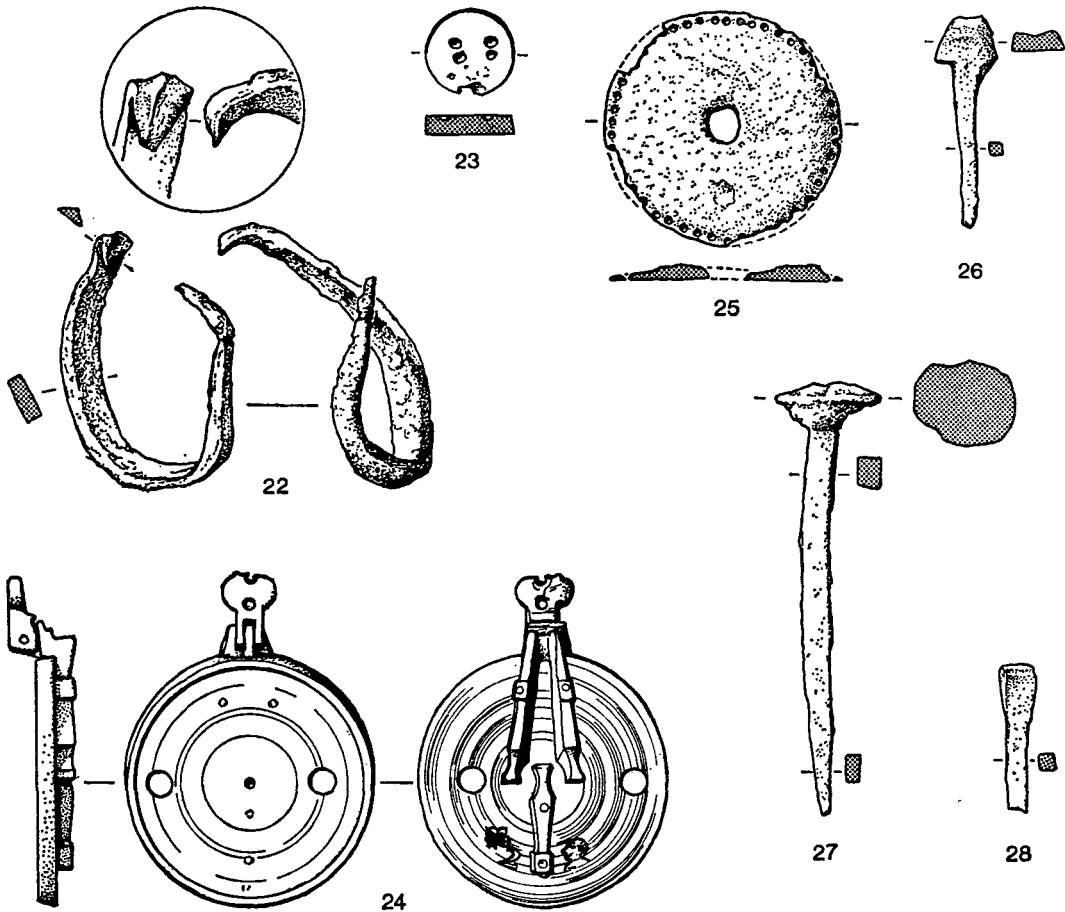


FIG 22 Castle Street: metalwork (scale 2:3 except no 24 at 1:2)

- 28 Headless stud, one of six from 804.
- *29 Iron rivet, 48 mm long, shaft 7 mm thick, one head 22 mm by 24 mm, the other, as surviving, 16 mm by 16 mm. 519.
- *30 Three rivets, broken, heads 38 mm square, shaft length ?50 mm, shaft thickness 5 mm. 818.

Sixty-five nails were recovered from the medieval levels, though only 43 of them were from phased contexts; their dimensions are shown in Table 2. Only rivet no 29 was conserved. The rest of the material was roughly cleaned by pressure flaking to remove the worst of the corrosion. Though this is rather a brutal method of treatment, it did allow the basic dimensions of the nails to be recovered. Apart from two studs from 734, no nail shafts were round in section. The rest were rectangular or square in section, tapering slightly to the tip which was generally spatulate rather than pointed (eg no 27). The shafts were measured, where possible, about 15 mm below the head and, as can be seen from Table 2, there was very little variation in the shaft thickness. This suggests that the blacksmiths were using standard equipment to produce these nails.

No nails were found that were longer than 85 mm, measuring from the base of the head to the tip. The two main groups of nails were from 41 to 55 mm long and from 71 to 85 mm long. Both of these types were probably used for joining pieces of wood. However, very few nails were found directly related to surviving wood remains and the peg jointing used with feature 604 would indicate that this form of jointing was used in preference to nailed joints. The number of nails found overall is not high, despite the

TABLE 2

Iron nails from medieval levels

Context	Shaft thickness				Shaft length					Head size and shape
	3	4	5	6	10-24	26-40	41-55	56-70	71-85	
105				1			1*			20 by 20 domed
300a			1			1*				—
b				1			1*			15 by 25 flat
c		1					1*			—
2nd fill 313			1			1				8 by 10
417		1				1*				20 by 24 domed
510			1			1*				16 by 20 domed
519			1					1*		—
608			1			1				15 diameter round
613a, b		1							1	18 by 20 flat
2nd fill 531a			1			1*				22 by 22 domed
b				1		1*				20 by 27 flat
c				1	1*					18 by 20 domed
d				1					1	22 by 24
e		1				1*				14 by 16 flat
f		1							1	—
g		1						1*		—
705				1		1*				16 diameter flat
706a		1							1	26 diameter hexagonal
b	1					1*				—
c	1					1*				—
712			1		1*					22 by 22
714			1			1				13 by 23 flat
734a			1 (round)		1					18 diameter
b			1 (round)		1					18 diameter
804a				1					1	16 by 22 flat
b				1				1		10 by 12 flat
c		1								20 by 20 flat
d				1						12 by 17 flat
e		1								16 by 23 flat
f		1								20 by 20
g		1				1*				No head
h		1					1			No head
i		1				1*				15 diameter
Trample over										
804a		1						1		8 by 15
b		1				1*				8 by 15
c			1			1*				15 diameter
812			1						1	18 by 23 flat

All measurements in millimetres, incomplete lengths indicated by asterisk. Unphased contexts not included.

effects of two fires which prevented the timbers and the nails within them being salvaged. It is possible that some were kept when the sites were being cleared and the bent ends and twisted shafts of some of the nails in the fill of 531 and from context 804 show that these nails had been extracted. But the survival of other nails *in situ* shows that they were not generally considered worth much salvage effort.

There was considerable variation in head size and no convincing typology based on this criterion could be established. Since these were hand crafted it is likely that there would be a degree of variation that would not be acceptable to a modern manufacturer. The most common head type was square to rectangular in plan with rounded corners and a slightly domed head (eg no 27). The survival of the nails is heavily biased to contexts related to the destruction levels that formed after the phase 6 and 7 fires and it is therefore not possible to say that there was a greater use of nails in later phases. In view of the effort and expense needed to create nails it is surprising that peg joints were not exclusively used. It is possible that most of the nails had a specialized use, particularly as domed heads are an unusual shape to use in jointing wood as they cannot be driven in flush with the timber.

A large number of nails were found in the secondary fill of pit 531 and it was not clear whether the pit had originally been timber lined. However, the variety in form and length shows that these nails are unlikely to have been part of such a lining. It is more probable that the daub, charcoal and nails were derived from a building further to the W. The group of headless nails or studs from context 804 (g, h), as represented by no 28, is particularly interesting as they were found in a pile of ash lying between stones 715 and the robbing gully, 805. In this position they almost certainly came from a door leading from this property on to the street and may have been used for decoration.

The nails compare closely with the examples discovered at Canal Street, Perth (Blanchard pers comm), but they do not compare very closely with examples from the large excavations at King's Lynn (Carter 1977, 297–8) and Northampton (Oakley 1979, 275–7). The Northampton material is closest, with the largest numerical group having heads that were 'recto-oval, thin and flat, greater than 10 mm. Head L: W ratio 1.2:1' and a length between 20 and 90 mm, clustering between 30–60 and 70–80 mm. The number of nails from Inverness is not large enough to set up a typology, but it is hoped that this will be done from some of the larger urban sites in Scotland.

STONE AND GLASS (fig 23)

Geological identification of nos 31–37 was carried out by G H Collins of the Institute of Geological Sciences; G Stell of the RCAMS gave advice on no 31 and wrote the note on no 32.

- 31 Stone bowl fragment, buff coloured Middle Old Red Sandstone. This was probably used as a mortar, though there are no signs of polishing on the inside. Piscinas from Scotland are all part of more sizeable stones (Lacaille 1953, 44–93). There is slight evidence for thumb wear on the cubical lug which would be consistent with the pressure necessary for its use as a mortar, the polished base having been lost. The shape and size are consistent with the corpus published from King's Lynn (Dunning 1977, 320–47). The decoration is not paralleled, although, as the stone was probably quarried locally the workmanship is also likely to be local. Reused as part of a base for sillbeam 743.
- 32 Tooled stone, salmon coloured, Middle Old Red Sandstone, within gully 805. This hollow chamfered fragment is part of an arched and traceried window-head, and what was formerly the external face is rebated to receive the edge of the glazing frame. Among other incidental observations, it is noted that the hollow chamfer is broader on the inner face, and that the extrados is slightly curved and retains traces of diagonal tooling or score marks. So far as the early history of direct glazing is known and understood, external rebates normally precede incised glazing grooves which appear to have become commoner in the 15th century. Regardless of the archaeological context, the clues provided by the rebate and the hollow chamfer together would point towards a probable 14th-century date. The grounds for dating it more precisely are less certain, but a preference for 'mid to late' would be expressed. It is equally difficult to decide whether it is of ecclesiastical or secular provenance. The latter is perfectly possible, but it would have been a building of some considerable status and refinement, and the fragment would have come from one of the grander windows (eg a dais window of a great hall); there cannot be many, if any, known buildings of 14th-century Inverness that possessed these qualifications other than the Castle.
- *33 One piece pyritous coal. 605.
- 34 Lower Old Red Sandstone hone stone of micaceous siltstone. Unphased: ?15th century.
- *35 Sixteen flint lumps were found in contexts that were unlikely to have disturbed the Mesolithic levels. These lumps had no distinctive signs of working, but it is likely that they were used as strike-a-lights. 300–two flints; 305–one; secondary fill of 313–three; 417–two; 422–two; 511–one; 706–one; 734–three; 742–one.
- *36 Amber bead 10 mm in diameter by 5 mm wide, hole diameter 2 mm. Unphased: ?15th century.
- *37 Black glass bead, 11 mm in diameter by 7 mm wide, hole diameter 3 mm. 18th century.

