

# Excavations at Rattray, Aberdeenshire. A Scottish Deserted Burgh

By H. K. MURRAY and J. C. MURRAY

*with contributions by*

N. M. CAMERON, J. A. CRIPPS, I. CULLEN, B. M. A. ELLIS,  
I. FISHER, A. R. GOODALL, I. H. GOODALL, C. P. GRAVES,  
S. HAMILTON-DYER, F. MCCORMICK, R. M. SPEARMAN, J. STONES,  
S. THAIN and N. H. TREWIN

*DOCUMENTARY sources identify the deserted settlement of Rattray, Aberdeenshire, as a royal burgh from the mid 16th century and as a probable burgh of barony from the 13th century. Excavation has revealed a more complex settlement history with a late 12th- or early 13th-century defensive motte having been replaced by a more manorial establishment which encouraged the development of an adjacent settlement between the 13th and 15th centuries. Domestic and industrial areas were excavated including metal-working and potting tenements. The form of the settlement and its inter-relationships with its natural and cultivated hinterland are examined. The project was funded by Historic Buildings and Monuments (now Historic Scotland)*

Rattray is situated on the NE. coast of Scotland, c. 65 km (40 miles) N. of Aberdeen (Fig. 1). Documentary sources refer to the existence of a burgh on the site, but prior to excavation the only visible remains were the ruins of St Mary's Chapel and a grassy mound named 'Castle Hill'. The Ordnance Survey also recorded a few stray finds.

Fieldwalking in the early 1980s yielded medieval pottery and air photographs taken in 1983 revealed a series of cultivation ridges. As a result, when it became clear that the site, one of the few deserted medieval burghs in Scotland, was under threat from intensive agricultural activity and subsequent erosion it was decided to excavate. Excavation, funded by Historic Scotland, took place for five weeks every summer between 1985 and 1990, the aims being to investigate the castle hill and to use a mixture of geophysical survey, trial trenching and area excavation to examine as many aspects of the development and functioning of the settlement as possible.

This report aims to provide a synthesis of the excavation results. More detailed stratigraphic information and the full specialist reports and catalogues are available in the archive report, which is deposited at the National Monuments Record of Scotland, Edinburgh. In one area of the site, directly SW. of the castle hill, an area of

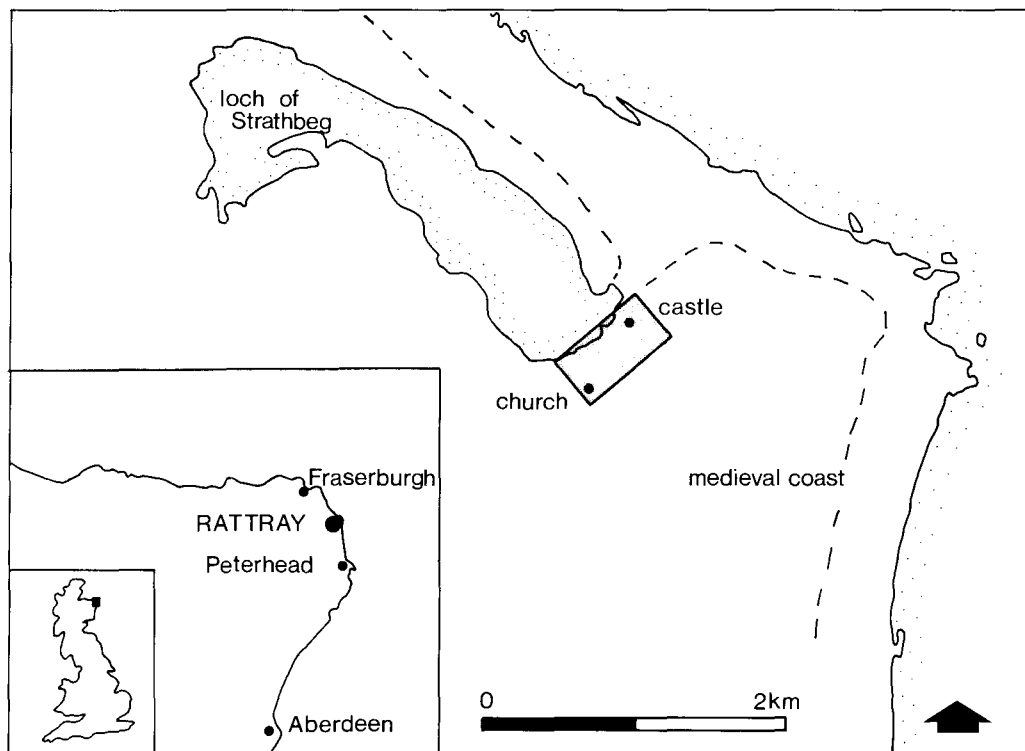


FIG. 1  
Location map

prehistoric ploughmarks and a burnt fence, dated by radiocarbon to  $3130 \pm 50$  b.p. (GU 2719) were excavated below the medieval horizon. These features are published elsewhere.<sup>1</sup> Throughout this report, the site codes and context numbers are those used on site and in the archive report. The site codes are identified in the caption to Fig. 2.

The settlement development has been divided into four periods (I–IV). Table 1 shows how these relate to the structural phases identified on the castle site. Broad date ranges are given for each period. The specialist artefactual and sample reports refer to both the castle phases and site periods.

#### GEOGRAPHICAL BACKGROUND

The area of the settlement lies between 5 and 15 m above Ordnance Datum, on the E. edge of the Loch of Strathbeg (Fig. 1). In the medieval period the loch, now a freshwater lake, was an inlet of the sea sheltered by a shingle bar on the NE.<sup>2</sup> and entered at the E. point, nearest to the castle hill. The area is subject to continual erosion and deposition of sand and, from the 17th century onwards, there are references to the gradual blocking of the mouth of the inlet, the final blocking being

TABLE 1

<i>Rattray period</i>	<i>Castle structural phase</i>	<i>Approximate date range</i>
I	1. defensive motte	late 12th to early 13th century
	2. abandoned	
II	3. timber hall	early 13th to early 14th century
III	4. stone manor	early 14th to mid or late 15th century
	5. demolition and robbing	mid or late 15th century to early 16th century
IV	6. modern activity	18th to 20th century

said to have taken place in a single storm in 1720.<sup>3</sup> Since then, dune formation has continued so that the modern shoreline is further E. than the medieval line. The continual deposition of sand can also be seen in excavated horizons, such as the medieval dune deposits which sealed evidence of prehistoric agriculture on an earlier dune, or the erosion and redeposition on the top of the castle hill which occurred after its vegetation cover had been disturbed initially in the 13th century. Some archaeological deposits had been destroyed by this continuous erosion process.

#### HISTORICAL BACKGROUND *By* JUDITH A. CRIPPS

##### *Rattray's burghal status reconsidered*

Before the 19th century most burghs in Scotland were either royal burghs, dependent on the Crown but independent of all others, or burghs of barony, whose feudal creators were confirmed in possession by royal charters.

Rattray's only burgh charter was granted by Mary, Queen of Scots on 6 March 1563/64, making the existing settlement a royal burgh.<sup>4</sup> At this period the status and privileges of a royal burgh were well defined and such a new creation would suggest a flourishing urban settlement. Yet there is no documentary evidence that Rattray's inhabitants ever included merchants or craftsmen; the burgesses who held the burgh roods in the 16th century (Fig. 3B) can be identified almost without exception as minor lairds or tenants in husbandry. In 1561 there were eight residents of Rattray among fifteen occupiers of the Town of Rattray and Haddo.<sup>5</sup> The 1696 Poll Tax names two non-resident proprietors and their eight tenants, four of them fisherfolk, who, with their families, were the only inhabitants.<sup>6</sup>

The contrast between Rattray's status and the reality of its existence is patent, and those who have read Queen Mary's charter, from Alexander Keith on,<sup>7</sup> have recognized that the creation here of a royal burgh was a legal expedient — an attempt to defuse a cause of strife between two feuding families. In the mid 16th

century the Hays, Earls of Erroll, and the Keiths, Earls Marischal, were superiors of the neighbouring properties of Haddo and Broadland respectively and could both produce a claim in law to lordship of the town and lands of Rattray.<sup>8</sup> However, neither could fully convince the Lords of Council, who recommended that Rattray become a royal burgh.<sup>9</sup> Thus the competing claims were overridden, effectively destroying Rattray's potential as an urban settlement. Deprived of the possibility of strong, self-interested lordship, Rattray could not hope to develop in competition with the neighbouring baronial burghs of Fraserburgh and Peterhead.<sup>10</sup> The archaeological evidence points to earlier activity on the site, and there exists piecemeal documentary evidence to show that Rattray was recognized as a burgh in the medieval period. Robertson's *Index of Charters* notes a lost royal charter of Robert III '*de burgo de Rettry*' for the town and lands of Rattray.<sup>11</sup> Professor Duncan dates this to 1395x7, but is inclined to reject the reference to a burgh as a copyist's error.<sup>12</sup> However, the Erroll charters include several issued between 1507 and 1520 by and on behalf of successive Earls of Erroll as lords of the burgh of Rattray.<sup>13</sup> The first Earl of Erroll acquired his title to lands in Rattray with appurtenances, later called Haddo of Rattray, from Walter Tulloch of Bonyngton in March 1458/59. A previous Walter Tulloch had been the beneficiary named in the lost royal grant of 1395x7, which was made on the resignation of Hew Wallace of Riccarton. In 1371 a royal charter confirmed the transfer of the lands of Rattray to Sir John Wallace from Sir John Lindsay of Cragy.<sup>14</sup>

In 1561 the rival claimant to the burgh of Rattray was the Master of Marischal, whose mother's family, the Keiths of Inverugie, had acquired Broadland of Rattray before 1495. Broadland had been feued in 1458 as a moiety of the former Douglas estate of Crimond and Rattray, forfeited to the Crown after the attainder of Hew Douglas, Earl of Ormond, in 1455.<sup>15</sup> In 1324 Archibald Douglas had been granted a royal charter of lands in Rattray and Crimond including the demesne lands of Rattray with its harbour (*terras dominicas de Rettref cum portu ejusdem*),<sup>16</sup> yet later references to the Douglas lordship do not mention the lands of Rattray.<sup>17</sup> Although clear evidence is lacking, it is possible that the lands of Rattray passed from the Douglasses to the Lindsays or to an intermediary, between 1324 and 1370.

King Robert (Bruce) had granted to Archibald Douglas part of the forfeited estate of John Comyn, Earl of Buchan, a bitter opponent of Bruce who died in 1308 after suffering defeat and the harrying of his lands at the hands of the King's forces. The Lordship of Rattray, comprising the parishes of Crimond and Lonmay, including the site of the burgh, had been part of the pre-feudal Lordship of Buchan, held by Celtic *mormaers* (later styled earls) for several centuries. William Comyn acquired the lands and the earldom through his marriage with Margaret, heiress of Fergus, last Celtic earl *c.* 1211x14. The reference to a harbour in the grant of 1324, the first documented reference to Rattray after the harrying of Buchan, suggests that a seagoing settlement existed by the Loch of Strathbeg under Comyn Lordship. Turning from the documents to the layout of the burgh it is permissible to speculate that the origin of the burgh mentioned in the late 14th century lies in the same period. It would require a powerful, ambitious and optimistic lord to dedicate an area of *c.* 36 ha (90 acres) to a burgh at Rattray at any time. If the locations of the

properties of Haddo and Broadland are considered, it seems inconceivable that the minor lords of Haddo, predecessors of the Earl of Erroll, could have done this. These factors suggest that the burgh was laid out when the area acknowledged a single lord, and point to a Comyn foundation of 13th-century date.

St Mary's Chapel has a documented link with the Comyns. A chartulary copy of a grant by William Comyn, Earl of Buchan (d. 1233), of the lands of Strichen and Kindrochit (in Rathen parish) for a rent of two stone of wax, records the additional information that, at a date unspecified, the wax rent formed an endowment of St Mary's Chapel at Rattray, then and for a long time a possession of the Earls of Buchan.<sup>18</sup> The upstanding fabric of St Mary's Chapel suggests a building date in the first third of the 13th century, with no evidence of an earlier phase visible. If the chapel is indeed a 13th-century foundation and not a possession of the Comyns' Celtic predecessors, it may have been deliberately sited as the focal point of a community planned to extend some distance from the castle. Certainly it is not conveniently located for the inhabitants of the castle and of a cluster of dwellings in its immediate vicinity.

The historical evidence is too fragmentary to permit firm conclusions, but there are sufficient pointers to an early foundation to suggest that the burgh of Rattray was a creation of the Comyns, probably in the mid-13th century.

#### BURGH TOPOGRAPHY: THE ARCHAEOLOGICAL EVIDENCE

The two main foci of the burgh, the church and the castle hill, were visible prior to excavation, lying *c.* 550 m apart, with the modern road line extending from the church towards the S. of the castle hill (Fig. 2). The 1869 Ordnance Survey map shows a field pattern which appears to focus on this line.

Following excavation, more detail can be added. It is fairly certain that the modern road is on the same line as the earlier road, although probably considerably wider. There was no evidence of a different alignment, either in the areas excavated, on the air photographs,<sup>19</sup> or in the geophysical survey.<sup>20</sup> There is no direct evidence concerning the extent of the road, either inland or E. of the castle. There is some slight evidence of a path between this road and the loch. In a trial trench N. of the road (Fig. 2:17) there was a strip of hard earth and small stones, *c.* 2 m wide, replaced by more hard earth with larger stones at intervals along the E. and W. edges. This has very tentatively been interpreted as a path. It was visible from just above natural to the base of the modern cultivation, associated pottery suggesting a date range from the 13th to the 15th century. It would appear to have extended N. from the road, towards the loch, but as it was only excavated in a small area, it is not conclusive. It is possible that it can be identified with a path or wynd mentioned in the documentary evidence (Fig. 3B). There may also have been a path from the castle to the road, as there was a path on the mound top, leading to a presumed entrance on the W. side. The Ordnance Survey notes refer to a causeway associated with the castle,<sup>21</sup> but its location is unclear and no evidence of it was found.

The built-up area of the settlement appears to have been fairly limited. The E. extent of the settlement was indicated by a medieval dune line extending N.-S., to

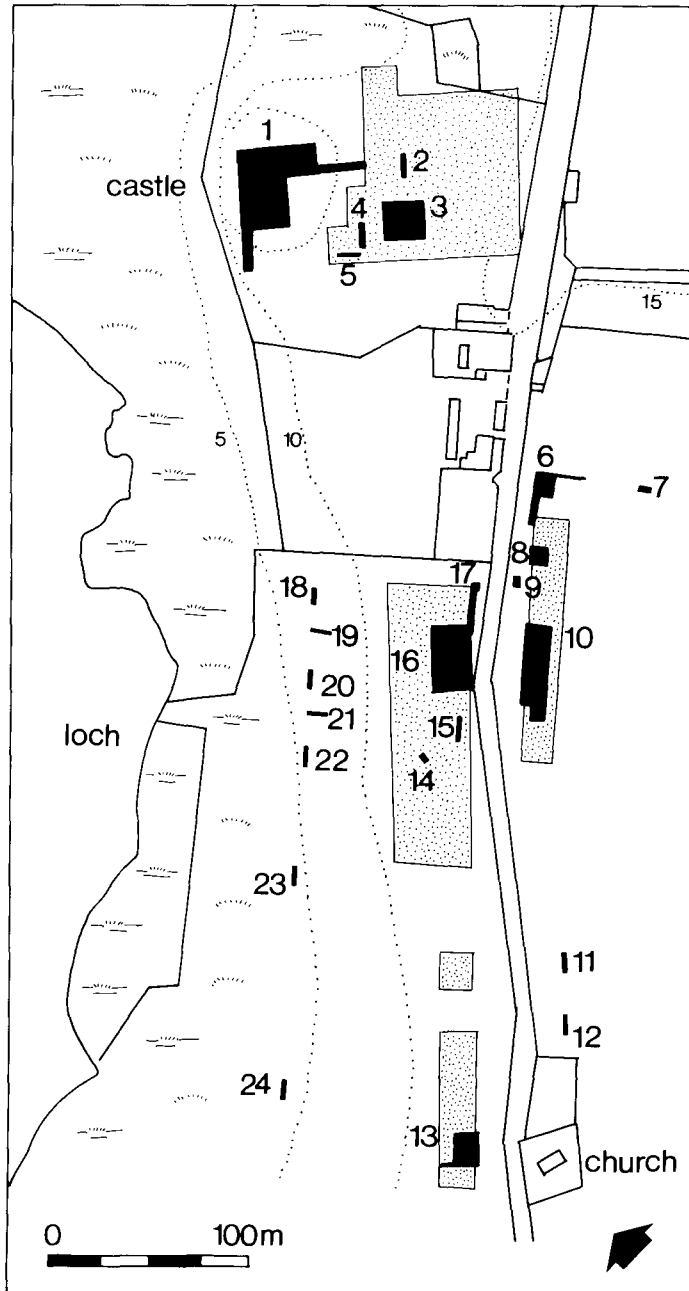


FIG. 2  
 Areas excavated (black) and surveyed by magnetometer or resistivity (stippled). Contour lines at 5 m intervals. Site codes: 1: CAS; 2: RB Area 4; 3: RB Area 1; 4: RB Area 2; 5: RB Area 3; 6: CP 1985, Area 1; 7: CP 1985, Area 3; 8: CP 500; 9: CP 1985, Area 4; 10: CP 700; 11: CP 1985, Area 2b; 12: CP 1985, Area 2a; 13: FP 500; 14: FP 800; 15: FP 45; 16: FP 1987; 17: FP Trial trench 1986; 18-24: Trial trenches FP 701-FP 707

the S. of the castle. Part of this was excavated (Fig. 2:2, 3, 4), showing no activity on the E., downward slope, but some 13th- and 14th-century structural and boundary evidence extending W. from the top edge of the dune (Fig. 13). The overall impression was of a fairly low level of activity with small amounts of medieval material; this can therefore be interpreted as the E. edge of the burgh, with no occupation between the edge of the dune and the boggy ground E. of the castle up to the old shore line. It is possible that much of this area may have been seasonally waterlogged.

At the opposite end of the settlement, trial trenches (Fig. 2:11, 12) to the S. of the road showed evidence of cultivation but no medieval material or structures, suggesting that the area was not built up in the medieval period. N. of the road, opposite the church, magnetometer survey and excavation (FP 500, Fig. 2:13) both revealed some activity. Although cultivation and erosion had removed all but cut features such as a series of boundary ditches and a pit, the scarcity even of unstratified material in the plough soil suggests that although clearly this area had been formally laid out in the 13th and 14th centuries, it may never have been a zone of intensive occupation. These two areas appear to confirm the hypothesis that the castle and church marked the E. and W. limits of the settlement. The N. limit of occupation was dictated by the landscape; there is a fairly level band of ground

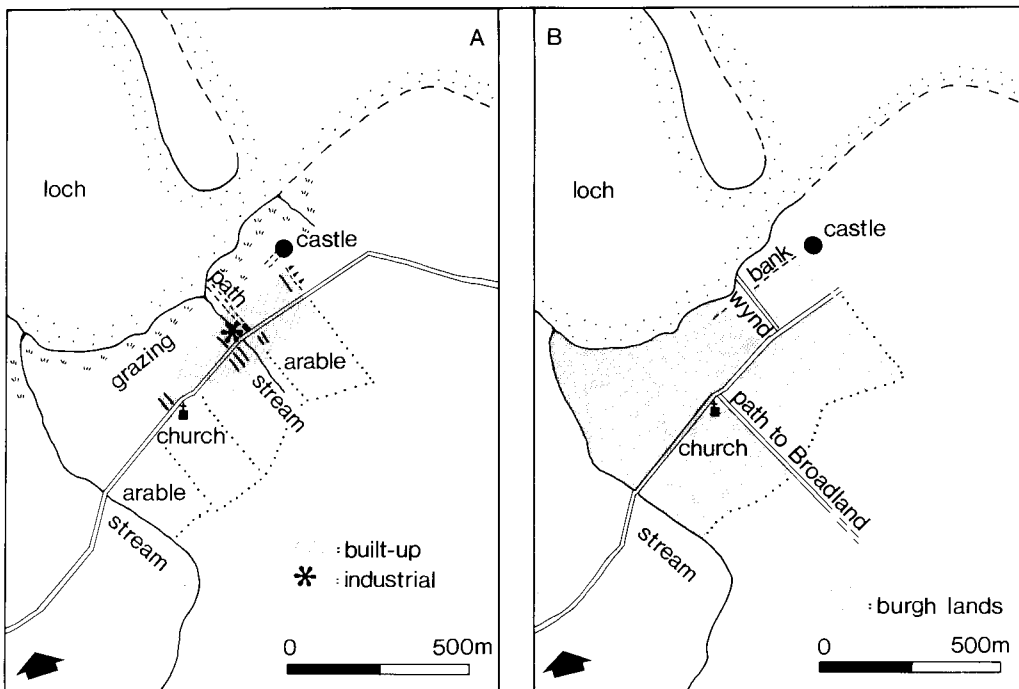


FIG. 3

Burgh topography. A: the archaeological evidence 13th-15th centuries; B: the documentary evidence 16th century

parallel to the road above the 10 m contour but below this the land slopes quite rapidly down to the edge of the loch. Extensive trial trenching (Fig. 2:18–24) in the lower ground showed that in the medieval period most of it would have been seasonally waterlogged saltmarsh, with a stream running through it into the loch. This stream was used as a boundary between two properties in the 13th and 14th centuries. The S. extent of the settlement is more difficult to define but trial trenches (Fig. 2:7, 11, 12) suggest that beyond *c.* 40 m S. of the road there was only cultivation. The built element of the settlement appears therefore to have been concentrated in a fairly limited band *c.* 100 × 600 m (Fig. 3A). Within this area, excavation has revealed an industrial area N. of the road, and more domestic areas S. of the road and at the E. and W. extents of the settlement. In all areas the properties appeared to be orientated NW./SE., with no apparent continuity across the road line. The various elements of the burgh will be discussed in the following order: church, castle and settlement.

#### BURGH TOPOGRAPHY: THE DOCUMENTARY EVIDENCE

By JUDITH A. CRIPPS

In his paper for the Buchan Field Club in 1888, the Laird of Rattray made use of an 18th-century estate plan detailing the layout of the burgh roods.<sup>22</sup> Unfortunately the plan is now lost, and this discussion of the burgh plan is based on a fresh appraisal of surviving records. Documentary evidence on the layout of the burgh roods is found in the boundary descriptions of property writs beginning in the 16th century, both in the Cumyn estate papers and among the Erroll Charters.<sup>23</sup> From these it is clear that the burgh roods ran from the burn of Rattray to the Castle Hill, and were divided into two blocks by the king's gate, which is once specifically stated to run from the chapel to the Castle Hill. This appears to be identical with the road now running parallel to the S. side of the loch. Roods are generally described as lying N. or S. of the road, but occasionally as lying E. or W. Thirty-seven plots have been identified, seventeen N. and twenty S. of the road. These total 140 roods, the plots ranging in size from one to eleven roods. The width of the rood is an unknown quantity, but taking into account the bounding plots mentioned in the describing clauses, the size of which remain unknown, the rood width is likely to lie within the range of 5.5–6 m (18–20 feet).

The N. boundary is given variously as 'the water of Strabeg', 'the loch' and 'the tideline'; the S. boundary is frequently assumed, but where given is 'Brodland' or 'lands of Brodland'. It is not clear where, in the 16th century, the boundary lay between Broadland and the burgh. Cumine states that the 18th-century burgh roods comprised roughly 75 Scotch acres (37.5 hectares).<sup>24</sup> On the 1869 Ordnance Survey Sheet the measurement of the fields N. and S. of the existing road, lying between the burn and the Castle Hill, total *c.* 90 imperial acres (*c.* 36 hectares).<sup>25</sup> An air photograph taken in 1983 shows a marked change in the pattern of ridge and furrow beyond the boundaries of the field S. of the road.<sup>26</sup> Thus it appears that this line of field boundaries marked the edge of the burgh roods and was the boundary with the lands of Broadland.



Other topographical features on the N. of the road include 'the bank' (1507) and 'the north bank' (1580). One property of ten roods is called 'Schavis bank and Sandy faldis' in 1507, and 'Schavis bank' in 1580, with 'le vyind' (1507) and 'lie schavis wynd' (1580) as its eastern boundary. Cumine states that the 18th-century map shows two paths to the shore,<sup>27</sup> but neither is apparent on the 1869 Ordnance Survey Sheet. South of the road adjacent to the burn lay a plot called 'wandeis yards' in 1514 and (apparently the same) 'wedeis weird' in 1564. Further E. were Greathead's Croft (1512) and 'Springs land' (1507, 1580). The way to Broadland bounded a plot in 1519. This may have been the chapel road from the S. part of the parish, and may be identical with the 'common loan of the burgh leading to the North Essies and Cruhill' (in St Fergus parish) mentioned in an action before Aberdeenshire Sheriff Court in 1606.<sup>28</sup> This road does not appear on the Ordnance Survey sheets (1867),<sup>29</sup> Broadland and North Essie both being approached from the main Fraserburgh–Peterhead highway.

Two of the earliest writs, for 1507 and 1512, include tenements as well as roods, presumably indicating the sites of dwellings, but as a group, the documents give the impression of a low level of habitation. The writ of 1507 was dated at the market cross of Rattray, the only reference to this structure noted to date. In 1564, when the proprietors of the burgh roods received new enfeoffments under the burgh charter, the churchyard was named as the location. It is likely that the market cross stood there, or thereabouts, rather than at the later market stance at Dipplebrae.<sup>30</sup>

The provisional layout of the burgh (Fig. 3B) also takes into consideration the present topography of the area. Thus both the bank and schavis bank are assumed to be in the vicinity of Castle Hill, and schavis wynd to be at the castle end of the burgh. On the S., the road from Broadland is presumed to have joined the king's gate in the vicinity of the chapel. Further examination of the later estate papers of the Cumyn and Hay families and those of other land owners in Crimond may contribute to a more exact grasp of the historical topography of the area.

#### ST MARY'S CHAPEL *By* I. FISHER

The chapel (Fig. 4) is of simple rectangular plan, measuring 13.8 m from E. to W. by 5.65 m within walls 0.85 m to 1 m in thickness. Both of the steeply pitched gable-walls survive to a height of about 8.5 m, but the N. wall has been reduced to about 2 m, and 0.5 m at the W. end, while the S. wall alternates between a general height of about 2 m and three areas reduced to 0.9 m or less, possibly perpetuating a late window-arrangement. Photographs of *c.* 1885 support the comment of 1896 that the building was in 'a tottering condition'.<sup>31</sup> It was subsequently heavily repointed with cement, which obscures much of the masonry, and both gables are cloaked in a dense growth of ivy.

The early photographs show that the walling was largely composed of small rubble, while use was also made of rounded field-boulders, often split to give a straight face, and irregular slabs of local igneous rubble. The original windows in the gable-walls retain some dressings of red sandstone, identified as coming from near New Aberdour,<sup>32</sup> and small surviving fragments show that the same material was

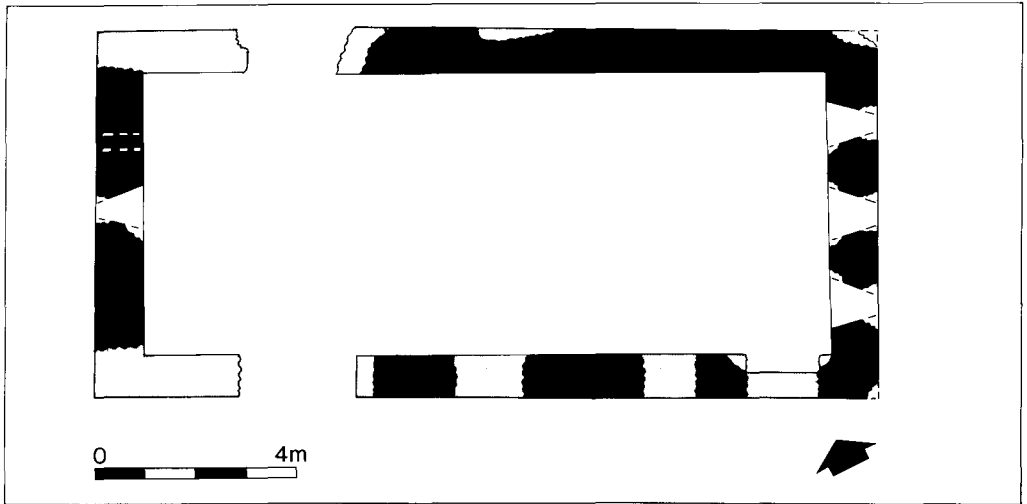


FIG. 4

Chapel of St Mary, Rattray. (Stipple indicates masonry reduced to low level)

used for the angle-quoins, which were totally robbed before the early 20th-century repairs, and in the former N. door. There were several horizontal joints in the masonry of the W. wall, probably indicating seasonal building-breaks, and one such joint is visible in the inner faces of the N. and W. walls about 1 m above ground level, which is itself at least 1 m above the original level. Parts of the inner faces of the side-walls have not been repointed and retain a hard gritty lime-mortar containing many fragments of shell, which was also probably used as a render on the masonry.

About 2 m from the W. end of each side-wall there is a rough opening which appears to perpetuate a doorway, a fragmentary block of red sandstone being preserved in the inner W. jamb in the N. wall; its alignment with that of the S. opening suggests that both are original features. The chapel was lit by a stepped group of three windows in the E. wall, with sills at a height of 0.75 m, and a single opening at a height of 1.6 m in the W. gable. The damaged external opening of the central E. light is *c.* 3.2 m high and its flanking lights, and the W. window, are about 2 m high. They had plain splayed sandstone inner jambs and arch-voussoirs and sloping sills which have been much altered and repointed. The surviving internal dressings include most of the N. jamb of the NE. window, the almost complete semicircular arch-head of the central light, and both arch-springers of the S. light which display shallow rectangular sockets designed to support the timber centering of the arch-head. The external window-dressings have been robbed, except for sandstone sills in the NE. and SE. lights which appear to have been altered, but the splayed jambs indicate an original daylight width of *c.* 0.4 m in the centre light and 0.3 m to 0.35 m in the flanking and W. windows. It is uncertain whether the window-heads were of semicircular or pointed form, and whether the jambs bore internal or external rebates. The only other features of probable medieval origin are the seating for a gable-rafter on the N. slope of the E. gable, and a put-log hole *c.* 1 m

below the W. window, both visible in early photographs, and a damaged socket penetrating the W. wall N. of the window and *c.* 1.3 m above its inner sill-level, which may again have been a put-log hole. Below the easternmost of the areas of low masonry in the S. wall there is a recess 1.3 m wide and 0.45 m deep which may represent a later window-embasement or a blocked doorway.

Despite its shattered condition, St Mary's Chapel is a rare example in E. Scotland of a 13th-century church which retains its original scale and at least most of its fenestration. The plain rectangular plan, found in a group of West Highland churches in the early 13th century,<sup>33</sup> replaced the normal Romanesque nave-and-chancel arrangement in a number of Lowland churches during that century. Examples in the north-east, both *c.* 2 m longer than Rattray, are Auchindoir in W. Aberdeenshire, which has a fine early 13th-century S. doorway, and the late 13th-century church at Altyre in Moray.<sup>34</sup> Both buildings had opposed doorways towards the W. ends of the side-walls, and were presumably divided by timber chancel-screens. The stepped grouping of E. windows appears in less pronounced form in several churches, including Cowie (Kincardineshire) where the pointed and moulded rear-arches indicate a later date than the plain arches at Rattray.<sup>35</sup> The general character of St Mary's Chapel is consistent with a date in the first third of the 13th century and the grant of wax by Earl William Comyn (1214x1233) was probably made when the existing building was ready for liturgical use.

The series of gaps in the masonry of the S. wall may indicate post-Reformation adaptation of the chapel, with the liturgical focus moving from the E. end to the pulpit, which was often set against the centre of the S. wall and flanked by windows, while the creation of an additional doorway would allow easier access to the pews in the E. end and a central communion-table. Even if the scanty evidence can support this suggestion of Reformed use, however, it was not of long duration, and the interior had probably become the burial place of local landowning families before the Rev. W. Gall wrote his description of the ruined chapel in 1794.<sup>36</sup>

## THE EXCAVATIONS

### THE CASTLE HILL

The castle site (CAS) is a naturally prominent sand dune, originally chosen for its strategic position near the harbour entrance. Before excavation it was a gentle grassy mound *c.* 60 × 70 m and *c.* 6 m higher than the surrounding field. Modern disturbance has included the removal of large ash-covered stones in the 1730s; a trench probably associated with this incident was found across part of the site.<sup>37</sup> During World War II a pillbox was built on the NE. quadrant which was, therefore, not excavated. Other disturbance was due to considerable rabbit and wind erosion, especially on the windward N. side. This constant erosion resulted in very thin and often disturbed stratigraphy on the N., with much thicker, better stratified deposits to the S. The stratigraphy has been divided into phases based on the main structural sequence.

*The Defensive Features (Figs. 5-7)*

A ditch around part of the base of the mound and a bank around the top perimeter were both probably constructed during Phase 1. Certainly the main Phase 3 building and two of the Phase 4 structures partly overlay the apparent line of the perimeter bank and the rubbish in the ditch fill above the initial silting included late 14th- and 15th-century pottery almost certainly derived from Phase 4. The ditch was sectioned on the S. side of the mound and possibly identified on the W. side. The W. section, excavated in 1985, was, in hindsight, not deep enough as it underestimated the overburden of windblown sand; there were, however, indications of the top edge of a possible continuation of the ditch. The ditch may have existed only on the landward side of the mound, as to the N. the site was protected by the sea inlet,

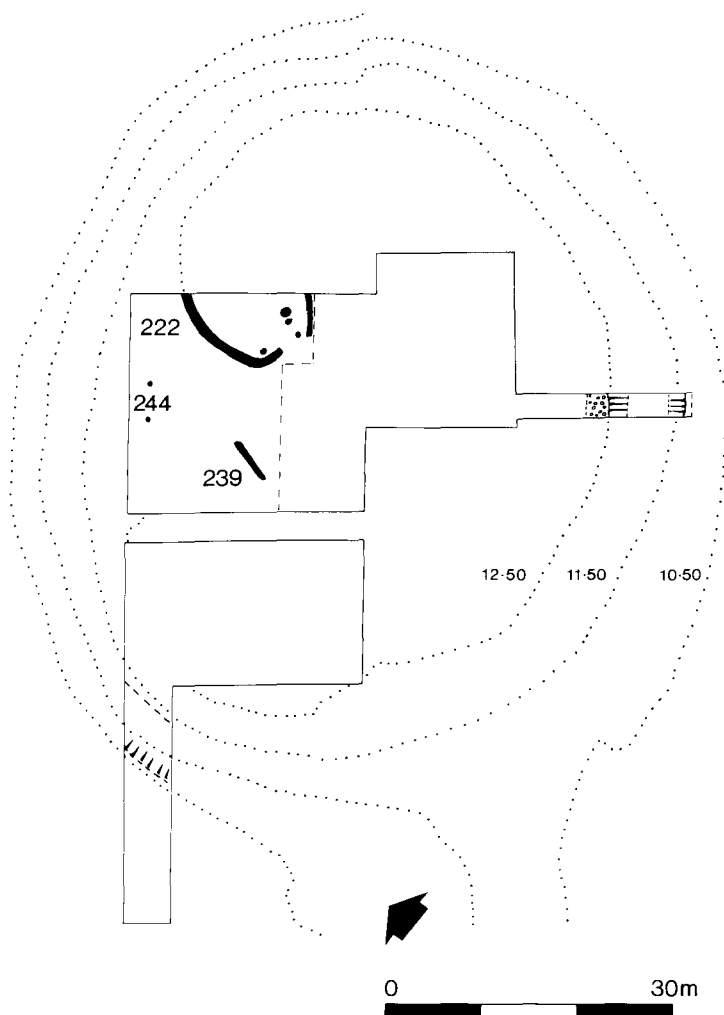


FIG. 5  
Castle hill, Phase 1  
(Location, Fig. 2:1)

and to the E., by marshy ground and a possible stream. This could not be proved, however, as neither magnetometer nor resistivity survey could locate the ditch, even where it did exist, either due to the depth of overburden or to interference from a nearby fence. Further excavated sections were impractical because of the considerable difficulties of stabilizing deep sections in the sand. The excavated part of the ditch was 8 m wide and 2 m deep, with a stone revetting along the inner edge. There was no evidence of an outer bank. The top perimeter bank was revealed as a slight ridge parallel to the mound edge and forming a limit to the earlier internal layers. Some stones and clay along the line suggest that there may have been a low wall or revetting. The original width of the bank may have been between 4 and 5 m. The bank was only clear in Phases 3 and 4, but appears to have been earlier as the Phase 3 and 4 structures lay across the line in places. The part of the perimeter excavated to Phase 1 levels had been badly eroded and only cut features survived, which included two large post-pits on the perimeter line (Fig. 5:244). These may perhaps have been part of a palisade, although it is possible that they were part of an unrelated structure.

The defensive features of the Phase 1 motte were very comparable to those found on other contemporary mottes excavated in NE. Scotland, such as Castlehill of Strachan<sup>38</sup> or Lumphanan<sup>39</sup> both in Kincardine and Deeside. Like Rattray, both of these sites used boggy ground and existing streams as defensive features. Strachan, as appears to have been the case at Rattray, had a ditch only on the side less well defended by natural features; the same site gives a parallel for the stone revetting of the mound face inside the ditch line. The Rattray ditch, although comparable in depth, was far wider than either the ditch at Strachan, which was 3.5 m, or the one at the motte at Barton Hill, Perthshire, which was 1.6 m.<sup>40</sup> It is difficult to assess the very ephemeral remains of a perimeter bank. The two truncated post-pits in Phase 1 may possibly have been part of a palisade similar to that found at Strachan. The Rattray evidence is perhaps nearest to the mid 13th-century remains of 'an insubstantial earth rampart' found around the edge of the mound top at Lumphanan.

Only in Phase 1 does the site appear to have been predominantly defensive. In Phases 3 and 4 some of the defensive elements remained but gradually the perimeter bank was built over and the ditch silted and filled with rubbish. This declining importance of the defensive role is comparable to that illustrated at Barton Hill, where a motte of late 12th- or early 13th-century date had a ditch which began to be filled with rubbish in the 14th century.

*Phase 1. Late 12th to early 13th century (Period I) (Fig. 5)*

The Phase 1 features were cut into the original medieval dune surface which was only excavated in a limited area. The main feature was a gully (CAS 222) enclosing a sub-oval area *c.* 8 × 10 m. The gully was U-shaped in section with a base width of between 0.27 and 0.29 m, splaying to between 0.6 and 1.25 m at the top and with a depth of between 0.3 and 0.4 m. Two post-holes 0.5 m in diameter flanked a 3 m gap in the gully and a double-cut post-pit lay inside, with post shadows, 0.20 and

0.26 m in diameter, in the base. Part of another gully (CAS 239) may indicate a similar structure to the W. It would be possible to interpret the gully either as a simple building, or as an unroofed animal stockade. The form of the gully suggests a wall of vertical timbering. It appears probable that there were several similar structures on the mound.

The structure can be seen as one of a series of sub-circular buildings on Scottish motte sites. A late 12th-century stone footing for a possible wooden building *c.* 6 m in diameter was found nearby at Cullykhan, Banffshire<sup>41</sup> and a 12th-century structure with a very similar gully, 12 m in diameter, was excavated at Castlehill, Peebles.<sup>42</sup> Another interesting parallel is the mid 13th-century building, 12–14 m in diameter, on Castlehill of Strachan, although that differs in that it covered virtually the whole surface of a small motte interpreted as a hunting lodge.<sup>43</sup>

Few finds were attributable to Phase 1, suggesting a fairly brief occupation. The pottery was predominantly Scottish E. coast white gritty wares, which can be dated to the late 12th or early 13th century; there were no datable small finds.

Phase 1 can probably be interpreted as a short term, primarily defensive motte, with wooden enclosures or huts on the protected summit.

*Phase 2. Early 13th century (Period I) (not illustrated)*

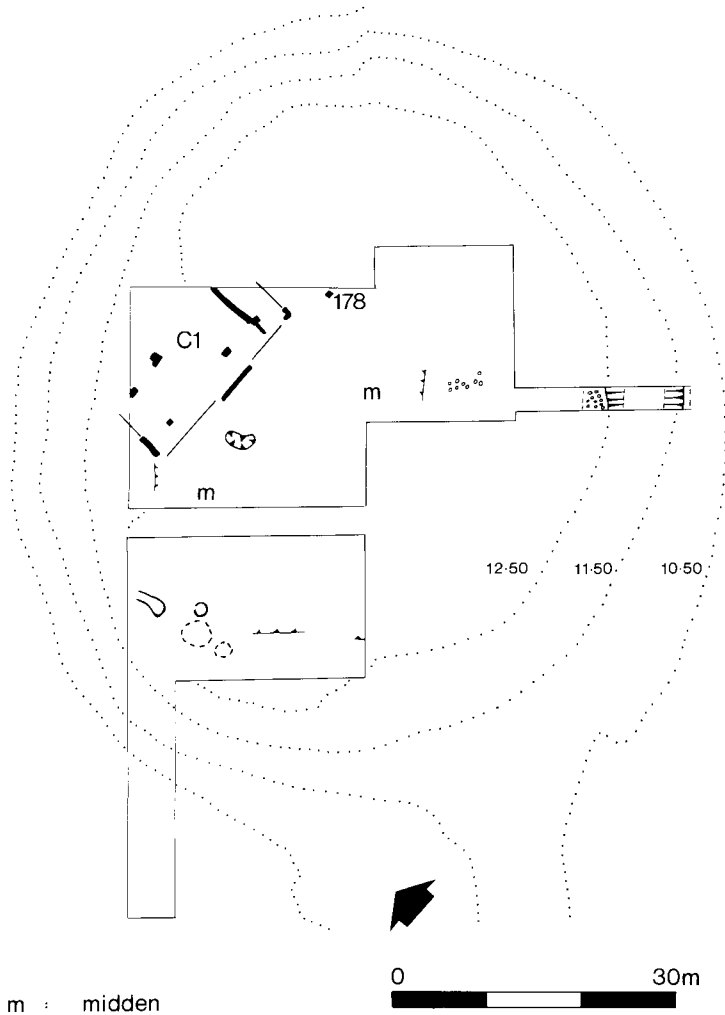
When the Phase 1 structures were abandoned, wind erosion caught the unprotected dune surface, scarping much of the N. side of the mound and redepositing up to a metre of sand over the slightly dished central area of the mound top. The build-up may have been a rapid process and appears, in relation to the finds from Phases 1 and 3, to date to the early 13th century.

*Phase 3. Early 13th to late 13th/early 14th century (Period II) (Fig. 6)*

In Phase 3, the castle hill appears no longer to have been used primarily as a defensive motte but to have assumed a more domestic role. It is probable that the ditch was still in use; the perimeter bank appears to have remained on the S. and W. sides of the mound, where it limited the spread of the Phase 3 internal layers, but the main Phase 3 building (C1) was situated along the N. edge of the mound breaching the bank line.

Only one building of Phase 3 has been excavated. This was a well-built aisled hall (C1), probably of timber-framed construction (see below and Fig. 9). It is possible that other structures existed elsewhere on the mound, either outside the excavated area or subsequently destroyed by Phase 4 activity. A block (CAS 178) comparable to those used in the main hall may indicate another building E. of the excavated area. The S. and central part of the mound surface appears to have been a yard with pits and a large midden. It is possible that several of a series of ovens may be as early as Phase 3, although most clearly belonged to Phase 4. Towards the end of Phase 3, the hall was burnt. Some of the stonework was robbed for use in the Phase 4 buildings and for the later ovens. Part of the Phase 3 hall was sealed by a Phase 4 building (C2), the rest was very disturbed by the ovens. Due to this degree of later

FIG. 6  
 Castle hill, Phase 3  
 (Location, Fig. 2:1)



disturbance it is difficult to isolate Phase 3 finds. However, the pottery suggests that a 13th- or early 14th-century date is probable and this is supported by the date of two of the coins from the burnt debris (Small Finds Catalogue nos. 2 and 4).

The Phase 3 dating appears to coincide with the Comyn ownership of the site, which probably extended between *c.* 1211 x 1233 and 1308 when Comyn was defeated by Bruce (Robert I of Scotland). It is tempting to suggest that the Phase 3 hall was burnt in Bruce's 'harrying of Buchan' in which he is reputed to have destroyed many of the Comyn possessions in 1308. Although Rattray has often been cited as one of a series of castles around the Comyn earldom of Buchan, it must be seen in perspective as, at most, a minor possession guarding a harbour, in no way comparing with major Comyn castles such as Balvenie, Banffshire (probably built in 1244–89).<sup>44</sup>

*Phase 4. Early 14th to mid/late 15th century (Period III) (Fig. 7)*

Phase 4 was the most complex period of activity on the castle site. After the timber-framed building of Phase 3 had burnt down, a series of stone buildings was constructed. The largest (B) is identified as a hall (see below and Fig. 10) placed roughly centrally with at least two ancillary buildings near the mound edge (A, C2 Fig. 11). While both of these ancillary buildings appear to have been in use during Phase 4, it is possible that C2 was built at the same time as the hall, being of the same construction, and that A may have been slightly earlier or later. C2 certainly fell out of use while the hall was still in existence and the ruins of C2 were covered with rubbish dumped from the hall. These two minor buildings may have been kitchens or stores, for although there was no internal evidence of function, each was in an area

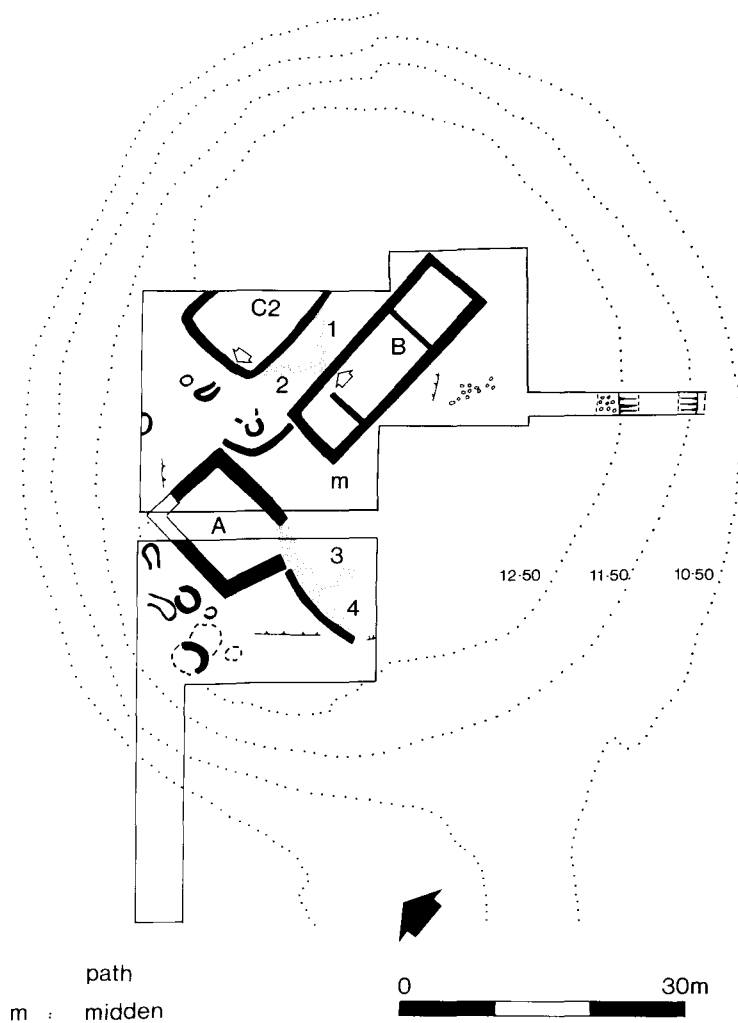


FIG. 7  
Castle hill, Phase 4  
(Location, Fig. 2:1)



of the site where there was a series of ovens. Not all of these ovens were in use simultaneously, some may even have been in use in Phase 3 and several of those attributed to Phase 4 cut into one another. The earlier ones were filled with rubbish after they fell out of use but the later examples, which may have been in use when the site was abandoned, were only filled with windblown sand. Several of these later ovens were over the area of the Phase 3 building and reused bits of the sandstone slabs used in its construction.

The greater concentration of ovens, including all those possibly attributable to Phase 3, were on the NW. side of the mound, to the back of Building A. The second group lay in the centre of the N. side, outside the W. entrance of Building C2, with two main ovens both opening towards the building. Apart from one small kiln (Fig. 8: CAS 65) which appeared to have been used, possibly on only one occasion, for melting down lead, the remainder of the structures appear to have been domestic in function as very little slag was found anywhere on the castle hill (see below: Industrial debris). The structure of the ovens varied (Fig. 8). Two (e.g. CAS 126) were well-built with clay-bonded stone walls forming circular chambers of between 1 and 1.15 m in internal diameter, with a single stone-lined flue. Both had stone bases with considerable evidence of burning. Overlying clay and stone rubble suggests that the walls had originally been considerably higher than the surviving 0.5 m. Unlike the pottery kilns elsewhere in the burgh, none of the daub had impressions suggesting a brushwood and clay roof. Another of the ovens (CAS 160), which was sheltered by an enclosing wall, had a roughly oval chamber 0.6 × 1.2 m internally, with flanking walls splaying out on either side of a wide rake-out area. Others (e.g. CAS 84) were larger circular structures with thicker stone walls but no separate flues. It is probable that several of these structures were in use at any one time, possibly for different functions, some as covered ovens for smoking meat and fish or baking bread, and others as open controlled hearths on which to heat vats for brewing, stewing meat or even dyeing cloth. Soil samples yielded only one unidentifiable carbonized grain, probably from chaff used as fuel or from food debris rather than from corn-drying. Corn-drying kilns, such as the 13th-century examples from Abercairny, Perthshire and Capo, Kincardineshire, generally contain considerable amounts of carbonized grain.<sup>45</sup> The fuel used in the ovens appears to have included small branchwood, heather and peat. Open-air ovens have been found on other Scottish medieval sites, for example a similar stone oven of 13th-century date at Cruggleton, Wigtownshire<sup>46</sup> and a 13th-century wattle and clay oven excavated in a medieval backyard in Aberdeen.<sup>47</sup>

Several areas of midden dumping occurred on the mound top, and even at this period only a little rubbish appears to have fallen into the ditch below. The surface of the mound would have been fairly muddy and for this reason there were a number of paths of worn cobbles extending across the site (Fig. 7:1-4). These are interesting in focusing attention on different areas of activity. Paths 1 and 2 link the hall to the possible kitchen (C2) and Path 3 suggests a building or an activity area in the unexcavated S. area. Path 4, the most worn of the paths, led towards the SW. side of the mound in the direction of the settlement and chapel and is the only indication, in any phase, of the position of the entrance to the mound. References in the Ordnance

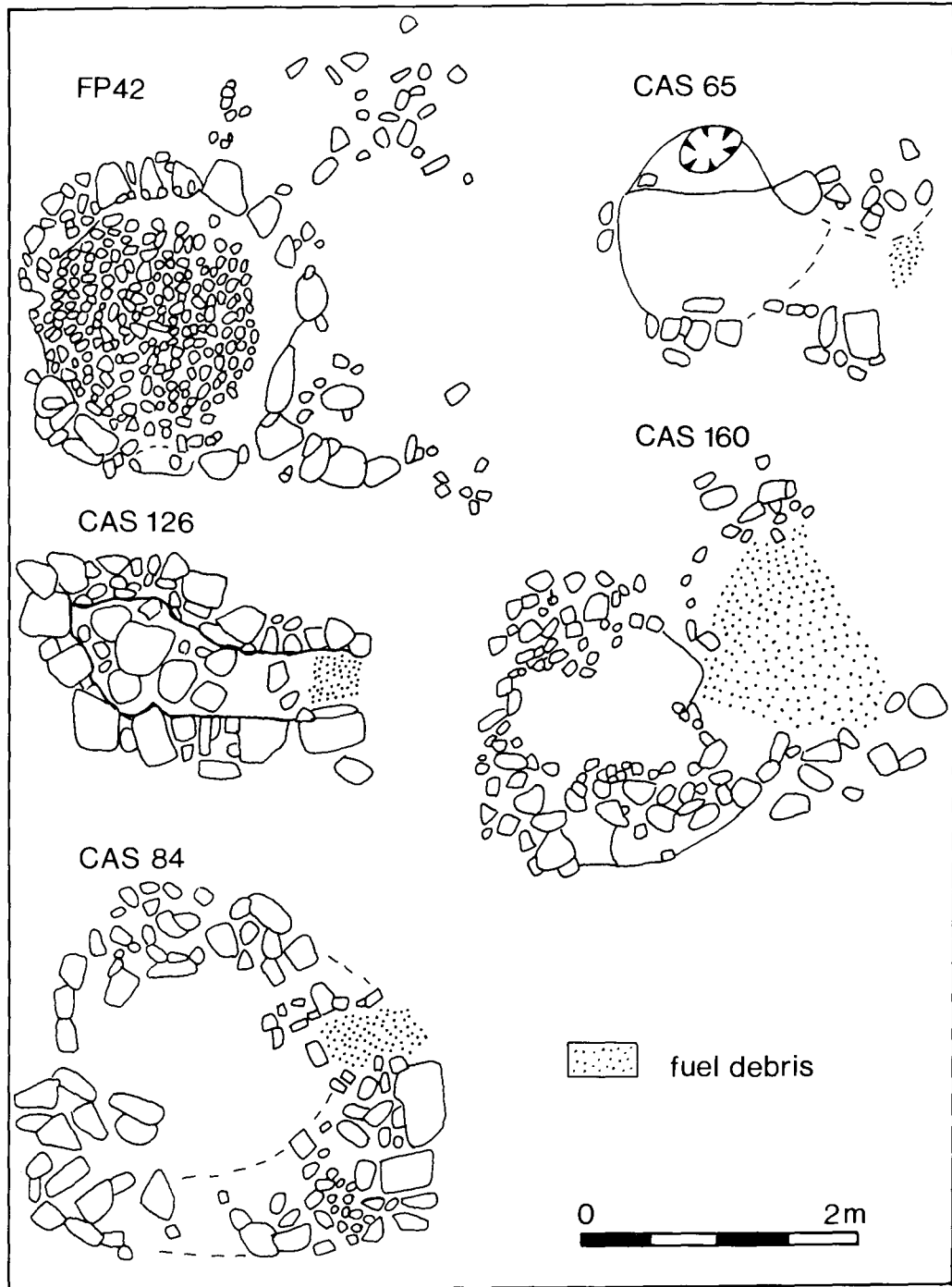


FIG. 8  
Ovens from the Castle hill and FP sites

Survey notes to a causeway found while digging drains<sup>48</sup> suggest that there may have been a stone pathway comparable to the causeway, possibly of 13th- or 15th-century date, found at the motte at Lumphanan.<sup>49</sup> However, at Rattray no evidence for a surviving causeway was found by the geophysical survey undertaken at the base of the mound, and a trial trench across the line between castle and settlement (Fig. 2:5) revealed no evidence of a path on the S. side, although it is possible that one lay further W. It is worth noting that, at Lumphanan, the stone causeway was continued near the outer bank by a path of trodden earth. If this had been the case at Rattray, neither trial trench or geophysical survey would necessarily have detected it.

The overall impression of the castle hill during this phase is of a moderately affluent household with its hall, stores and kitchens all built as an integrated group on the mound. The buildings were not themselves defensive but took advantage of the defensive nature of the mound itself and there may have been some surviving remnants of the bank and ditch. The whole unit is best described as a manor, without implying any feudal overtone. The *Dictionary of the Older Scottish Tongue* describes a *maner place* as the principal dwelling house of an estate with its immediately attached outbuildings and land.<sup>50</sup> The house at Cardross, Dumbartonshire, owned by Robert I (Bruce) is described as a manor with a 'hall, queen's chamber, chapel, kitchen and larder'.<sup>51</sup> Rattray, during Phase 4, would appear to have been a similar, albeit smaller, establishment.

Much of the artefactual material associated with Phase 4 can be dated to the 14th century but the quantity of late vessel forms among the pottery suggests that Phase 4 continued throughout the 14th century into the 15th century and it is perhaps possible to link this with the ownership of the site which began with the Douglases in 1324. The manor may have existed in this form for up to 100 or 150 years. It would appear to have been abandoned by the mid or late 15th century. Two coins which may derive from either the final use or the demolition of the site date to 1470–80 and 1488–1513 respectively (Small Finds Catalogue nos. 5 and 6).

This 14th- and 15th-century manor is a type which can be identified in the historical sources. It is, however, not easy to parallel in the archaeological record, partly because sites which may have had such a period of development have subsequently been rebuilt on a larger scale, but predominantly because few small motte and castle sites have yet been excavated in Scotland. Of the two in NE. Scotland which have been excavated, Strachan was probably a hunting lodge.<sup>52</sup> The manor of Ha'ton House on the Lumphanan motte was dated, predominantly by documentary evidence, to the late 15th century and is not therefore fully contemporary with Rattray, although similar in scale.<sup>53</sup> It is unfortunate that the 13th- and 14th-century levels at Lumphanan could not be excavated as, in this period, the site was a minor possession of a prominent family (Durward) and therefore potentially comparable to Rattray. The general impression of the Lumphanan evidence, of a lightly defensive site on a natural vantage point, is however very similar to Rattray and it is probable that some type of small, lightly defended manor was a common element in the rural settlement of parts of Scotland in the medieval period. It must be stressed that the use of such a term in no way implies any specific architectural form, but is an attempt to identify a type of settlement unit.

*Phase 5. Mid/late 15th century to early 16th century? (Period III) (not illustrated)*

The Phase 4 manor appears to have been abandoned by the mid or late 15th century. Windblown sand in the interior, below some of the later rubble, suggests that the shell of the building stood roofless for a while before the final demolition. This was then overlaid by a series of dumps of those stones not worth carting for reuse. These rubble dumps represent a period of stone robbing which removed all but the wall foundations which were outlined by rejected rubble stones. A cart track was cleared across the mound top for easier access to the stone of the main building; this overlay some of the rubble, and would therefore appear to belong to a secondary phase of robbing. There were few finds to indicate the date or duration of the robbing but the latest coins were from the late 15th and early 16th century (Small Finds Catalogue nos. 5 and 6).

*Phase 6 (Period IV) (not illustrated)*

In the Old Statistical Account of 1794 the castle mound is described as 'now covered with a deep soil and produces crops of grain and grass'.<sup>54</sup> In the same source it is noted that in the 1730s a Mr Arbuthnot of nearby Broadland 'caused dig up an eminence at the SE. side of the castle hill, where he found a great number of stones, supposed to belong to the kitchen of the castle, as the workmen found very large hearth stones covered with ashes.' Clearly by the 18th century no standing ruins remained. Finally, the sand was consolidated by grass and a thin topsoil established. Most recently the site has been used for rough grazing. In World War II, a pillbox was built on the mound to overlook the nearby naval base.

THE BUILDINGS *By* H. K. MURRAY*Phase 3 Building C1 (Fig. 9)*

Later features and the thin stratigraphy of the N. side of the site had destroyed much of Building C1. It was defined by fragments of walls coinciding with the extent of a layer of considerable burning and an area of clay flooring. The wall bases were well built of clay-bonded rubble stones with a few traces of mortar. The W. wall was *c.* 0.7 m wide but the other walls and an internal partition wall (CAS 105) were all *c.* 0.4 m wide. The rather narrow width, combined with the overlying thick burnt deposits and the vast numbers of nails in the burnt horizon (912 nails, see Small Finds Catalogue 75–80), suggests that the walls were of timber set on stone sills. The sill of the internal partition (CAS 105) was *c.* 0.3 m high and directly sealed by the burnt horizon, so it is possible that this was its original height. The exact nature of the wall structure must be speculative but the generally high standard of the layout suggests some form of timber framing. The majority of the associated nails were 60–100 mm long, possibly suggesting timbers *c.* 50 mm thick. There was little evidence of the wall cladding. Sills grooved to hold a cladding of wattle have been found in 13th- and 14th-century contexts on much smaller buildings in Perth<sup>55</sup> and possibly Aberdeen,<sup>56</sup> and there is some evidence of vertical planks set in sills in Perth.<sup>57</sup> There is a lack of surviving timber-framed buildings in Scotland but Stell has recorded a number of 16th- and 17th-century examples which attest to the later use of the construction.<sup>58</sup>

The interior of the building was divided into two or three rooms, the E. partition being a stone sill with a gap, probably for a doorway, at its S. end. A W. partition was indicated by a clay ridge and a shallow trench, both possibly derived from the robbing of a wall. The largest, central, room was 11–12 m long with a hearth on the longitudinal axis towards the E. end. A

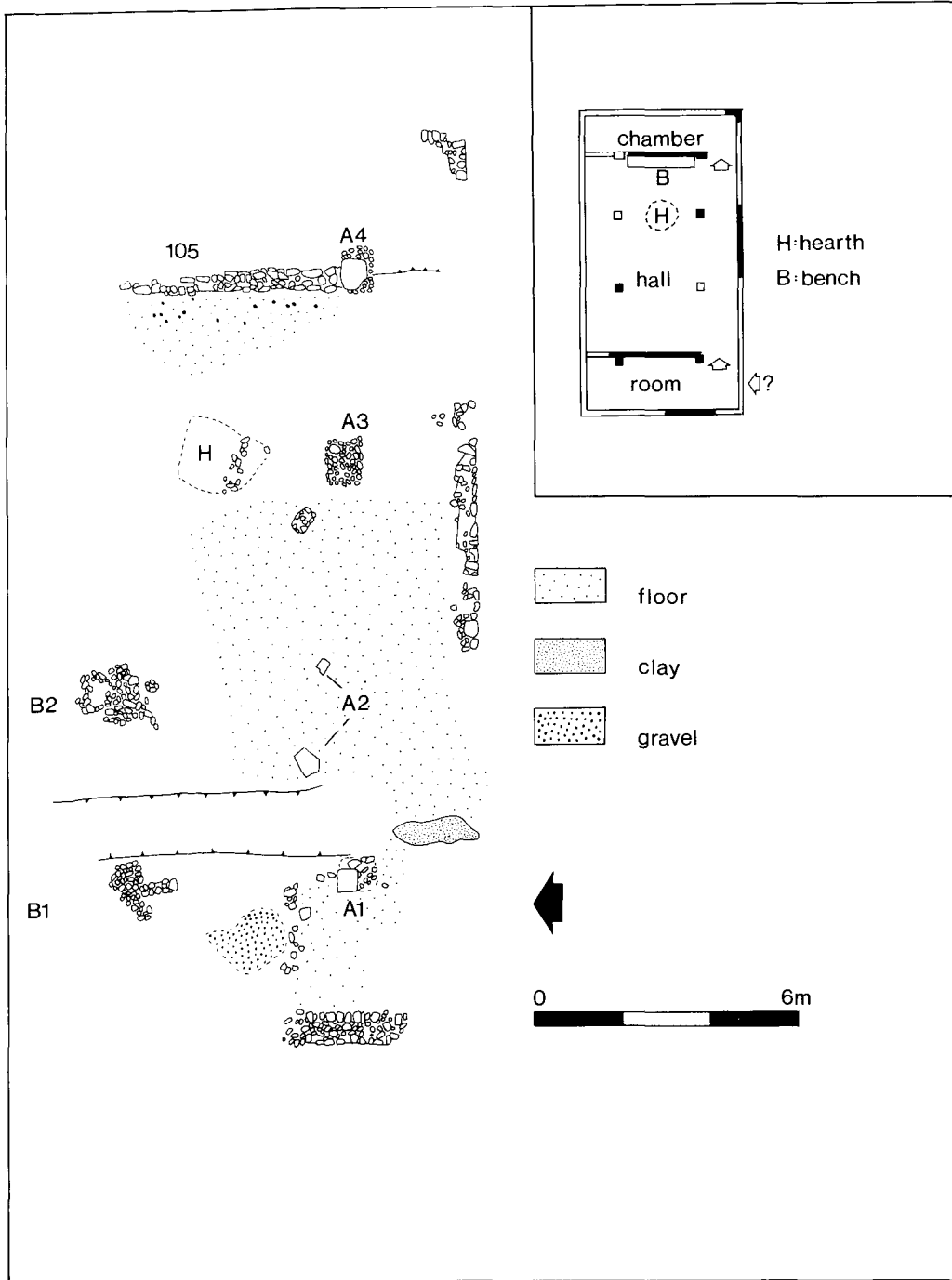


FIG. 9  
Castle hill, Building C1

number of small burnt vertical timbers and fragments of horizontal timber were concentrated along the W. side of the E. partition, forming a band 0.6–0.7 m wide, which can perhaps be interpreted as a bench alongside the partition wall nearest to the hearth. If this central room is regarded as the hall, the small E. room, c. 2.5 m wide, may be interpreted as a private chamber, with an entrance through the S. end of the dividing wall. The W. chamber, which was 3–3.5 m wide, may have included the main entrance to the building, as the clay floor was reinforced with spreads of small pebble stones.

Inside the building were two rows of rectangular cobbled settings of beach pebbles, several with sandstone slabs set on them (A<sub>1</sub>, A<sub>3</sub>, A<sub>4</sub>, B<sub>1</sub>, B<sub>2</sub>). The rows were 5 m apart, the S. line being 2.5 m from the S. wall. They were paired across the building (A<sub>1</sub>/B<sub>1</sub> etc.), the pairs being 4.2–4.5 m apart. Slab fragments A<sub>2</sub> had been disturbed and reused but would have corresponded to B<sub>2</sub>. The cobble bases, which would have given stability in the soft sand, were roughly rectangular and up to 1 m long. The slabs were between 0.45 × 0.54 × 0.08 m and 0.65 × 0.65 × 0.12 m, the more complete examples being dressed on all four sides and the upper surface, suggesting use as a plinth.<sup>59</sup> It can be suggested that these slabs held two rows of vertical timber posts.

The roof was presumably of thatch and appears to have had glazed tiles along the ridge (Pottery Catalogue 156) as fragments were found in the burnt layer from the destruction of the building. It is possible that window glass was used, as the window glass (Small Finds Catalogue 310–17) and associated lead found on the site appear to derive from both Phases 3 and 4.

In summary, this appears to have been an aisled hall with a chamber at one end and an entrance/service area at the other end. The overall internal length was 19.5 m and the width can be reconstructed as 10 m by reference to the aisle posts. Phase 3 has been dated by related finds to the 13th century, coinciding with the Comyn ownership of the site. This assumption can be further supported by the identification of the sandstone used for the plinth bases as being from the same source, near New Aberdour, as the stone used in window and doorway arches at the Comyn foundation of Deer Abbey and at St Mary's Chapel Rattray, also with Comyn associations, both of which can be dated to c. 1214–1233.<sup>60</sup>

The paucity of Scottish parallels for aisled buildings of this date is probably due to the small number of medieval timber buildings yet excavated in Scotland. One parallel, dated by dendrochronology to 1250–1280, was a rather pretentious burgh house on the High Street site in Perth.<sup>61</sup> This was about half the size of the Rattray structure, being c. 11.8 × 6 m, but the proportions were similar. Both examples would accord with the conclusions of Wood who, regarding the English evidence, suggests that aisled halls were common in the 13th century, but disappearing except among lesser houses by the end of the 14th century or early 15th century.<sup>62</sup>

#### *Phase 4 Building B (Fig. 10)*

Initially, Building B was only defined 'in negative' by bands of rubble on either side of robbed wall lines. However, when all the rubble was removed, several lengths of the actual walls were revealed. In those areas where no stone survived, the clay core and the rubble showed the wall line. The external size of the building was 23 × 7.5 m. At the W. end, the building overlay a midden and at the E. end the ground had been slightly levelled by cutting into the redeposited sand of Phase 2. The walls had been built without foundation trenches, probably due to the unstable ground surface, and to counter this cobble rafting had been laid under the wall in some places; this was clear at the SW. corner and near the NE. corner.

The walls were clay-bonded with inner and outer faces of field stones and smaller stones and clay in the wall core. The facing stones of the E. end of the N. wall and the N. end of the E. wall were smaller, suggesting a rebuild, but no break could be observed in the N. wall. The side walls were 0.8 m wide, the surviving E. gable only between 0.35 m and 0.5 m wide. The NE. corner appears to have been well-bonded continuous walling. It would appear that the side walls must have carried most of the roof weight. Although the walls were clearly

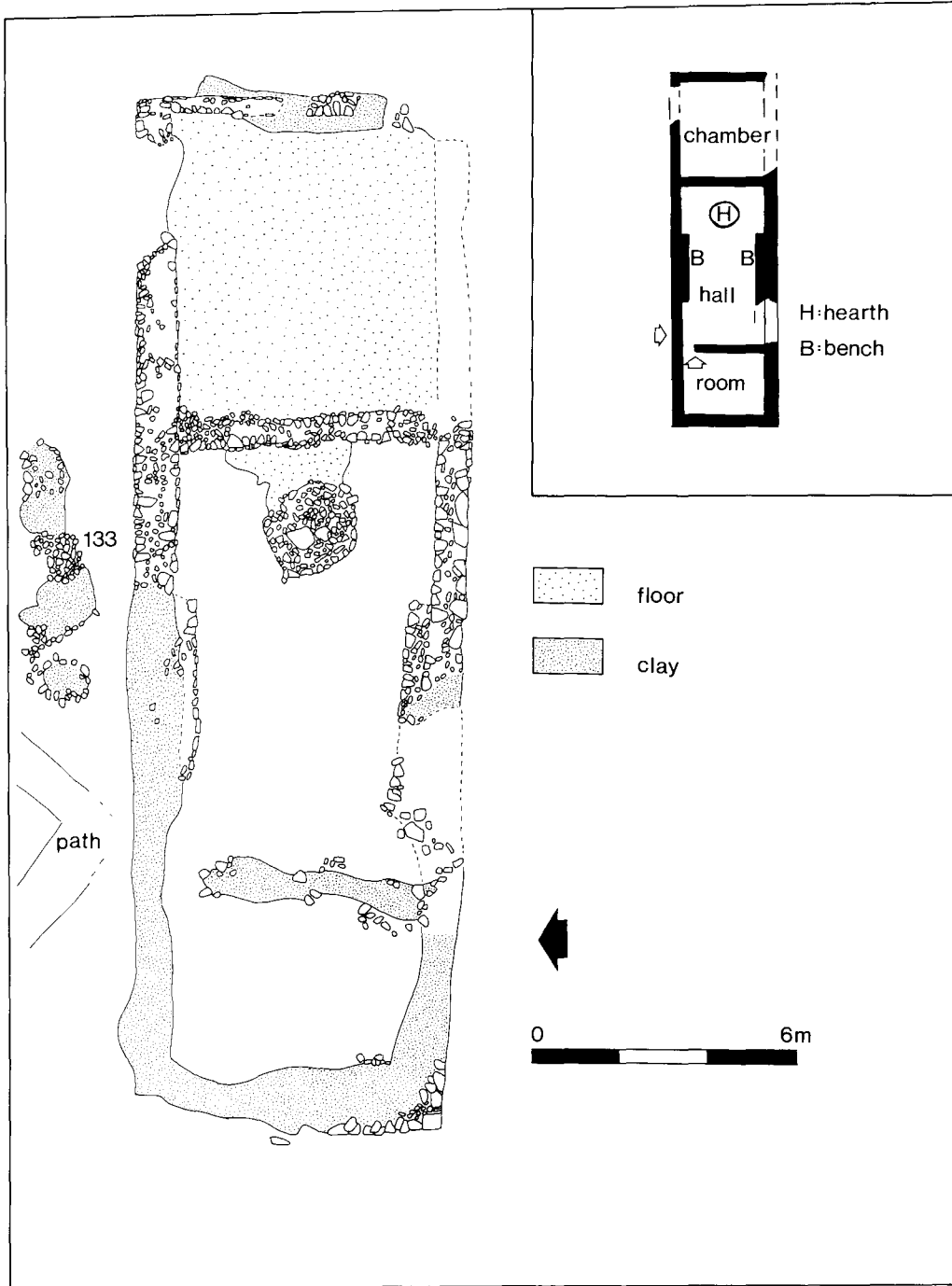


FIG. 10  
Castle hill, Building B

clay-bonded, a few fragments of mortar were found among the rubble; these may have derived from the stonework around doors and windows. One fragment of sandstone (Small Finds Catalogue 299) was part of a simple moulding from a small embrasure such a window; it appeared to be of 13th- or 14th-century date.

The interior of the building was divided by partitions into three rooms. The E. partition survived as a stone wall, 0.6 m wide, of the same construction as the main walls, which it abutted but to which it was not bonded. It had been built directly after the main wall as it directly overlapped the edge of the rafting under the main wall. The W. partition only survived as a band of clay, *c.* 0.85 m wide and 0.08 m thick, with a few associated stones. There was a wider, thin clay wash from this wall which overlapped the internal floor levels of the building and was probably post-demolition. As this end of the building had been badly robbed, it is not possible to decide if this wall was originally of clay or of stone, but the latter appears probable. Neither of the cross walls appear to have been fully load-bearing. They divided the interior into a central room 9.5 m long, with an E. room 6.8 m long and a W. room 4.5 m long. The internal width of the building was 5.8 m.

Some internal details influence interpretation of the three areas. A roughly circular stone setting lay on the longitudinal axis, near the E. end of the large central room. The setting was original to the building, being constructed on the same surface as the nearby cross wall. It comprised an area *c.* 1.9 m across made of flat stones and cobbles set on the sand, with clay packed in around them. The clay extended to the cross wall and to the N. wall, where it directly overlapped the foundation rafting, it did not extend further W. At the N./NW. side of the feature, the stones were heat-cracked and the clay burnt pink. The sand directly W. of the feature was also heat-coloured and some fragments of charcoal spread in the internal floor level of this central room. The degree of heating suggests a constant and considerable source of heat, but the lack of ashes suggests that a brazier or raised fire may have stood on the stone setting, rather than an open hearth. The rather small quantity of bone fragments in the internal floor layer suggests that the fire may have been for heating, not cooking.

Between the hearth position and the W. cross wall there were stone ledges built against the inner faces of the side walls. These were built on the same layer as the main walls but were not bonded into them. Each ledge was *c.* 0.5 m wide and 0.2 to 0.3 m high, with a well-set kerb facing into the room and smaller cobble stones well packed in between the edge and the main house wall. There was no bonding, the only small area of clay being wash-over from the destruction of the main wall. Both ledges appear to have been *c.* 4 m long. Clearly these could not have been load-bearing and are not therefore the footings of any vaulting. It is also unlikely that they would have held a timber floor as the occupation level (CAS 130) spread over the whole of the central room. It is, however, possible to interpret these features as benches, for which the width and height would have been very suitable.

The occupation level (CAS 130) was only located in the central room; it did not extend W. of the W. partition, thereby emphasizing that this was a barrier, not just an open passage. The E. room was clay floored.

No door openings were identified, but two contemporary paths converged on the N. wall suggesting an entrance into the central room at a point beside the W. partition. There was also a break in the W. partition at the N. end, possibly indicating an internal doorway between the central and W. rooms. There was no indication of a door between the central and E. rooms and it is possible that there may have been a separate external entrance into the E. room, possibly at the E. end of the N. wall.

There was no slate found in the rubble and it appears safe to assume a thatched roof. This need not imply a lack of sophistication as there was a thatched roof on the manor of Robert I (Bruce) at Cardross in the early 14th century.<sup>63</sup> The ridge of Building B may have been decorated with a row of glazed tiles. Ridge tile fragments were found associated with the earlier timber hall but some from Phases 4 and 5 suggest that they may also have been used in Building B. The finds of both window glass and lead, possibly from windows, are ambiguous. Some of the glass was stratified directly below the burning of Building C1 and may, therefore, have been broken at its destruction, but other fragments were from the rubble of



Building B and from the midden alongside it. It would appear possible that both of these buildings may have had glass windows. Most of the scrap lead derives from a small kiln of Phase 4 (CAS 65); it is not clear if this represents melting down of lead from Building C1 or preparation of lead from Building B or even both.