While it is possible that no 31 was used in a domestic context within one of the buildings on the site, no 32 is clearly intrusive. It may have derived from either the parish church or the friary, though it is more likely to have come from the Castle. Its date, as suggested by Mr Stell, would indicate that it was not a stray stone from the rebuilding of 1412–15 after the destruction caused by Donald, Lord of the Isles, and that it is more likely to belong to the refurbishment recorded in 1362 (Gourlay & Turner 1977, 7).

BONE

- *38 A pin carved from a bird bone, 95 mm long, 5 mm in diameter. 300.

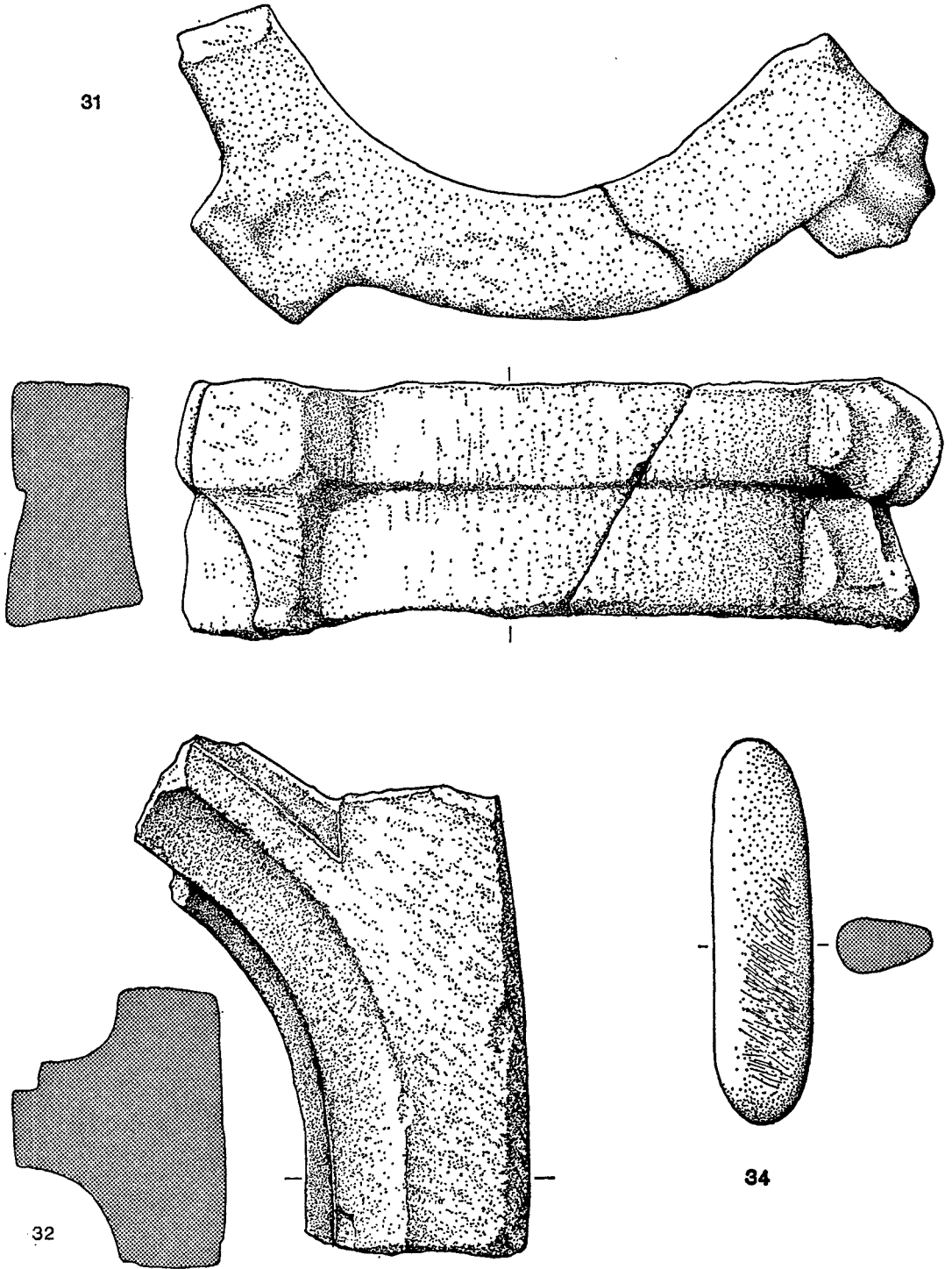


FIG 23 Castle Street: stone objects (scale 1:3)

- *39 Curved antler handle, 105 mm outer length, 90 mm inner length, 30 mm by 35 mm wide. Central hole 13 mm by 10 mm. Associated with Westerwald pottery (fig 20.38, 39) dated to the 18th century.

WOOD

Apart from the timbers illustrated with the structural report only two timber objects were found. A report identifying the surviving wood and charcoal was compiled by Roderick McCullagh and this is stored in archive (NMR). Included in his report are the identifications of the seeds from within pits 209 and 210, and contexts 609 and 720.

- 40 Oak barrel base with traces of staves surviving. Base consists of planks pegged into cross piece.
41 Oak paddle, similar examples recorded from King's Lynn (Carter 1977, 372–3) and Rough Castle (Barber 1980, 271–2). Its position close to the barrel, no 40, may show a connection between the two. It is not clear what process would be involved though the making of butter is a possibility.

LEATHER

The majority of the leather was found in midden deposit 300, though scraps were also recovered in the fill of 102, layer 205 and the secondary fill of 313. Only one piece, no 42, was identifiable.

- *42 Sole of a shoe, incomplete, probable length 250 mm, width not known.

TEXTILE

Only three examples were found, one of them in an 18th-century context.

- *43 Rectangular fragment 65 mm by 30 mm. 300.
*44 Threads. Unphased: medieval.
*45 Threads. 18th century.

THE ANIMAL REMAINS

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SUMMARY

The animal remains recovered from pits, middens, gullies, occupation levels and a cesspit, and belonging to nine distinct phases from the early 13th century to the 15th century and a pit group from the 18th century, are reported on. The species present are the same as those reported at medieval sites at three Scottish burghs on the eastern seaboard (Hodgson forthcoming). Cattle and sheep remains predominate; this may be related to the export of hides and woolfells. The scarcity of deer bones is related to a reduction in the opportunities for burgesses to hunt venison in medieval Scotland despite it being *res nullius*. The relative scarcity of the bones of small mammals and cats is discussed.

The ages of animals at death are estimated. There is no evidence of 'autumn killing'. Cattle were apparently raised until three or four years old when they were at an optimum as regards hide production. The size ranges of the major long bones mainly fall within the ranges published for the medieval levels at Perth High Street Excavation (Hodgson forthcoming) but there is evidence of at least one horse at Inverness which was significantly bigger than any reported on at Perth.

METHODOLOGY

Identification

The bones of mammals present in the samples were identified by direct comparison with modern material.

The remains of the small mammals were reported on by Dr D W Yalden of the Zoology Department, University of Manchester, and those of birds by Dr A S Clarke of the Royal Scottish Museum, Edinburgh. Fish bones were not identified as to species. Ribs and vertebrae, apart from the first two neck vertebrae, were not assigned to species.

Measurement

Measurements were taken in accordance with the scheme recommended by Driesch (1976, 19–100).

The samples

Animal remains from each of the phases 1–9 were examined. A further sample of faunal remains from an 18th-century pit is also reported on. The samples from phases 1–4 are sufficiently large to allow

a comparison of the relative frequencies of species present. For comparative purposes, the samples from phase 8 and the 18th-century pit are less useful because most of the bones come from the foot of a single small mammal and the carcass of a single domestic fowl, respectively. The samples may therefore represent a mixture of domestic, industrial and commercial refuse and cannot be taken as a guide to man's dietary habits or meat preference.

RELATIVE FREQUENCIES OF SPECIES PRESENT

The relative frequencies of species were estimated on the basis of the total number of identified bones of each species present. Table 3 gives the numbers and percentages recovered from each phase, classified as to species; Table 4 gives the incidence of fish bones at each phase.

TABLE 3

Numbers and percentages of identified bones recovered from each phase, classified as to species, excluding fish

Phase	Date	Cattle	Sheep/goat	Pig	Horse	Deer	Small				Total
							mammal	Bird	Dog	Cat	
1	13C	19	6	2	-	1	-	1	3	-	32
	%	59.4	18.8	6.3	-	3.1	-	3.1	9.4	-	
2	13C	34	5	8	21	-	-	3	6	-	77
	%	44.2	6.5	10.4	27.3	-	-	3.9	7.8	-	
3	13-14C	264	115	57	7	1	-	18	23	5	490
	%	53.8	23.5	11.6	1.4	0.2	-	3.7	4.7	1.0	
4	14C	120	52	8	1	1	-	4	3	2	191
	%	62.8	27.2	4.2	0.5	0.5	-	2.1	1.6	1.0	
5	14C	3	1	-	1	-	-	-	-	-	5
	%	60.0	20.0	-	20.0	-	-	-	-	-	
6	14C	6	-	-	-	-	-	-	-	-	6
	%	100.0	-	-	-	-	-	-	-	-	
7	15C	8	3	1	-	-	13	-	-	-	25
	%	32.0	12.0	4.0	-	-	52.0	-	-	-	
8	15C	3	1	-	1	-	-	-	-	-	5
	%	60.0	20.0	-	20.0	-	-	-	-	-	
9	15C	7	3	-	*	-	-	2	-	-	12
	%	58.3	25.0	-	-	-	-	16.7	-	-	
Pit	18C	1	1	-	-	-	-	57	-	-	59
	%	1.7	1.7	-	-	-	-	96.6	-	-	

* Horse tooth only.

A comparison of these data for phases 1-4 suggests that the relative extent to which cattle, sheep/goat, pig, bird and fish were exploited remained remarkably constant over a period of 100 years.

The remains of red and roe deer are present at three of the early phases but the numbers are small and this may reflect the extent to which the rights of the common people in Scotland to hunt 'greater game' (venison and boar) had become eroded, as had the opportunity for them to exercise their rights (Gilbert 1980). The high incidence of horse bones in phase 2 is due to a single burial of part of a horse. The low incidence of cat remains and small mammals such as mice, rats and voles is surprising for one would expect vermin and vermin-control to have been a significant part of daily life in a medieval Scottish burgh. Possibly cats were disposed of by drowning and, in consequence, their bones are not available at a site such as Castle Street.

Dr Yalden has examined 13 foot bones from a small mammal and is of the opinion that they may come from an animal as large as a big rat, ferret or polecat. In the absence of skulls, teeth and other long bones, no certain identification is possible. Dr Clarke has identified a skull, beak and other bird long bones from an 18th-century pit as coming from a domestic fowl.