A major element in any reconstruction is to decide if this was a single- or two-storeyed building. At first, it appeared that a stone setting (CAS 133) to the N. of the building might have been part of an external stair. However, when the real wall face was excavated, it became clear that this was unlikely as CAS 133 was over 1 m from the outer face of the wall. It also became evident that CAS 133 was possibly an earlier feature, belonging to Phase 3. There was no other evidence of a stair. The walls do not appear very thick for a two-storeyed structure on an unstable surface and, lacking any other positive evidence, it is perhaps better to consider this as a single-storeyed ground-level building. In this light the central room can be interpreted as a hall with hearth and benches, with the main chamber at the E. end with its clay floor and possible separate entrance, and a second chamber to the W. The ancillary buildings (A, C2) would therefore have absorbed other functions such as storage and kitchens which in a two-storeyed building might have been set below the hall. While it is relatively easy to indicate parallels to Building B that have similar proportions or overall size, it is more difficult to suggest buildings which are also functionally similar.

The late 14th-century buildings excavated at Threave, Galloway,<sup>64</sup> for example, are interesting in view of the fact that Threave was a Douglas stronghold and Rattray was in Douglas ownership for part of the early 14th century. Building 2 at Threave was *c.* 21.6 × 6.7 m externally, with internal divisions into three rooms, although these were of different proportions to those at Rattray. The walls were *c.* 1 m thick and the excavator has interpreted it as a two-storeyed building with a first-floor hall, providing extra accommodation to supplement that of the existing towerhouse. Building 1 at Threave was of different proportions, with far wider wall rafting/foundations but mention must be made of a stone setting very similar to the 'hearth' in Building B. In the Threave example, however, it was interpreted as a support for a screens passage in the suggested second-floor hall. Clearly these parallels are less valid than they superficially appear if the Rattray building is accepted as a single-storeyed structure and it must also be questioned to what extent the halls subsidiary to a towerhouse would have been similar to the main building of a less important site.

A possibly closer analogy might be the manor Ha'ton House on Lumphanan motte, in Kincardine and Deeside.<sup>65</sup> The building, dated on documentary grounds to the late 15th century, was *c.* 18 × 7 m externally, with walls *c.* 1 m thick. An external stairway was suggested by post-holes in a trench alongside the wall. This has been interpreted as a hall house. Hall houses, as defined by Bryce, had an undercroft and a first-floor hall each with a separate entry and ranging in size from *c.* 30 × 9 m to 12 × 7 m.<sup>66</sup> The 13th-century standing ruin of Boharm is described as having a main chamber and hall on the first floor, the building being *c.* 41 × 7.6 m, with walls *c.* 2.4 m thick, standing to a height of 6 m. While Rattray Building B clearly fits in with the size range of these buildings, it could only be regarded as a hall house by this definition if it could be argued without doubt to have had two storeys.

#### *Phase 4 Building C2 (Fig. 11)*

Building C2 appeared to have been in ruins while the hall remained in use, but both were of similar construction and appear to have been built at the same time. The E. part of this building had been robbed and the remains of the walls were covered by a series of midden deposits. The better surviving W. wall appeared similar to the walls of the hall, with rubble lying on either side of a clay core. None of the wall stones were *in situ*, but the quantity of rubble suggests a clay-bonded rubble stone wall of *c.* 0.8–1.0 m width. At the S. and E. ends of the building only traces of the clay and few stones remained. The building was 8–9 m wide N.–S. by at least 8 m E.–W. No internal features were identified but a gap in the clay at the S. end of the W. wall, coinciding with an inner sill of four or five worn flat stones, indicates a doorway, *c.* 1 m wide. Interestingly, this entrance opened towards the small ovens and

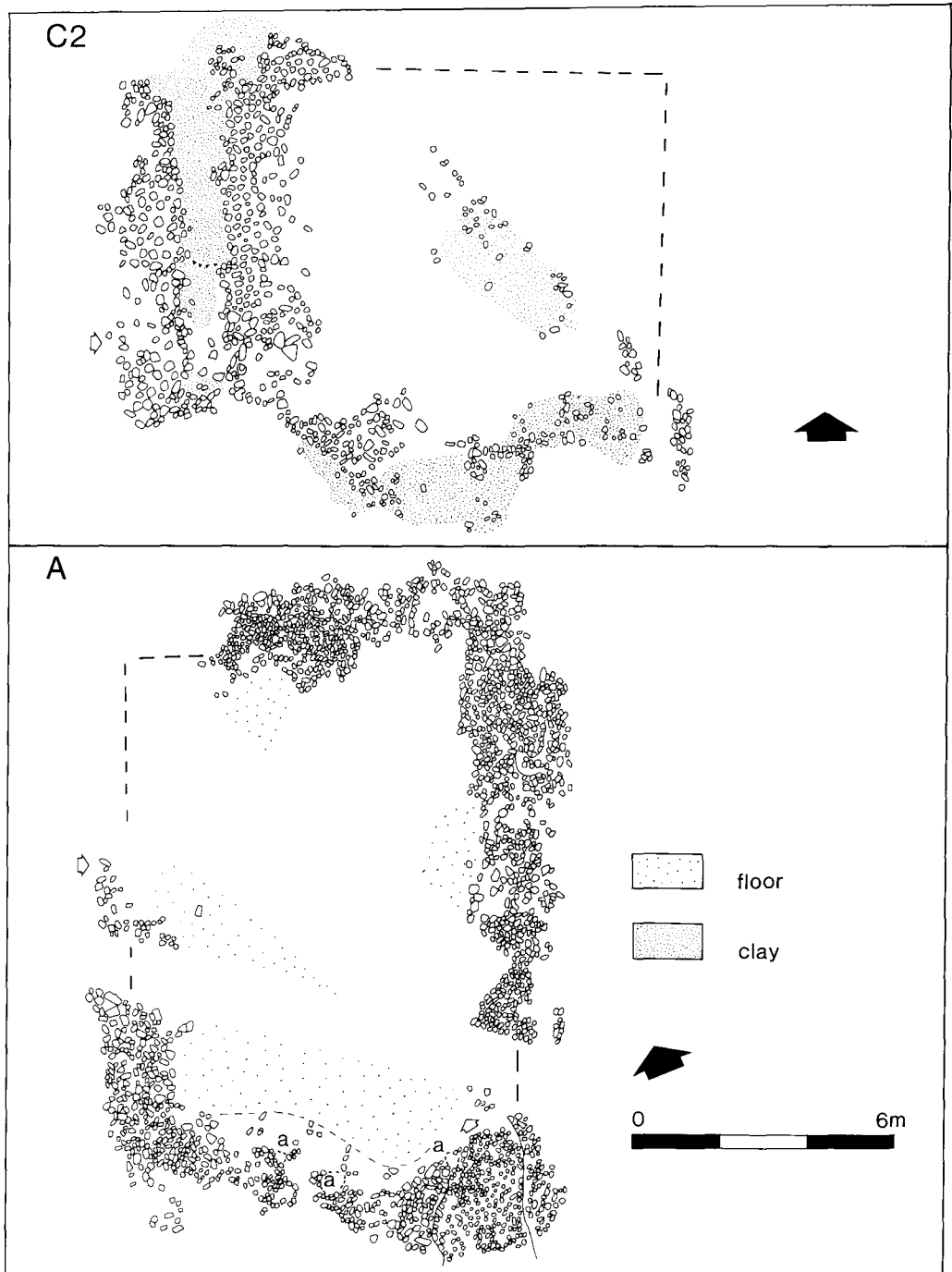


FIG. 11  
Castle hill, Buildings C2 and A

hearths in the yard area, suggesting that this building may have been used as a kitchen or food store.

*Phase 4 Building A (Fig. 11)*

Building A appears to have been roughly rectangular, with internal dimensions of *c.* 11–12 m × *c.* 7 m. The walls were completely different from those of the hall or Building C2, with foundations of small rubble stones set in a band of average 1.5 m width with no bonding or associated clay. The stones were not worn but were set cobble fashion with some small pebbles between. Although these foundations were superficially similar to the wall rafting of Threave, Building 1, the latter was mortared and more evenly laid.<sup>67</sup> There was no indication of the main wall construction. Three rather vague circular settings (Fig. 11:a) *c.* 0.4 m in diameter were found on the S. wall line; no post-holes were identified. A gravel floor had been laid within the structure; this stopped *c.* 0.6 m away from the rather scattered stones of the S. wall foundation, probably indicating its original width.

There were two possible entrances; in the SE. corner a path of well-worn cobbles led to a gap 1.4–1.6 m wide in the rougher wall foundation cobbles. One of the circular settings or possible post positions flanking this gap may indicate a door post. A second gap in the middle of the W. wall could have been either another entrance leading to the ovens in the yard area, or merely a more destroyed part of the wall.

There was no evidence of function, but the proximity to the ovens again suggests a kitchen or food store. Although the hall and both the ancillary buildings were broadly contemporary, the difference in construction suggests that Building A may have been built slightly before or after the other two structures.

THE SETTLEMENT

*Boundaries and properties: the archaeological evidence*

In the 13th and early 14th century (Period II); the properties of the settlement were divided by ditches (Fig. 12). Apart from a few irregular gullies (e.g. Fig. 14:FP 502, 511, 508) interpreted as drainage channels, the earliest evidence for activity in most areas was a series of roughly parallel ditches extending NW./SE. (e.g. Fig. 14:FP 501, 510). These ditches were U-shaped in section, with a top width of between 0.6 and 1.1 m tapering to between 0.22 and 0.44 m, and with depths of between 0.33 and 0.63 m. They appear to have enclosed separate areas of activity and have therefore been interpreted as boundary ditches. The use of ditches as boundaries was common in Scottish medieval settlements. A stream which also ran NW./SE. had been used as a boundary in the 13th century (Fig. 15, 16), but appears to have silted up by the 14th century. This was identified on both sides of the road and in a trial trench by the loch; it was the only boundary which could be proved to extend on either side of the road.

Only three E./W. ditches were excavated. Two of these (Fig. 15:CP 750, 770) appear to have been short-lived features and may have been for drainage rather than as boundaries, or may have been divisions within a property, as neither line was repeated. A third E./W. ditch (Fig. 2:9) was larger, being more than 0.64 m wide and 0.45 m deep (it extended into the section) and ran parallel to the S. side of the road. It is tempting to suggest that this was a boundary on the road edge of the S. properties but as only a short section was excavated this is inconclusive; neither further excavation nor geophysical survey was possible on this line because of the proximity to the modern fence and drystone wall.

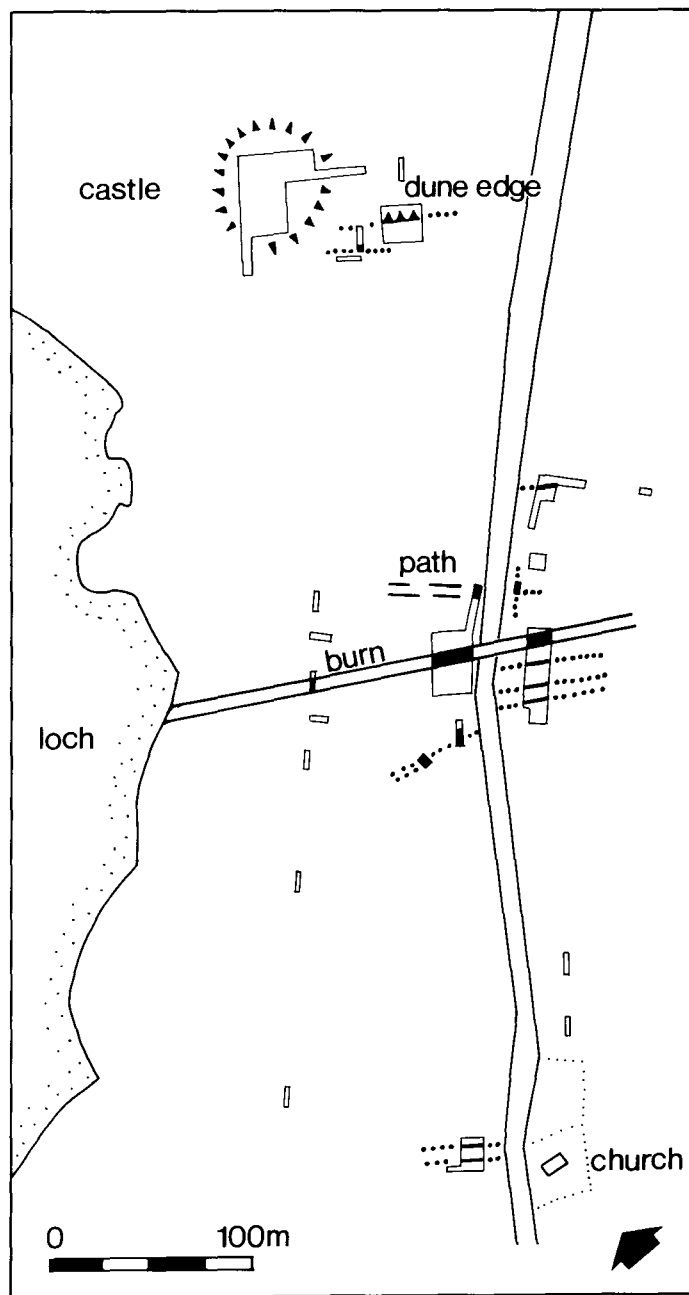


FIG. 12

Rattray, Period II, 13th-century boundaries (excavated line: black; assumed line: dotted)

In the 14th and 15th centuries (Period III), the boundaries were less uniform, with a ditch (e.g. Fig. 15:CP 730), a drystone wall (e.g. Fig. 15:CP 718) and stone lines or markers (e.g. Fig. 14:FP 503) all dividing what appeared to have been separate properties.

The possible path mentioned above (p. 113 and Fig. 3) may also have divided two properties. Parts of fourteen properties were identified in the 13th-century levels, and they varied in width. The properties opposite the church were 10 m wide and those in the central area S. of the road ranged between 6 and 11 m. In the industrial area N. of the road, the widths of the industrial properties were over 13 m and possibly as much as 25 or 30 m.

There was some evidence of the amalgamation of properties in the 14th and 15th centuries, especially to the S. of the road where the boundaries changed and four or five properties were replaced by two properties of between 20 and 25 m in width (Fig. 15). In the industrial area the properties appeared unchanged, but there was less apparent activity in them in the 14th and 15th centuries than in the 13th century.

One NW./SE. ditch line (FP 45, Fig. 2:15) was far larger than the rest and was originally thought to have been a defensive enclosure ditch around the W. of the main area of settlement. It was first identified in the magnetometer survey, extending from the road towards the loch and it was sectioned beside the potting tenement where it proved to be a massive ditch 6 or 7 m wide at the top and 1.4 m deep, cut into a band of natural clay. Sectioned 20 m further N. (FP 800, Fig. 2:14), however, it was seen to be two separate, successive, ditches on the same line, the earlier being 2 m wide and 0.6 m deep, the later being only 1 m wide and 0.8 m deep. So, although clearly an important boundary, it does not appear to have had the defensive possibilities indicated by the original section. It is suggested, therefore, that the extreme size of the ditch at its S. end may have been due to the adjacent potters realizing that the ditch cut into a band of clay and digging the clay out, thereby vastly extending the ditch.

### *The Domestic Zones*

The core area of the settlement divides into two zones; to the N. of the road was the extensive industrial area which is discussed below. Elsewhere, the properties were more domestic. The most detailed evidence came from area CP 700 (Fig. 2:10) where the stratigraphy was least disturbed, but even here the E. end had some cultivation damage down to 13th-century levels. In the two main areas excavated further E. only features cutting into, or lying directly on the surface of, natural remained. In CP 1985, Area 1 (Fig. 2:6) a faint boundary divided the site into two properties, in the W. property there was a single post-hole, in the E. property there was a post-hole and an area of burning. In site CP 500 (Fig. 2:8), the earliest feature was a slightly in-cut hearth, 2.9 × 3.8 m, with part of a stone kerb surviving. Burnt shell in the lower fill may link this with a small shell-filled pit, although this could not be closely dated. Another small pit was filled with domestic rubbish. These features were sealed by a homogeneous layer on which lay a small dump of daub and

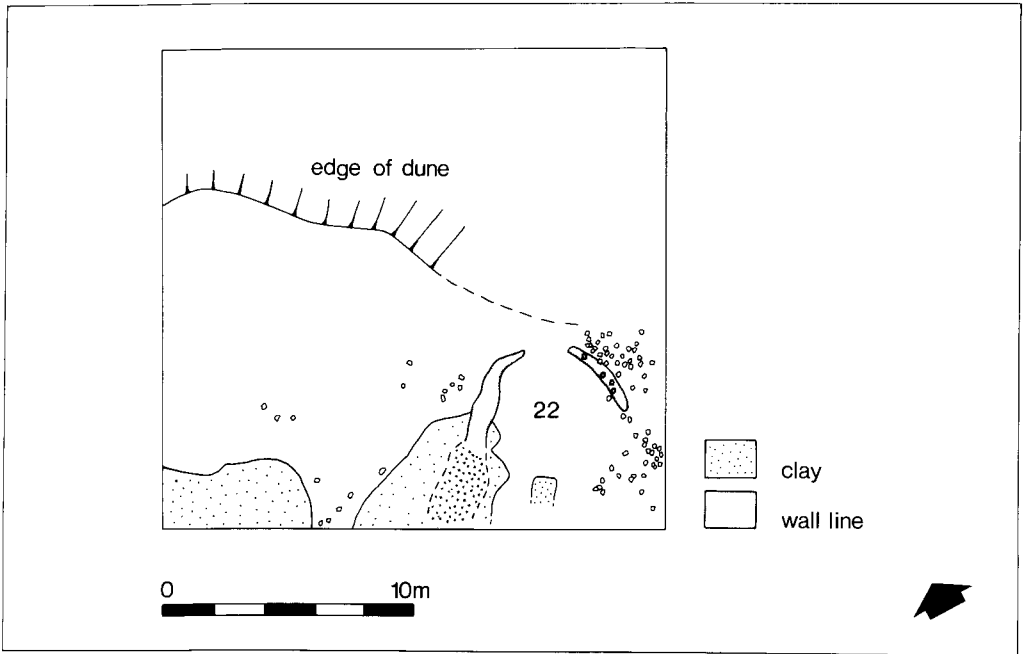


FIG. 13  
RB, Area 1 (Location, Fig. 2:3)

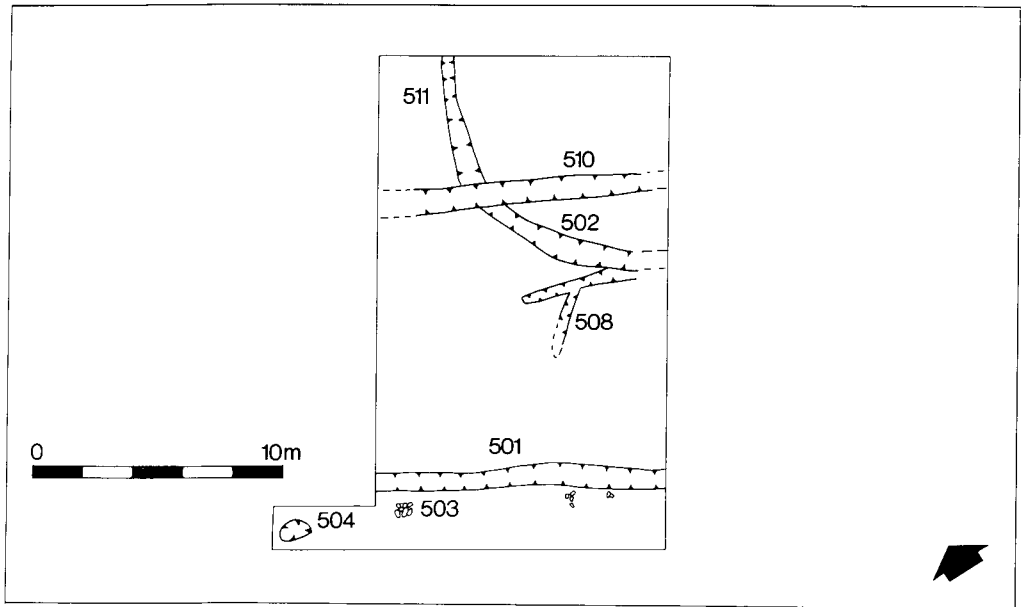


FIG. 14  
FP 500 (Location, Fig. 2:13)

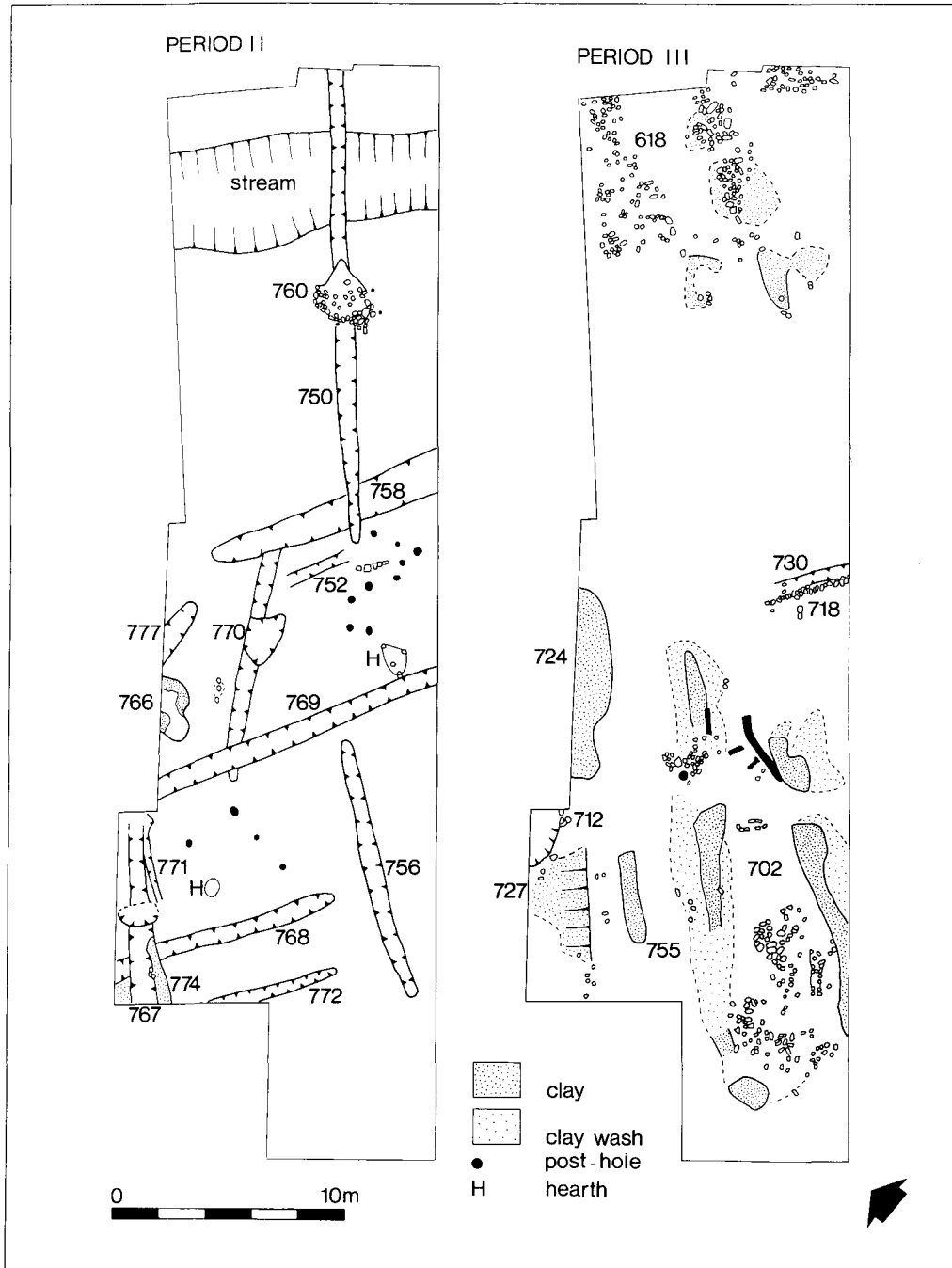


FIG. 15  
CP 700 in Periods II and III (Location, Fig. 2:10)

charcoal. All the evidence from these sites suggests yard areas with no very intensive use; two or three properties appear to have been involved, with associated buildings probably lying in those areas of the properties outside the excavation. Little slag or industrial material was found, indicating domestic use.

At the E. end of the settlement, to the N. of the road (RB Area 1. Fig. 2:3 and Fig. 13), there were traces of a small 13th- or 14th-century building on the top of the medieval dune and in site RB Area 2 (Fig. 2:4) there was a NW./SE. property boundary. At the W. limit of excavation (FP 500. Fig. 2:13 and Fig. 14), no structural remains survived, but pits, boundaries and the range of finds suggest domestic rather than industrial use.

In CP 700 (Fig. 2:10 and Fig. 15), two phases of activity can be identified. The earliest features on the site in the 13th century (Period II) were a series of fairly shallow drainage ditches (e.g. CP 770). Then the area was divided by ditches into four or five properties, in two of which there were ephemeral traces of wooden structures (CP 771, 752), both including hearths. At the N. end of one of these properties there was a small clay-lined oven or furnace (CP 766), 0.5 m in diameter, which may have been domestic; two fragments of scrap lead were associated but may have been coincidental as there was no evidence of long-term industrial use. No buildings were found in the E. properties, which appear to have been yards on either side of the stream. Towards the end of Period II, when the stream had silted up, an E./W. gully (CP 750) cut across the line of the stream and after the gully itself had filled, a hearth foundation (CP 760) was cut into the top of it. The hearth was  $2.6 \times 1.8$  m with a base of gravel and pebbles set in clay, with a stone kerb. There was some heat discoloration, ash and charcoal. Three small post-holes near the margin suggest that it may have had a shelter but the lack of daub and stone rubble makes a cover unlikely. There was no associated slag and the oven was probably domestic. By the 14th century (Period III) the area was redivided into two properties. In the W. property there was a large clay-walled building (CP 702), which had been destroyed by fire. To the N. of this and separated from it by a short clay wall (CP 755), was a slightly sunken area of clay (CP 727),  $0.5 \times 2.5$  m, extending beyond the excavation. Part of the clay had been fired to a hard red surface covered with charcoal, but this may have happened at the same time as the building to the S. was burnt. A further spread of clay lay to the E. (CP 724). These features may have been part of another building but this was by no means clear. They cut a small pit (CP 712) filled with shell and some pottery. In the E. property there were the remains of another very disturbed building (CP 618) with a yard adjoining. The overall impression of all these properties between the 13th and 15th centuries is of a series of small, probably domestic, buildings and yards. In some cases, the buildings lay outwith the excavation, possibly nearer to the road. The yards appear to have been very uncluttered with few pits, probably because rubbish could be spread directly at the edge of the adjoining fields.

#### THE BUILDINGS *By* H. K. MURRAY

Parts of a total of eight buildings were identified in the settlement. These included buildings tentatively interpreted as workshops as well as domestic dwellings. Most were very



fragmentary; the details are described in the catalogue. Four can be dated to the 13th century (Fig. 15: CP 752, CP 771; Fig. 16: FP 49, FP 85), the evidence for all of which suggests that timber, possibly with turf, was the major structural element, with no associated stonework or clay. In one case there was a linear stain suggestive of a rotted earthfast timber. In the others, gullies were found which may have held earthfast timbers which were subsequently removed or may have been drains along wall lines. In all instances, post-holes for earthfast timbers were found, but with no clear pattern. Another structure, which cannot be dated more closely than to the 13th or the 14th century (Fig. 13: RB 22), was structurally similar. It was represented by a linear stain, possibly from an earthfast timber construction, with a scatter of small stones around the outer edge suggesting turf cladding. Clay found nearby was not clearly related to the structure.

All the buildings were between 4 and 5 m wide internally, but the length varied between 6 and 12 m. The largest structure has been interpreted as a workshop associated with the iron working. All the structures were probably roughly rectangular. The position of the entrance was only indicated in the workshop in the metalworking tenement, which had a gap in the wall line towards the end of one long side, which appears to have been an entrance facing towards the smithy area.

The three 14th-century buildings appear to have been of different construction. The most complete (Fig. 15: CP 702) had thick clay walls with stone and clay gables; in plan it was rectangular with opposed entrances in the side walls towards one end of the building. The other two 14th-century structures were more fragmentary but appear to have had clay or clay and stone walls. The size range was similar to the earliest period, with widths of between 3 and 5 m and lengths of between 7 and 18 m. The only roofing evidence suggests heather thatch.

It is interesting that both in the settlement and on the castle hill, the 13th-century buildings were predominantly of wood, whereas stone and clay were in greater use from the 14th century; this may have been due in part to an exhaustion of nearby timber supplies.

The size of the structures fits well with the range found in medieval buildings excavated in other Scottish medieval burghs such as Aberdeen or Perth, with increase in size achieved generally by an increase in length. Timber construction, especially of wattle or wattle set in ground sills, was common in 13th- and 14th-century Scottish towns.<sup>68</sup> There has been less excavated evidence of buildings using clay as the main structural element of walls, as opposed to its use as cladding; one small clay-walled building was excavated in Perth, although the clay was only *c.* 0.25 m thick, with some earthfast vertical timbers in the walls. However, there is documentary evidence suggesting that clay was commonly used in Aberdeenshire from at least the 16th century, although few rural buildings survive in Scotland which can be dated to before the Agricultural Improvements of *c.* 1750 onwards.<sup>69</sup> It is interesting that most of the vernacular examples had walls of no more than *c.* 0.6 m thickness. Evidence for heather thatch in Scotland indicates that it was well known and regarded as a very durable roofing and suggests that, due to the necessary pitch of 25–30°, the usual internal width of buildings so roofed was between 3.7 and 4.9 m, similar to the Rattray evidence.<sup>70</sup> If interpretation of the roof timbers of CP 702 as crucks is correct, they also fit into a background in which crucks are considered almost ubiquitous in smaller rural buildings of the pre-Improvement period.<sup>71</sup>

### *Catalogue of Buildings*

#### *Period II*

CP 752. 4 × 6 m<sup>2</sup> Fragmentary. Small gully (CP 752). Random post-holes, 0.24 to 0.35 m in diameter, 0.10 to 0.47 m deep. Dubious hearth. Plan: Fig. 15.

CP 771. 5 × 8 m<sup>2</sup> Gullies (CP 771, possibly CP 772, 756), 0.30 to 0.45 m wide, 0.06 to 0.12 m deep. Random post-holes, 0.20 to 0.34 m in diameter, 0.20 to 0.26 m deep. Possible hearth. Plan: Fig. 15.

*FP 49.* 4.5 × 7 m. Gullies with vertical inner edge, sloped or eroded outer edges. N. gully width: 0.84 to 1.24 m, 0.29 to 0.55 m deep. S. gully width: 0.45 to 0.67 m, 0.11 to 0.30 m deep. Two post-holes in line of S. gully. Two post-pits on longitudinal axis, 0.37 and 0.40 m in diameter and 0.13 to 0.18 m deep. Hard-baked area suggested possible hearth at one end. Plan: Fig. 16.

*FP 85.* c. 5 × 12 m. Stains of earthfast sills. N. wall, width 0.31 to 0.33 m wide, depth of stain 0.05 to 0.10 m. W. wall, width 0.22 to 0.24 m, depth of stain 0.09 m. Rather unconvincing post-holes, 0.04 to 0.09 m in diameter, alongside W. end of N. wall. Entrance gap to NW. Internal layers less charcoal than external layers. Plan: Fig. 16.

#### *Period II/III*

*RB 22.* c. 4/5 m × 7/8 m. Gully/stain, 0.33 to 0.36 m wide, 0.10 to 0.29 m deep, with a scatter of small stones along outer edge. Plan: Fig. 13.

#### *Period III*

*FP 77.* 6 × 5+ m. Clay floor with stones and clay along part of edge. Plan: Fig. 16.

*CP 618.* c. 4 × 7 m. Rough bands of stone and clay around rectangular area. Plan: Fig. 15.

*CP 702.* 3/4.5 × 15/18 m. The uncertainty about the length of this structure is due to the E. end having been partly disturbed by modern cultivation, the N. wall extending c. 3 m further E. than the S. wall. It is probable that this represents the original length, but it could be argued that it was the wall of a lean-to addition against the gable.

The side walls were of clay, averaging 0.7 to 1.0 m wide, although in a few places they were as much as 1.3 m wide. They survived to a height of 0.3 m. A wider spread of clay on either side of the wall lines derived from the clay washed down off the wall when the building became derelict. Some fragments of burnt clay associated with the building had grass impressions, so it is probable that grass or straw was mixed with the clay for strength. A considerable scatter of stony rubble across the W. end and the absence of as much clay at this point suggests that the W. gable may have been stone built. There was no clear evidence regarding the more disturbed E. end.

There were two, almost opposed, entrances in the side walls towards the E. end of the building; both were c. 1.5 m wide. The N. entrance was flanked by a post-pit to hold a door jamb and by a scatter of stones.

The building had burnt down and, in the centre, part of the collapsed burnt roofing survived. A mass of burnt heather overlay the charred remains of two timbers, 0.2 to 0.3 m wide, identified as oak from fairly substantial timbers rather than small roundwood.<sup>72</sup> It is impossible to be categorical concerning the original function of these timbers; they could be the remains of collapsed purlins, or they may have been a pair of cruck timbers. The latter interpretation perhaps best suits the angle at which the S. timber lay, and the appearance of it having been curved near the original upper end.

There were two internal features. A setting of small stones set on edge formed a rectangular box 1.10 × 0.27 m, just to the W. of the N. entrance. This does not appear to have been a hearth as there was no related burning; the position might suggest a screen. A length of single course drystone wall, between 0.45 and 0.60 m in width and 2 m long, stood roughly parallel to the S. wall at the E. end of the building. There was no evidence of its function. The floor appears to have been scattered with sand. Plan: Fig. 15.

#### *The Industrial Zone*

The main industrial area excavated (FP) was confined to two properties to the N. of the road (Fig. 2:16 and Fig. 16). In the 13th century, a potting tenement and an iron-working tenement lay on either side of a stream which must have provided the water necessary to both industries, and although by the 14th century the stream

appears to have been silted up, the line remained as a boundary and the industrial use of the properties continued.

*Potting tenement 13th century (Period II) (Fig. 16)*

During the 13th century there were two, possibly three, small kilns (K2, K6, ?K5) and a series of associated pits at the S. end of the excavated part of the property, with a building (FP 49) tentatively interpreted as a related workshop or store to the N. A working surface of trampled clay, charcoal and daub fragments had built up while the kilns were in use; it was not possible to see how far this had originally extended towards the building, due to later disturbance. Pits had been cut into the

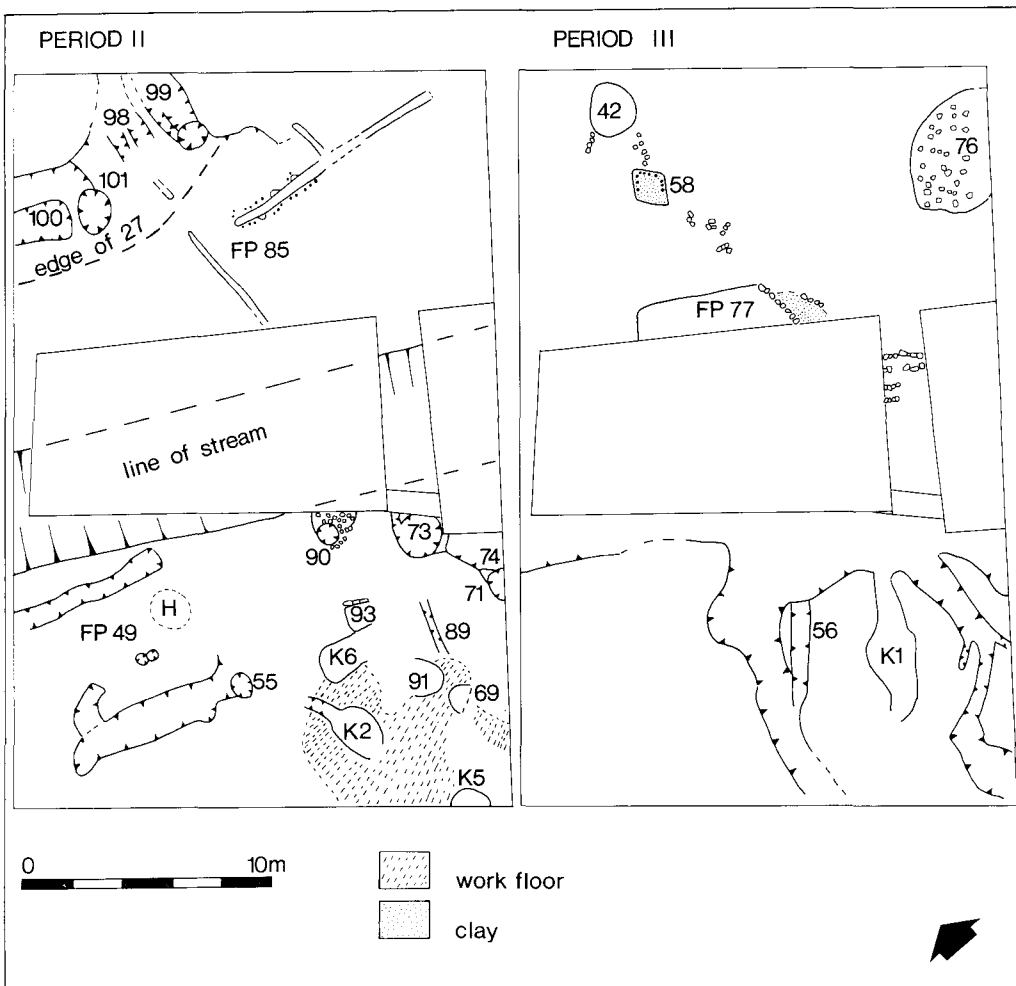


FIG. 16

FP 1987, industrial area in Periods II and III (Location, Fig. 2:16)

sandy slope at the W. side of the stream (FP 71, 73, 74, 90), directly E. of the work floor. In depth they were only *c.* 0.55 m but as the area had been cut away in the 14th century, they may originally have been deeper. Two of the pits (FP 71, 90) were *c.* 1 m in diameter, one (FP 90) appearing to have been stone-lined. In neither case did the silty fill give any clear indication of function, although the clay in the base of one of them (FP 71) suggests that they were used for the storage of clay. A third pit (FP 73) was larger, with a diameter of 1.73 m; it had vertical sides and an outlet drain leading from its base, suggesting that this pit may have been used to store or prepare the clay.

A small pit to the N. (FP 55), the top of which had been cut by the building gullies, included some daub and charcoal apparently deposited while still hot, as there was slight discoloration of part of the side. There were also two other dumps (FP 69, 91) of daub and charcoal on the work surface, neither of which had caused any heat discoloration of the underlying surface.

#### *Potting tenement 14th and 15th centuries (Period III) (Fig. 16)*

By the 14th century, the smaller kilns of the earlier period had been filled with rubbish and they were replaced by a single larger kiln (K1). This later kiln was flanked by a pair of curved gullies which sloped downwards to the NE. The slope and the branched side channels of the S. gully suggest that these were drainage ditches. They led into the W. side of the by then silted stream, at a point where it had been cut away to form a trench-like area. One of the kiln flues opened into this trench and it may have been used as a stoking pit, but it must always have been rather damp. The contemporaneity of trench and kiln is suggested by a number of pottery joins and the homogeneous nature of the fill.

The only evidence of any structure associated with Kiln 1 was a short gully (FP 56) to the N., which had been partly cut by one of the drainage ditches. It should, however, be noted that the stratigraphy at the N. end of the property was very shallow and only cut features survived at this level. When the kiln and ditches went out of use, they were filled with a mixture of pottery, daub fragments and very small amounts of bone.

#### *Discussion*

This property included many of the features which Moorehouse has identified as necessary within a potting tenement: the kilns, clay storage and possible preparation pits, workshop or store and access to water.<sup>73</sup> It also appears probable that, at least in the 14th century, the potters were quarrying clay from the adjacent clay bed which had been cut by a 13th-century boundary ditch. However, unlike most medieval kiln sites where considerable quantities of waste pottery have been found, at Rattray less than a dozen vessels were represented by waster fragments. While it may be argued that waster dumps were outside the excavated area, their paucity in the backfilling of earlier kilns and pits is surprising, particularly in view of

the quantities of daub fragments from the kiln superstructures dumped in these areas. A possible explanation may be that the firing was very controlled and few wasters occurred; the evidence that the kilns were covered and the identification of the fuel as peat may support such a view.

### *The Kilns*

#### *13th century (Period II) (Fig. 17)*

*Kiln 2.* Kiln 2 was oval, with a flue at either end. The internal dimensions were 1 m wide and 1.9 m long to the inner edges of the flue. The base had been dug *c.* 0.15 m into the ground and the sides lined with a kerb (2a) of at least three courses of stone, with a surviving height of *c.* 0.5 m. The inner face of the stones was lined with clay, this had no grass tempering and had been coated thickly onto the stones by hand, with clear finger marks on the inner face. This lining has been repatched at least once as the finger marks on the original lining were horizontal, whereas a less heavily fired patch of clay had vertical finger marks, suggesting a repair from above. The stone kerb on the E. side had also been renewed as a secondary inner kerb (2b) overlay part of the baked floor of the earlier firing. As the earlier clay lining overlay the kerb repair, this argues at least three firings for this structure. The flues, which faced N. and S., were 0.53 and 0.70 m wide respectively. Four kiln props (Pottery Catalogue nos. 161–64) were found *in situ* in this kiln, three of the props being across the mouth of the S. flue and one beside the N. flue; all four were inverted.

*Kiln 6.* Kiln 6 had a roughly round chamber with a splayed flue facing E. The internal dimensions were 1.0 × 1.25 m. It had been dug *c.* 0.50 m into contemporary ground levels and the sides had been lined with stone, of which parts of three courses survived. Some clay around the stones suggests that there may have been a lining but this was less clear than in Kiln 2. The whole base of Kiln 6 was baked to a far harder surface than that of Kiln 2, suggesting more repeated firings or a higher temperature. An area of charcoal and daub fragments NE. of the flue extended up to a stone kerb (FP 93; Fig. 16) which may have been the remains of a shelter for the flue entrance, possibly sheltering it from the N. wind. A wall slot or decayed beam (FP 89) to the S. may also have been related but stratigraphical links had been destroyed by the later Kiln 1.

*Kiln 5.* Kiln 5 (Fig. 16) was only a hard-baked area of clay with charcoal fragments on top of the working floor. The surrounding sand was fired red. In size it was 0.8 × 1.7 m, so it may have been the base of a kiln, but as the other kilns were cut features, it seems more likely to have been the base of an open hearth.

#### *14th century (Period III) (Fig. 17)*

*Kiln 1.* Kiln 1 was oval with a short flue at the SW. end and a longer NE. flue. The internal dimensions were 1.4 m wide and 2.3 m long to the inner edges of the flue. At the centre, the kiln was dug 0.7–0.8 m below contemporary ground level. The NE. flue was 2 m long and 1.2 m wide at the inner end narrowing to 0.6 m width at the outer end, charcoal extended along it from the chamber. It opened into a trench or stoking area to the N. The SW. flue was 0.8 m long with a width of 1 m tapering to 0.6 m at the outer end. This flue was cut 0.5 m deep by the kiln chamber but was at ground level at its outer edge. The kiln sides and base were lined with clay up to 0.3 m thick. This had no grass tempering. It was grey and unburnt on the inner side but must have had an inner face which had flaked off. Only two or three stones remained in the inner edge of the clay, so stone does not appear to have been an important part of the lining. The clay on the base of the kiln and in the flues had been fired hard and red.

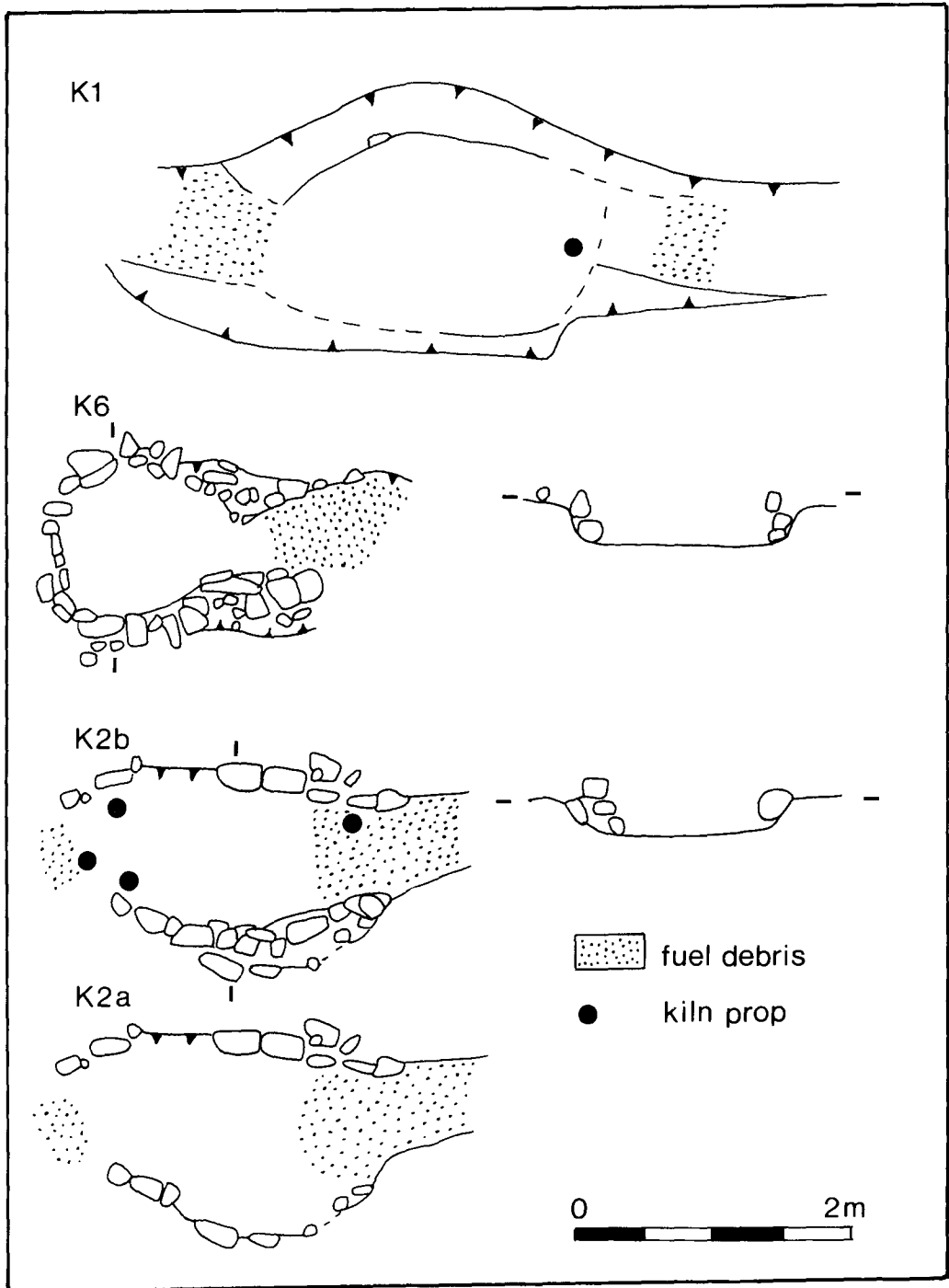


FIG. 17  
 FP 1987, detail of pottery kilns

The base and the lower part of the sides were overlapped by a thick layer of charcoal in which an inverted kiln prop (Pottery Catalogue no. 160) was set near the NE. flue entrance. A thick layer of hard-baked daub lay collapsed over this charcoal. This was possibly from the inner faces of the upper parts of the side lining as it was of wall-lining type, with finger marking and no grass tempering. The upper fill included more grass-tempered daub, which may have derived from a cover (see below), including nine edge pieces.

### *Discussion of the kilns*

The kilns varied in plan and in the number of flues but certain features were common to them all.

Fuel debris in the flues of all the kilns could be identified as peat, with some heather and a very small quantity of larger twig or branch charcoal. The use of peat, which would have been easily available from the bogs directly inland, would have produced slow even heat and may have reduced breakage of pots during firing, by avoidance of rapid temperature changes. The temperature appears to have been controlled by covering the kilns. The Barton-on-Humber experimental firings showed that a simple covering dramatically reduced breakages in a double-flued kiln very similar to Kiln 2.<sup>74</sup> Evidence that covers had been used on the Rattray kilns derives from examination of the daub. Two types of daub were found; an untempered daub with finger impressions on one side, which can be identified as wall-lining as it often survived *in situ*, and a heavily grass-tempered daub, which was never seen in wall linings and which was only found in contexts directly related to the pottery kilns. The grass impressions were random throughout the clay, showing that it had been deliberately mixed before use, rather than having been simply laid over grass. The daub was thin-walled and fired to a hard brick red. Many of the larger pieces were curved and ten fragments had part of a rough rim-like edge. In most instances this appears to have been the irregular bottom edge where the cover joined the kiln wall; on one piece there appeared to be part of an impression of the wall stones and on another there were two finger prints possibly from when the clay was pulled down over the wall, both suggesting that the cover was made by applying a layer of soft clay over the filled kiln. This clay may have been placed over a layer of peat or turves as a few fragments adhere to burnt peat. Two of the daub fragments from Kiln 1 had an edge of smaller curvature, from a circle of only 100 or 120 mm in diameter; these can be interpreted as vents or smoke hole fragments.

Kiln props (Pottery Catalogue nos. 160–69) were found both *in situ* and in rubbish contexts on the site; they have a wider distribution than the potting area itself and may also have been used in other furnace types, or for other purposes. The position of the four props across the flue mouths in Kiln 2 suggests that in the pottery kilns they were used to spread and diffuse heat rather than purely to hold up the contents.

The 13th-century kilns appeared to be very small, but they are in fact only slightly smaller than the 13th-century two-flued kilns found in Chilvers Coton, Nuneaton.<sup>75</sup> Some rough idea of their capacity can be gauged by comparison with the Barton-on-Humber experimental kilns, of which Kiln 1, of 1.4 m diameter and 0.5 m wall height, comparable to Rattray Kiln 2, was loaded with 64 pots of various sizes.<sup>76</sup> It would appear feasible, therefore, that Rattray Kilns 2 and 6 were each capable of firing up to some 50 vessels at a time and Kiln 1 rather more. This seems in proportion with the total of 718 local ware vessels identified from the excavated parts of the settlement, the bulk of which were from the castle hill and the potting tenement itself. Allowing this to be only a proportion of total output, it is still possible to suggest that there may have only been one or two firings in a year and that the potters meanwhile prepared their materials and tended their own crofts. Perhaps less likely, although possible considering the good quality of the products, is that the potters were itinerant specialists. This seems unlikely however, in view of the apparent stability of the tenement itself.

## THE POTTERY

By J. C. MURRAY

*The products of the Rattray kilns**Methodology*

The following analysis includes pottery from all the Rattray sites with the exception of the trial trenches (FP 800, FP 45, FP 1986, FP 701-07) and of site CP 1985, from which very little pottery was recovered and in a very abraded condition due to cultivation disturbance. The site codes used in the Catalogue and the tables are identified in the key to Fig. 2 and the site periods and phasing are discussed in the introduction and Table 1. A total of *c.* 700 vessels of local fabric were identified based on a rim and base count. Only a representative sample is illustrated and catalogued, indicative of each type and form. Table 2 shows the total of each vessel type from each site. The small quantity of imported products are examined in Appendix 1.

TABLE 2  
PRODUCTS OF THE RATTRAY KILNS  
(Total of each vessel type by site)

<i>Vessel type</i>	<i>Site: CAS</i>	<i>CP (CP 500 CP 700)</i>	<i>FP (FP 1987)</i>	<i>FP 500</i>	<i>RB (Areas 1-4)</i>	<i>Total</i>	<i>Form as % of local vessels</i>
<i>Main local fabric vessels</i>							
Jugs	184	144	110	6	9	453	} 64.07%
Anthropomorphic jugs	4	—	3	—	—	7	
Jars	68	67	30	3	2	170	23.68%
Bowls	27	16	22	2	1	68	9.47%
Dishes	8	1	1	2	—	12	1.67%
Urinals	4	2	—	—	—	6	} 1.11%
Aquamaniles	2	—	—	—	—	2	
Total vessels						718	
<i>Other products</i>							
Horns	1	1 (CP & FP)		—	—	2	
Ridge tile	10	—	1	—	—	11	
Roof furniture	5	—	1	—	—	6	
Kiln props A	2	19	27	—	1	49	
Kiln props B	—	1	3	—	—	4	
<i>Coarse handmade vessels</i>							
	2	19	1	—	5	27	
<i>Gritty, possibly local vessels</i>							
	43	35	9	—	—	87	



*Fabric*

The fabric of the local kiln products is sandy and slightly micaceous with some well-sorted quartz or quartzite inclusions. Generally it has been oxidized to a buff-pink, but also appears mid-grey on reduction. Eight samples of the assumed local products were thin-sectioned by Dr N. H. Trewin, including fragments from two kiln props, three jug sherds, two sherds of very fine-walled jars and a sherd from one of the thick-walled bowls. One of the jug samples was from an unglazed vessel apparently broken in the kiln. Although a few wasters were found, the analysis shows all the sampled types to have been from the same local source and the association of this group of products with the excavated kilns is considered to be definite.

*Thin-section analysis By N. H. Trewin*

Eight samples were examined. Whilst there are minor differences between some samples, none are sufficiently different to provide evidence for more than one kind of source material for the pottery.

All samples contain a range of grain size from very fine to coarse and grains range from angular to rounded. Rounded grains have been water-transported and angular grains may have been produced by crushing or by ice transport. These features are consistent with a source from local fluvio-glacial material. Samples contain quartz, K-feldspar, plagioclase, muscovite and biotite. Rock fragments are of igneous (granitic) and metamorphic (schist) origin, and a few grains of minerals of metamorphic origin (e.g. hornblende from amphibolites) are present. Quartz grains are also present that were derived from a red sandstone, probably the Old Red Sandstone.

All these components are available in the local area and occur mixed together in the boulder clays and fluvio-glacial deposits of the area.

*Decoration*

Olive-green, patchy glaze occurred on many of the jugs, bowls and dishes but on few of the jars. Decoration occurred on a small proportion of the jugs, extending between the shoulder and halfway down the body of the vessel. The only other decorated products were a few of the bowls, the aquamaniles, the horns and the roof furniture. Types of decoration included incised lines and toothed combing (e.g. Catalogue nos. 3, 98, 101-04, 126-27), applied iron-rich brown stripes and pellets, including an unfinished jug among the wasters (e.g. Catalogue no. 5), raised concentric bands with toothed decoration and tothing on rims (e.g. Catalogue nos. 1, 33, 76-77), thumb impressions on the body or rim (e.g. Catalogue no. 94), mould impressed decoration (e.g. Catalogue nos. 100, 142-43), and anthropomorphic and zoomorphic decoration (e.g. Catalogue nos. 117, 120, 122, 124).

*Dating*

Stylistically, this corpus of pottery appears to date to between the 13th and the late 14th or early 15th century. This general range agrees with the dating of the coins and small finds. It is not easy to subdivide the pottery into earlier and later forms. To a large extent this may be due to a continuity of types throughout the period, but in certain areas of the site the stratigraphy was also complicated by erosion and cultivation and by disturbance caused by foundations and site clearance at different stages in the history of the settlement. However, well-sealed Period I contexts, in the Phase I motte on the castle hill, although yielding relatively little pottery, showed a lack of local ware and a marked predominance of imported White Gritty wares from SE. Scotland. A similar early use of these wares, which were later replaced by local products, was observed on contemporary sites in Aberdeen.<sup>77</sup> Most of the local fabric vessels, however, appeared throughout Periods II and III, with residual material in Period IV. However, the thick-walled bowls and dishes (81-115) occurred almost

exclusively in Period III, with some residual in Period IV and can therefore probably be dated to the 14th or early 15th century rather than to the 13th century.

#### *Assessment*

Of a total of *c.* 916 vessels identified from all the sites excavated, only *c.* 9% were imports (Appendix 1 and Table 3). Of the remainder, *c.* 3% were coarse handmade vessels, predominantly from the domestic areas of the settlement and possibly specialist in function. A further 9.5% were similar to the local fabric but grittier and therefore can be only regarded as possibly of local manufacture. The remaining 718 vessels, *c.* 78% of the total, were of the fabric identified as local and cover a range of vessel types including jugs, jars, bowls, dishes, urinals and aquamaniles.

Jugs account for the greater proportion of locally produced vessels (64%), followed by jars (24%) and bowls (9.5%). In the Catalogue, these vessels have been subdivided on stylistic grounds.

The range of vessels produced at Rattray is broadly similar to that recovered from the partly excavated kiln site at Colstoun, E. Lothian,<sup>78</sup> although the relative percentage of vessel types differs. However, due to the diverse nature of the two sites detailed comparison may be invidious. The competence of the Rattray potters can be judged not only by the full range of wares produced but also by the quality of the vessels. This is particularly well illustrated by the jars, many of which are fine, well-made, thin-walled vessels. The form of the jugs and the mode and the ambitious nature of some of the decoration also shows that the local potters were influenced by imported wares, particularly those from Scarborough, a small percentage of which occurred on the site.

The range of products and the exotic nature of some, such as the aquamaniles, the anthropomorphic jugs and the horns, is undoubtedly due to the stimulus and patronage of the household living on the castle hill.

In conclusion, the products of the Rattray kilns must be viewed as part of a wider NE. Scottish tradition extending from Perth<sup>79</sup> to Inverness.<sup>80</sup> Within this area a homogeneity

TABLE 3  
TOTAL NUMBERS AND PERCENTAGE OF VESSELS OF EACH FABRIC GROUP

<i>Fabric group</i>	<i>No. of vessels</i>	<i>Vessels of each fabric as % of total number of vessels</i>
<i>Local</i>		
Main fabric	718	78.4%
Possibly local gritty fabric	87	9.5%
Coarse handmade local	27	3.0%
<i>Imports</i>		
Scarborough ware	53	5.8%
French wares	6	0.7%
Low Countries wares	4	0.4%
SE. Scottish White gritty ware	4	0.4%
Unidentified imports	17	1.9%
<i>Total number of vessels</i>	916	

exists in terms of fabric, decorative style and the type of vessel produced and the lack of kiln evidence from other centres makes the evidence of the Rattray potting tenements all the more important in the wider context.

## CATALOGUE OF ILLUSTRATED POTTERY FROM THE RATTRAY KILNS

*Jugs*

The jugs have been primarily divided on rim form, with a few exceptions. In all groups, rod and strap handles occur, with thumb-impressed attachments below the rim. Most spouts are pinched. All the vessels appear to have been wheel-thrown. Patchy olive-green glaze occurs on external surfaces. Decoration, where it occurs, extends from the top of the shoulder to halfway down the body. Bases appear to have been sagging, with intermittent groups of 1–3 thumb impressions. Where sufficient profile remained to measure the height, the jugs with upright rims ranged between a very small vessel 120 mm high and a more usual range of 250–320 mm high; the only complete profile with an everted rim was 210 mm high.

*Jugs with upright rims* (Fig. 18: 1–7, Fig. 19: 8–14)

Total: 288

Fairly plain upright rim forms, some rounded on the lip and others slightly flattened on the top. Three examples have toothed decoration on the outer edge of the rim. Rim diameters 70–120 mm. The necks ranged between fairly upright and slightly splayed. The few complete profiles suggest squat ovoid body shape. Context: On all main sites, mainly Periods II and III.

Illustrations: 1 CAS 9/11/124/70/104, Phase 3–5/6, Period II–IV; 2 FP 55/49/12, Period II/III; 3 FP 12/17/19, Period III; 4 FP 78, Period III; 5 FP 12, Period III; 6 FP 504, Period II/III; 7 CP 502/504, Period II/III; 8 CAS 77, Phase 4/5, Period III; 9 CAS 89, Phase 5/6, Period III/IV; 10 CP 738, Period III; 11 CP 701, Period IV, 12 CP 707, Period III; 13 FP 21/36, Period II/III, 14 FP 38, Period III.

*Jugs with internally bevelled rims and carination on neck* (Fig. 19: 15–17)

Total: 9

Rim diameters 90–110 mm. No complete profile. Context: On all sites, Periods II and III, some residual in Period IV.

Illustrations: 15 FP 25, Period III; 16 CAS 132, Phase 5, Period III; 17 FP 44, Period II.

*Jugs with internally bevelled rims* (Fig. 19: 18–25)

Total: 90

Rims range from club-shaped to vertical with slight internal bevel as illustrated. Rim diameters 90–110 mm. The only possible profile suggests a short round-bodied jug. Pinched spouts. Handles, where occurring, are straps. Two rims have toothed decoration on external edge. Context: All sites, mainly Period III.

Illustrations: 18 FP 510, Period III; 19 CAS 104, Phase 3/4, Period II/III; 20 CAS 9, Phase 5/6, Period III/IV, 21 CP 717, Period III; 22 CAS 77, Phase 4/5, Period III; 23 FP 17, Period III, 24 FP 76, Period III; 25 FP 76, Period III.

*Jugs with collared rims* (Fig. 20: 26–31)

Total: 37

Collared rims, some flat on top, some bevelled internally. Rim diameters 80–120 mm. The only handle is a strap. Where they survive, spouts are of pinched type. No complete profiles. Context: All sites, some Period II, most Period III.

Illustrations: 26 CAS 166, Phase 5, Period III; 27 CP 745, Period III; 28 CP 743, Period II/III; 29 CP 758, Period II; 30 CP 707, Period III; 31 CP 725, Period III.

*Jugs with plain rims and splayed necks* (Fig. 20: 32–33)

Total: 3

Rim diameters 85–140 mm. Pinched spout on one example. Toothed decoration on the outside edge of one rim. Context: Castle site (CAS), Periods II and III.

Illustrations: 32 CAS 166, Phase 5, Period III; 33 CAS 214, Phase 3/4, Period II/III.

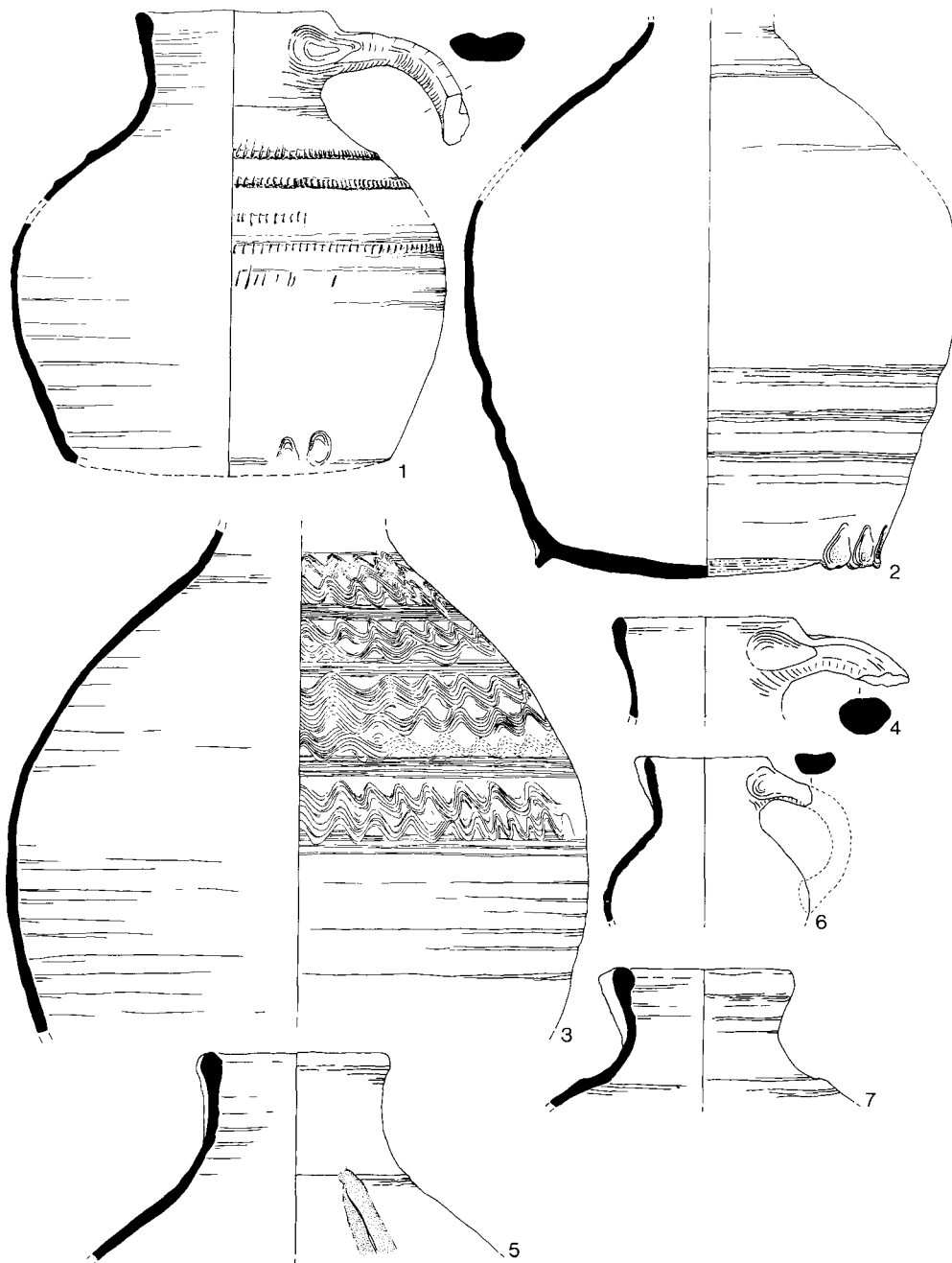


FIG. 18  
Rattray local ware jugs 1-7. Scale 1:4

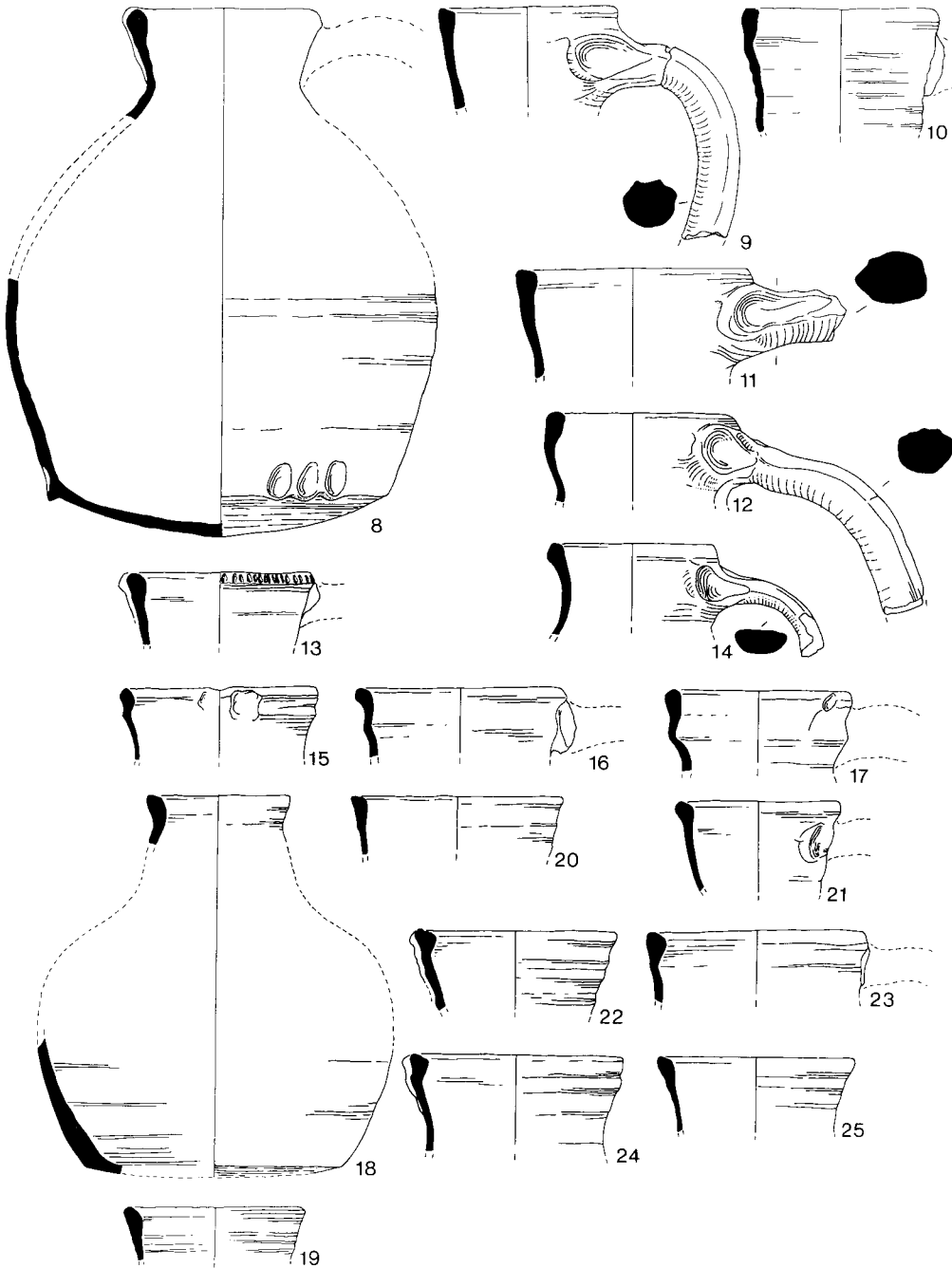


FIG. 19  
Rattray local ware jugs 8-25. Scale 1:4

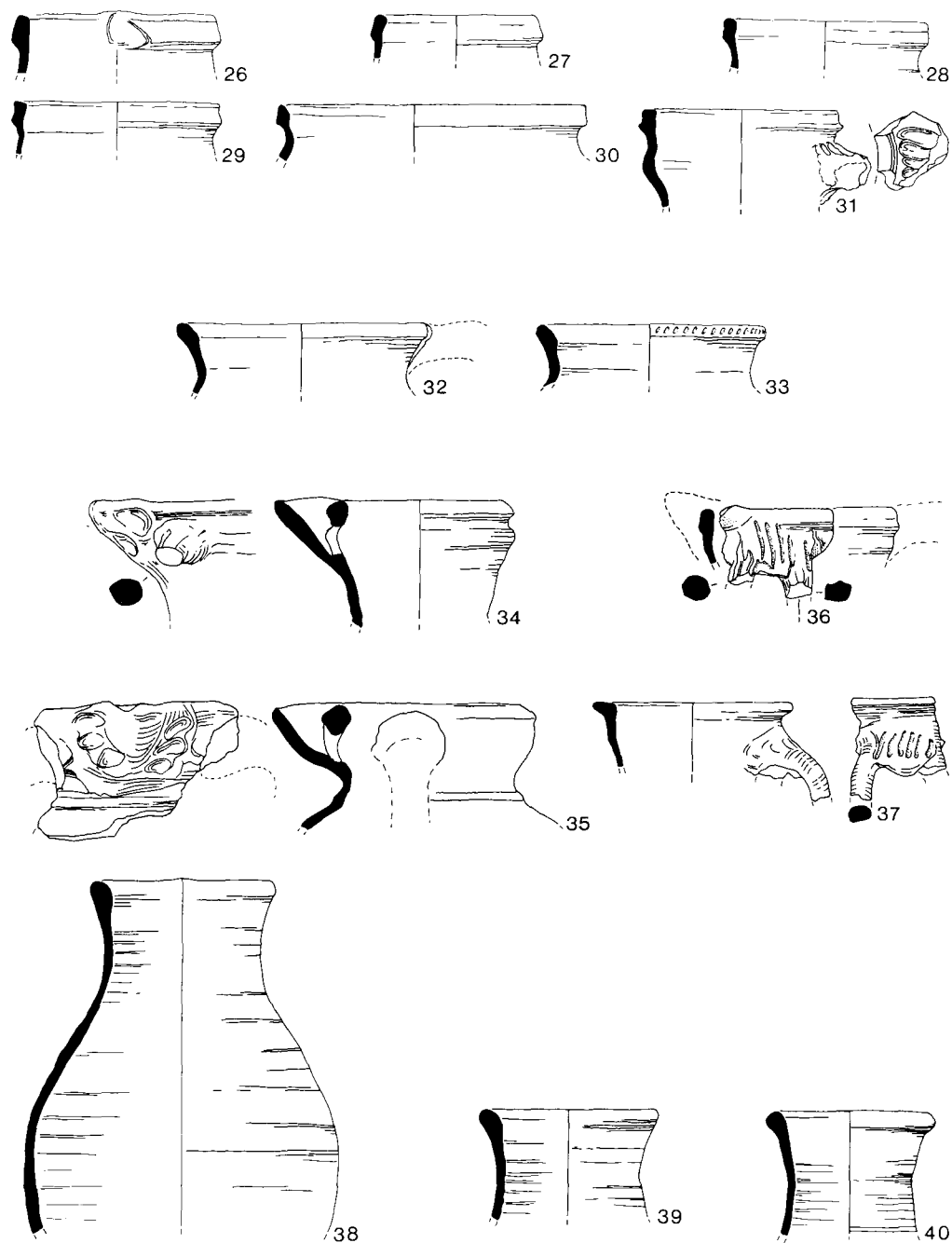


FIG. 20

Rattray local ware jugs 26-37, necked jars/jugs 38-40. Scale 1:4

*Jugs with bridge spouts* (Fig. 20: 34–35)

Total: 7

Bridge spouts with thumb-impressed junction to neck and rounded rims. Small rod handles at sides of spout. Imitation of Scarborough type jugs. Rim diameters 110–120 mm. Context: Settlement Sites CP and FP, Periods II and III.

Illustrations: 34 FP 26, Period III; 35 CP 752, Period II.

*Jugs with small double handles* (Fig. 20: 36–37)

Total: 2

Two rim fragments of jugs with pairs of small non-functional rod handles, between which is a pad of clay with deep incisions. They may be part of face-mask jugs. Context: Period II/III.

Illustrations: 36 CAS 76, Phase 3/4, Period II/III; 37 CP 743, Period II/III.

*Large jugs* (not illustrated)

Total: 10

A number of very wide strap handles appeared to have come from very large jugs. They cannot be linked with any specific rim form. Context: castle (CAS) and settlement sites (FP, CP), mostly Period III.

*Necked jars/jugs* (Fig. 20: 38–40)

Total: 7

Necked jars, similar in profile to jug forms, but lacking handles and spouts. Wheel-thrown. Simple rounded rims. Rim diameters 75–105 mm. The group is characterized by pronounced internal and external rilling. Unglazed. One fairly complete profile suggests a height of *c.* 220 mm. Context: All from settlement site FP, mostly Period III.

Illustrations: 38 FP 12, Period III; 39 FP 33, Period II; 40 FP 9, Period III.

*Jars**Everted rim jars* (Fig. 21: 41–50)

Total: 42

Rim diameters 80–170 mm. No complete profiles exist. Plain everted rims. The wall thickness varied between very fine (*c.* 2 mm) and medium (*c.* 5 mm). All the vessels appear to have been wheel-thrown with one exception, which was from a Period I context (50). Only a small proportion appear to have been glazed, with patches of external olive-green glaze. Sooting appeared on the exterior of some two-thirds of the type. Context: All sites but most common on castle site (CAS). One atypical example (50) from Period I, the majority were from Period III or in residual contexts in Period II/IV.

Illustrations: 41 CAS 70, Phase 5/6, Period III/IV; 42 CP 737, Period II; 43 FP 12, Period III; 44 CAS 2, Phase 6, Period IV; 45 CAS 89/9/125/182, Phase 3–6, Period II/IV; 46 CAS 175/162, Phase 2/4, Period I/III; 47 FP 38, Period III; 48 CP 621/610, Period II/IV; 49 CP 725, Period III; 50 CAS 229, Phase 2, Period I.

*S-Profile jars* (Fig. 21: 51–68)

Total: 100

Rim diameters 70–195 mm. Two complete profiles exist, 51 being *c.* 170 mm high with a rim diameter of 120 mm and 52 being 130 mm high with a rim diameter of 110 mm. Plain inturned rims with pronounced finger groove on inner rim. Wall thickness medium (4–5 mm). All the vessels appear to have been wheel-thrown. The two basal angles surviving indicate slightly sagging bases. Only a small proportion appear to have been glazed, with patches of external olive-green glaze. Sooting appeared on 31 examples. Context: Castle site (CAS) and settlement (FP, CP), most Periods II and III. 21 with rim diameters 100 mm or less, eight with rim diameters over 150 mm, the rest with rim diameters 110–140 mm.