TABLE 4

Incidence of fish bones

Phase	1	2	3	4	5	6	7	8	9	18th century
No	3	4	56	15	-	-	77	-	1	1

AGE OF ANIMALS AT DEATH

In an attempt to estimate the ages at which cattle from the site were killed, selected long bones were examined to see if the distal articulatory surface was fused to the bone shaft. On the basis of an examination of 13 radius and nine femur bones, between 66% and 77% of the cattle from which they came lived to between three and a half and four years. On the basis of distal metatarsals, over 90% of the cattle must have survived to the age of two and a half to three years. This suggests that there was little preference for calf skin or veal and that cattle were normally raised until they were at an optimum age for hide production. Five sheep/goat half mandibles were assessed for eruption and tooth wear pattern in accordance with the scheme proposed by Payne (1973). The sample is too small to enable a killing curve to be drawn, but it gives direct dental evidence of single sheep being slaughtered in the following age groups: two to six months; one to two years; two to three years; and four to six years.

Pig bones are difficult to assess as to age because the articulatory surfaces (epiphyses) readily become detached during cooking. On the basis of dental evidence, however, the pigs were apparently slaughtered as young adults aged between one and a half and two years. A single horse metatarsal from phase 4 lacks distal epiphysis and is therefore judged to be a young animal of three years or less. All the other horse bones come from older animals. There is no evidence of the death of puppies, but some of the few cat bones reported on come from kittens.

MAN'S INTERACTION WITH CARCASSES

(a) *Butchery and marrow splitting*

Some of the cattle long bones have been split in the sagittal plane as though to extract the maximum amount of marrow.

(b) *Working of antler, horn and hoof*

A single specimen of a red deer antler from context 101 is sawn off at the base, thereby suggesting that antler was utilized to make artefacts or medicaments. Sheep horn-cores are present in samples from phases 2 and 3, and cattle and goat horn-cores from phases 3 and 4. Some of these have been sawn through once and others twice, thereby suggesting they are discarded material from a horner's industry rather than remains of meals.

Two toe bones and a single femur from a horse have been butchered, whilst all the other horse bones are intact. In the absence of any evidence that horse flesh was consumed by humans, it is assumed that these butchery marks were made in connection with the removal of the hoof and the preparation of the leg joint as food for dogs. With only two exceptions, the horse bones were located in pits rather than in surface middens or gullies, as were most of the dog bones. Perhaps this reflects man's different attitude towards the disposal of equine and canine remains, compared with those of animals normally eaten as food.

(c) *Dispersal of parts of carcasses*

The presence of horn cores from cattle, sheep and goats in phases 2, 3 and 4, and their possible association with a horner's industry, suggests that the samples from these phases included industrial or commercial refuse.

A comparison of the ratios of foot bones (low meat yield) and leg bones (high meat yield) has been used as a guide to whether refuse is of domestic or industrial origin. Ideally, a high proportion of foot bones would indicate industrial or commercial activities concerned with the dressing of carcasses or production of neatsfoot oil or of hoof itself. With only one exception in the samples of bones from middens and pits in phases 1, 2, 3 and 4, the leg bones of sheep, goat and cattle outnumber or equal in number the foot bones, thereby suggesting the samples are, in the main, domestic in origin.

STRUCTURAL DEVELOPMENTS

BACKGROUND

It is commonly stated (eg Platt 1976) that in the late 12th and early 13th centuries there was a trend towards building in stone in England and Europe. This trend is not apparent in Scotland. Both documentary and archaeological evidence show that the normal building tradition was in timber. Stone buildings obviously existed, as can be seen in the castle and abbey remains still

TABLE 5
Summary of long bone size ranges

Bone	Measurement	Range	Bone	Measurement	Range
(a) Cattle					
<i>Humerus</i>	Bp	*83 (1 only)	<i>Tibia</i>	Bp	—
	Bd	—		Bd	25
<i>Radius</i>	Bp	*49–81*	<i>Metatarsal III</i>	Bp	14
	Bd	*45–63		Bd	—
<i>Metacarpal</i>	Bp	49–56	<i>Metatarsal IV</i>	Bp	13–15
	Bd	44–54		Bd	—
<i>Femur</i>	Bp	—	(d) Horse		
	Bd	80–81	<i>Innominate</i>	LAR	59 (2 only)
<i>Tibia</i>	Bp	75 (1 only)	<i>Femur</i>	GL	379 (1 only)
	Bd	47–61		Bd	85–91*
<i>Astragalus</i>	GL1	55–63	SD	40–45	
<i>Metatarsal</i>	GL	195–203	<i>Patella</i>	GL	60 (1 only)
	Bp	38–45		GB	64 (1 only)
	Bd	45–56	<i>Tibia</i>	GL	323 (1 only)
	msw	22 (1 only)		Bp	—
<i>1st Phalange</i>	GL	46–63	Bd	59–67	
	Bp	22–32	SD	40 (1 only)	
	Bd	19–31	<i>Astragalus</i>	GH	54–55
<i>2nd Phalange</i>	GL	31–40	GB	56–57	
	Bp	24–32	<i>Calcaneum</i>	GL	*100 (1 only)
<i>3rd Phalange</i>	DLS	60–70		<i>Metatarsal</i>	GL
	Ld	42–50	Bp		*40–47
(b) Sheep/goat					
<i>Humerus</i>	Bp	—	Bd	40–47	
	Bd	23–33	SD	22–31	
<i>Radius</i>	GL	133 (1 only)	<i>1st Phalange</i>	GL	72–77
	Bp	23–32		Bp	50–55
<i>Metacarpal</i>	Bd	27 (1 only)	Bd	41–45	
	Bp	19–20	<i>2nd Phalange</i>	GL	42–43
<i>Femur</i>	Bd	—		Bp	49–50
	Bp	—	Bd	43–46	
<i>Tibia</i>	Bd	40 (1 only)	<i>3rd Phalange</i>	GL	51–63
	Bp	—		Gb	67–71
<i>Metatarsal</i>	Bd	26 (1 only)	(e) Dog		
	Bp	18–22	<i>Atlas</i>	GL	*23 (1 only)
(c) Pig	Bd	—	GB	*71 (1 only)	
	Bp	—	<i>Humerus</i>	GL	85–138
<i>Humerus</i>	Bd	37		Dp	25–32
	<i>Radius</i>	Bp	23–26	Bd	20–27
Bd		—	<i>Radius</i>	GL	135–136
<i>Ulna</i>	DPA	30–37		Bp	15
	SDO	23–26	Bd	20	
<i>Metacarpal III</i>	Bp	15–17	<i>Ulna</i>	GL	96–156
	Bd	—		DPA	15–17
<i>Metacarpal IV</i>	Bp	15–16	SDO	12–19	
	Bd	—	LAR	21* (1 only)	

Measurements are in millimetres. Abbreviations are those adopted by Driesch (1976).

*= outwith Perth High Street range.

standing but as a vernacular tradition they do not appear until the 15th century. In Castle Street, Inverness, the first reference to a stone building is 1508 (Fraser-MacIntosh 1875, 187) and the specific description of it as a 'stone house' shows that this was not the normal form of building.

The normal vernacular tradition was of timber buildings, as is being increasingly confirmed by archaeological work primarily in Aberdeen and Perth. The most common type of building found

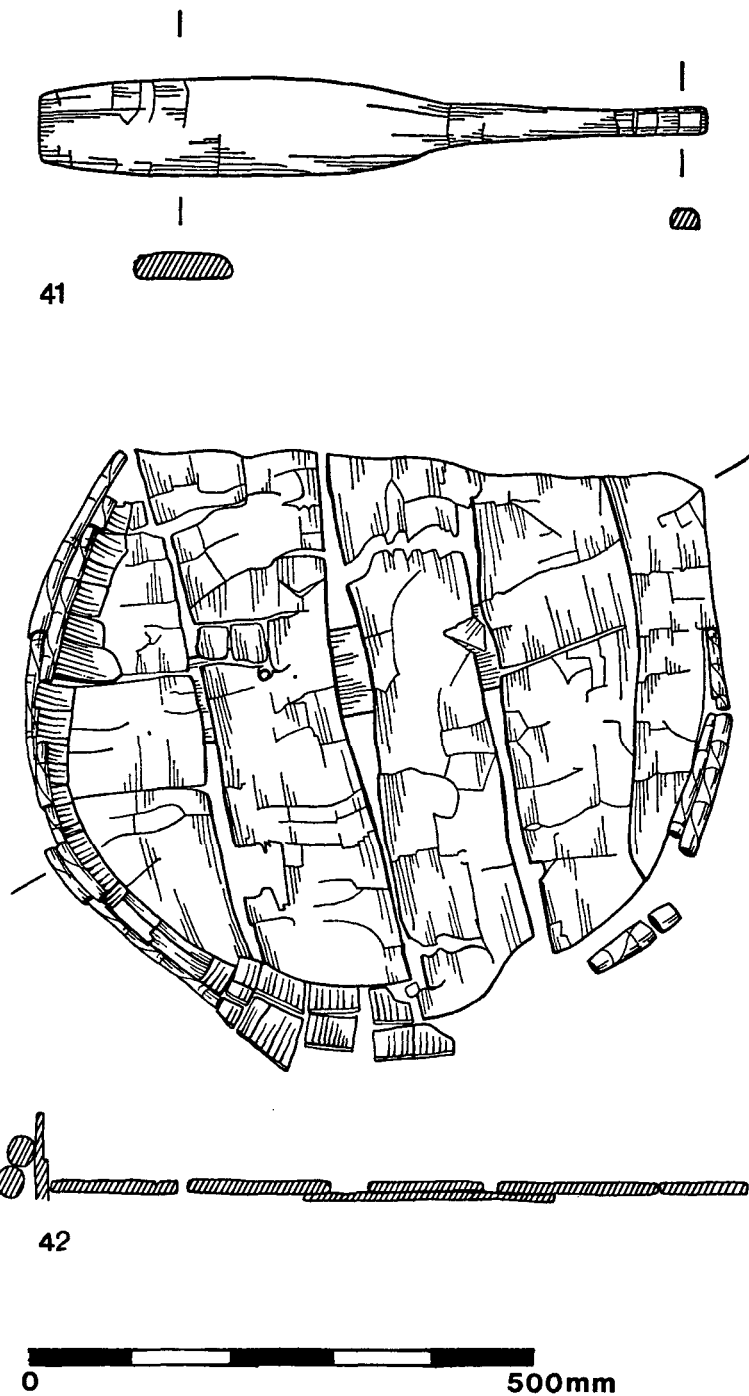


FIG 24 Castle Street: worked wood (scale 1:75)

was made from woven wattles supported by upright stakes and posts, the whole probably daubed in mud or dung. Few frontage sites have been available for archaeological excavation and such areas as have been examined, notably the Perth High Street site and 45–47 Gallowgate, Aberdeen, have suggested that post and wattle buildings were the most common type present. Both of these sites revealed buildings with grooved sillbeams. The example from Aberdeen was set on a stone foundation and probably dates to the late 12th century (Murray 1979, 2). Similar stone foundations with sillbeams above have been recovered from Kirk Close, Perth, and at least three separate sillbeams had wattle walls pegged into them (Blanchard 1980, 32–8).

THE CASTLE STREET EVIDENCE

The Castle Street site is important as the frontages of three properties were found and traced through two and a half centuries of development. This has meant that the major buildings were recovered, as opposed to the subsidiary backland structures. Only partial evidence is available on the function of these buildings but the dimensions and method of construction were recovered. Fragments of 18 structures were found, though only 10 of these were on the frontage.

Stave walling

The earliest form of walling, 200, was of an unusual type using clay supported by vertical planks. The planks were made from oak timbers cut or split radially. Because of the small size of the fragments excavated, it is impossible to say anything about the dimensions of the building to which it belonged. An interpretative reconstruction of the wall is shown in fig 25. This type of walling has not been paralleled, though plank impressions in daub have been found at Elgin (W Lindsay pers comm) and Aberdeen (C Murray pers comm). Its affinities seem to belong to an earlier tradition that was continued in the medieval period by the Norwegian stave churches (cf Hauglid 1970).

Sillbeams

In the reconstruction that followed the phase 3 midden, estimated as being at the beginning of the 14th century, sillbeam buildings were constructed on the street frontage. This was the main

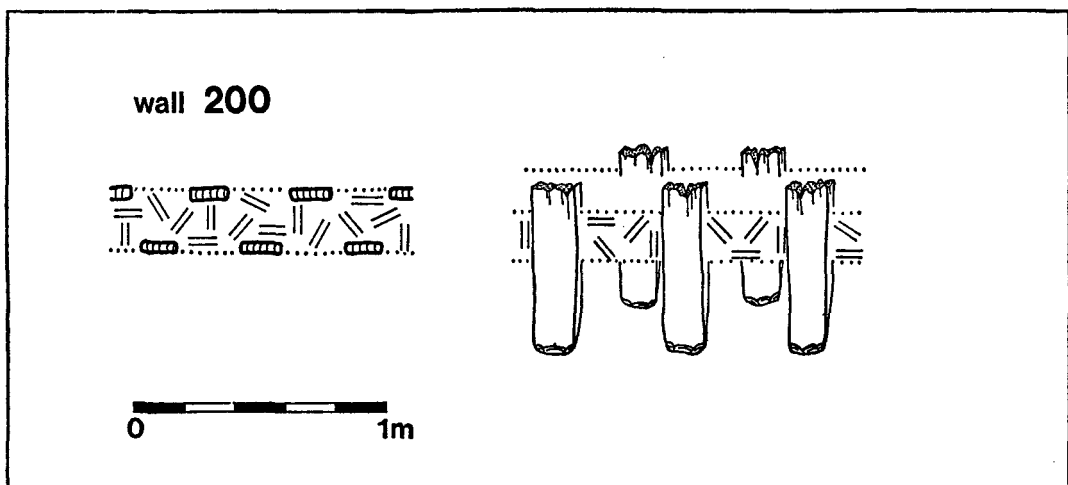


FIG 25 Castle Street: plank wall 200, reconstructed view (scale 1:30)

form of building used, only Property B being different in having a series of buildings with wattle walls. The four sillbeam walls that fronted the street were all separated by substantial timber posts averaging 0.1 m square that were almost certainly supports for roofing. Only one sillbeam was raised above the ground, that for a building on Property C in phase 7, which was supported on a low wall of stones 0.3 m high. In the other cases excavated, the sillbeam either lay directly on the surface, as with 728 and 729, or more commonly in a gully, as with 505. Generally the gullies were fairly shallow, though sillbeam 404 was set 0.5 m below the surface of the floor. It is surprising that the builders of these structures were not aware of the increased risk of decay and it appears that such decay is what happened to the wall in 404 as it was extracted and replaced by a wattle wall. Part of the problem was caused by a rapid accumulation of occupation material, which may not have been foreseen by the builders.

There is little evidence for wattle walls being placed in the sillbeams. Daub 706 on Property A, surviving after the phase 6 fire, was almost certainly derived from wall 507 and not from the walls within sillbeams 502, 503 and 505. Similarly on Property C there was no evidence that daub 742 was derived from sillbeams 527 and 528. Daub 804 which was well burnt and had occasional wattle impressions is unlikely to have been integral with sillbeam 708 as there is good evidence that this wall contained vertical ash planks, 709. The daub is unlikely to have come from Property A2 sillbeam wall, 728/729, as 729 had a very narrow groove, more suitable for a plank than a wattle wall. It is possible that daub 817 over Property B did lie over sillbeams 731 and 732 as no evidence survived for plank walling. Property C was too little excavated for the origin of daub 822 to be obvious, though it is argued later in this report that much of layer 822 was derived from the collapse W of the E wall of the building after the phase 7 fire. Only the late wall, 900, is clearly set in clay and even here it is not clear what filled the sillbeam.

As several of the sillbeams were only partially burnt or were not burnt at all in the phases 6 and 7 fires, one would expect unburnt clay to have survived with them if wattle and daub walls were constructed in them. Even where there were wattle and daub fences the heat of the fires was never intense enough to fire the clay daub below ground level. From this evidence it is clear that either undaubed wattle or plank walls were placed in the sillbeams. It is very unlikely that undaubed wattle walls would be used in habitations as, climatic optima notwithstanding, through ventilation is not desirable in the Scottish climate.

The evidence from contexts 604 and 709 (fig 26) would agree with a plank wall interpretation though in neither case is it conclusive. 709 indicates that it was vertical rather than horizontal planking that was used; 604 can be interpreted as either horizontal or vertical depending on where one estimates it fell, and it may be a door as there was almost certainly an entry to the W of where it was found. Although horizontal plank walls are considered more typical for the medieval period (cf Coppergate, York (Selkirk 1981, 135)), vertical plank walls are not uncommon, the author having personally helped to excavate an example at the High Street, Perth. It would be a natural development from wall 200, where the planks were inserted directly into the ground. It should be noted that the section evidence for the sillbeams and the carbonized timbers suggest that these were well-crafted buildings using squared pieces of wood. The only exception to this was the wall using sillbeams 728 and 729. This wall had a post, 730, cut into sillbeam 729 and not set between the two which seems the logical place to put it.

The surviving examples were all made from oak except for 708, which was made from alder. This exception may have been caused by a temporary shortage of good oak timber after the phase 7 fire, an interpretation which is supported by the use of ash wood for walling planks 709. The sillbeam sections illustrated (fig 27) were mostly distorted by fire or decay from their original form. The best preserved example, 729, had a groove only 20 mm wide. The other examples have

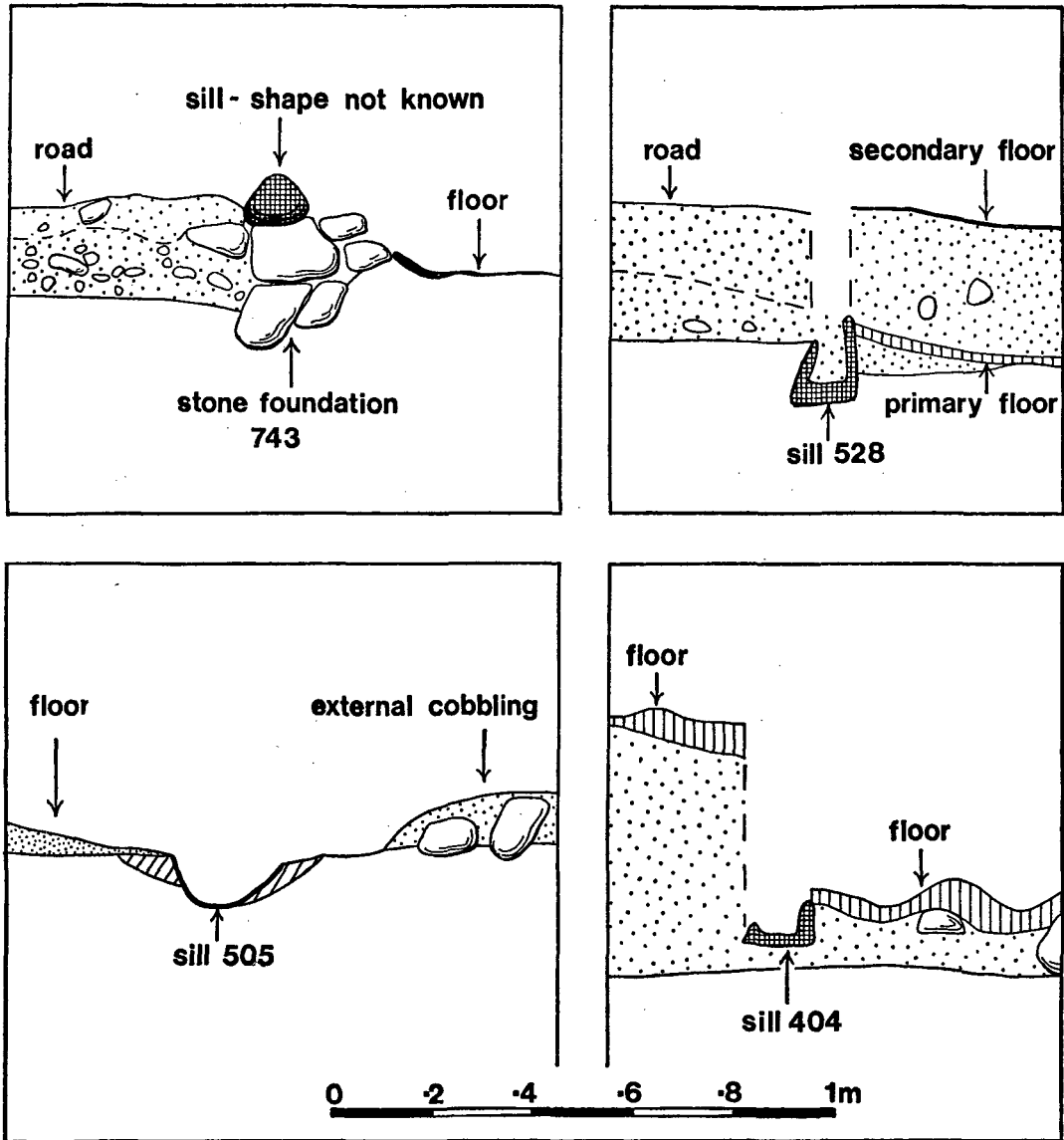


FIG 26 Castle Street: evidence for plank walling

a wider groove as much as 120 mm wide which may indicate a simpler split log form of walling. However, in view of the carpentry shown in shaping and pegging timbers and the restrictions on wood supply it is more likely that the wide grooves are the result of decay and distortion of the wood in the soil.