Illustrations: 51 FP 44, Period II; 52 FP 49/25, Period II; 53 CAS 99/2, Phase 3/4/6, Period II/IV; 54 CP 606, Period II/III; 55 CP 732, Period III; 56 CP 707, Period III; 57 CP 716, Period IV; 58 CP 738, Period III; 59 FP 26, Period III; 60 CP 743, Period II/III; 61 CAS 125/124, Phase 3/4, Period II/III; 62 FP 25, Period III; 63 CP 707, Period III; 64 CP 737, Period II; 65 FP 91, Period II; 66 CP 713, Period III; 67 CAS 109, Phase 4, Period III; 68 FP 52, Period III.

*Handled jars with everted and S-profile rims* (Fig. 22: 69–70)

Total: 17

Rim diameters 105–310 mm. Everted and S-profile rims. Handles joined at the rim; rod and strap handles both present. External sooting common. Some with sparse external splash glazing. Pale olive-green glaze, lead with copper additives. Context: Most from domestic area of settlement (CP) predominantly Period III, some from castle site (CAS), Phases 3–5/6, Period II–IV.

Illustrations: 69 CP 745, Period III; 70 CP 756, Period III.

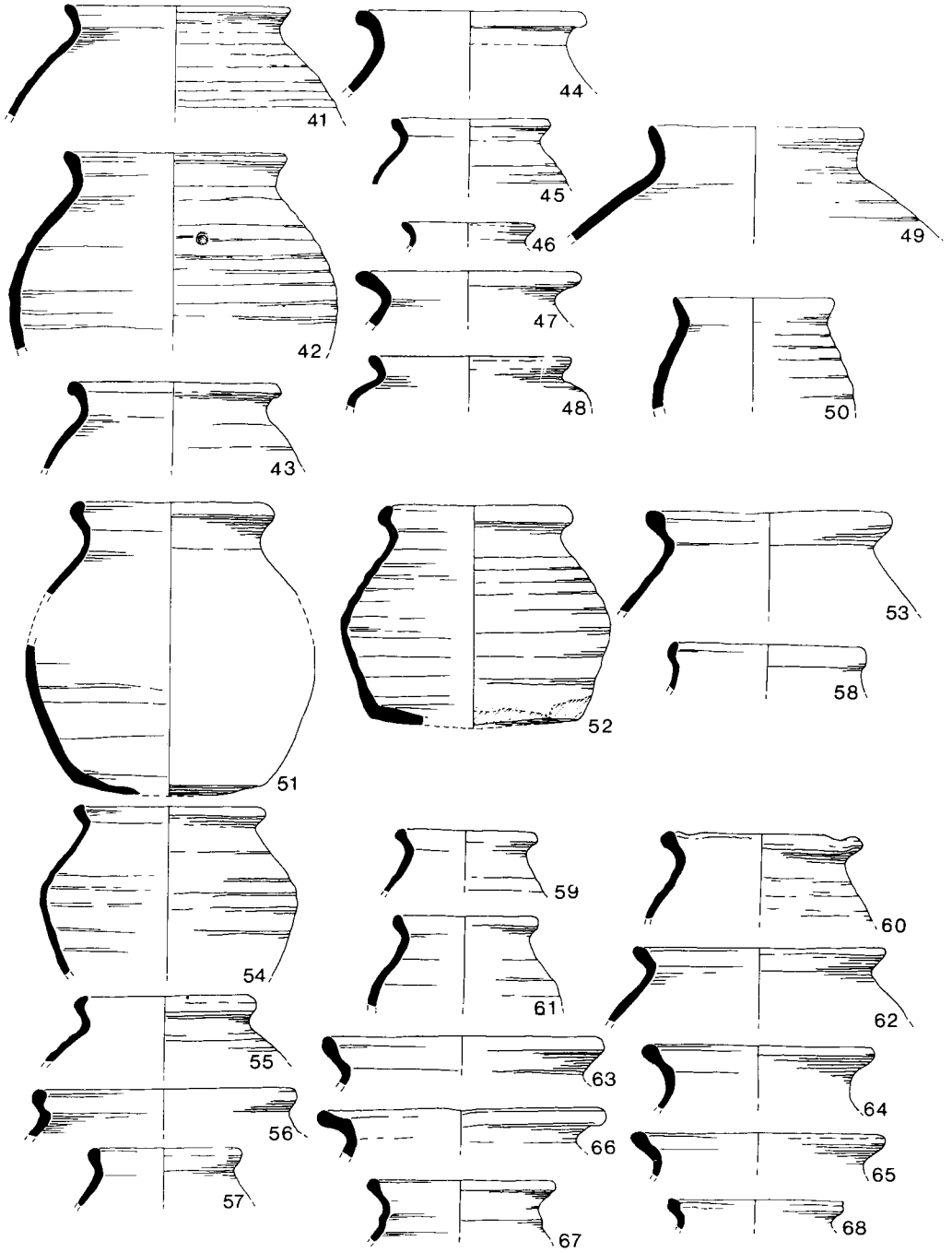


FIG. 21  
Rattray local ware jars 41-68. Scale 1:4



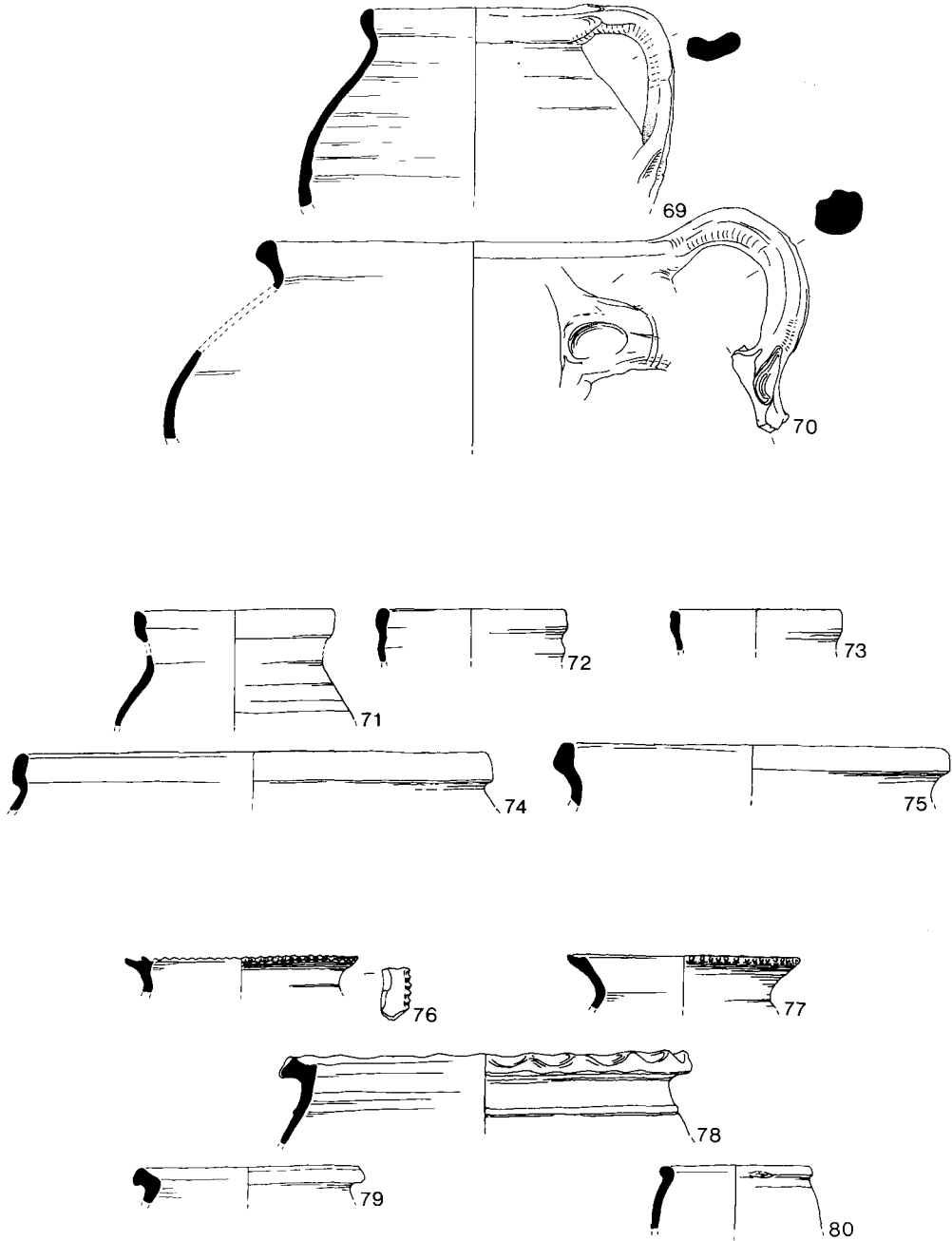


FIG. 22  
Rattray local ware jars 69-80. Scale 1:4

*Collared jars* (Fig. 22: 71-75)

Total: 6

Rim diameters 100-260 mm. No complete profiles. Rims collared. Wall thickness: medium (3-6 mm). All wheel-thrown. Glaze on three examples, on 74 internal and external orange/green glaze. Sooting on three examples. Context: In domestic areas of settlement.

Illustrations: 71 CP 504/502, Period II/III; 72 CP 713, Period III; 73 CP 722/723, Period III; 74 CP 736, Period II; 75 FP 505, Period IV.

*Miscellaneous jars* (Fig. 22: 76-80)

Total: 5

76, 77 Two jars with everted rims with lid-seating on the top of the rim and toothed decoration around the outer edges of the rim. Rim diameter: 130 mm. Wheel-thrown. One with iron-enriched external glaze, the other with olive-green external glaze. Context: Both from castle site. 78 Club-rimmed jar with lid-seating on top. Piccrust decoration on outer rim edge. Cordón on shoulder. Rim diameter: 220 mm. Wheel-thrown. Traces of external glaze. Context: settlement. 79 Club-rimmed jar with lid-seating on top. Rim diameter: 130 mm. Wheel-thrown. Traces of external glaze. Context: settlement. 80 Small upright jar with beaded rim. Rim diameter: 80 mm. Wheel-thrown. Context: settlement.

Illustrations: 76 CAS 111, Phase 4, Period III; 77 CAS 2, Phase 6, Period IV; 78 FP 76, Period III; 79 CP 610, Period III/IV; 80 FP 5, Period III.

*Bowls**Bowls with plain rims* (Fig. 23: 81-87)

Total: 30

Rim diameters 270-434 mm, depths 105-140 mm. Rims range between straight and slightly out-turned forms. Thick-walled vessels with slight knife-trimming at the base on the outside, some also have external wiping marks. Bases, where extant, are flat. Internal olive-green glaze, generally covering base and extending patchily up sides. Context: All sites. On the castle site, they range between Phase 2/3 and Phase 5/6, but the fairly complete vessels appear to have been associated with the Phase 4 stone hall (Building B), prior to its demolition.

Illustrations: 81 CAS 70/98/221/93/125/128, Phase 2-6, Period I-IV; 82 FP 25, Period III; 83 CAS 158, Phase 4, Period III; 84 CAS 182, Phase 3/5, Period II/III; 85 FP 25, Period III; 86 CAS 70, Phase 5/6, Period III/IV; 87 FP 76, Period III.

*Bowls with more developed rim forms* (Fig. 24: 88-99)

Total: 29

Rim diameters 240-420 mm. No complete depths. The most complete example (97) suggested a capacity of well over a gallon. Variety of very marked rim forms, some examples lid-seated. Thick-walled. Wheel-finished. Scant patches of internal olive-green glaze. No sooting. Some piccrust decoration on rims, one bowl with deep finger impressions on flat top of rim. One with incised x marks on exterior below rim. Context: Castle site and settlement, Period III with some residual in Period IV.

Illustrations: 88 FP 40, Period II; 89 CAS 133/104/124/130, Phase 3/4, Period II/III; 90 FP 76, Period III; 91 CP 713, Period III; 92 CP 732, Period III; 93 FP 36, Period III; 94 FP 76, Period III; 95 FP 74/76, Period III; 96 CAS 82, Phase 4, Period III; 97 CP 707/713/725, Period III; 98 FP 26, Period III; 99 CP 707, Period III.

*Decorated bowls* (Fig. 25: 100-04)

Total: 5

Rim diameters 220-360 mm, depth of one example: 88 mm. Rims splayed. Medium to thick walled vessels. External wiping marks at basal angle of one example. Extant base flat. Drab olive-green glaze on all internal surfaces and externally on one example. Four bearing incised wavy line decoration, with piccrust on one internal rim bevel and incised wavy line decoration on the top of one rim. One example has impressed decoration, forming a raised rim around a central hollow. Context: All sites, Period III and IV contexts.

Illustrations: 100 FP 61/12, Period III; 101 CP 738, Period III; 102 FP 510, Period III; 103 FP 505, Period IV; 104 CAS 24/95, Phase 4, Period III.

*Miscellaneous bowls* (Fig. 25: 105-06)

Total: 4

105 Wide shallow vessels with rim diameters 300-430 mm. Slightly squared out-turned rims. Handles joined at the rim. Strap handles. No sooting. Pinkish heat skin (? slip). Unglazed. Context: Castle site and settlement, Period II to III/IV. Total: 3. Illustration: 105 CP 620, Period III.

106 Basal sherd of bowl with single perforation made prior to firing. External knife trimming. Flat base. Internal olive-green glaze. Context: settlement. Total: 1. Illustration: 106 CP 507, Period II.

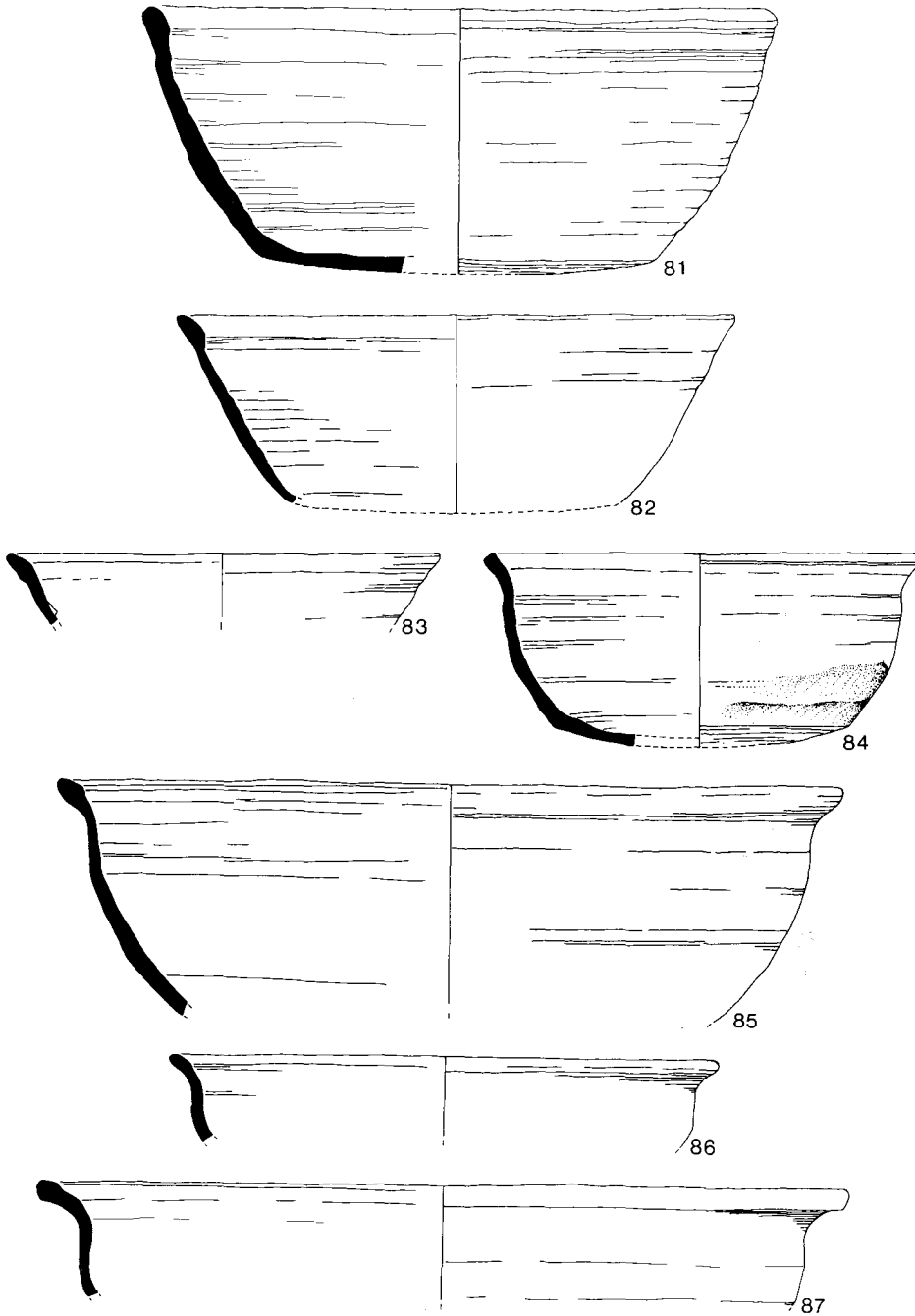


FIG. 23  
Rattray local ware bowls 81-87. Scale 1:4

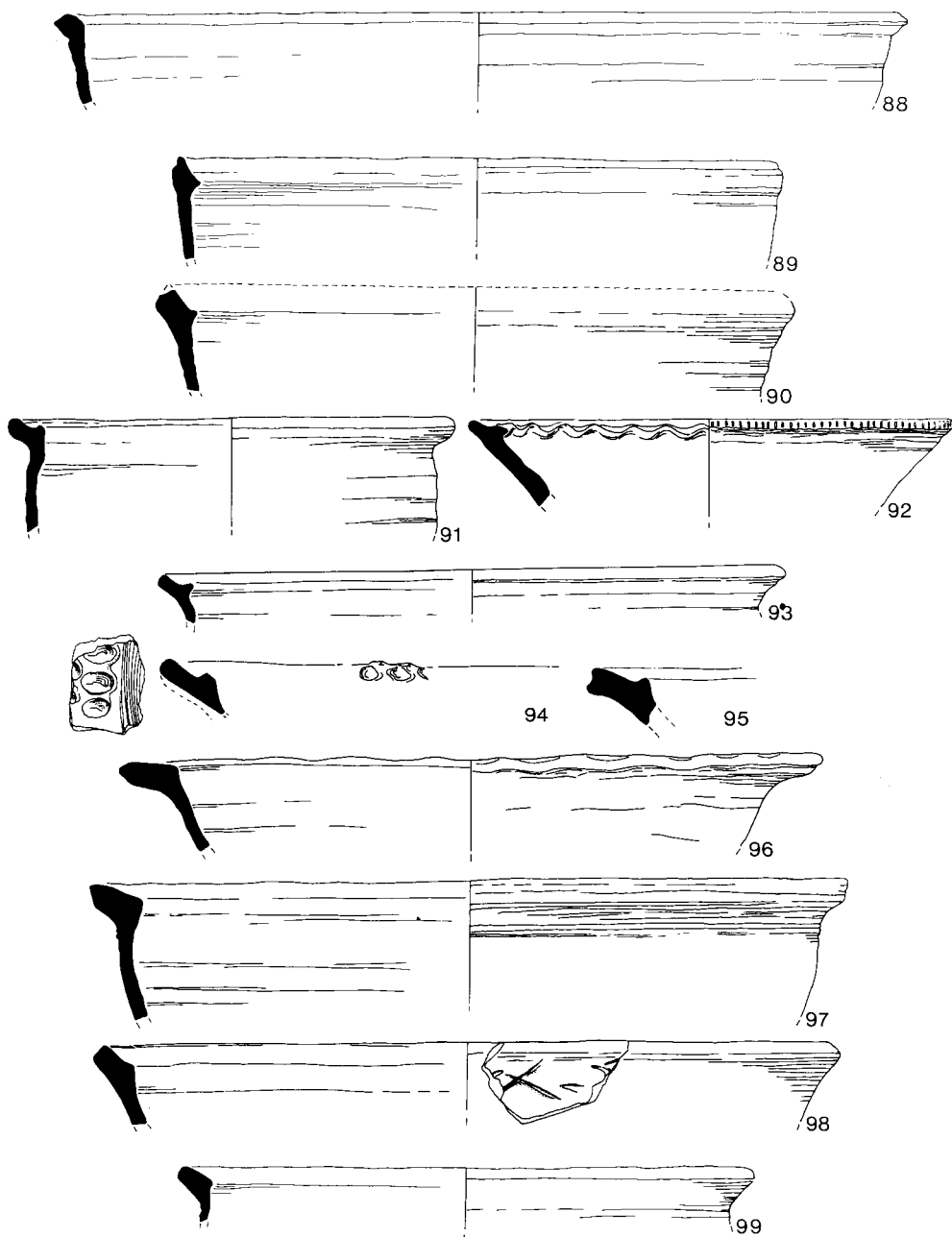


FIG. 24

Rattray local ware bowls 88-99. Scale 1:4

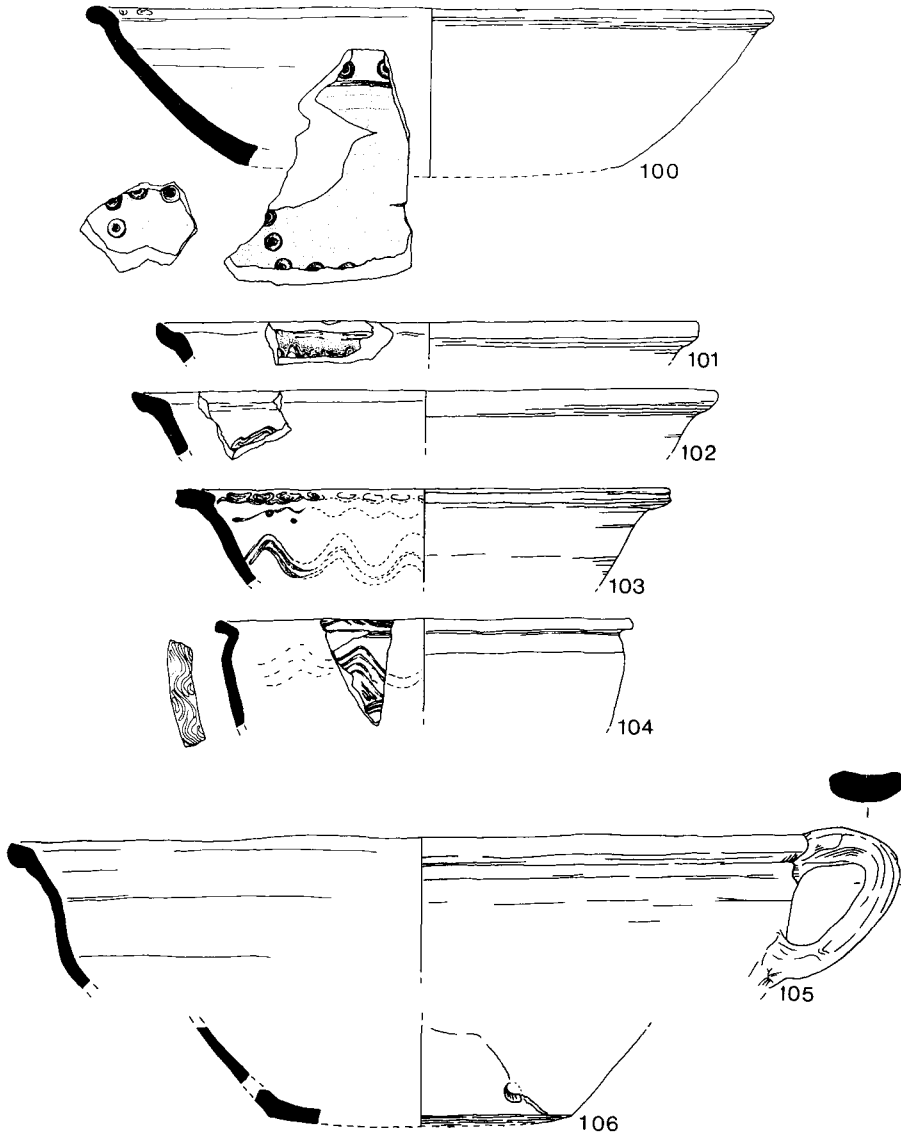


FIG. 25  
Rattray local ware bowls 100-06. Scale 1:4

*Other Vessels**Oval or square shallow dishes* (Fig. 26: 107–15)

Total: 12

Oval or square shallow dishes, size impossible to estimate lacking complete examples. Depths 40–80 mm. Rims plain and upright with some slightly more developed. One example (114) with pouring lip. Thick-walled, handmade with external wiping and trimming. Bases appear flat. Internal olive-green glaze on internal base, some splash glazing on inner sides. Sooting on most examples. Handled meat dish (115) and handle of another example. Rim diameter: 290 mm, Depth: 70 mm. Developed club rim. Rod handle standing almost upright from rim attached by simple thumb and finger pressure. All-over internal thick olive-green glaze. Context: Most from the castle site, in Phases 3/4 and 4, probably associated with Period III stone hall (Building B) and associated buildings, also some in disturbed Period IV contexts. Four examples from settlement, two in Period III, two in topsoil.

Illustrations: 107 CAS 124, Phase 4, Period III; 108 CAS 104, Phase 3/4, Period II/III; 109 CAS 9, Phase 5/6, Period III/IV; 110 CAS 104, Phase 3/4, Period II/III; 111 CAS 160/157, Phase 4, Period III; 112 FP 76, Period III; 113 FP 505, Period IV; 114 CAS 70/124, Phase 4/6, Period III/IV; 115 CAS 77/166/1/19, Phase 3/6, Period II/IV.

*Urinals* (Fig. 27: 116)

Total: 6

Small, apparently globular vessels with handle at top, three with rod handle, one with strap handle, all thumb impressed at junction with vessel body. Each vessel has a single perforation, 35–50 mm in diameter, in the side below the handle. The edge of the perforation in two examples is pulled outwards to give an external rolled rim, in the other examples it is smoothed inwards. Most appear to have been wheel-thrown, but two (e.g. 116) were possibly hand made. Patches of drab olive-green glaze on exterior surfaces. Context: castle site (CAS) and domestic area of settlement (CP).

Illustration: 116 CAS 140, Phase 5, Period III.

*Anthropomorphic jug* (Fig. 27: 117)

Bridge-spouted jug with applied face decoration. The face is formed of a pad of clay bent in a semicircle and applied to the spout. The mouth, which slopes downwards from right to left, is made by a deep cut; the eyes are formed by two applied roundels of clay, hollowed out in the centre; only a scar remains where the nose was broken off. Two small non-functional handles extend from the bottom of the neck of the vessel and twist to form arms, the hands of which are placed on either side of the head. The hands are spatulate with stylized fingers made with deep-impressed marks. The jug was glazed externally with a fairly thick olive-green glaze. Although the fabric indicates this to be of local manufacture, it can best be regarded as an imitation of Grimston-type wares. Context: Industrial area (FP), Kiln I fill.

Illustration: 117 FP 12, Period III.

*Miscellaneous fragments of anthropomorphic and zoomorphic vessels* (Fig. 27: 118–23)

118 Part of pulled spout with applied nose and incised ring-and-dot eye, forming a bird-like face. No surviving glaze.

Illustration: 118 FP 31, Period III.

119 Human face from the top of a small strap handle. The mouth is incised, the nose, which is applied, is finely formed with nostrils depicted by deep incisions; the eyes are missing but there is some indication of a ring-and-dot. The external glaze is green-orange.

Illustration: 119 FP 26, Period III.

120 Portion of bearded face-mask handle. Pinched applied nose, incised ring-and-dot eyes and beard depicted by deep incisions on the side of the handle. Traces of olive glaze. The form is an imitation of Scarborough ware face-mask jugs, examples of which were also found on the site (172, 173).

Illustration: 120 CAS 218, Phase 4, Period III.

121 Fragment of arm and shield from knight jug or aquamanile. Olive-green glaze with iron-rich brown stripes on shield possibly intended as heraldic decoration.

Illustration: 121 CAS 182, Phase 3/5, Period II/III.

122–23 Two fragments of arm/leg from knight jug.

Illustrations: 122 CAS 124, Phase 4, Period III; 123 CAS 83, Phase 4, Period III.

*Aquamaniles* (Fig. 27: 124–25)

Total: 2

Spout of a vessel in the form of a ram's head. The eyes are dot-and-circle type formed by applied pieces of clay, in this instance holes had been pierced through the wall of the vessel and the eyes inserted as plugs. Horns, of which one survives, were formed of a coiled strip of clay and applied to the back of the head and pinched at the base. The ears, broken at their tips, had also been applied to the side of the head, with the earholes indicated by deep incisions. Overall olive-green glaze. A coiled strip of clay, presumably a ram's horn, may have been part of another aquamanile (125). Context: Both the aquamanile fragments were from the castle site.

Illustrations: 124 CAS 220/7, Phase 3/5, Period II/III. 125 CAS 124, Phase 4, Period III.

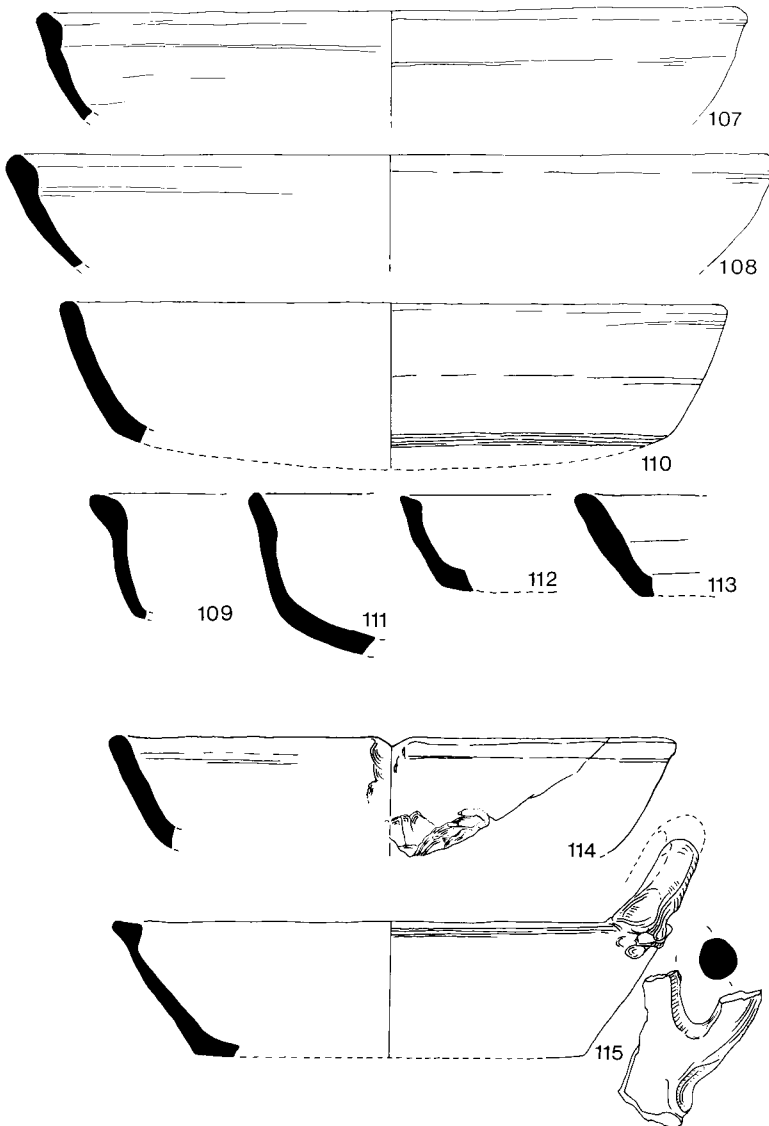


FIG. 26

Rattray local ware shallow dishes 107-15. Scale 1:4

*Ceramic horns* (Fig. 27: 126-27)

Total: 2

Two fragments of ceramic horns were found; the difference in the direction of the herringbone decoration indicates that they were from two separate horns. The larger fragment (126) measuring *c.* 140 mm in length, was a curved oval-shaped flaring tube. It had been handmade with considerable variation in the thickness of the horn wall, there was extensive knife-trimming of the surface. Decoration consisted of four rows of incised herringbone pattern along the length of the object. Patchy thick olive-green glaze. This fragment is from the middle section of a horn, lacking both the mouth piece and the terminal and it is therefore difficult to estimate the original length of the horn.

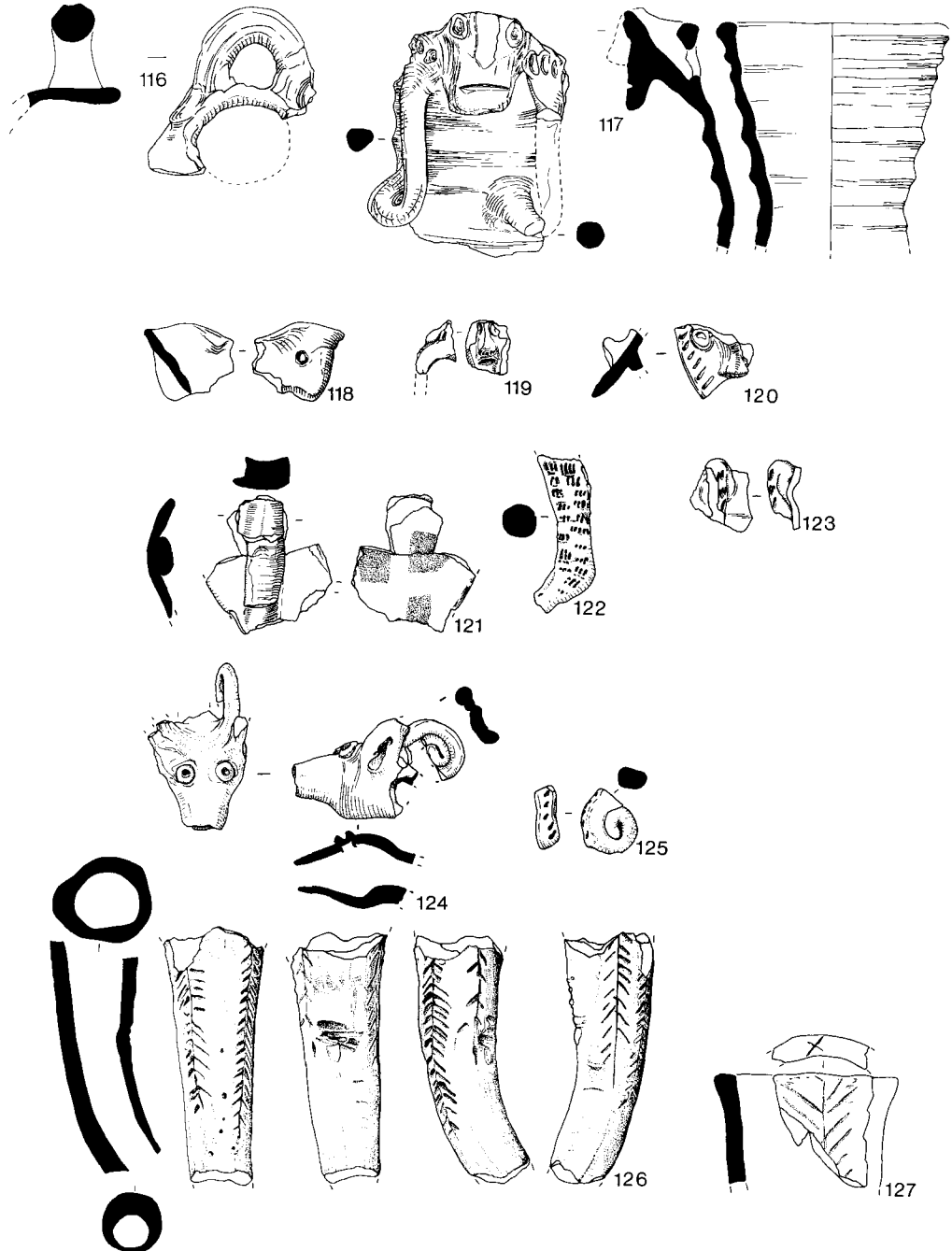


FIG. 27

Rattray local ware: urinal 116, anthropomorphic vessel fragments 117-23, aquamaniles 124-25, horns 126-27. Scale 1:4



The second fragment (127) is part of a terminal. It is also handmade with knife-trimming and patchy olive glaze. The herringbone decoration which extends to the rim of the terminal is similar to that on the more complete fragment but running in the opposite direction.

These horns are extremely rare in Scotland, the only other known examples being four from Bothwell Castle, Lanarkshire, and one from Perth. They are discussed in a recent paper by Jean Le Patourel.<sup>81</sup> They generally date to the 13th and 14th centuries and are thought to have been used in hunting or in battle. The animal bone evidence suggests that considerable hunting took place from Rattray. Context: One from the castle site, the other was from two different sites in the settlement.

Illustrations: 126 CAS 182, Phase 3/5, Period II/III; 127 FP 9, Period III and CP 723, Period III.

*Miscellaneous fragments* (Fig. 28: 128–34)

128 Perforated base sherd, possibly from a colander. Olive glaze internally.

Illustration: 128 CAS 89, Phase 5/6, Period III/IV.

129 Foot, possibly from a pipkin. External olive-green glaze.

Illustration: 129 CAS 218, Phase 4, Period III.

130 Possible leg of a tripod pitcher. A fragment of the internally glazed base of the supported vessel exists on the inner surface. The shape of the leg is similar to a strap handle. It has five perforations, the lower three of which extend through the thickness of the leg.

Illustration: 130 FP 76, Period III.

131 Spiggot, possibly from a cistern. Deep indentations where the spiggot had been luted onto the body of the vessel.

Illustration: 131 FP 17, Period III.

132 Small biconical fragment. At one end it appears to have been flaring out, at the other it appears either to have been drawing to a point or to have had a central perforation. Possibly fragment of watering can?

Illustration: 132 FP 31, Period III.

133 Edge fragment of lid. Olive-green overall glaze.

Illustration: 133 CAS 93, Phase 5, Period III.

134 Several examples were found where base sherds had been trimmed and reused, apparently as disc lids.

Illustration: 134 CAS 158, Phase 4, Period III.