Wattling

The use of sillbeams on the frontage did not preclude the use of wattling for other walls, evidence for this being clearest on Property C in phase 6, and there were frontage buildings that

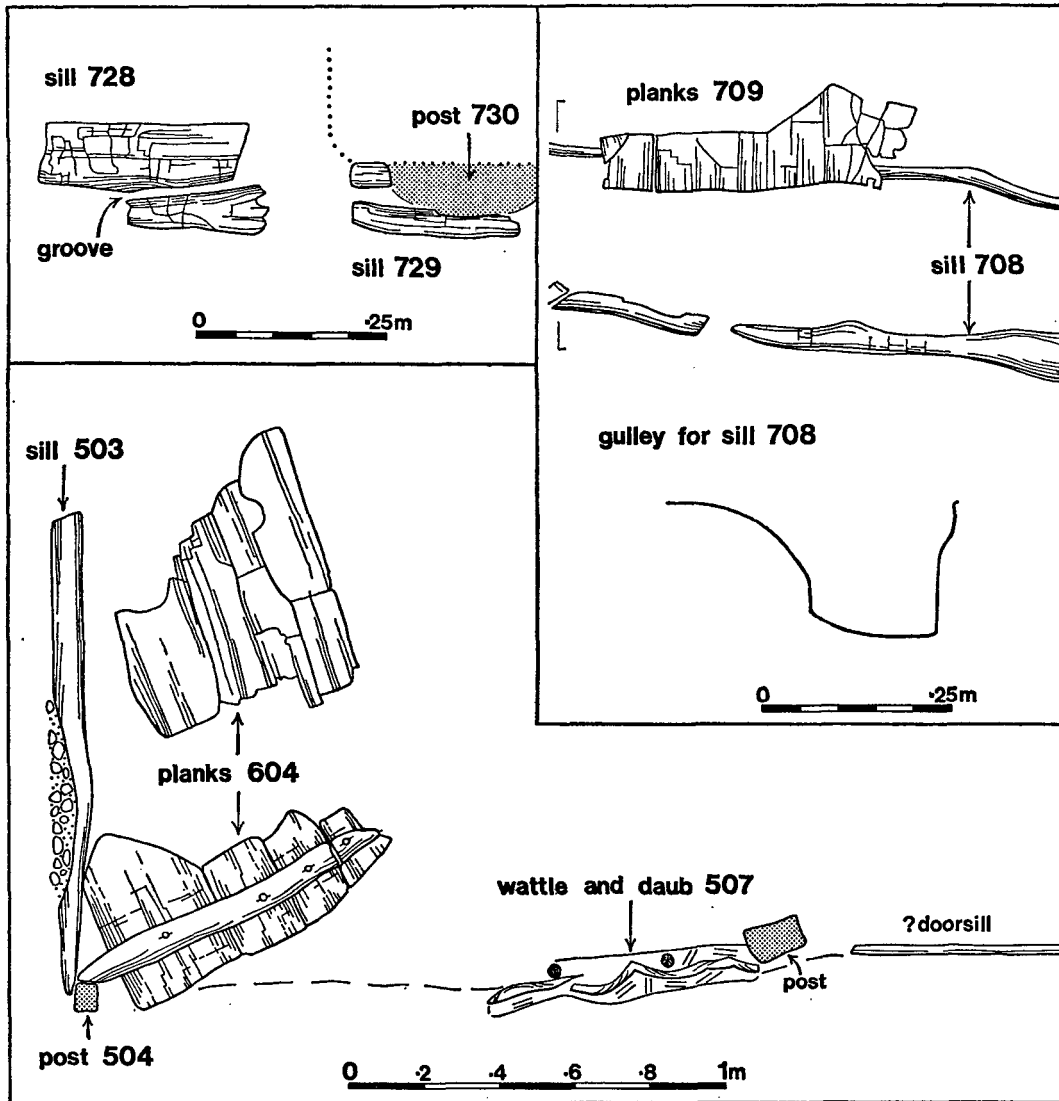


FIG 27 Castle Street: sillbeam sections in relation to floor levels

were made entirely of clay and wattles. This was clearest on Property B which had a sequence of three wattle walls built one above the other in the 14th and 15th centuries. Only one of the wattle walls found with the main structures, 520, was undaubed, possibly because it was internal between two structures or because it was daubed above the level excavated since it only appeared in section below floor level. Even where it had been burnt the wattling was poorly preserved. 614, for example, only showed clearly for 1 m of its estimated length of 6.5 m. The average distance between wattles was 0.1–0.2 m and these uprights averaged 40 mm in diameter. There was no evidence of double walled lines of stakes, save for the early and possibly not structural fence 204. There was little evidence of supporting posts of the type which are so obvious in association with the dung or mud wattle walls found on anaerobic sites such as Perth, Durham and York, possibly

because clay walling was more rigid and, therefore, the wattling needed less support. The wood used for the wattles was a variety of species, including hazel, ash, birch and willow; of these, hazel was the most commonly used. Some oak was also found and this is likely to have been used for uprights, rather than as woven wattles.

The height of the walls is not known, though it is possible that they were not particularly high. Hilary Murray has cogently argued (1980, 46) that the walls of single storeyed post and wattle buildings from Perth and Aberdeen were perhaps no more than 1.25 m high. It is possible that the main mass of daub 822 was the collapsed E wall of the building on Property C which was burnt in phase 8. It was difficult to estimate the total thickness of the daub as usually only one face was recovered, but it is likely that the walls were c 100–150 mm thick. Daub 734, illustrated in fig 28, was unusual in being only 50–60 mm thick and it lacked wattle impressions. The inside face had not been smoothed and there was no evidence of the daub having lain against a plank of wood. There is an impression of a squared piece of wood at least 7 mm wide, so this daub may represent clay which had been packed above a door frame. (If so, it is the only example of a supported wall.) The basic constituent of the daub was yellow-green clay, presumably a local glacial deposit. Most of the fired examples had large quantities of grass or straw tempering, while some had a mostly mineral content. As samples within the same context exhibited this variation it is probably not significant.

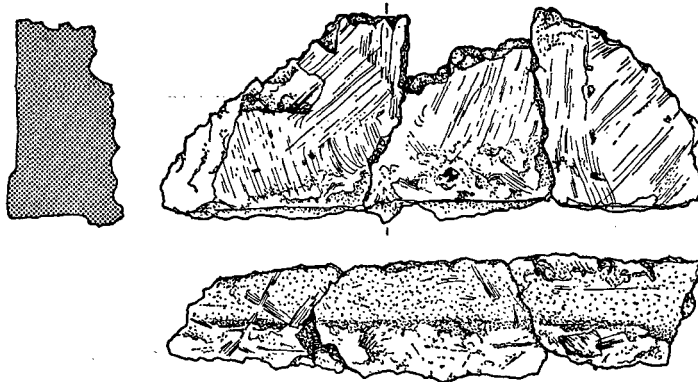


FIG 28 Castle Street: daub 734 (scale 1:4)

No dung or mud daubing was evident, though it is possible that the more heavily tempered burnt daub was originally dung based. In no case were plank impressions evident, which would accord with the lack of daub from the sillbeams. The largest pieces of daub found showed evidence of being wiped in at least two directions. This would suggest the surface, at least, was applied in a fairly liquid though viscous state. The rendering, as shown on daub 734 (fig 28), was only a rough finish. There may have been limewash or paint applied to this surface, though no evidence survived for this. This compares directly with decorated daub from town houses in Roman times such as at Verulamium (Frere 1972, 6–10, 160–2), suggesting that the aesthetic senses of the burgesses were not highly developed.

Roofing

The roofs were supported on vertical posts, the average timber being 0.1 m square and made of oak. Since no building was completely excavated, it is not possible to say definitely that the

roof was supported by external posts. However, the posts found were substantial enough to suggest that the roofs were supported externally. The dimensions of the buildings recovered show that five out of the 12 had the gable end fronting on to the street, while seven had their gables lying parallel to the street. This figure may not be completely accurate, but does indicate that the late medieval tradition of having gables end on to the street was not universal. It is probable that the restricted length of the Castle Street properties conditioned the shape of these structures.

The strongest evidence to indicate the type of roofing was from layer 721 on Property A1. This included a group of carbonized grasses sealed by burnt daub and lying over slightly burnt clay containing carbonized wattles. The grasses could not be floor material as they lay above the clay and carbonized withies so it seems likely that they were the remains of thatch. As they have been identified as oat straw this interpretation has been strengthened. It is less clear whether the clay below was also part of the roof or part of a wall. The roof is likely to have collapsed before the walls, so it may indeed be part of a wattle and daub roof covered with thatch. Similar material was recovered on Property A within layer 608 and there was also a similar deposit further E that included heather twigs. Neither of these was as clear as 721, but they do provide additional support for the interpretation of 721 as roofing material.

Internal divisions

Within the structures found on Property A, various divisions were recovered. These may have existed in all the structures, but because of the cellar cuts this cannot be confirmed.

From phases 4 to 6 there was a division running E–W forming a room 1.5 m wide on the S side of the building. Initially the wall was formed from flat stake or plank walling inserted directly into the ground. This division appeared to run the complete 4.5 m length of the building, though it was subdivided by a N–S wattle fence 2.7 m from the frontage. In phase 5 when the property was split into two, the same division was maintained, though a wattle and daub wall was constructed in place of the plank–stake wall. It is probable that this area was not connected with the street, as the area to the N of the wattle inside the building was heavily cobbled, set at a lower level and perhaps had feature 604 as its door leading W out on to the street. There was a door sill at least 0.5 m long leading from the S chamber into the N room and the difference in levels suggested that it opened to the S. It was not evident in phases 5 and 6 whether there was any wall equivalent to 413, though soil divisions did appear in both plan and section. This was particularly clear in phase 6 where a sand deposit at the W raised the ground level 1 m above the level to the E.

In phase 7, when Property A was rebuilt, a N–S division, 712, estimated to be 2.5 m long, was constructed 3.5 m from the street frontage making a chamber 1 m wide. Initially this was made of wattle, which was then replaced by a low stone wall covered with clay, probably constructed to take a sillbeam. Before the destruction of the building this chamber had gone out of use, being sealed by later floor deposits. A new division, formed of a 1 m long E–W course of stones, 715, was inserted 0.7 m S of the N wall. The E end of this possible sillbeam support wall was defined by a post. It is suggested that this wall was used to form a porch, possibly performing the same function as porches in modern Scottish houses which is to restrict cold and wet entering the main building.