*Gritty ware jugs, possibly local* (Fig. 28: 135–40)

Total: 47

Coarse gritty micaceous fabric, fairly thin-walled. Fired buff/pink. All jugs with collared rims and carination on shoulder, some undercut below rim externally. All jugs very similar, the illustrated examples give the variations of rim and neck forms. Pinched spouts and two bridge spouts. Strap handles. Patches of olive-green glaze. No complete profiles. Context: Castle and settlement.

Illustrations: 135 CP 737, Period II; 136 CAS 76, Phase 3/4, Period II/III: fourteen examples were of this type; 137 CAS 57, Phase 4, Period III; 138 CAS 229, Phase 2, Period I; 139 CP 708, Period III; 140 CP 505, Period II.

*Other unidentified gritty wares, possibly local* (Fig. 28: 141–45)

Total: 40

Some 40 rims, all jugs with the exception of two jars and a possible lid, were from vessels which in form appeared very similar to the local Rattray products. The fabric, however, ranged from slightly to considerably grittier, with frequent quartzite grits. These vessels may have been of local manufacture, but this cannot be definitely stated. Decorated jug bodysherds included mould-impressed decoration very similar to that found on some of the local ware jugs. One sherd bears an applied roundel (143) with pellet and cruciform decoration. Context: All areas.

Illustrations: 141 CP 707, Period III; 142 FP 62/38, Period III; 143 CP 705, Period IV; 144 CP 737, Period II; 145 CAS 219, Phase 3/4, Period II/III.

*Coarse handmade pottery* (Fig. 29: 146–55)

Total: 27

A small group of crudely handmade vessels, some showing distinct signs of sooting, may have been used as cooking pots. There is some variation in the fabric of these vessels, from a rough texture to quite smooth. No complete profiles exist but they would appear to have been globular vessels with either slightly everted or upright simple rims. No glaze or decoration is evident. Of the 27 examples, 24 were from the domestic sites of the settlement (CP, RB) and only one from a rubbish pit on the industrial site (FP) and two from midden contexts on the castle hill (CAS). As this type varies so much from the products associated with the kilns, it is possible that these vessels were not made by the potters on the kiln site; alternatively it is possible that they were only made for a specific function associated with the domestic sites. Context: Predominantly settlement domestic areas (CP and RB). Illustrations: 146 CP 620, Period III; 147 CP 725, Period III; 148 CP 743, Period II/III; 149 CP 702, Period III; 150 CP 736, Period II; 151 CP 707, Period III; 152 CP 728, Period III; 153 CP 716, Period IV; 154 CP 725, Period III; 155 CP 764, Period III.

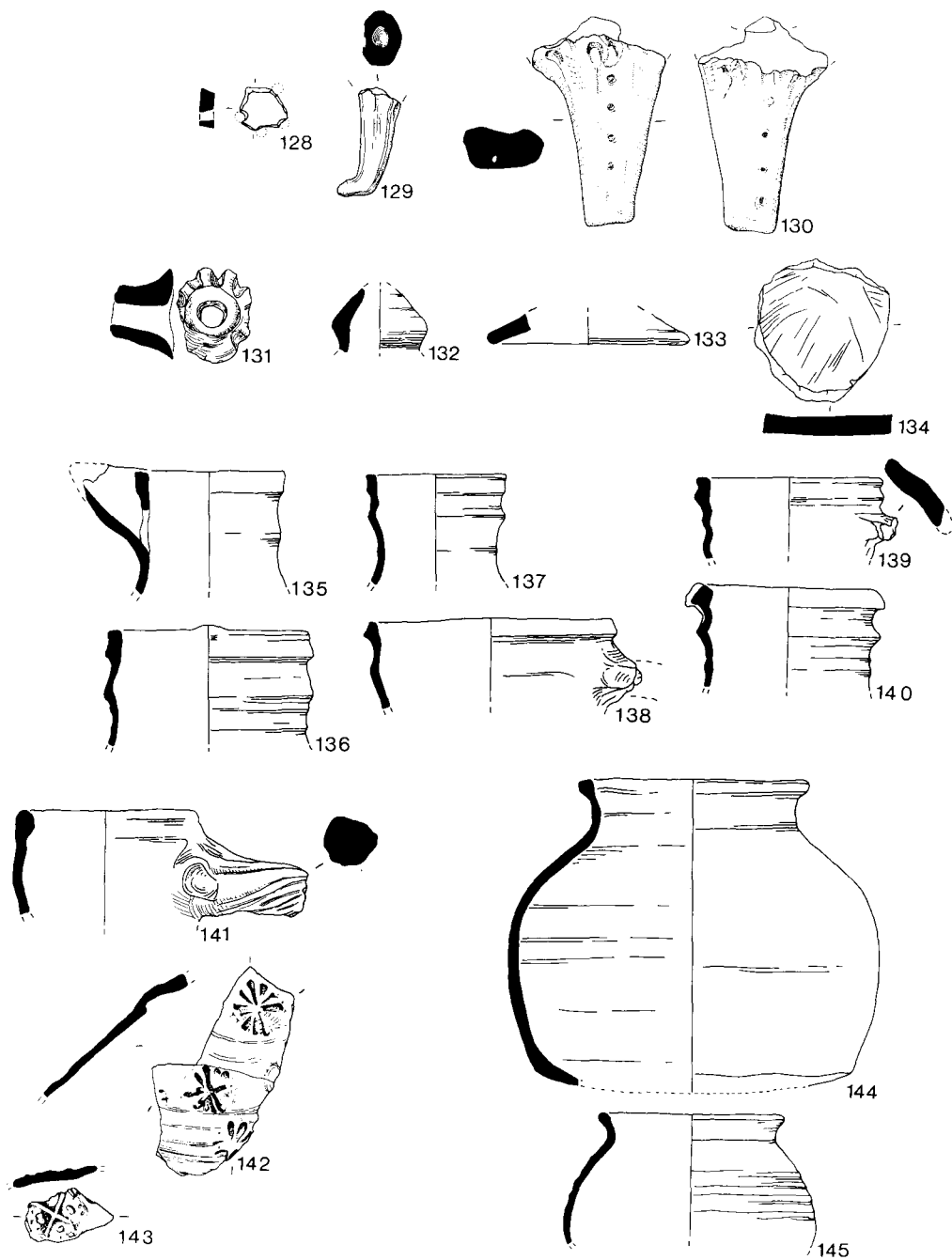


FIG. 28

Ratray local ware miscellaneous fragments 128-34. Gritty wares, possibly local 135-45. Scale 1:4

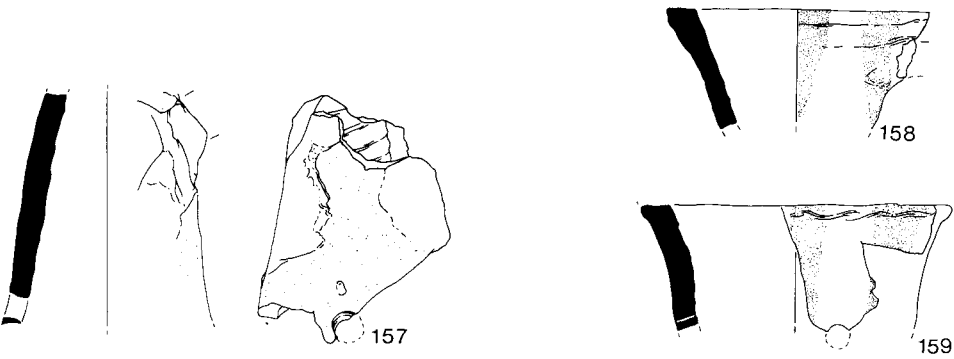
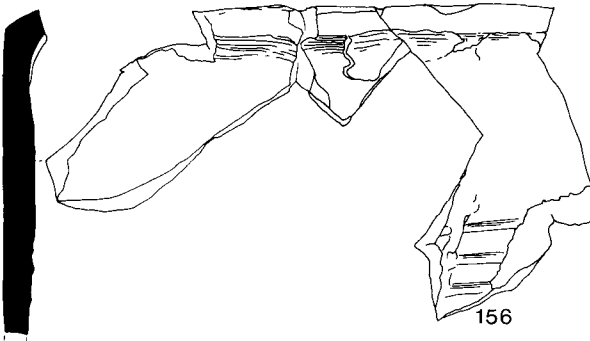
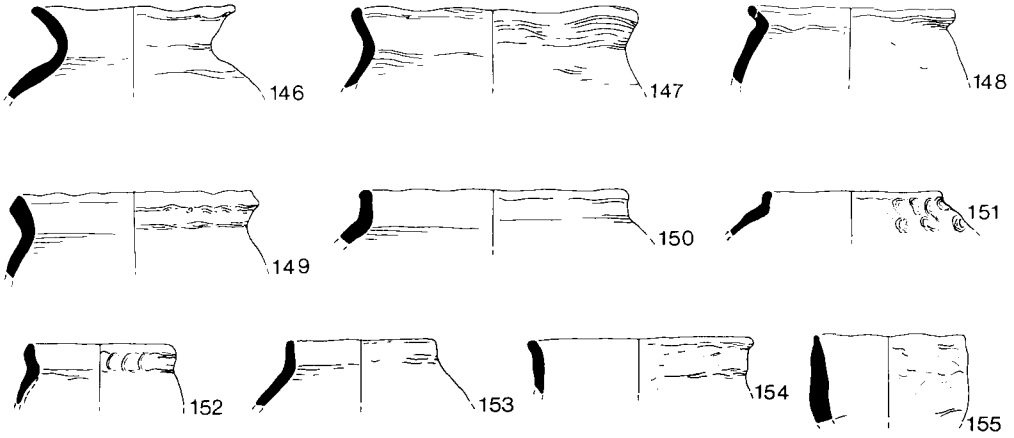


FIG. 29  
Coarse handmade pottery 146-55. Roof furniture 156-59. Scale 1:4

*Roof Furniture**Ridge tile* (Fig. 29: 156)

Total: 11

Portion of one ridge tile and fragments of a further ten probable ridge tiles were found. Patches of olive-green glaze. Context: With one exception all were from the castle site and probably derived from hall Building C1 or hall Building B.

Illustration: 156 CAS 163/126/99/158/70/124/125A, Phases 3/4, one piece residual in 5/6, Period II/III.

*Roof furniture?* (Fig. 29: 157-59)

Total: 6

Fragment of six wheel-thrown thick-walled vessels with pronounced internal rilling. They appear to have been conical in shape. Rims are flat on top, knife-trimmed on the interior edge. Scars on external surfaces indicate some form of external decoration. External olive-green glaze with vertical iron-enriched brown stripes. The more complete examples show perforations in the side of the vessel. There is little or no sooting. Context: As ridge tile.

Illustrations: 157 CAS 217, Phase 3, Period II; 158 CAS 28, Phase 5, Period III; 159 CAS 135/235, Phase 3/4, Period II/III.

*Kiln Props* (Fig. 30: 160-69)

Kiln props were found on all three main sites; in the potting tenement (FP) five complete examples were found *in situ*, four in Kiln 2 and one in Kiln 1, with fragments of a further 22 bases on the site. On the CP site, fragments of sixteen bases were found. The three complete props found in 1829 are also reputed to have come from this field,<sup>82</sup> they were recorded as having been found with ashes and burning but the excavations revealed no pottery kilns in the properties on the S. side of the road. Two nearly complete props were found on the castle site. One fragment was found on the RB site. A further two vessels of a different type, also apparently used as kiln props, were found on the potting tenement (FP) with two other fragments of this type identified (one on FP, the other from CP).

*Type 1*

Total: 49

Wheel-thrown with pronounced rilling on the inside. The profile is almost straight but tapering slightly from base to neck, with simple slightly everted rims. Rim diameters of the complete examples range from 90 mm to 100 mm, with the base diameters of between 100 mm and 115 mm. The height of the complete profiles extends between 120 mm and 140 mm. Of the complete props, with one exception (160), the bases have a marked sagging. Of the five complete props, two have no holes, two have opposed holes near the bases of the sides, and one has one hole in the centre of the base and one hole in the side near the base; all three arrangements were found among the four props from Kiln 2 (161-64). Holes are also present in some base and body sherd fragments. Two of the complete props are knife-trimmed at the basal angles, the rest are lightly pinched around the edge of the base. In several examples, the inside of the base had been pushed out either with the finger tips or with a small tool. The majority of these examples are heavily sooted externally and some internally. A few but by no means all of the props and fragments have small spots of glaze on the outer edges of the base and occasionally elsewhere. There are no clear stacking scars but two examples show a discoloration on the base consistent with stacking.

Illustrations: 160 FP 13, Period III, Kiln 1, SF 288, *in situ* (Fig. 17); 161 FP 32, Period II, Kiln 2, SF 601, *in situ* (Fig. 17); 162 FP 32, Period II, Kiln 2, SF 602, *in situ* (Fig. 17); 163 FP 32, Period II, Kiln 2, SF 603, *in situ* (Fig. 17); 164 FP 32, Period II, Kiln 2, SF 604, *in situ* (Fig. 17); 165 CAS 2/70/158/89, Phases 4/6, Period III/IV; 166 CAS 216/68, Phases 3/5, Period II/III; 167 FP 25, Period III, SF 600.

*Type 2*

Total: 4

The complete bases of two larger props were found together in a rubbish context in the potting tenement. The larger fragment appeared to be of jug profile, but prior to firing, holes had been stabbed in the base and side, suggesting conversion to a kiln prop. The smaller fragment was a very thick heavy base with a central perforation. Both have clear stacking discoloration and spots of glaze on the base but neither is sooted. Two other perforated base fragments appeared to have been of this type. The identification of this group as kiln props remains speculative and is partly based on context and partly on the basal discoloration.

Illustrations: 168 FP 38, Period III, SF 605; 169 FP 38, Period III, SF 606.

*Wasters*

There is a remarkable absence of any quantity of waster sherds. Among the few that were found, there were several identifiable jug fragments.

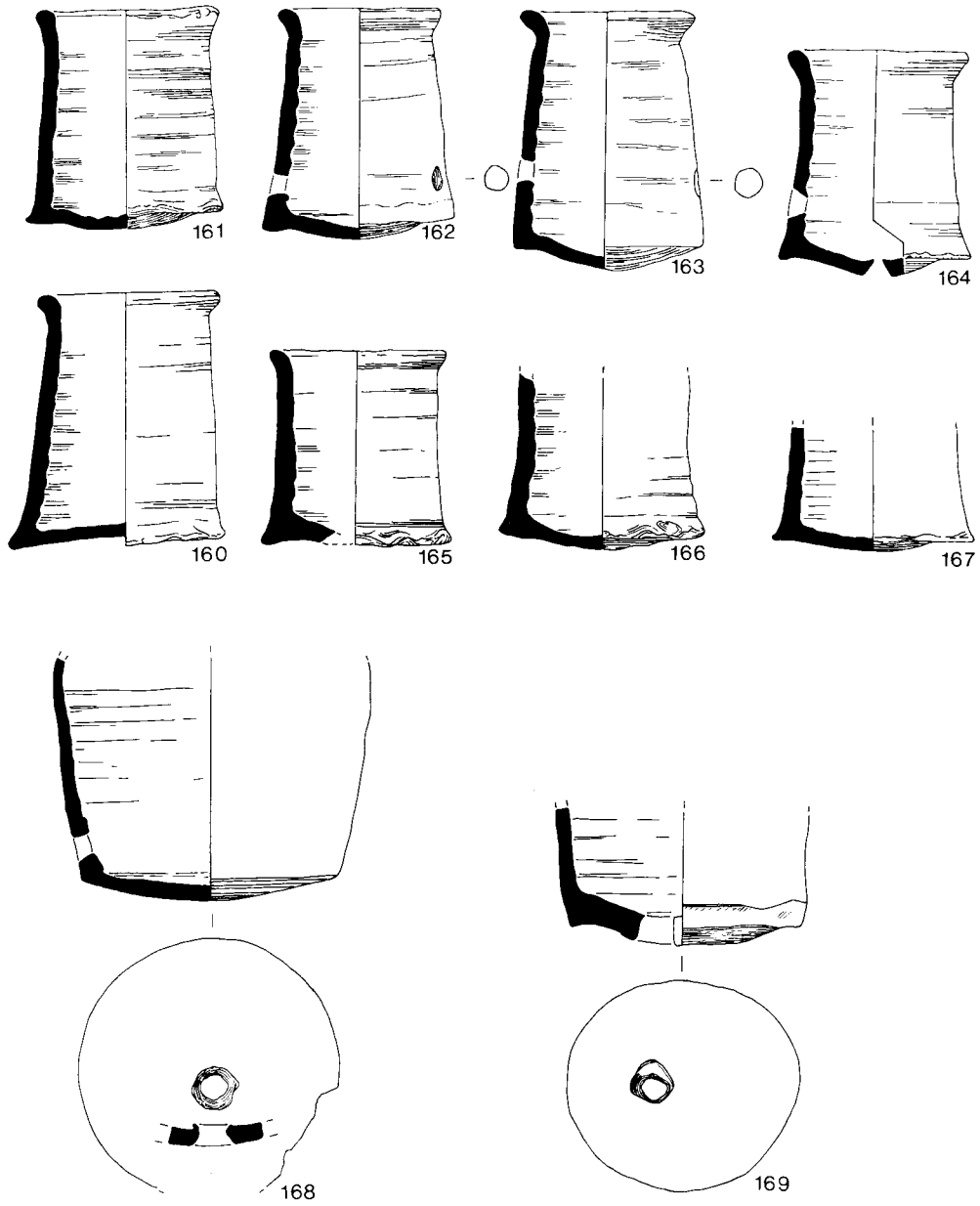


FIG. 30  
Kiln props 161-69. Scale 1:4

*Metal-working tenement 13th century (Period II) (Fig. 16)*

The property E. of the stream yielded large quantities of metal-working debris and appeared to have been used for iron working. In the 13th century there was probably a timber building (FP 85) at the S. end of the excavated part of the tenement, with its entrance leading to the NE. corner of the site; here were a series of pits and gullies and here the metal-working debris was concentrated. The ground surface of the whole property was stained black and grey with trampled ash, coal and charcoal but, whereas inside the building and to the S. the soil was ashy with flecks of charcoal and iron, outside the building and to the N. it generally contained more charcoal. Some slag occurred in all areas, but in the NE. corner there was a solid layer of slag (FP 27). This filled two cuts in the natural sand, which was rising up from the stream at this point. The N. cut was a fairly straight edge into the face of the natural slope, the S. cut was 3–4 mm wide and extended off the site. The maximum surviving depth of these cut areas was *c.* 0.5 m. The slag deposits were thickest in these cuts but a thinner continuation of the same slag layer extended up over the top of the natural in the NE. corner. In none of these areas was there any sign of *in situ* burning. A series of small features were dug into the base of the two cuts. To the N. there was a small pit (FP 101: 1.7 × 1.2 m; depth: 0.5 m) and an oval pit or trench (FP 100: 1.5 × 2 + m; depth: 0.33 m), both filled with slag and charcoal and slightly overlapped by the thick slag layer (FP 27). To the S. there were two pairs of parallel gullies (FP 98, 99); in each pair, the S. gully was wider (0.8 m) and slightly shallower (0.20–0.27 m) than the N. gully (0.36–0.57 m wide, 0.26–0.30 m deep). The S. pair of gullies (FP 99) was cut by a small pit (0.95 m diameter, 0.60 m deep). Although there was one lump of slag in this, the pit fill was generally silty. The fill of the gullies, however, was charcoal and ash with some slag in the fill of the N. gullies and a very thick, hard layer of slag in the base of the S. gullies. There was no heat discoloration in the sides or base of any of these features. The two pairs of gullies merged as they reached the edge of the site. Both were sealed by the thick slag layer (FP 27).

The lack of *in situ* burning in any of these features indicates that they cannot have been directly related to the iron-working processes. However, the gullies appear to have lain open when the iron working was in progress as they were filled with the waste debris from it. The differences in the fills suggest that the gullies were not all filled simultaneously and it is possible that the shallower S. gully in each pair was later than the N. gullies. There was no clear evidence of their function. It is possible that they were for drainage but this would seem unlikely in relation to the position of the suggested building. They could also be interpreted as dug-out structural elements, possibly from a structure sheltering or associated with the iron working.

The evidence suggests that the iron-working must have taken place N. and E. of the excavated area; however, magnetometer survey showed no further anomalies in this area and features may have been ploughed out as the modern cultivation reached the top of natural in this area.

*Metal-working tenement 14th and 15th centuries (Period III) (Fig. 16)*

Metal-working debris in Period III levels suggests that the property may still have been used for iron-working, although the quantity of debris was less and much

may have been derived from the underlying 13th-century levels. From this period, a trampled floor with traces of a clay wall on one side has been interpreted as the remains of another building (FP 77). To the N. of this was a circular structure (FP 42), with an internal diameter of 1.65 m (Fig. 16 and detail Fig. 8). It had a drystone wall, up to two courses high and 0.35 m wide, around a base of beach pebbles set in sticky yellow clay and sealed by similar clay with a few rubble stones. On the W. side there was a gap 0.18–0.25 m wide between the edge of the base and the wall. There were breaks in the kerb on the E. and W. sides. The W. break was flanked by walls splaying out to shelter it. Although this feature looked like an oven or furnace base, there was no sign of burning. A small clay floor or platform (FP 58), 1.4 m square, with post-holes along three sides, lay directly to the S. The size and spacing of the post-holes suggests a post-and-wattle wall. This may have been a small store or shed sheltered from the prevailing wind.

At the S. end of the property there was a hollow (FP 76) *c.* 3 m square and 0.2–0.3 m deep, filled with a scatter of stones and a concentration of domestic rubbish and possible industrial debris such as part of a kiln prop. This feature may have been the remains of a demolished structure filled with secondary rubbish. It also had no sign of *in situ* burning.

#### THE INDUSTRIAL DEBRIS *By* R. M. SPEARMAN and I. CULLEN

Excavation at Rattray produced an exceptionally large amount of metal-working debris. The debris was not restricted to any particular stratigraphic phases and, although complex hearths and ovens were discovered, no demonstrable metal-working furnaces were excavated. The distribution of debris was, however, heavily concentrated on the FP site, Periods II and III, and it is highly likely that the E. property there was the centre of the burgh's metal-working industry. Substantial quantities of debris were also recovered from the nearby CP 700 site, while smaller quantities of similar debris were found on the castle (CAS) and RB sites.

The features and layers which produced the main concentrations of metal-working debris on the FP site are described above. The various types of debris recovered are dealt with in greater detail in Appendix 2; they were broadly similar for both the FP and CP 700 sites: furnace-bottoms and less structured bloom-working debris; irregularly fused masses of cinder, sand, stone, coal and bloom-working debris; concreted masses of hammer-scale and scrap-iron. Tap-slugs and bog-iron ore were present but in very much smaller quantities.

The debris is therefore entirely consistent with an industry engaged in the refining of bloomery-iron and the manufacture of iron artefacts. There is no reason to believe that the smelting of ore took place at Rattray, although without furnaces the only available guide to the range and scale of this industry is the debris recovered. In all 189.5 kg of debris were examined of which 139 kg came from the FP site where the retention rate for metal-working debris recovered during excavation was around 10%. While this can only be a rough guide to the scale and/or duration of the Rattray smithy or smithies, the work there appears to have been on a more substantial scale than the type of operation that existed at much the same time in the Castle Street, Inverness<sup>83</sup> or by Elgin Cathedral,<sup>84</sup> and was perhaps more comparable to that of the 16th-century smithies found in Meal Vennel, Perth.<sup>85</sup>

While the range of bloom-working debris from Rattray is typical of these other Scottish urban iron-working sites, the very considerable amount of mixed cinder, coal-ash and iron-working slags is unusual. Indeed, the apparent ready availability of coal is in itself unusual as there are no known surface outcrops of coal in the area, and all the coal must have been imported. Fragments of peat and wood charcoal were also recovered from amongst the industrial debris, but in far smaller quantities than the coal and coal-ashes. The comparative

scarcity of these much less robust fuels cannot, however, be taken to indicate that they were of secondary importance. As sulphur released from the coal on burning makes it unsuitable for smelting iron,<sup>86</sup> the use of a significant volume of coal strengthens the suggestion made earlier that the iron-working that took place at Rattray was mainly black-smithing.

A number of the concreted masses of iron objects and sand were superficially investigated during the initial classification of debris. The majority of these concretions were formed around fragments of iron rod and/or nails. This is consistent with the conserved pieces of drawn-down iron rod identified in I. Goodall's report (Small Finds Catalogue nos. 15–19). However, it would almost certainly be wrong to see these broken nails and other small fragments of iron as anything other than the point at which the iron could be discarded, the rump of larger projects, as indicated by the large tongs from the castle site (Small Finds Catalogue no. 21).

Other than one possible fragment of copper-alloy casting debris (Small Finds Catalogue no. 268) and 31 g of possible non-ferrous metal-working slag, there is no evidence of copper-alloy smelting or casting. A small number of fragments of copper-alloy sheet (Small Finds Catalogue nos. 250–63) may suggest that some copper-alloy smithing was taking place, possibly in conjunction with iron-smithing, as a fragment of iron rod sheathed in copper-alloy sheet was recovered (Small Finds Catalogue no. 20).

## THE FINDS

### FINDS AND DATING

There were no clearly datable artefacts from Period I when the castle hill was first used as a defensive motte. However, the occurrence of Scottish E. Coast white gritty wares among the pottery suggests a date in the late 12th or early 13th century.

Most of the more datable small finds, such as the seals and the brooches, appear to derive from the 13th and 14th centuries. This ties well with the coin evidence which suggests that Period II, when the timber hall was built on the castle hill and the settlement began to develop, was dated between the early 13th century and the early 14th century. It is reasonable to identify this with the ownership of the site by the Comyn earls of Buchan (*c.* 1214–1308). The chapel was also probably built during this period.

The coins suggest that Period III, when the stone hall was built on the castle hill and the settlement continued to develop, extended from the early 14th century to the mid or late 15th century, with demolition and robbing occurring possibly until the early 16th century, two coins of the latter date having been found in demolition disturbance on the castle site.

Among the other small finds, the earliest datable object is a swivel which is perhaps of 12th-century date but which was found in a probably residual context in Period II/III. A box padlock was also of archaic type. Both of these objects were, however, ornamental and may be expected to have had a degree of heirloom value. The horseshoes, on the other hand, which can be expected to be contemporary with their find context, suggest a transition from an earlier type, dated to between the late 11th and the 13th century, in Period II, and later 13th- and 14th-century types in Period III.

The ceramic evidence suggests that the main period of activity in the settlement was between the 13th and the 15th centuries, with only a small number of vessels



being possibly of 15th- and 16th-century date. There were rather more of the later vessel types from the settlement than from the castle hill, which agrees with the postulated abandonment of the castle hill by the late 15th century.

Although the documentary evidence shows that Rattray was created a royal burgh in the mid 16th century, there is little datable material and no structural evidence which can be ascribed to this period. It is interesting that even among the unstratified artefacts excavated in the topsoil or found during fieldwalking, there has been little 16th-century material. A number of coins from the topsoil date from the 17th century, by which time, as the documentary evidence shows, there was only a handful of inhabitants left at Rattray.

#### THE FINDS: STATUS AND FUNCTION

Not surprisingly, the artefactual evidence stresses the considerable status of the castle site compared with the main settlement. For example, five of the six brooches were from the castle hill, as were other high status objects such as an ornate swivel, possibly used for the lead of a hunting dog. Four of the five buckles made of copper alloy were from the castle, whereas the iron buckles were from all areas of the settlement. Part of an imported glass vessel was from the castle hill. The range of ceramics also stresses the wealth of the manorial household; nearly half of the local ware jugs and the greater proportion of the imported Scarborough wares were from the castle hill; parts of two aquamaniles were also found there. The very small number of European wares were, however, found from all areas of the settlement. Other domestic vessels found included a number of copper-alloy cooking vessels, some with iron handles; the majority of these were also from the castle site, whereas in the domestic area of the settlement there was a far higher number of very coarse pottery vessels which were sooted and possibly used for cooking.

A number of finds, all from the castle hill, suggest leisure pastimes; for example dice, ceramic gaming pieces, a lead gaming piece or token, a jew's harp and two possible 'buzz bones'. A ceramic horn found on the castle site and a possible fragment of another from the settlement may have been used in hunting. All but one of the arrowheads and most of the horseshoes and harness items were also from the castle site.

Apart from the ubiquitous knives with wood and bone handles, there were also a number of tools. Some were related to the metal-working, for which there was considerable evidence, or to other skilled crafts such as masonry and woodworking. Others, such as leather awls, spindle whorls, needles and bone pins, possibly used in weaving, represent what would have been normal domestic crafts.

Various finds are related to the structural remains. Ceramic ridge tiles and other roof furniture fragments appear to derive from the Period II timber hall and the Period III stone hall. Window glass came from both Period II and III contexts on the castle site and lead scrap, possibly from window kames, was found in Period III. It is not clear if both the timber and stone halls had glass windows. The only identifiable window kame was found in the settlement, probably taken there as scrap. Hinge pivots and clench bolts from doors and shutters were found throughout

the site. Other architectural iron-work such as nails and staples could rarely be identified with specific structures although two large groups of nails could be linked with the burnt timber hall and with a burnt clay-walled building. Apart from large squared sandstone blocks probably used in Period II as post-plinths, only one fragment of architectural stonework was found, possibly part of a window embrasure of the Period III stone hall.

### CATALOGUE OF SMALL FINDS

This is a summary catalogue. Not all the catalogued finds are illustrated. A more detailed catalogue is available in archive. The small finds number (SF), site context and site phase or period are listed at the end of each entry. The site codes for individual areas are shown in the key to the site map, Fig. 2. Phases refer only to the castle structural phases 1–6, as used in the description of the stratigraphy of the castle hill site. The periods are broad divisions which cover the whole settlement and which are explained in the introduction to the report.

#### THE COINS *By S. THAIN*

The coins are arranged in site periods. Not illustrated.

##### Period II

1. English Silver Penny of John or Henry III, Short Cross (1199–1247). Moneyer, possibly ABEL, London. SF 1392, CP 774.

##### Period II/III

2. Silver Cut Halfpenny, John-Henry III, Short Cross (1199–1247) Moneyer, possibly WALTER. SF 375, CAS 99, Phase 3/4.
3. English Silver Cut Halfpenny of Henry III, Long Cross (1247–72). SF 1331, CP 743.
4. Silver Penny, Edward I, Class Ic. (1279). London mint. SF 381, CAS 125A, Phase 3/4.
5. Scottish Copper Penny, Crux pellit type (c. 1470–80). SF 210, CAS 99, Phase 3/4.
6. Scottish Billon Plack of James IV (1488–1513)? Too fragmentary for positive identification. SF 867, CAS 99, Phase 3/4.

The two 15th-century coins in this period probably represent disturbance during the demolition phase in an area of extremely thin stratigraphy.

##### Period III

7. Scottish Silver Penny of John Balliol (1292–1296), 2nd coinage with reverse design of four mullets of five points. SF 933, CAS 14B, Phase 4.
8. Silver Cut Halfpenny, Henry III, Short Cross (1216–1247). Moneyer LEDULF, London mint. SF 126, CAS 93 over 92, Phase 5.
9. Continental imitation of English Edwardian Silver Penny issued by Guy de Dampierre, Count of Flanders (1280–1305). SF 1237, CP 725.
10. Silver Penny, Edward I, Class X, Crown 1? (1302–1310). London mint. SF 613, FP 52.
11. Silver Penny? Missing. Preliminary identification, possibly Edwardian Penny. SF 248, CAS 124, Phase 4.

##### Period IV

12. Scottish Copper Turner, Charles II. (1663). SF 1074, FP 500, topsoil.
13. As 12, or 3rd Issue Charles I (1642–50). SF 1083, CP 601, topsoil.

A number of other coins have been notified by metal detector users working over the area of the burgh fields.<sup>87</sup>

IRON OBJECTS *By* IAN H. GOODALL*Tools* (Figs. 31–32: 14–31)

A number of craft and other day-to-day activities are represented by the tools, the best represented being blacksmithing. 14, a tapering bar with a chisel-cut end, is an example of the bar iron which, together with some scrap, was the blacksmith's main source of raw material. 15–19 are partly-forged pieces of iron, 15–17 drawn down in readiness for further hammering, 18 and 19 closer to being finished objects. 20, a small 42 mm long fragment of scrap iron covered with a copper alloy coating, suggests that iron objects may have been plated on site (see also 147 and 148). 21 is an incomplete pair of tongs lacking its jaws and much of its handles.

22–24 are three woodworkers' tools, namely a complete spoon bit, the expanded terminal from a bit, and a spokeshave, this last perhaps of post-medieval date. 25 is a mason's chisel with a distinctive burred head, octagonal-sectioned stem and flaring blade. The leatherworking awls 26 and 27, the latter 56 mm long, were used to pierce leather; 28 is a stylus with a damaged eraser. 29–31 indicate agricultural activity, 29 being the tip of a ploughshare not dissimilar to one from a medieval context at South Witham, Lincs.,<sup>88</sup> 30 and 31 are a spud and weedhook.

14. SF 530A, CAS 175, Phase 2, Period I; 15. SF 1327, CP 743, Period II/III; 16. SF 633, FP 57, Period II/III; 17. SF 1308, CP 738, Period III, Not illustrated; 18. SF 932, CAS 14, Phase 4, Period III; 19. SF 1261, CP 732, Period III; 20. SF 652, CAS 168, Phase 1/5, Period I/III, Not illustrated; 21. SF 930, CAS 99, Phase 3/4, Period II/III; 22. SF 975, CAS 105, Phase 3, Period II; 23. SF 1132A, CP 707, Period III, Not illustrated; 24. SF 302B, CAS 70, Phase 5/6, Period III/IV; 25. SF 654, FP 36, Period III; 26. SF 10484A, CAS 222, Phase 1, Period I; 27. SF 946, CAS 14, Phase 4, Period III, Not illustrated; 28. SF 1343, CP 743, Period II/III; 29. SF 156, CAS 99, Phase 3/4, Period II/III; 30. SF 1324, CP 725, Period III; 31. SF 1189, CP 707, Period III.

*Knives* (Fig. 33: 32–47)

Knives 32–39 have whittle tangs which were inserted into handles: the blades of 32–35 are of the commonest medieval type which tapers down to the tip, although 35 is unusual in having a stepped back. 36, 37 and 38–39 have blades of three different types, that of 38 having four inlaid marks on one side. Scale-tang knives 40–41 are both medieval, the latter residual in its context. 40 has wooden scales, iron rivets and retains one of its copper alloy shoulder plates; 41 had copper alloy rivets. 42–47 are knife blade fragments, 47 having a bolster, a post-medieval innovation, and thus being intrusive in its context.

32. SF 1379, CP 745, Period III; 33. SF 527, CAS 171, Phase 5, Period III; 34. SF 1166, CP 716, Period IV; 35. SF 120, CAS 73, Phase 4, Period III; 36. SF 1156, CP 721, Period III; 37. SF 341, CAS 137, Phase 4, Period III; 38. SF 631, CAS 182, Phase 3/5, Period II/III; 39. SF 1380, CP 743, Period II/III, Not illustrated; 40. SF 1107, CP 620, Period III; 41. SF 678, FP 66, Period IV; 42. SF 817A, CAS 208, Phase 3/5, Period II/III, Not illustrated; 43. SF 306, CAS 124, Phase 4, Period III, Not illustrated; 44. SF 635, FP 26, Period III; 45. SF 1290, CP 725, Period III, Not illustrated; 46. SF 202, CAS 70, Phase 5/6, Period III/IV, Not illustrated; 47. SF 1049A, CAS 77A, Phase 4/5, Period III.

*Building ironwork* (Fig. 34: 48–74)

The building ironwork includes a cramp, 48, for securing masonry together, a Y-shaped tie, 49, and a series of staples, 50–60. The most numerous staples, 50–57, are U-shaped. 58–60 are rectangular.

Hinge pivots 61–64 are quite substantial; the stub of the shank of 63 has been worn down by a turning hinge. 64 is complete. No complete hinge survived, but 65–69 are strap fragments. 70 is a wedge, 71 a small hook.