Floors

It is difficult to make assertions about the functions of these buildings due to the lack of material evidence. Recent developments in environmental work has led to new insights but these only give partial help. The floor deposits invariably consisted of lenses of material usually less

than 10 mm thick and often no more than 1 mm thick. In view of the truncation, the area, and the time available for the site as a whole, no sampling policy was undertaken. The technical difficulty of equating these minute lenses, partially eroded as most were, across the floor of the building, was not solved. The only possible evidence for the use of timber floors was in contexts 725 and 746, but this was not convincing. In general, the floors were made of sand or fine gravel, or a mixture of the two, the variation presumably being due to the excavation of different deposits to provide the material. The sand floors were generally up to 0.05 m thick, though layers 402 and 707 were respectively 0.5 and 0.3 m thick. These exceptional thicknesses were almost certainly due to levelling of sites for building platforms rather than the creation of deliberately thick floors. The lenses of sand on top of the main floors were much thinner, rarely if ever covering the whole floor and had the appearance of patching materials used to seal the organic accumulations below. These accumulations consisted of a variety of material including ash, shell, midden material, bone and silt. They all appeared to be very thin, as would be expected from trample layers.

As some of the sand floor patches were very small, this material must have been brought by bucket or basket as well as by cart load. The sand was brought into the site, as the Barn Hill, at least in its lower levels, consists of coarse gravel. The clean nature of the sand suggests that it was excavated directly from a cliff face or stream bed rather than being dug out of a back garden. There were no sea shells so it is likely to be alluvial rather than a beach sand.

Apart from the workshop hearth, 808, discussed by R M Spearman, only one hearth, 713, was found inside a building. This was 1 m in diameter, clay-lined and was only in use for a short period. The pink ash and the surrounding soils suggested that it was not fired to a high temperature. Other hearths may have existed in the unexcavated and destroyed areas of the buildings, such as in layer 525, and ash and charcoal were found in several of the floor tramples. In some cases the living quarters and their associated fires may have been above ground, as is suggested by the 13th-century reference to shops with solar above quoted by Stell (1980, 4). However it seems unlikely that there would be a preference for fires on timber floors and, as is shown on fig 29, not all the buildings were more than one storey high. An alternative explanation is that there were burgh rules strictly enforced that prohibited the use of fires inside timber dwellings. The pottery evidence shows that very few cooking pots were found in the buildings and it may be that most of the cooking was done in communal bakehouses as is still the custom in contemporary Egyptian villages. However, in view of the Scottish climate, some form of heating would be desired by people living and working in these houses and this may have been supplied by braziers, which would not leave any archaeological trace.

Backlands

The evidence for structures behind the frontage was poorer as less material could be examined, and what there was was more compressed and badly preserved. There was no evidence of sillbeam walling, only wattling and/or posts being discovered. 616 was the only structure which could be clearly described. It was 4.5 m long and of an unusual form in that no wattling was evident, yet clay formed a spread for the floor and the walls, stakes being evident every 0.35 m within the walls. It was not clear whether there ever had been wattling in the walls, whether the stakes alone supported the walls, or even whether it was a building at all.

It was clear that structures did extend back from the frontage and that there were also cobbled areas, presumably courtyards and stables. Other activities in this area were indicated by the furnaces as described by R M Spearman. They all represent structures that were more substantial than would be thought necessary for cooking, and demonstrate the importance of the workshop as an element in burgh life.

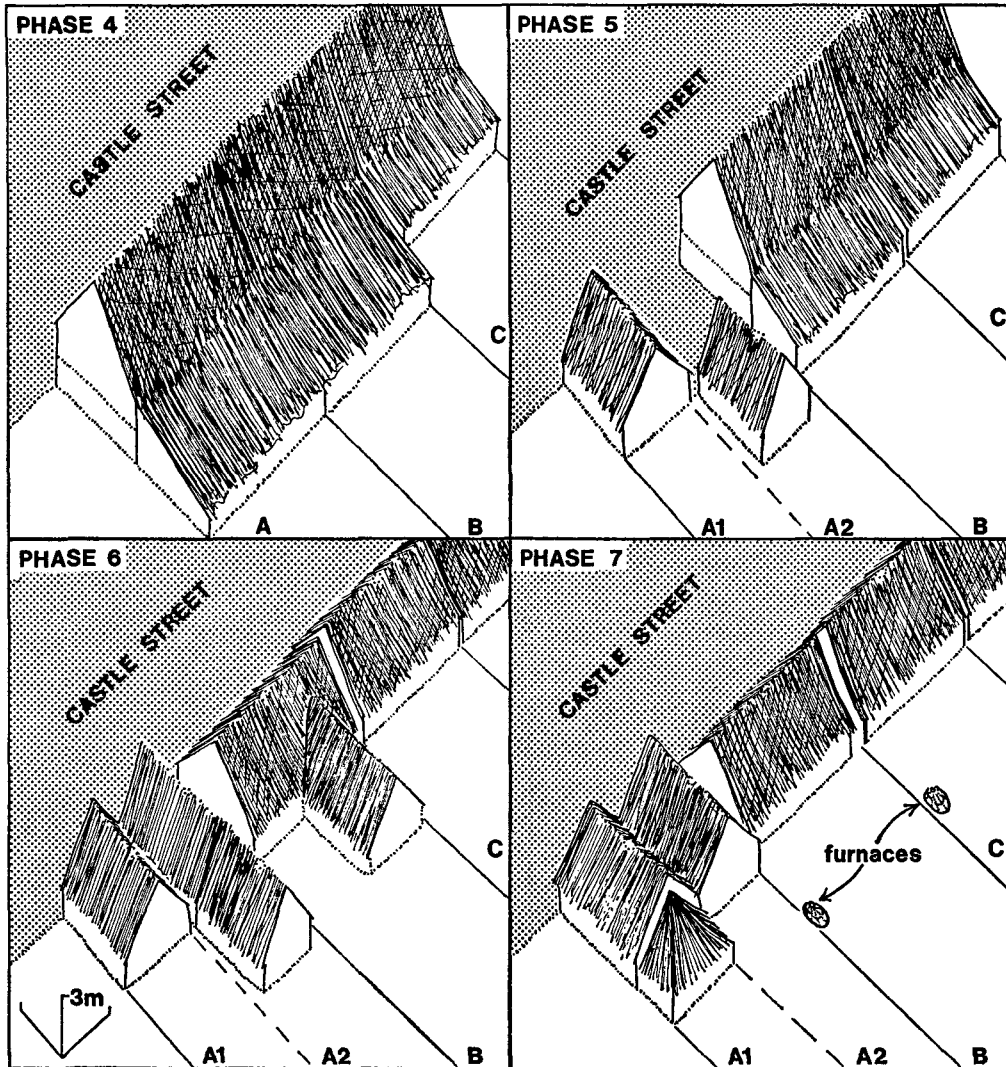


FIG 29 Castle Street: reconstructed views of phases 4-7

Cesspits

Cesspits were only evident in phase 2, a period before the frontage was shifted E. One of them, 210, was definitely timber-lined which may indicate that cess was stored here before being cleaned out. The deposit within this pit contained large quantities of fish bone which suggests that organic refuse was thrown in as well as cess material. The large quantities of bramble seeds within the fill suggest that this was a short-lived deposit and indicates that the pit contained the cess and rubbish from a large number of people. It is not possible to know whether it formed over a couple of days or a couple of weeks but as the bramble season is short, it could not be much longer than three weeks, and from the homogeneity of the deposit was probably much shorter.

Though only a small area was examined, it was interesting to note that no pits were found

in the backlands after phase 3. It would appear that the shifting of the frontage E restricted the available land so that alternative methods of disposing of cess material were found. It may have been dumped on the street for organized collection; wider roads would make such collection easier.

Roads

A sequence of five or six road deposits was followed between Properties B and C, with a small fragment appearing adjacent to Property A. An attempt was made to compare the road materials to see if there was any evidence of different constructions or repair which might indicate individual burgesses' responsibilities in upkeeping their frontage. There are examples from excavation in Scandinavia and Russia of streets being separately constructed by different householders (Trondheim, Bergen, Novgorod). The differences in timber streets are perhaps easier to follow than on the gravel roads in Inverness. One would expect, none the less, that any obvious differences would show and this was not the case with Castle Street. In all phases the road surface was less easily recovered on Property C, but there was only evidence for one patch on Property B's street frontage. The better preservation of the surface may only be fortuitous. In phase 7 there was evidence of a division between two pieces of road, 703 and 704, which did not tally accurately with a property division. The neat bonding of the deposits, there being no evidence of 703 existing as a surface under 704, would suggest that the division was merely between two loads of gravel making up the same road surface.

The normal road surface consisted of coarse sand and gravel 0.1 m thick, producing a definite surface which must have been compacted if only by traffic. There was no evidence of wheel ruts, though these might not be expected so close to the houses if it was a broad street. There was an indication that the road fell slightly to the W away from the buildings, though this might have been caused by modern stone walls compressing the gravels below. At the time of the phase 6 and 7 burnings, the floor levels of some of the houses were set below the road levels. This would suggest that the level did fall away, as otherwise there would be erosion of the house walls, particularly if they were made of wattle and daub. Drains 801 and 802 would also indicate some form of drain running down the centre of the street, as they flowed out from the property westwards.

Drains 801 and 802 also show that there was co-ordination in the laying of the roads as they were incorporated into the fabric of road surface 810. They could not have stood freely before the road was constructed, as they would have been a serious hazard to traffic and the integration of the capstones into the road would suggest that they were not inserted after the road was built. If the interpretation of the extension of the street as being caused by the creation of a market area is correct, it is likely that the construction of the street would be a burghal rather than an individual duty. This burghal responsibility may only have applied to the major roads.

CONCLUSIONS

Traditionally it has been assumed that the original medieval town was clustered around the castle and spread later to the boundaries shown in fig 1 (Mackay & Boyd 1911; Gourlay & Turner 1977). However, the lack of intensive settlement in the earliest phases on Castle Street suggests that the converse was in fact the case, and that this area was peripheral to the main settlement. The ravine origin of the Doomsdale would not have been an ideal area to settle, whereas the ground further N is now, and was probably then, much more level. The bridge across the Ness replaced an earlier crossing point, also to the N, which lay to the W of the parish kirk; along with the negative evidence from Castle Street, this suggests that the burghal nucleus was around the church and

ford and not the castle. This separation between town and castle may have been deliberately encouraged by the keepers of the castle who would wish to leave the approaches to the castle open for defensive reasons. The big pit or ditch of phase 1 can be viewed in this light as a defensive feature to restrict access to both town and castle, though the evidence for such an interpretation is slight. The evidence of this pit or ditch and the agricultural use of the site clearly shows that this was not an integral part of the burgh in the 13th century and that therefore the burgh had not attained its maximum size (for the medieval period) during the so-called 'Golden Age' of Scotland in the 13th century.

The boundaries of the town fosse shown in fig 1 are derived from 16th-century property records by Mackay & Boyd (1911) and are therefore not a certain indicator of the 13th-century or earlier boundary. Yet surviving documents from the 15th century show that this boundary was a static feature and it is usually described as the old ditch or 'foule poole' (eg a charter dated 1454 refers to 'the old fosse of the Barnhill' (Fraser-MacIntosh 1875, 125)). Perhaps the original burghal limits were laid out with more optimism than was originally warranted and it was not until the beginning of the 14th century that there was sufficient pressure on space to force settlement in the Doomsdale. However, this was not a haphazard settlement: the expansion of the road into the area and the regularity of the frontage suggest a deliberate layout that must have been a market-linked expansion. Though the dating of this is imprecise as it relies on pottery evidence, it is significant that this occurred in the 14th rather than the 13th century, and suggests an expansion of the town that is not recorded historically. The houses fronting the Doomsdale were relatively well built when compared with contemporary structures excavated elsewhere in Scotland and must have belonged to established burgesses rather than to squatters at the periphery of the main settlement. The Doomsdale had become an important part of the burgh.

The expansion into the Doomsdale may have been facilitated by the destruction of the castle in 1308 by Robert Bruce. There is no record of the castle being refurbished before 1362, and it may be that militarily there was no longer an objection to this settlement in Castle Street. It is not clear why there should have been a need for a market and, presumably, a housing expansion in the early- to mid-14th century. It is possible that Inverness had suffered less severely than towns further S from the destruction caused by the Wars of Independence and was therefore able to recover a large share of the national trade. The customs returns are not full enough to bear this out and indeed are more likely to contradict this. However, the Exchequer Rolls of the 1360s (Burnett 1878) show that Inverness was about the fourth burgh in the kingdom in terms of rents paid to the crown. One possible explanation for this expansion is that the restrictions of war had prevented the import of goods from Europe and England, forcing the burgesses to satisfy demand by creating their own industries rather than importing finished goods from abroad. This is a possible interpretation of the transition from imported to local pottery and it may be applicable to other industries where the evidence is less clear.

Apart from the metalworking industries in the 15th century described by R M Spearman (pp 346–55), it is not clear what crafts were being carried out on these properties. It seems unlikely that houses fronting the market would only be used for housing.

This period of settlement ended with the destruction of structures on all three properties by fire. It is tempting to assume that this burning was part of a more general destruction of Inverness caused by Donald, Lord of the Isles, in 1411. Unfortunately the dating for this fire cannot be put more precisely than late 14th/early 15th century and so it is possible that the burning was the result of a localized fire caused by accident and which does not occur in the surviving burgh records. In the same way the second burning is probably the result of Alexander, Lord of the Isles, sacking Inverness in 1429 although this too cannot be proved.

It is difficult to decide how disruptive these burnings were and how quickly the burgesses were able to recover. The archaeological deposits show that the site was re-occupied and the documentary record shows that leading burgesses owned property here (eg Fraser-MacIntosh 1875, 110) and that by the early 16th century (Fraser-MacIntosh 1875, 194–200) there was considerable subdivision of the properties. This land pressure is confirmed in the archaeological record by sand deposit 908 which shows encroachment on to the street. This encroachment cannot be accurately dated, though if the ascription of the second burning to 1429 is correct, a date at the end of the 15th century is likely.

Further work is needed on the documents that do survive; the 15th-century property charters, for example, do not seem to have been seriously examined since Fraser-MacIntosh produced his *Invernessiana* in 1875. A careful study of the Exchequer Rolls comparing the customs and feu ferme returns of Inverness with other burghs such as Aberdeen, Perth and Dundee may produce more detailed information on the relative prosperity of Inverness. These documents have already been extensively studied and there are considerable limitations in their use. For instance, there is no reference to feu ferme rents from Inverness between the years 1389 and 1429, an omission which cannot be satisfactorily explained.

Some of the missing historical information on the development of Inverness may be recovered from excavation, as well as the social and technical evidence which is so rarely recorded in the documents. The work of Gordon Ewart in 1978 (summarized in Wordsworth 1981, 73) has shown that deposits do survive elsewhere in Inverness, in particular on the W side of Church Street and future work should show whether this was indeed the first part of the medieval burgh to be developed.

ACKNOWLEDGEMENTS

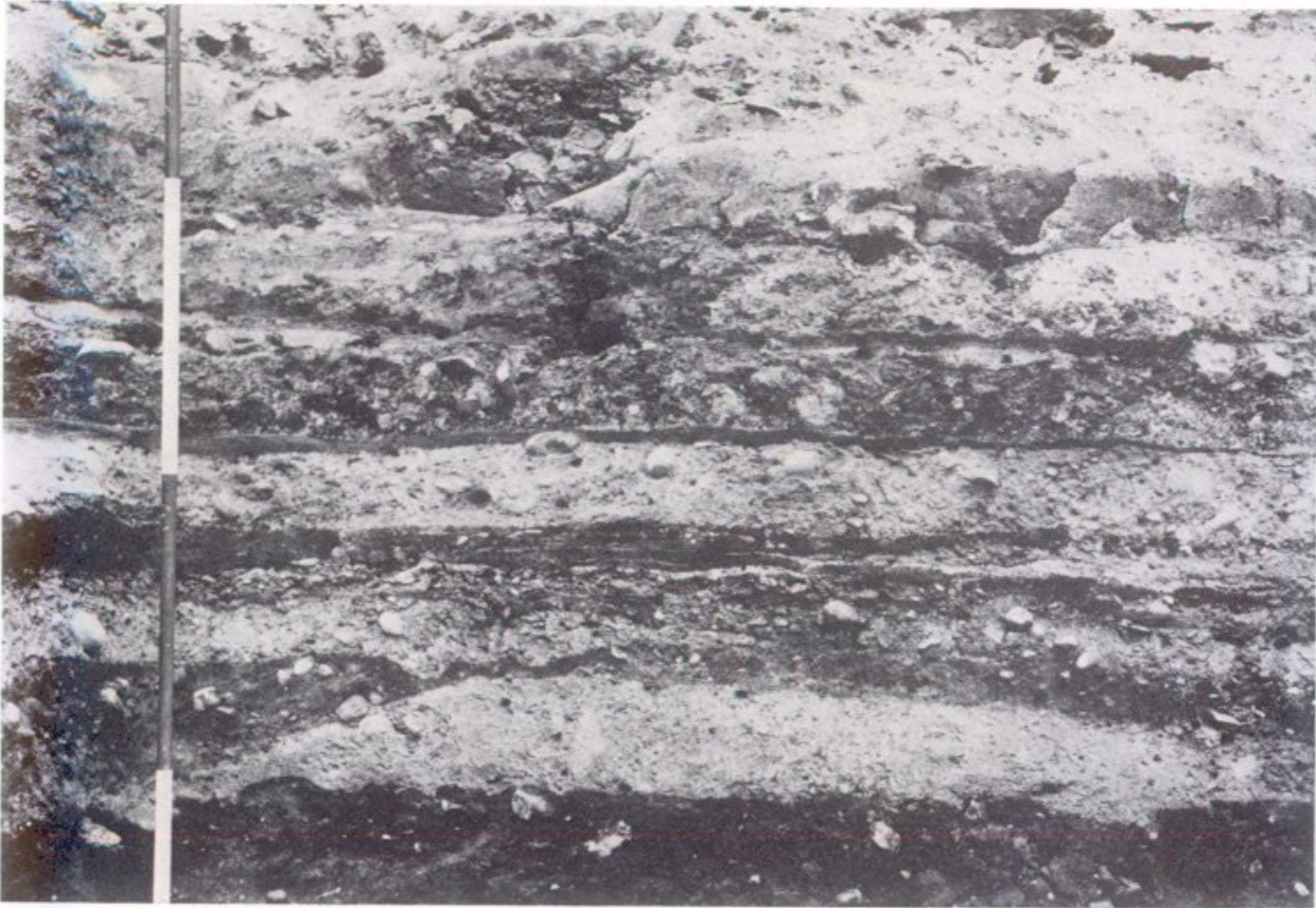
Wm Fairhurst and Partners, Elgin, gave permission to excavate this site and the staff of Inverness Burgh Museum provided technical assistance to the hard working group of excavators. Gordon Ewart supplied information on his excavations in 1978 and the following people gave reports or advice essential to the development of this report: G H Collins, D Habershaw, I Hodgson, N MacAskill, R McCullagh, C and H Murray, C Smith, R M Spearman and G Stell. A Townshend produced figs 21 and 22. My colleagues in the Urban Archaeology Unit, in particular G Harden, W Lindsay and F Wilson helped in the anguished compilation of this report. To all these people I give my thanks and to the many others who helped, in particular various members of Scottish Development Department (Ancient Monuments Branch), which organization funded the excavation.