Clench bolts, nails with tips clenched over shaped iron roves to prevent them from pulling through wood, were used in ship construction and also in domestic surroundings, for some doors, shutters and hatches.<sup>89</sup> 49 clenched bolts and roves were identified from all areas of the site. Only representative examples have been catalogued. The complete clenched bolts (72) are between 35 mm and 75 mm in overall length, and enclosed timbers between 20 mm and

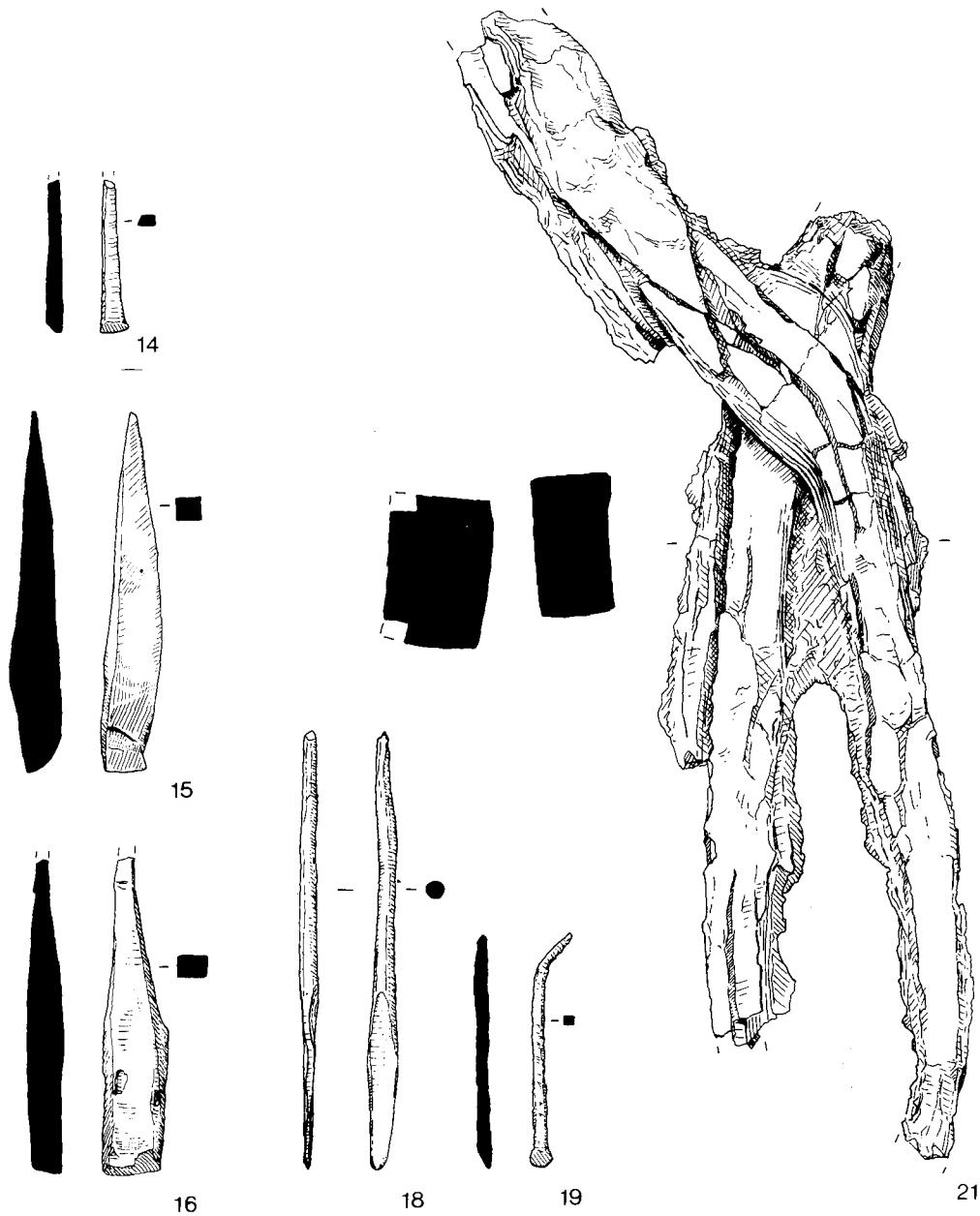


FIG. 31  
Iron objects. Scale 1:2

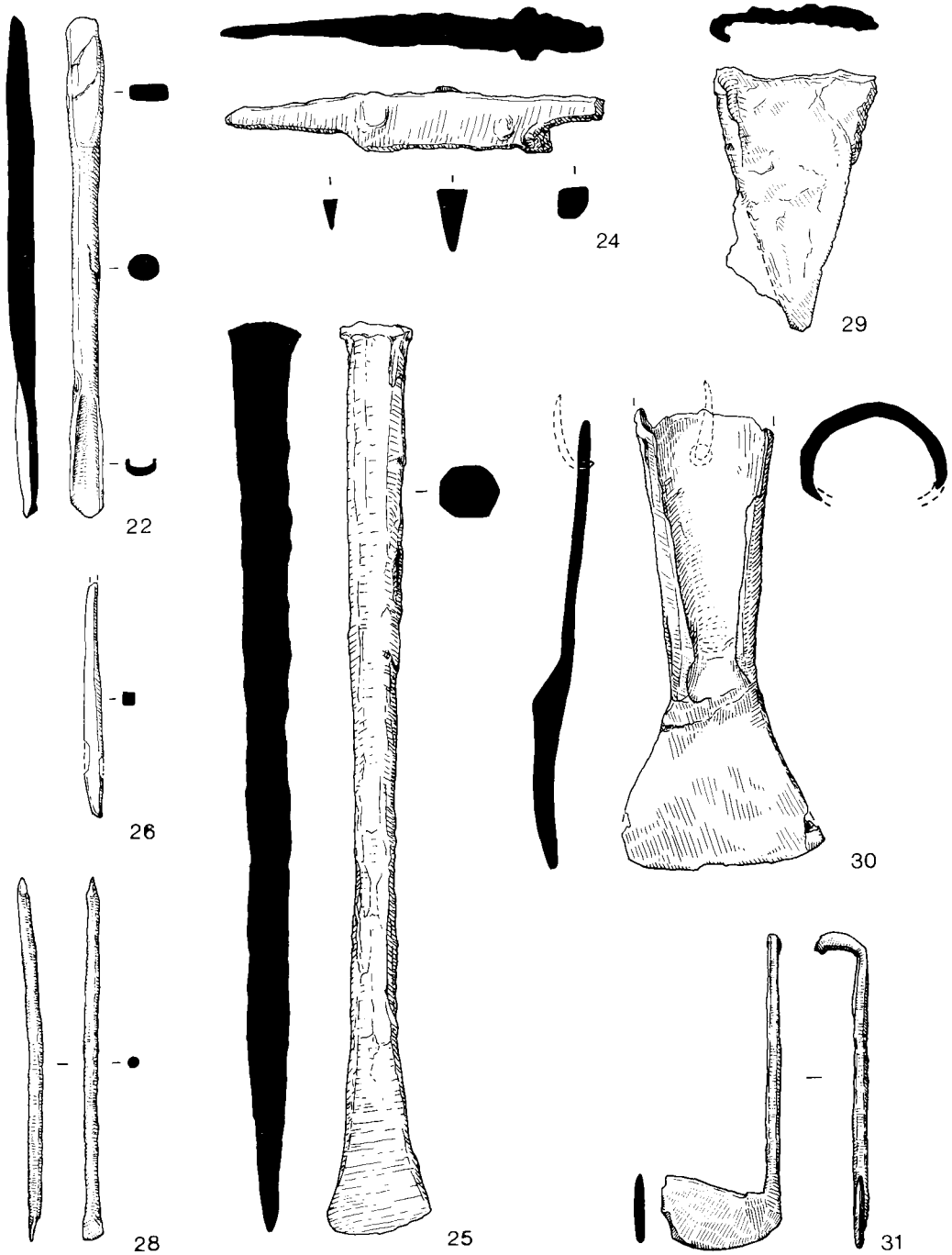


FIG. 32  
Iron objects. Scale 1:2

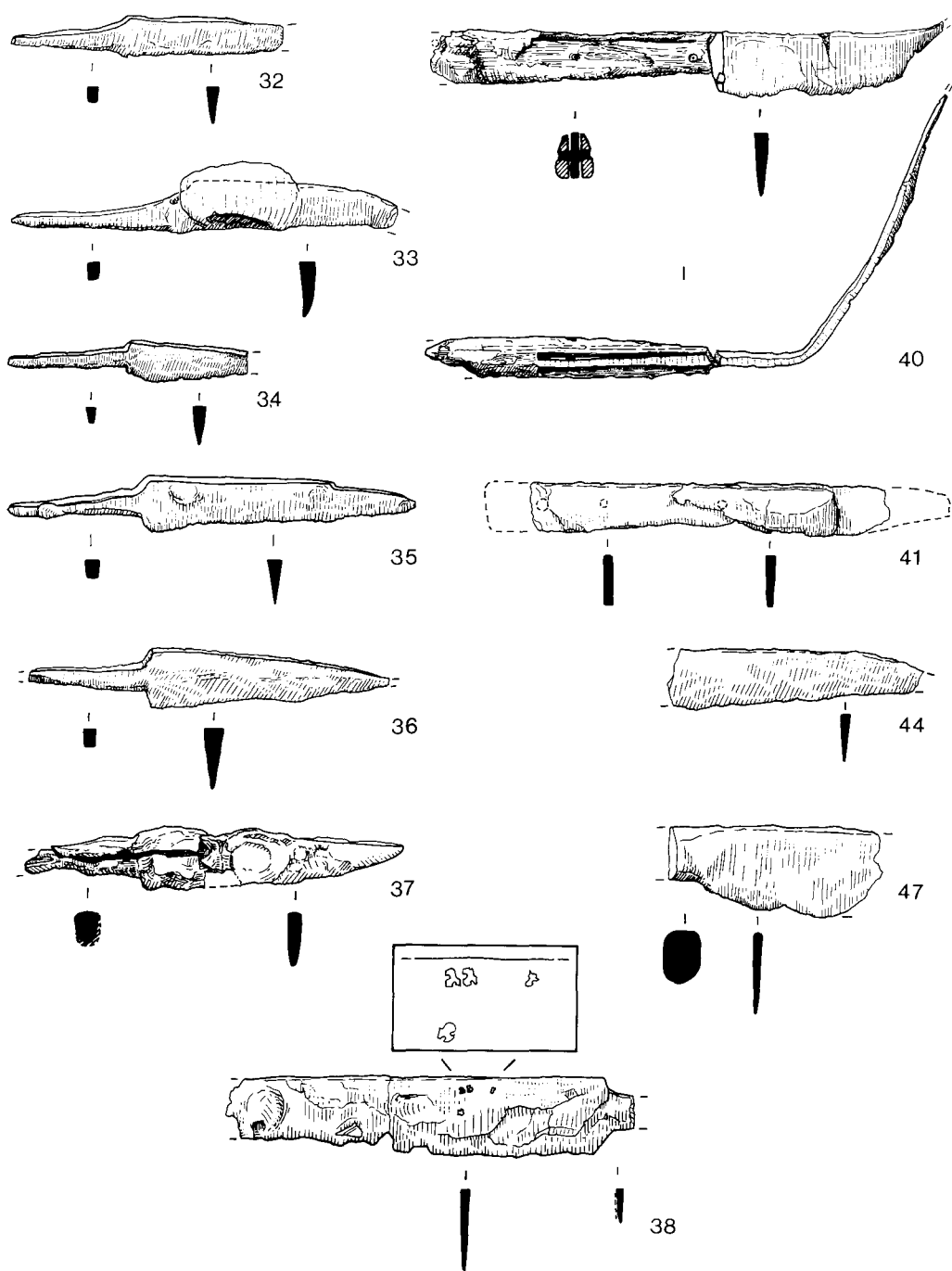


FIG. 33

Iron objects. Scale 1:2, with enlargement of detail on 38

50 mm in thickness. The roves all appear to have been flat and lozenge-shaped; generally between  $18 \times 25$  mm and  $25 \times 25$  mm. One clench bolt (73) and two roves were much bigger, all were from the same midden context and probably derived from the same structure. 74, a conjoined pair of roves, indicates their method of manufacture in a strip.

48. SF 79, CAS 2, Phase 6, Period IV; 49. SF 1089A, CP 501, Period IV; 50. SF 1063, CAS 238, Phase 1, Period I, Not illustrated; 51. SF 874, CAS 175, Phase 2, Period I; 52. SF 1144, CP 510, Period II; 53. SF 911, CAS 99, Phase 3/4, Period II/III, Not illustrated; 54. SF 859, CAS 122, Phase 4, Period III, Not illustrated; 55. SF 948, CAS 14, Phase 4, Period III, Not illustrated; 56. SF 618, CAS 158, Phase 4, Period III; 57. SF 963, CAS 14, Phase 4, Period III, Not illustrated; 58. SF 1394, CP 754, Period II/III, Not illustrated; 59. SF 1256A, CP 732, Period III; 60. SF 217, CAS 93, Phase 5, Period III, Not illustrated; 61. SF 927, CAS 99, Phase 3/4, Period II/III, Not illustrated; 62. SF 830, CAS 214, Phase 3/4, Period II/III; 63. SF 993, CAS 135, Phase 4, Period III; 64. SF 216, CAS 93, Phase 5, Period III; 65. SF 1241, CP 734, Period II, Not illustrated; 66. SF 12, CAS 10, Phase 4, Period III; 67. SF 657, FP 52, Period III, Not illustrated; 68. SF 1116A, CP 607, Period III/IV, Not illustrated; 69. SF 1179, CP 610, Period III/IV, Not illustrated; 70. SF 463A, CAS 158, Phase 4, Period III; 71. SF 696, CAS 174, Phase 3/4, Period II/III, Not illustrated; 72. SF 564A, B, CAS 158, Phase 4, Period III; 73. SF 823, CAS 182, Phase 3/5, Period II/III, Not illustrated; 74. SF 1140A, CP 601, Period IV.

#### *Timber nails* (Fig. 34: 75–80) By *H. K. Murray*

Including all the Rattray sites, a total of 2,784 nails/nailheads and shanks, was identified, either physically or from X-rays. Of these a reference sample was conserved, including all types identified from the X-rays. Four types could be clearly defined; Types A and B were the most common, but a percentage breakdown is impossible due to the impracticality of conserving all the nails.

Type A: 75, 76 Flat head of roughly round/rectangular shape. Complete shanks 53–96 mm long. Heads between  $13 \times 15$  mm and  $20 \times 28$  mm.

Type B: 77, 78 Shank hammered to form flat rectangular head. Complete shanks 34–57 mm long. Heads between  $6 \times 6$  mm and  $7 \times 9$  mm.

Type C: 79 Flat head of narrow rectangular shape. Complete shank *c.* 60 mm long. Head  $5 \times 13$  mm.

Type D: 80 Shank hammered to form slight head, shank flattish. Complete shanks 43–55 mm long. Heads between  $3 \times 7$  mm and  $2 \times 8$  mm.

A detailed breakdown of the relationship of nails to features was only valid on the castle hill and CP sites. On the castle site, 40% of the site total of 2,306 nails were directly associated with the timber-framed Building C1, with only 3% associated with Building A and 4% with Building B, both stone structures. The much larger number of nails from Building C1 may be in part due to the building having burnt *in situ*, whereas Buildings A and B appear to have been demolished, so that roof timbers may have been removed for use elsewhere. The nails from the timber Building C1 were mostly Type A timber nails *c.* 60–100 mm long. A smaller number of Type B and C nails of 30–60 mm length may have been used for lighter work. On site CP 700, *c.* 32% of the site total of 357 nails could be associated with Building 702, which has been interpreted as a clay and timber structure, the roof of which had burnt and fallen into the interior. The nails may be from the roof structure; most appeared to be 50–80 mm long.

75. SF 857, CAS 99, Phase 3/4, Period II/III; 76. SF 829A, CAS 99, Phase 3/4, Period II/III; 77. SF 1253, CP 732, Period III; 78. SF 134, CAS 90, Phase 3, Period II; 79. SF 857, CAS 99, Phase 3/4, Period II/III; 80. SF 564, CAS 158, Phase 4, Period III.

#### *Locks and keys* (Fig. 35: 81–93)

Padlocks and their keys predominate among the lock furniture. The box padlock, 81, is an archaic object for its date since the barrel padlock was by far the most usual type in use in medieval Britain. 81 has a rectangular case decorated by wavy straps, and attached fin and tube down one side, and shaped end plates to give rigidity. Copious copper alloy brazing finish is visible.

82 is the L-shaped bolt from a small barrel padlock<sup>90</sup> and 83–85 are case fragments. 84 and 85 both have transverse straps, 84 also has a longitudinal strap and 83 has four

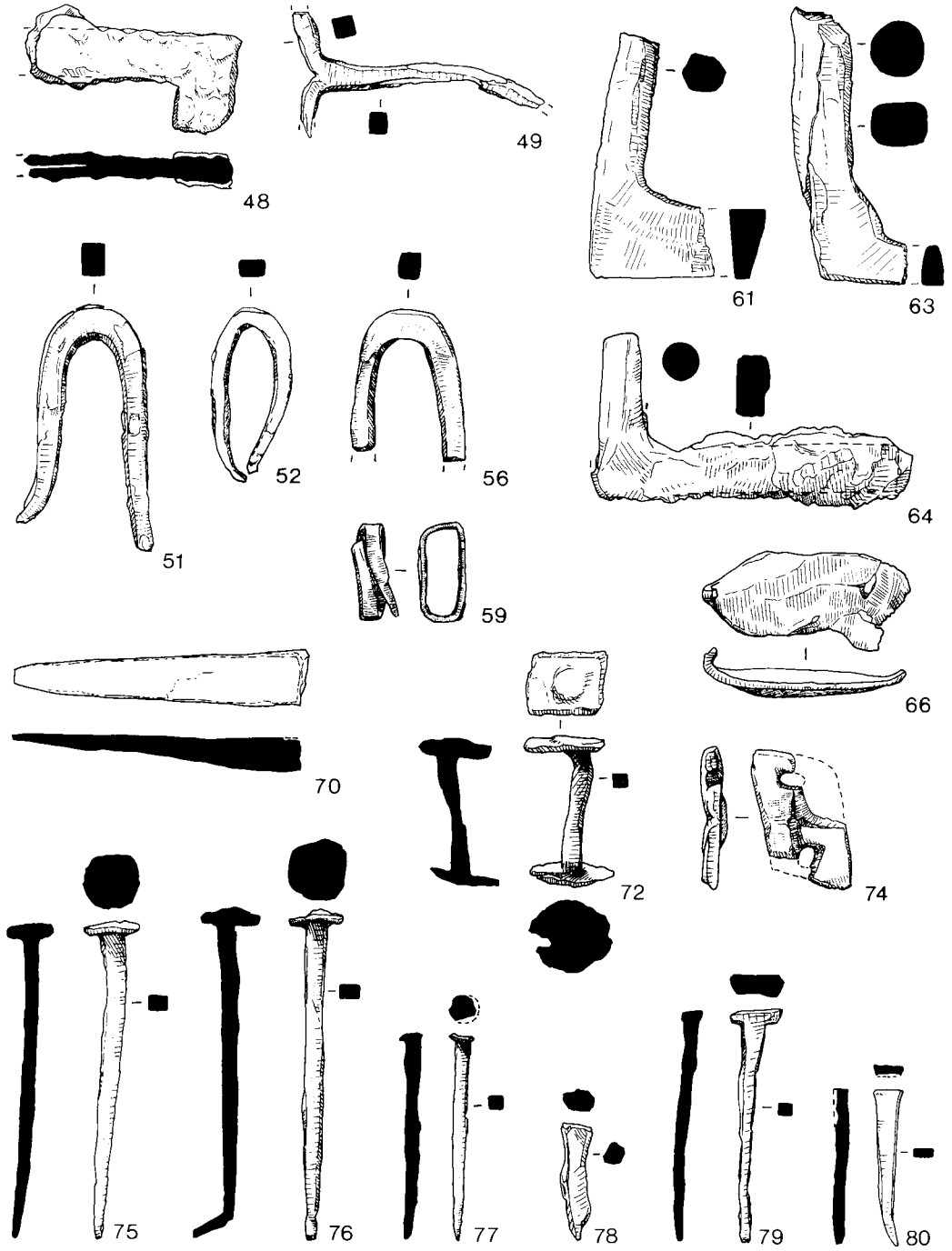


FIG. 34  
Iron objects. Scale 1:2



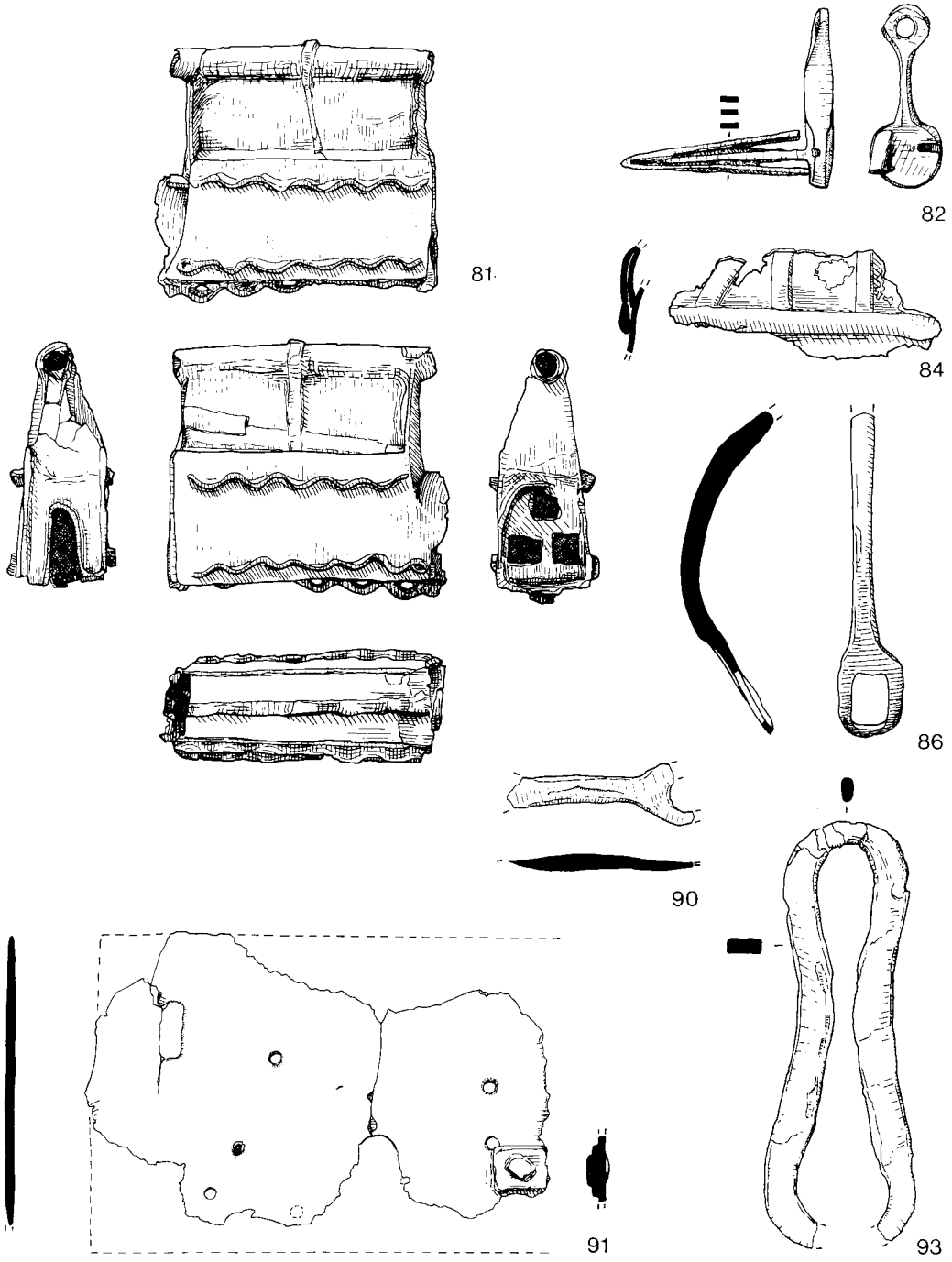


FIG. 35  
Iron objects. Scale 1:2

longitudinal copper alloy rods. 86 and 87 are parts of the shackle arms from barrel padlocks with shackles.<sup>91</sup> 88–90 are padlock keys.

91, the incomplete lockplate from a fixed lock from a chest, retains the tip of the keyhole, holes which supported the lost lock mechanism, and a hole for the entry of the stapled hasp. The lost mechanism, from the position of the holes, evidently comprised a collar around the keyhole, a ward to one side, and a toothed sliding bolt, with a recurved end, held by two staples.<sup>92</sup> 92 is a fragment of a stapled hasp, including the staple, whereas 93 is a flat, figure of eight-shaped hasp which was used in conjunction with a padlock and staple to secure a door or item of furniture.

81. SF 157, CAS 93 on 99, Phase 5 on 3/4, Period II/III; 82. SF 956, CAS 214A, Phase 3/4, Period II/III; 83. SF 104, CAS 69, Phase 5/6, Period III/IV, Not illustrated; 84. SF 714, FP 76, Period III; 85. SF 590, FP 26, Period III, Not illustrated; 86. SF 336, CAS 99, Phase 3/4, Period II/III; 87. SF 869, CAS 166, Phase 5, Period III, Not illustrated; 88. SF 209, CAS 101, Phase 3/4, Period II/III, Not illustrated; 89. SF 868, CAS 166, Phase 5, Period III, Not illustrated; 90. SF 715, FP 76, Period III; 91. SF 1260, CP 732, Period III; 92. SF 817B, CAS 208, Phase 3/5, Period II/III, Not illustrated; 93. SF 1106, CP 620, Period III.

#### *Domestic objects* (Figs. 36, 37: 94–121)

The ironwork includes a range of domestic objects which give an insight into daily life. A notable group comprises the lighting fittings, namely two socketed candleholders on cranked stems, 94–95, three pricket candlesticks, 96–97 each with a central pricket for the candle set between side scrolls and 98 a fragment, and two rushlight holders, 99–100. 101 is the leaf-shaped socket and sheet iron fragment of a vessel, perhaps a skimmer. 102 and 103 are evidently vessel handles, 102 riveted through the cut-off rim of a copper alloy vessel, 103 riveted to a short length of a copper alloy strip. The small cast-iron vessel rim and body fragment 104 is post-medieval. 105–111 are a series of fishhooks of which the most complete retain barbed hooks and flattened terminals for the attachment of the line. Kitchen fittings sometimes included chains to support vessels, but the two broken chain links and swivel hooks, 112–14, could have had other uses.

A feature of higher social status sites are the remains of iron and copper alloy binding strip from caskets, boxes and small pieces of furniture. 115 may be part of a small hinge, but 116–21 are a series of generally shaped pieces of binding strip.

94. SF 881, CAS 214, Phase 3/4, Period II/III; 95. SF 182, CAS 104, Phase 3/4, Period II/III, Not illustrated; 96. SF 226, CAS 90, Phase 3, Period II; 97. SF 302A, CAS 70, Phase 5/6, Period III/IV; 98. SF 677, FP 66, Period IV, Not illustrated; 99. SF 1230, CP 723, Period III; 100. SF 317, CAS 70, Phase 5/6, Period III/IV; 101. SF 1348, CP 609, Period III; 102. SF 392, CAS 125A, Phase 3, 3/4, Period II/III; 103. SF 367, CAS 104, Phase 3/4, Period II/III; 104. SF 746, RB 4, Period III, Not illustrated; 105. SF 1252, CP 736, Period II, Not illustrated; 106. SF 886, CAS 217, Phase 3, Period II, Not illustrated; 107. SF 163, CAS 76, Phase 3/4, Period II/III, Not illustrated; 108. SF 1192, CP 706, Period III; 109. SF 1388, CP 745, Period III; 110. SF 1117, CP 713, Period III, Not illustrated; 111. SF 680, FP 31, Period III, Not illustrated; 112. SF 872B, CAS 166, Phase 5, Period III; 113. SF 827A, CAS 166, Phase 5, Period III; 114. SF 663, FP 26, Period III; 115. SF 594, FP 27, Period II; 116. SF 1070, CAS 222, Phase 1, Period I; 117. SF 21, CAS 19, Phase 3/4, Period II/III; 118. SF 630A, CAS 182, Phase 3/5, Period II/III; 119. SF 1340, CP 725, Period II, Not illustrated; 120. SF 315, CAS 70, Phase 5/6, Period III/IV, Not illustrated; 121. SF 1120, CP 610, Period III/IV.

#### *Sheet-iron fittings* (Fig. 37: 122–38)

122–38 form a series of distinctively-shaped fittings almost all of which are curved or angled down their length but flat across their width. 122–30 have four rounded lobes, but 131–37 have a more positive shaping at each end, the more complex combining a point with an opposed stub. 138 is like the latter group but with concave sides.

122. SF 371, CAS 104, Phase 3/4, Period II/III; 123. SF 882, CAS 214, Phase 3/4, Period II/III, Not illustrated; 124. SF 323, CAS 133, Phase 4, Period III, Not illustrated; 125. SF 325, CAS 135, Phase 4, Period III; 126. SF 620, CAS 158, Phase 4, Period III; 127. SF 719, CAS 158, Phase 4, Period III, Not illustrated; 128. SF 971, CAS 123, Phase 4, Period III, Not illustrated; 129–130. SF 32, CAS 9, Phase 5/6, Period III/IV, Not illustrated; 131. SF 989, CAS 229, Phase 2, Period I, Not illustrated; 132. SF 861, CAS 136, Phase 3/4, Period II/III, Not illustrated; 133. SF 4, CAS 24, Phase 4, Period III, Not illustrated; 134. SF 206, CAS 81, Phase 4, Period III, Not illustrated; 135. SF 309, CAS 130, Phase 4, Period III; 136. SF 1002, CAS 126, Phase 4, Period III; 137. SF 1187B, CP 705, Period IV, Not illustrated; 138. SF 313, CAS 68, Phase 5, Period III.

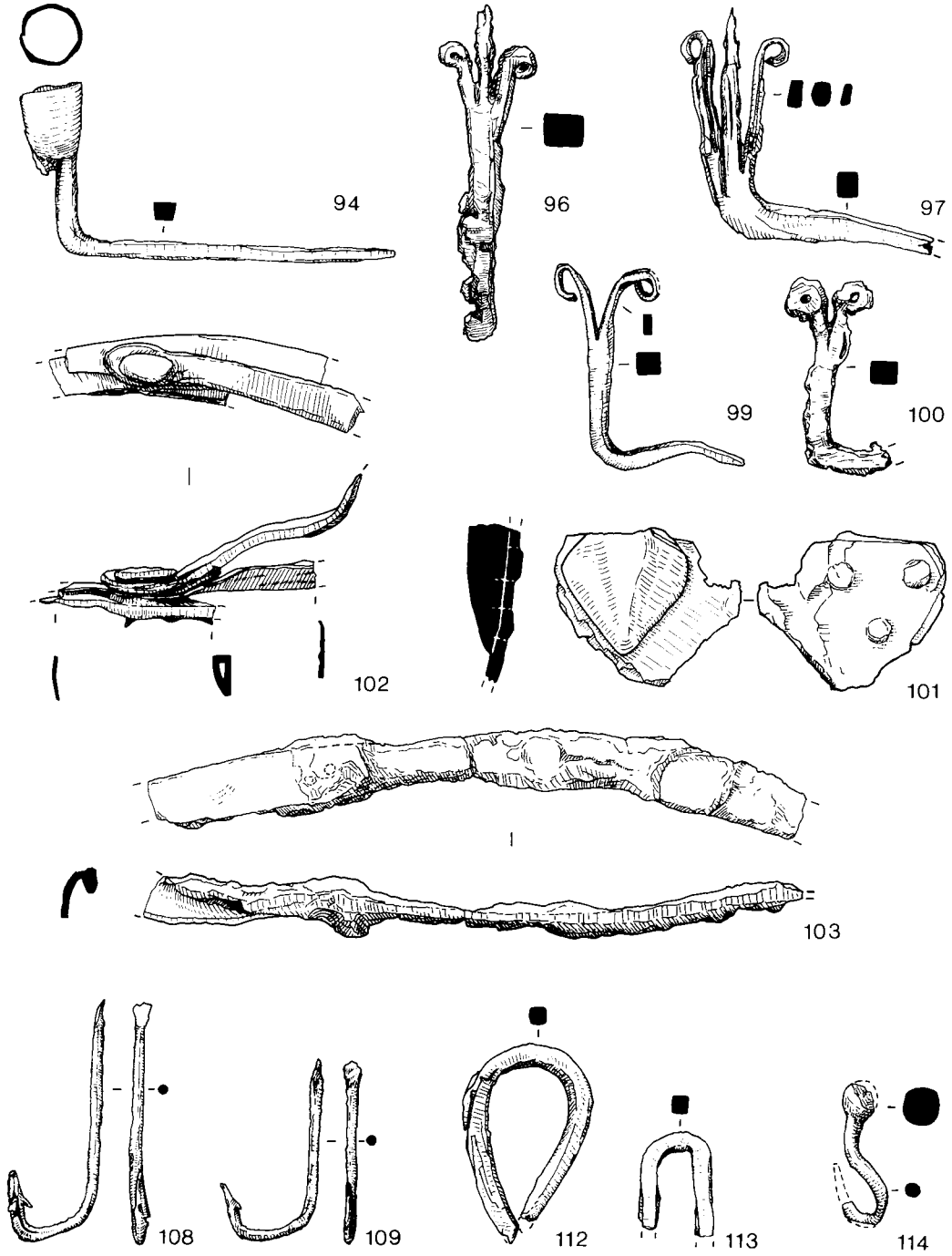


FIG. 36  
Iron objects. Scale 1:2

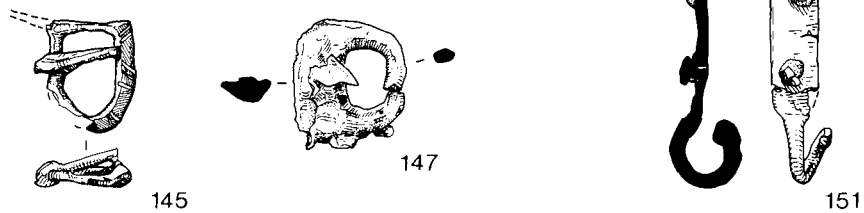
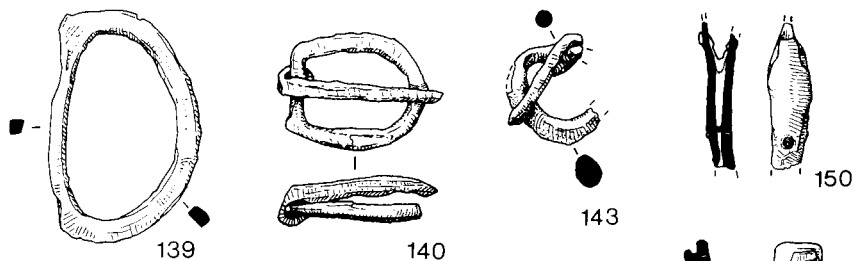
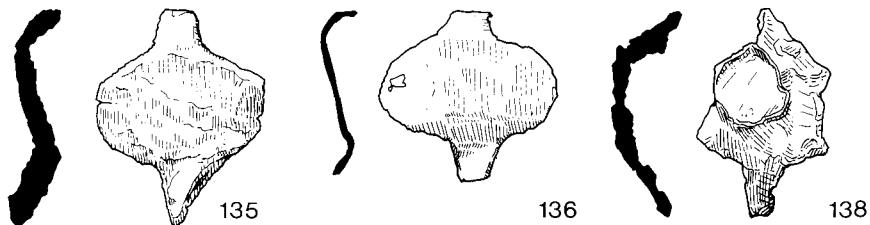
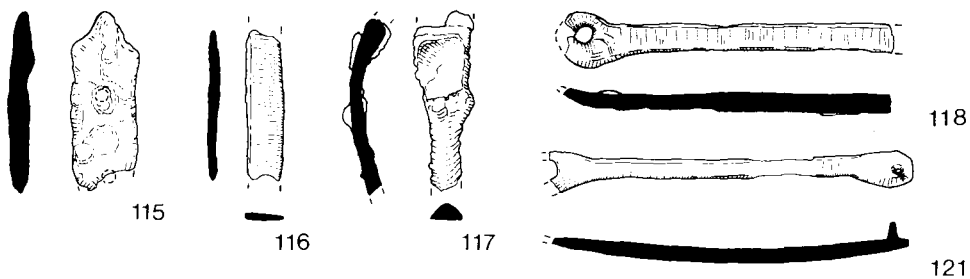


FIG. 37  
 Iron objects. Scale 1:2 except 143 at 1:1

*Buckles and personal objects* (Fig. 37: 139–52)

The buckles, which appear mainly to come from dress rather than harness, are plain but for 145 which has incised grooves and non-ferrous coating. The frames are D-shaped (139–41), circular (142–43), trapezoidal (144) and double-looped (145). 146, a fragment with a broken loop intended to support a baluster bar, may be from harness. 147 and 148, covered with a thick copper alloy coating reminiscent of that on 20, are evidently scrap, 147 is part of a strap-end buckle with an integral plate and 148 is a frame fragment. 149 is a buckle pin. 150–51 are the strap end fittings from strap distributors. 152, a Jew's harp, may be medieval.

139. SF 181, CAS 104, Phase 3/4, Period II/III; 140. SF 95, CAS 73, Phase 4, Period III; 141. SF 747, RB 4, Period III, Not illustrated; 142. SF 387, CAS 125, Phase 3/4, Period II/III, Not illustrated; 143. SF 1054, CAS 77A, Phase 4/5, Period III; 144. SF 1211, CP 723, Period III, Not illustrated; 145. SF 1187A, CP 705, Period IV; 146. SF 1387, CP 754, Period II/III, Not illustrated; 147. SF 1130, CP 608, Period III; 148. SF 490, CAS 168, Phase 1/5, Period I/III, Not illustrated; 149. SF 1062, CAS 77A, Phase 4/5, Period III, Not illustrated; 150. SF 1093, CP 510, Period II; 151. SF 668, FP 26, Period III; 152. SF 304A, CAS 70, Phase 5/6, Period III/IV, Not illustrated.

*Horse furniture* (Fig. 38: 153–62)

No bridle bit was found, but the belt slides 153–55 may be from harness. 154 and 155 each have decorative shaping to their inner sides. 156–62 are horseshoes, 156–59 with countersunk nailholes, 160 with rectangular nailholes. 161–62 are just tip fragments. The web or width of the arms of 156–59 gives a typological indication of their date. 156, less than 20 mm wide, is of a type current between the late 11th and 13th centuries, whereas the wider arms of 157–59 are of 13th and 14th century date.<sup>93</sup>

153. SF 585B, CAS 166, Phase 5, Period III; 154. SF 585A, CAS 166, Phase 5, Period III; 155. SF 1132C, CP 707, Period III; 156. SF 885, CAS 217, Phase 3?, Period II; 157. SF 208, CAS 99, Phase 3/4, Period II/III; 158. SF 37, CAS 22, Phase 4/6, Period III/IV, Not illustrated; 159. SF 1140B, CP 601, Period IV, Not illustrated; 160. SF 435, CAS 148A, Phase 5/6, Period III/IV; 161. SF 577, CAS 158, Phase 4, Period III; 162. SF 1214, CP 708, Period III, Not illustrated.

*Horseshoe nails* (Fig. 38: 163–65) By *H. K. Murray*

28 horseshoe nails were identified, they included Goodall types A (163), B (164) and C (165) all of which can be paralleled within the 13th- and 14th-century date range of the site.<sup>94</sup>

163. SF 1089, CP 501, Period IV; 164. SF 979, CAS 221, Phase 2, Period I; 165. SF 51, CAS 19, Phase 3/4, Period II/III.

*Spurs* (Fig. 39: 166–68) By *B. M. A. Ellis*

Fragments of two, or possibly three, iron spurs have been found at Rattray. 166 cannot be identified with certainty but it may be the broken side of a spur. If it is, being horizontally straight, it could be from a 12th-century prick spur. After that date and during the context period 13th to mid 15th century, nearly all spur sides plunged forward to curve or bend under their wearer's ankle and horizontally straight sides remained extremely unusual until about 1500.