REFERENCES

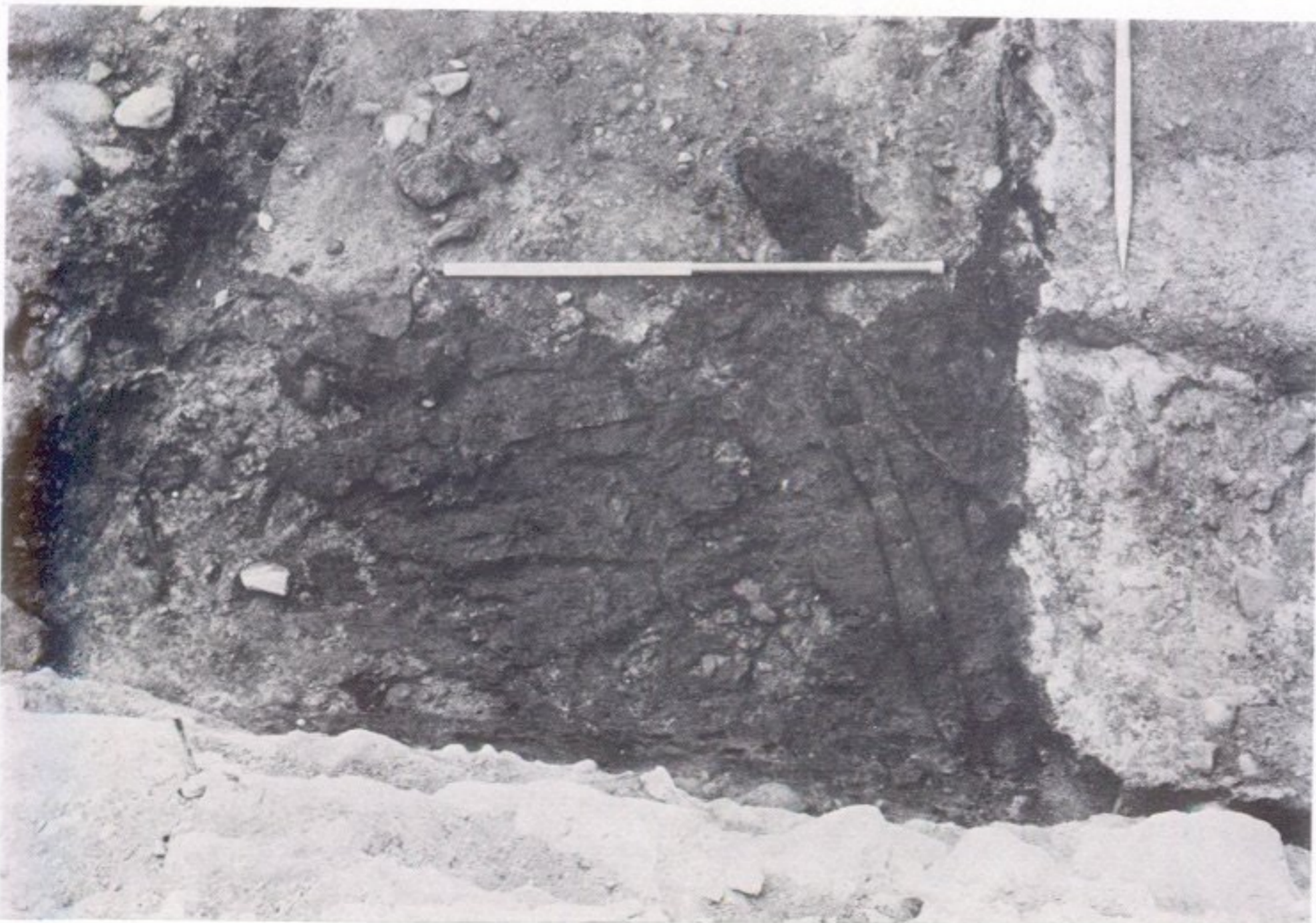
- Barber, J W 1980 'Wood and Charcoal' in MacIvor, I et al, 'Excavations on the Antonine wall fort of Rough Castle, . . .', *Proc Soc Antiq Scot*, 110 (1978–80), 271.
- Barron, E M 1906 *Inverness in the fifteenth century*. Inverness.
- Barron, E M 1907 *Inverness in the Middle Ages*. Inverness.
- Blanchard, L 1980 'Kirk Close – a backland excavation', in Turner Simpson & Stevenson 1980, 32–8.
- Bolton, E G 1960 'Excavation of a house and malt kiln at Barrow, Rutland', *Medieval Archaeol*, 4 (1960), 128–31.
- Burnett, G (ed) 1878 *The Exchequer Rolls of Scotland*, 3, AD 1379–1406.
- Burnett, G (ed) 1880 *The Exchequer Rolls of Scotland*, 4, AD 1406–1436.
- Carter, A 1977 'The iron nails' in Clarke & Carter 1977, 297–8.

- Clarke, H & Carter, A 1977 *Excavations in King's Lynn 1963-1970*. Medieval Archaeol Monograph, 7.
- Close-Brooks, J 1980 'Excavations in the Dairy Park, Dunrobin, 1977', *Proc Soc Antiq Scot*, 110 (1978-80), 328-45.
- Crabb, P J 1971 'Låse og nøgler', in Hellmuth Andersen, H *et al*, *Århus Sondervold en byarkæologisk undersøgelse*, Copenhagen, 183-96.
- Dodwell, C R (ed) 1961 *De Diversis Artibus by Theophilus*. London.
- Driess, A von den 1976 'A guide to the measurement of animal bones from archaeological sites', *Peabody Museum Bulletin*, 1, Harvard.
- Dunning, G 1977 'The mortars', in Clarke & Carter 1977, 326-49.
- Fraser-MacIntosh, C 1875 *Invernessiana 1160-1599*. Inverness.
- Frere, S S 1972 *Verulamium Excavations*, 1. London (Rep Res Comm Soc Antiq Lond, 28).
- Gilbert, J M 1980 *Hunting and hunting reserves in medieval Scotland*. Edinburgh.
- Goodhall, I 1977 'The metalwork; in Clarke & Carter 1977, 295-6.
- Gourlay, R & Turner, A 1977 *Historic Inverness the archaeological implications of development*. Scot Burgh Survey, Glasgow University.
- Hauglid, A 1970 *Norwegian Stave Churches*. Oslo.
- Heinze, V (ed) 1958 *Libellus de Alchimia ascribed to Albertus Magnus*. Berkley.
- Hodgson, G W I forthcoming 'Report on the animal remains excavated during 1975-76 from medieval levels at the High Street site, Perth'.
- Lacaille, A 1953 'Stone basins', *Trans Glasgow Archaeol Soc*, (new series), 12 (1953) 44-93.
- Mackay, W & Boyd, H C 1911 *Records of Inverness 1: Burgh Court Books 1556-86*. Aberdeen.
- Murray, H 1979 *45-47 Gallowgate: a summary report*. Aberdeen Archaeological Unit.
- Murray, H 1980 'Medieval wooden and wattle buildings excavated in Perth and Aberdeen', in Turner Simpson & Stevenson 1980, 39-49.
- Oakley, G E 1979 'The iron nails,' in Williams, J W, *St Peter's Street, Northampton*, Northampton, 275-7.
- Payne, S 1973 'Kill-off patterns in sheep and goats', *J Anatolian Stud*, 23 (1973), 281-303.
- Platt, C 1976 *The medieval town in England*. London.
- Selkirk, A 1981 'York', *Current Archaeol*, 5 (1981), 135
- Sisco, A G & Smith, C S 1951 *Treatise on ores and assaying by Lazarus Ercker*. Chicago.
- Smith, C S & Gnudi, M T 1942 *The Pyrotechnia of Vonnocio Biringuccio* Amer Inst Mining Metallurgical Engin, New York.
- Stell, G 1980 'Scottish burgh houses 1560-1707', in Turner Simpson & Stevenson, 1980, 1-31.
- Turner Simpson, A & Stevenson, S (eds) 1980 *Townhouses and structures in medieval Scotland*. Scot Burgh Survey, Glasgow University.
- Wordsworth, J B 1981 'The archaeological investigation of medieval Inverness', in Maclean, L (ed), *The Middle Ages in the Highlands*. Inverness.

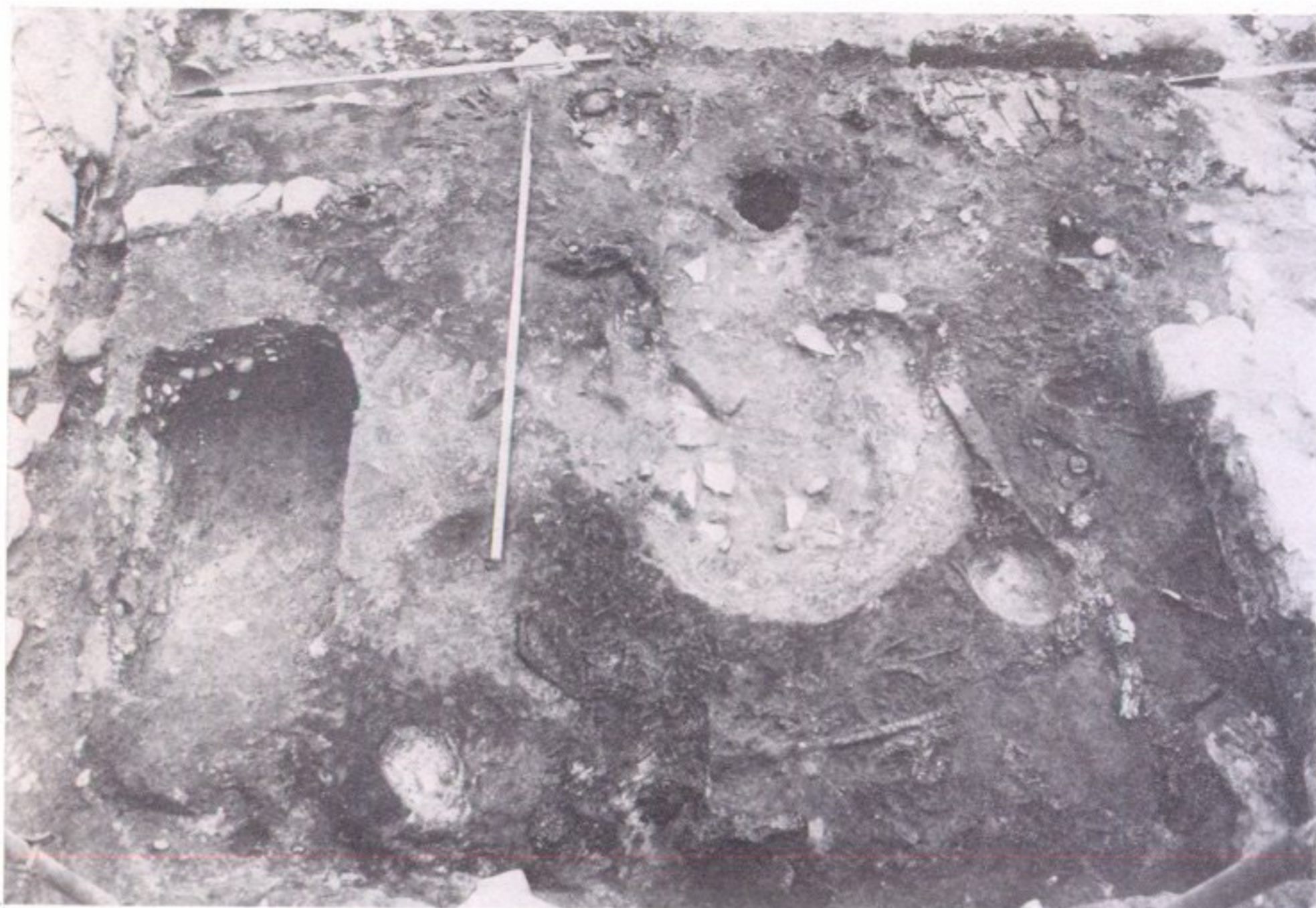
The Society is indebted to the Scottish Development Department (Ancient Monuments) for a grant towards the cost of publishing this paper.



a Inverness, Castle Street. Detail of N section Cellar 3. Scale in metres



b Plank feature 604 looking E



a Property A building burnt in phase 7 looking N



b Inverness, Castle Street Furnace 747 looking W



c Inverness, Castle Street Furnace 905 looking E