Rowel spurs first appeared in the early 13th century and gradually began to replace prick spurs. Many early rowel spurs were very slender, as is the fragmentary 167. It is comparable to a similar but fairly complete tinned iron spur no. 891 found in a late 13th-century context during the 1981 excavations at Swan Lane, London.<sup>95</sup> Early rowel spurs followed the general form of contemporary prick spurs. They frequently had one single-ring terminal worn to the outside of the foot, holding a buckle and an attachment for a single long spur leather which encircled the foot passing freely through a vertically pierced slot terminal on the other, inner, side of the spur. 167 has the broken remains of a slot terminal. This arrangement of terminals occurs on Swan Lane 891, also on a prick and a rowel spur from Ragnhildsholmen Castle, Sweden, occupied c. 1250 to c. 1311.<sup>96</sup> The broken spur side 168 with its single-ring terminal may be compared to these. It has a rivet

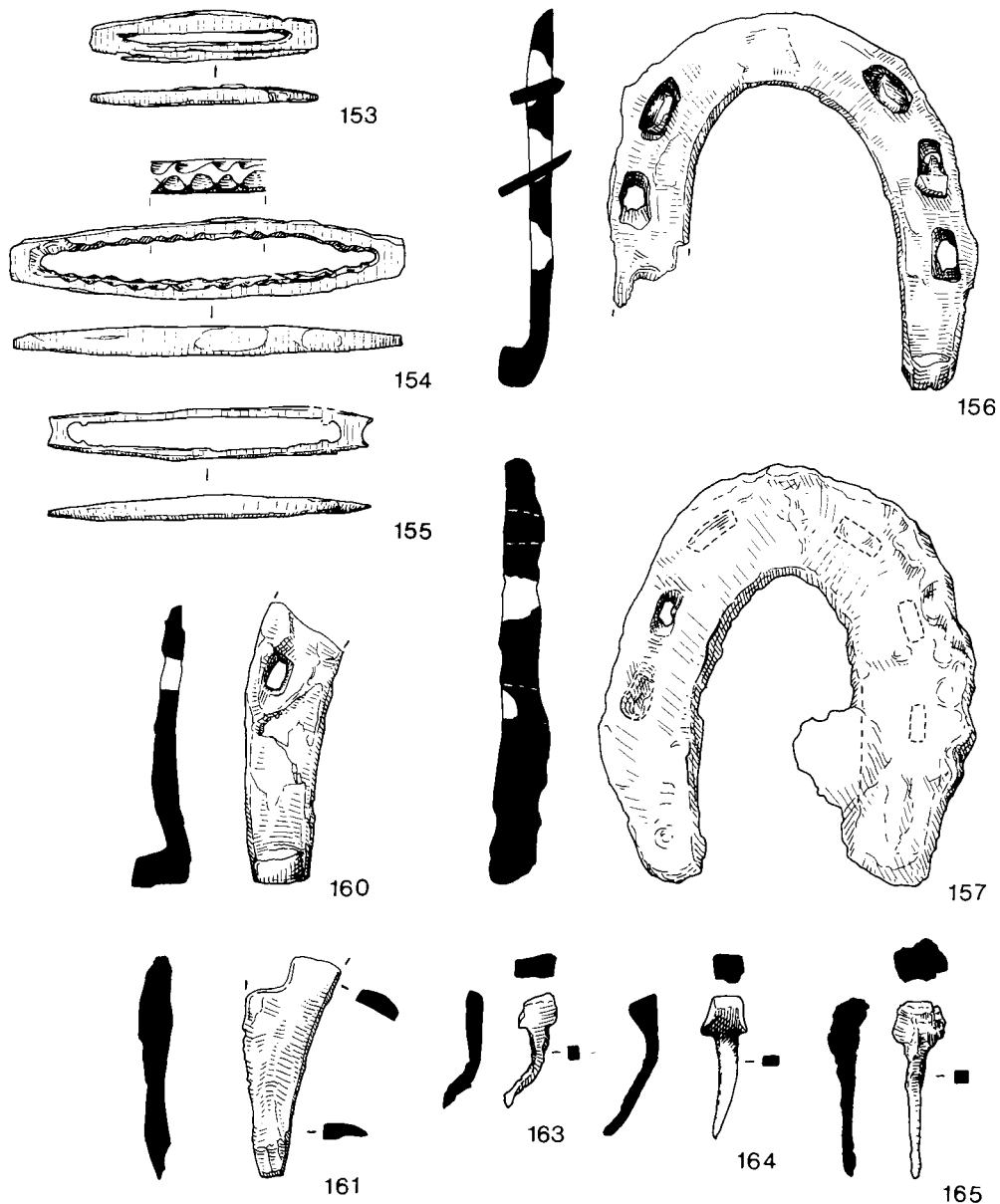


FIG. 38  
 Iron objects. Scale 1:2 with enlargement of detail on 154

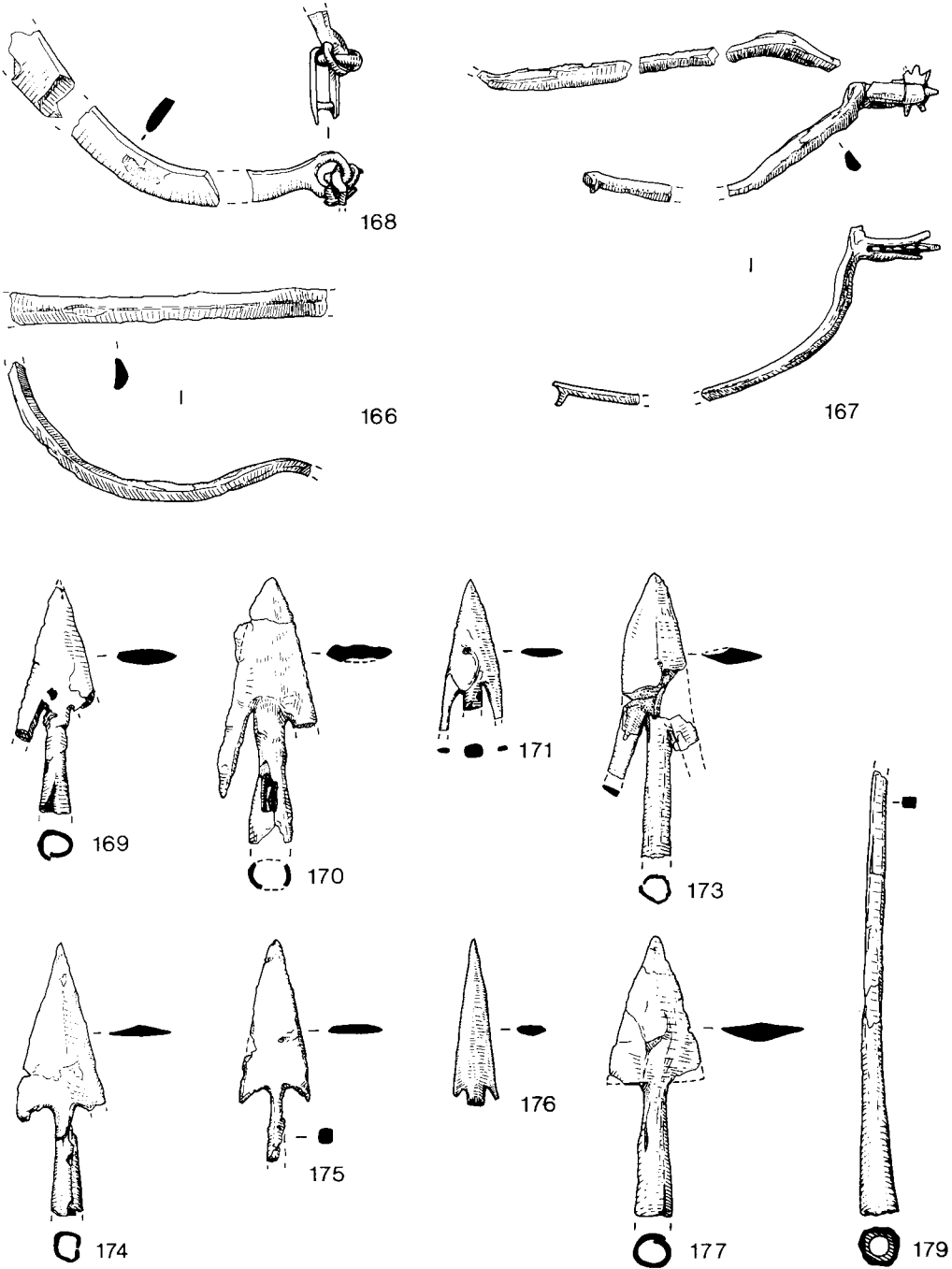


FIG. 39  
Iron objects. Scale 1:2

attachment for the spur leather such as were used on late medieval prick spurs but only on the earliest rowel spurs. It also has the base ring from which the rest of its buckle has broken off and is very similar to one side of a rowel spur from Perth, which also retains one rivet attachment and a complete long buckle.<sup>97</sup>

166 may be the broken side of a spur of slender proportions and rounded triangular section. In plan view the side commences a strong arc at one end, straightening gradually along its length to the other end which curls outwards (probably due to distortion) and from which, if it is a spur side, the terminal is missing. If seen in use by a passing rider the spur side would have been horizontally straight alongside his foot, not curved under his ankle. Length 89 mm.

Typological date: possibly from a 12th-century prick spur. SF 20, CAS 19, Phase 3/4, Period II/III.

167 is a rowel spur of extremely slender proportions, badly distorted by burial and is now fragmentary. Its D-section sides originally plunged forward to curve under the wearer's ankle. One terminal is missing. The broken remains of the other terminal show that it was originally a vertically pierced slot. The whole length of the tiny neck is divided by the rowel box, with rounded rowel bosses. The damaged surface of one side of the neck appears to have had a slight vertical moulding next to its rowel boss. The very small star rowel has eight sharp points, most with damaged tips. Overall length uncertain due to fragmentation. Length of neck 20 mm. Diameter of rowel originally about 16 mm.

Typological date: 13th century, probably 1240–1300. SF 1075, CP 506, Period III.

168 is a side of a spur, now broken into fragments. The side is of flat section; it tapers slightly forwards along its length as it curves under the rider's ankle and rises to a single-ring terminal. The terminal still retains a complete rivet attachment for a spur leather and a ring loop from which the rest of the spur buckle has broken off. The attachment is formed of a strip of metal folded into a U-shape which loops through the terminal ring. The extremity of the missing leather would have been clasped between the two ends of the attachment and held by the surviving rivet. One end is square, broader than the other and would have been worn to the outside. Length of spur side about 95 mm. Length of attachment 23 mm.

Found in top of Phase 2 mound build up below the clay floor of 14th/15th-century hall, on the construction level, so that although Phase 2, there is some possibility that it was trampled in during the construction of the hall as this Phase 4 hall probably cut away Phase 3 features here to level foundation.

Typologically c. 1250–1320. Compare spur no. 103 from Perth.<sup>98</sup> SF 807, CAS 215, Phase 2, Period I.

#### *Arrowheads* (Fig. 39: 169–79)

The arrowheads, all socketed, are of four types: barbed (169–73), with an angled base (174–76), triangular (177) and of bodkin type (178–79).

169. SF 998, CAS 229, Phase 2, Period I; 170. SF 2, CAS 24, Phase 4, Period III; 171. SF 688, CAS 171, Phase 5, Period III; 172. SF 870, CAS 166, Phase 5, Period III, Not illustrated; 173. SF 135, CAS 2, Phase 6, Period IV; 174. SF 1036, CAS 221, Phase 2, Period I; 175. SF 1, CAS 24, Phase 4, Period III; 176. SF 1307, CP 738, Period III; 177. SF 278, CAS 76, Phase 3/4, Period II/III; 178. SF 1049, CAS 77, Phase 4/5, Period III, Not illustrated; 179. SF 563, CAS 166, Phase 5, Period III.

#### COPPER ALLOY OBJECTS *By* ALISON R. GOODALL

Eighty-nine items are listed in the catalogue of copper alloy objects, most of the medieval material coming, not surprisingly, from the castle site. The objects include six brooches (181–86), this number no doubt reflecting the relatively high status of the site. The most interesting is a quatrefoil-shaped brooch (181) of silver gilt with appliqué cats' faces at the angles. It should probably be dated to the 14th century, the other brooches being of about the same period. Brooches at this date were used as garment fastenings, usually at the neck, rather than purely as ornaments.

The finds include just three buckles of definitely medieval type (188, 189, 192) as well as a belt loop (187) and other strap fittings. Buckle 192 resembles other buckles of the 14th century but is unusual in being double-looped. A seal with a simple pierced handle (180) is that of William Cuper and bears his symbol, a cooper's adze.

The ornamental swivel (204) is interesting in that it seems to pre-date activity on the castle site and must therefore have been an heirloom from the early 12th century. It probably came from the lead of a pet or hunting dog. Less decorative swivels are shown attaching the leads to the collars of bloodhounds in the 14th-century French 'Hunting Book' of Gaston Phoebus.<sup>99</sup> The pendant mounts (208, 209) would have supported heraldic or ornamental pendants such as 207 and might have been worn on horse harness.



Various vessel fragments (226–39) must relate to the vessels in use in the castle kitchens. However, damaged vessels could be repaired or recast and so had a high scrap value: therefore only meaningless fragments, which could have been discarded with other kitchen waste, are commonly found.

A few fragments from the industrial area (FP) provide evidence of small-scale copper alloy working, and the rim strengthener (232) suggests that vessels were repaired there. Other finds from that area are the double-looped buckle (192) and an ornamental binding terminal (211), neither obviously connected with industrial activity.

*Seal matrix* (Fig. 40: 180)

180. Seal, of shallow conical form with a pierced handle. Around the edge of the matrix is the inscription: 'S(ignum) \*WILL \*CUPER \*', the seal of William Cuper or Cooper. The device in the centre represents a cooper's adze, characteristically short-handled to enable it to be used inside a barrel or tub. SF 282, CAS 99, Phase 3/4, Period II/III.

*Brooches* (Fig. 40: 181–86)

181. Quatrefoil-shaped brooch, of silver gilt. The frame is beaded. Four separately made bosses, in the form of cats' or leopards' faces, have been applied at the angles, one of these covering a break in the frame. The pin has a simple moulding to prevent any fabric from getting caught in the hinge. SF 1008, CAS 73, Phase 4, Period III.

182. Copper alloy brooch with white metal plating. The frame is of wire but has a lozenge-shaped boss, with stamped quatrefoil, applied to it. There would originally have been a second appliqué diametrically opposite, as shown by a patch of corrosion on the frame. The unmoulded pin has been made from sheet metal, partially rolled and drawn to a point. Similar appliqués are found on other brooches from Scotland dating from the early 14th century.<sup>100</sup> SF 1073, CP 503, Period III.

183. Brooch. The frame is made from a bent strip with the ends overlapped and probably soldered. The edges have notched decoration and the pin is moulded. SF 580, CAS 182, Phase 3/5, Period II/III.

184. Brooch. The frame is made in the same way as 183. It has incised geometric decoration. The pin has at some time been detached and wrongly remounted as the recess now on the upper face of the tip should rest against the frame. Traces of enamel were noted during laboratory examination. SF 1030, CAS 77A, Phase 4/5, Period III.

185. Brooch. The frame is octagonal with bosses at the angles formed by folding the frame into its octagonal shape. The brooch is now lost and can only be examined from photographs and X-rays. SF 267, CAS 70, Phase 5/6, Period III/IV.

186. Fragment from a brooch or buckle frame. It is almost triangular in section and at one end has part of the bar on which the pin would have swivelled. SF 232, CAS 70, Phase 5/6, Period III/IV.

*Belt loop* (Fig. 40: 187)

187. Belt loop with ornamental boss. It is divided internally, by a pair of lugs, into two areas: the smaller area fitted onto the belt while the larger area formed a loop to hold the free end of the belt. SF 799, CAS 208, Phase 3/5, Period II/III.

*Buckles and buckle plates* (Fig. 40: 188–94)

188. Buckle with part of an integral plate. SF 944, CAS 214, Phase 3/4, Period II/III. 189. Buckle with a cylinder of sheet metal wrapped round the front bar of the frame to facilitate tightening the belt. The pin and the rivet appear to be of iron. SF 1031, CAS 77A, Phase 4/5, Period III. 190. ?Buckle frame. It has a separate pin bar and front bar, made of iron. SF 888b, CAS 217, Phase 3? Period II. 191. ?Buckle frame, made from a bent strip with separate, inserted bars. SF 281, CAS 70, Phase 5/6, Period III/IV. 192. Buckle, double-looped, with an iron pin. The form of the loops resembles that of 14th-century single-looped buckles with forked attachments. There are recessed pin-rests on both loops. SF 686, FP 26, Period III. 193. Fragment of frame from a shoe buckle of 18th-century type. SF 1086, CP 701, Period IV. 194. Buckle plate, incomplete, with two very small rivet holes. SF 1087, FP 510, Period III. Not illustrated.

*Strap ends* (Fig. 41: 195–200)

195. Plate, possibly from a long narrow strap end. There is solder on the reverse of the plate, but no rivet hole. SF 1052, CAS 77A, Phase 4/5, Period III. Not illustrated. 196. ?Strap end, cut from thick sheet and enclosing ?leather. It has a single large rivet hole. SF 14, CAS 47, Phase 4, Period III. 197. Strap end, probably consisting of two plates, but much corroded. SF 262, CAS 70, Phase 5/6, Period III/IV. 198. Strap end, consisting of a pair of plates, possibly with leather between, held together by a single rivet. The front is decorated with a line of five rings-and-dots. SF 96, CAS 2, Phase 6, Period IV. 199A, B. Fragments from a strap end or buckle plate. SF 264, CAS 70, Phase 5/6, Period III/IV. 200. Pair of circular plates with down-turned edges, originally held together by a single rivet. Inside is what appears to be a fragment of leather. It is possible that the plates were used as a strap end but the form is unusual. SF 249, CAS 70, Phase 5/6, Period III/IV.

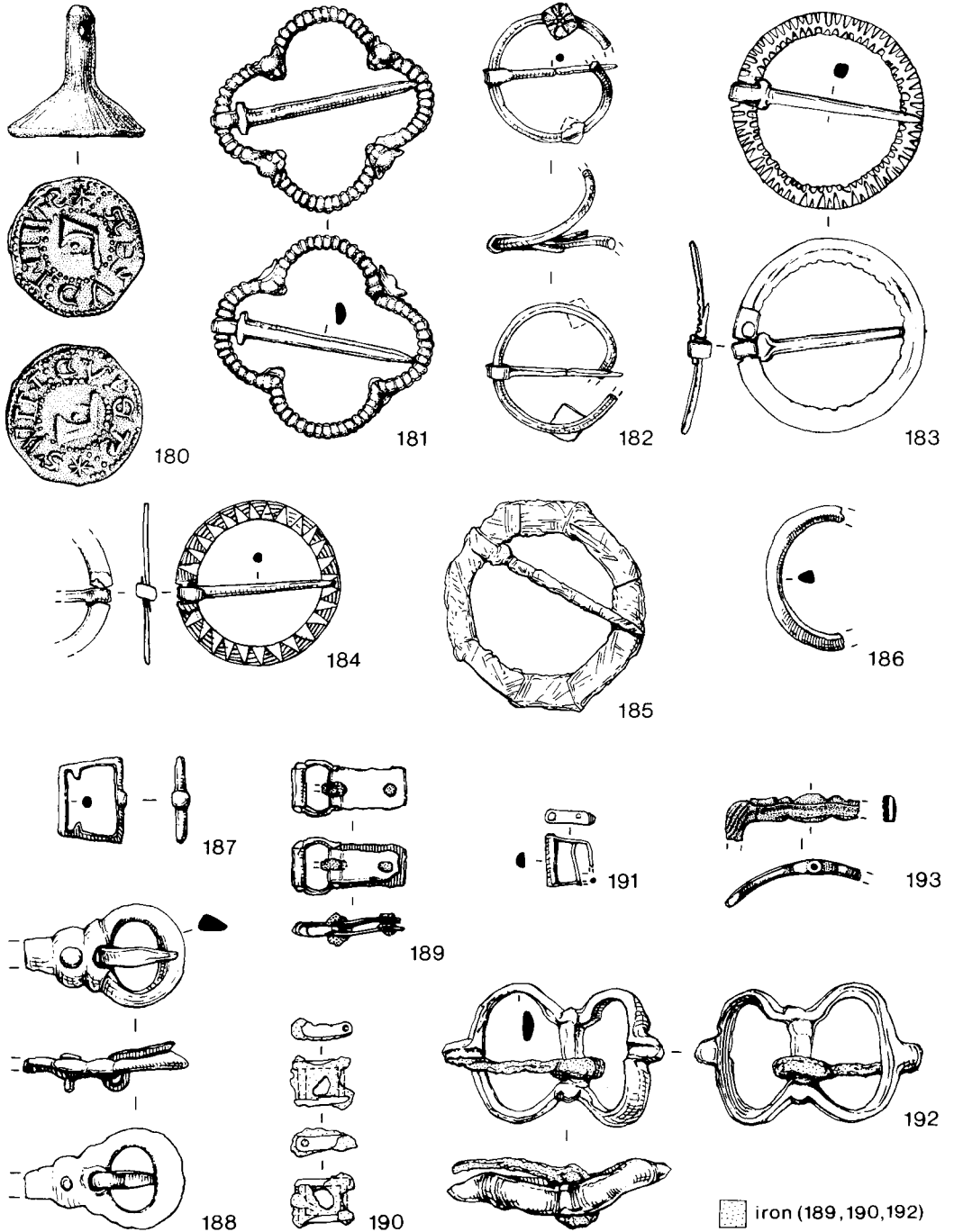


FIG. 40

Copper alloy objects. Scale 1:2, except 180, 181, 188, 192 at 1:1

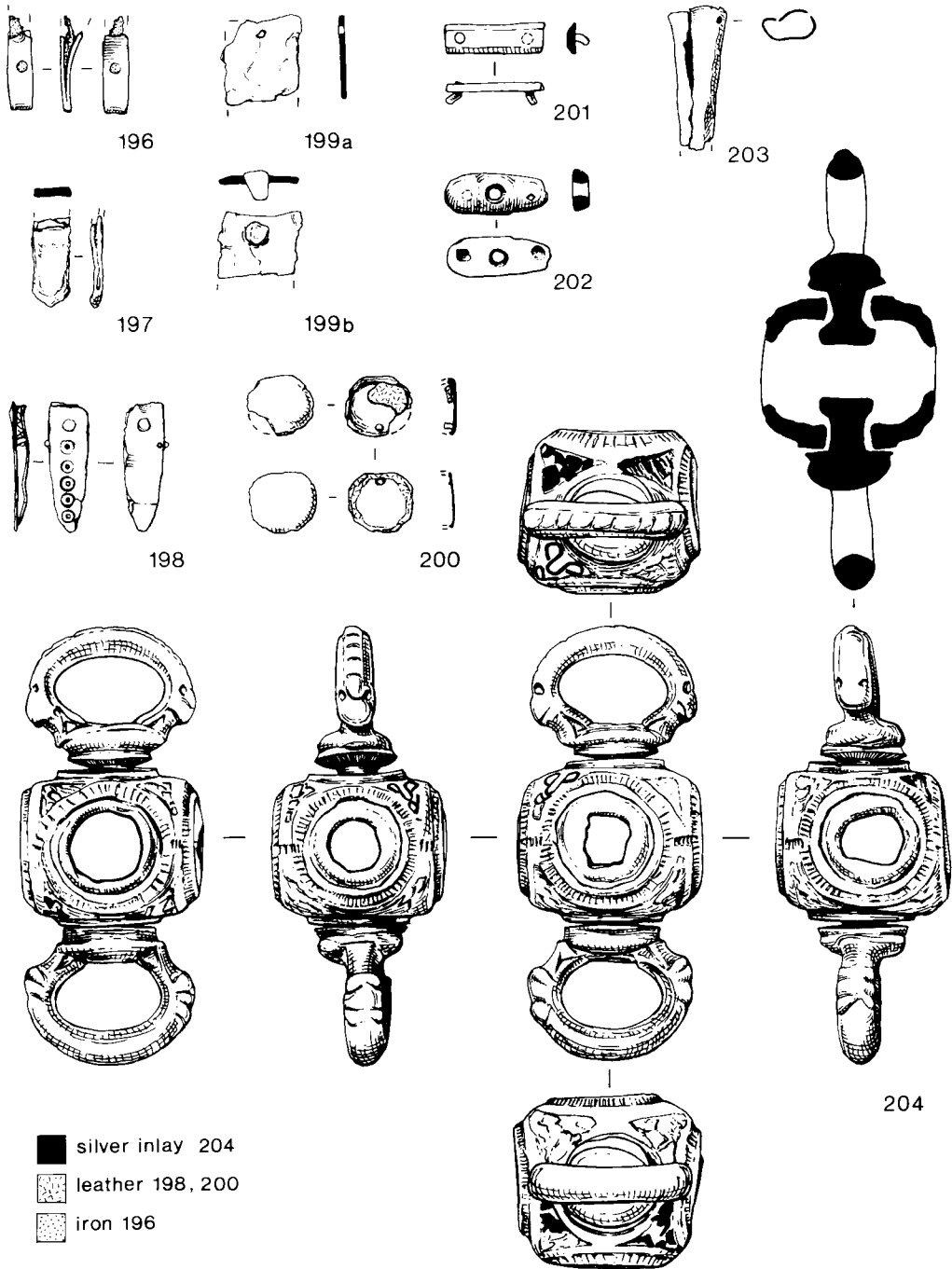


FIG. 41

Copper alloy objects, Scale 1:2, except 199 a, b, 201, 202, 204 at 1:1

*Strap mounts* (Fig. 41: 201–02)

201. Strap mount with two rivets for attachment. SF 393, CAS 125A, Phase 3, 3/4, Period II/III. 202. Strap mount with a rivet at each end and an ornamental perforation in the centre. SF 897, CAS 99, Phase 3/4, Period II/III.

*Chape* (Fig. 41: 203)

203. Chape made of sheet metal with roughly butted edges: there are traces of solder or white metal plating and there is a single rivet hole near the top edge. The lower end is damaged. The chape would probably have reinforced the end of a leather scabbard. SF 106, CAS 2, Phase 6, Period IV.

*Swivel fitting* (Fig. 41: 204)

204. Swivel fitting, probably from a dog's lead. The hollow central part is decorated with raised rings around the openings and inlaid silver scrolls. The two swivelling loops have zoomorphic mouldings: their form is comparable with buckles from Wharram Percy, Yorks.<sup>101</sup> and Winchester, Hants.<sup>102</sup> The Wharram Percy example was from a late medieval context, although stylistically earlier, while a date of c. 1100 has been suggested for the Winchester buckle. It seems likely that the Rattray swivel also dates from this period and must already have been old when lost or discarded. SF 845, CAS 216, Phase 3/5, Period II/III.

*Loops* (Fig. 42: 205–06)

205. Loop, possibly part of a strap distributor. It has white metal plating and a simple moulding. SF 445, FP 26, Period III. 206. Fragment, possibly from an object similar to 205. SF 760, CAS 77, Phase 4/5, Period III. Not illustrated.

*Pendant and pendant mounts* (Fig. 42: 207–09)

207. Harness pendant, possibly derived from a lozenge shape with rounded projection on the four sides. The device is probably heraldic and shows a field per pale *azure* and *gules*, a fleur-de-lys *or* and an interlaced border; it has not been possible to identify the arms. The pendant probably dates from the 14th or 15th centuries. Found by a metal detector user in burgh fields SE of the castle, ref: OS. NK 0857–0957, field 1066, topsoil. 208. Mount for a pendant. At one end is a shaped terminal with rivet hole; the other end would almost certainly have been similar but it has been broken and reworked, with a second rivet hole being made in what was originally the middle of the mount. SF 1298, CP 747, Period III. 209. Mount for a pendant, probably from a harness fitting similar to that from Salisbury, Wilts., which is dated to the early 15th century,<sup>103</sup> and to others discussed by Ward Perkins.<sup>104</sup> There appears to be some gilding on the surface. SF 591, FP 50, Period II.

*Bar* (Fig. 42: 210)

210. Bar with incomplete ring terminals. SF 639, FP 65, Period II.

*Bindings, mounts* (Fig. 42: 211–13)

211. Binding. Ornamental terminal, like a much devolved animal's head, attached by two shanks to two thicknesses of leather. SF 691, FP 26, Period III. 212. Mount, cruciform, with central dome-headed rivet. SF 231, CAS 70, Phase 5/6, Period III/IV. 213. Stud with large rectangular head, probably from furniture. SF 1201, CP 725, Period III.

*Needles* (Fig. 42: 214–18)




214–18. The heads of all except 217, which is incomplete, have been flattened from one side only and have round eyes. 218 has a pointed head. The shafts of 216 and 218 have faint grooves running along their lengths, showing that they were drawn from bars of rectangular section. 214. SF 500, CAS 163, Phase 3, Period II, 215. SF 846, CAS 214, Phase 3/4, Period II/III; 216. SF 515, CAS 158, Phase 4, Period III; 217. SF 728, CAS 77, Phase 4/5, Period III; 218. SF 761, RB 4, Period III.

*Pins*

219. Pin, incomplete, but probably originally with a head of coiled wire. SF 757, RB 15, Period III. Not illustrated. A corroded fragment may also be part of a pin shaft. SF 798, RB 11, Period IV. Not illustrated.

*Cylinders* (Fig. 42: 220–23)

220. Narrow cylinder, incomplete, with a collar at one end; possibly a balance arm. SF 214, CAS 93, Phase 5, Period III. 221–23. Cylinders with butted or overlapped edges. 221. SF 1110, CP 602, Period II/III. Not illustrated. 222. SF 1200, CP 723, Period III; 223. SF 669, CAS unstratified. Not illustrated.

-  blue enamel 207
-  red enamel 207
-  leather 211

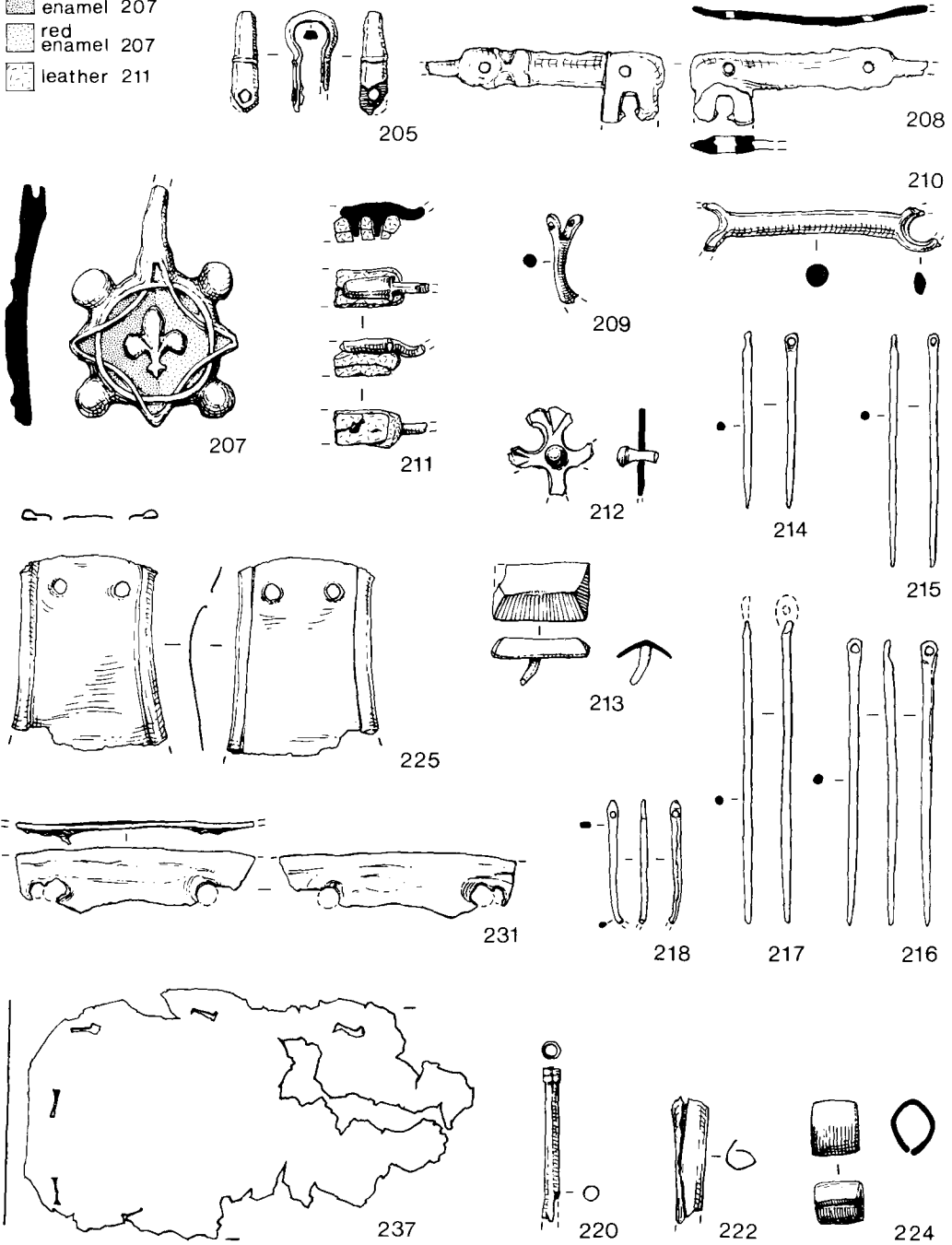


FIG. 42

Copper alloy objects. Scale 1:2, except 207, 212 at 1:1

*Collar* (Fig. 42: 224)

224. Collar made from thick strip. SF 93, CAS 2, Phase 6, Period IV.

*Handle* (Fig. 42: 225)

225. Handle fragment from e.g. a watering can; post-medieval or recent. The edges are reinforced by rolling over iron wire. SF 1278, CP 610, Period III/IV.

*Vessel fragments* (Fig. 42: 226–39)

226–30. Rim fragments from cooking vessels. 229 and 230 have the rims defined by a row of punch or chisel marks. 228 has some sooting on the surface. 226. SF 535, CAS 175, Phase 2, Period I. Not illustrated; 227. SF 991, CAS 229, Phase 2, Period I. Not illustrated; 228. SF 996, CAS 232, Phase 3, Period II. Not illustrated; 229. SF 797, CAS 182, Phase 3/5, Period II/III. Not illustrated; 230. SF 414, CAS 125A, Phase 3, 3/4, Period II/III. Not illustrated. 231–32. Rim fragments or rim reinforcements. The rivet holes show that these fragments were attached to something, perhaps as a repair. 232 was found in the metal-working area (FP), which further points to its use in the repair or reworking of objects. 231. SF 625, CAS 182, Phase 3/5, Period II/III; 232. SF 624, FP 26, Period III. Not illustrated. 233–34. Rim fragments from sheet metal vessels. 234 has sooting on the outer surface. 233. SF 1143, CP, unstratified. Not illustrated. 234. SF 233, CAS 93, Phase 5, Period III. Not illustrated. 235–39. Patches from sheet metal vessels. 235 and 239 are fragmentary. 236 retains one sheet metal rivet and all pieces have slots for such rivets. 235. SF 850, CAS 217, Phase 3<sup>?</sup>, Period II. Not illustrated. 236. SF 568, CAS 158, Phase 4, Period III. Not illustrated; 237. SF 1323, CP 725, Period III; 238. SF 1185, CP 707, Period III. Not illustrated; 239. SF 159, FP 11, Period II. Not illustrated.

*Strips* (Fig. 43: 240–49)

240. Strip, bent with slightly irregular rectangular section and rippled outer surface. Possibly a staple or from tweezers. SF 759, CAS 204, Phase 3/5, Period II/III. 241. Fragment consisting of a curved D-sectioned strip with a projection to one side. SF 813, CAS 120, Phase 3, Period II. Not illustrated. 242. Strip, narrow and corroded: where intact it appears to be decorated. Possibly from a bangle. SF 180, CAS 110, Phase 5/6, Period II/IV; 243–46. Strips with rivets or rivet holes. 243 and 245 could be from simple strap ends; 244 and 246 may be bindings. 243. SF 16, CAS 11, Phase 3, Period II; 244. SF 1113, CP 602, Period II/III; 245. SF 552, CAS 172, Phase 4, Period III; 246. SF 376, CAS 149, Phase 6, Period IV. 247–49. Strips 248 and 249 are probably off-cuts. 247. SF 1202, CP 725, Period III. Not illustrated; 248. SF 899, CAS 99, Phase 3/4, Period II/III. Not illustrated; 249. SF 1076, CP 501, Period IV. Not illustrated.

*Sheet metal scrap and casting waste* (Not illustrated)

250–63. Sheet fragments, including offcuts. 258 has solder on the back and may be part of a strap end or buckle plate. 250. SF 987, CAS 229, Phase 2, Period I; 251. SF 1258, CP 736, Period II; 252. SF 152, FP 11, Period II; 253. SF 570, FP 40, Period II; 254. SF 1017, CAS 182, Phase 3/5, Period II/III; 255. SF 144, CAS 98, Phase 4, Period III; 256. SF 569, CAS 158, Phase 4, Period III; 257. SF 29, CAS 44, Phase 4/5, Period III; 258. SF 551, FP 36, Period III; 259. SF 1213, CP 730, Period III; 260. SF 735, RB 4, Period III; 261. SF 758, RB 15, Period III; 262. SF 411, CAS 143, Phase 6, Period IV; 263. SF 1115, CP, unstratified. 264–67. Fragments and debris from the metal-working tenement (FP 26 and 27) including sheet metal scrap for re-casting. 264. SF 451, FP 26, Period III; 265. SF 967, FP 27, Period II; 266. SF 501, FP 26, Period III; 267. SF 697, FP 26, Period III. 268. Probably casting waste. SF 900, CAS 99, Phase 3/4, Period II/III.

## LEAD OBJECTS (Fig. 43)

*Seal matrix*

269. Seal of disc form with bar across the back having a raised eyelet for suspension. Around edge of matrix is inscription: S(ignum). ROB(ER)TI.DE.TRABEND. The central device represents a flat bottomed boat, possibly clinker built, with rudder, bow-sprit, single main mast and cross yard.<sup>105</sup> SF 1095, CP 601, unstratified.

*Token*

270. Token or gaming piece. SF 412, CAS 125A, Phase 3/4, Period II/III.

*Perforated weights or beads*

271 biconical, 272 irregular disc with rough radial incisions on slightly convex top. A similar lead disc from King's Lynn, Norfolk, was described as a weight or fishing line sinker.<sup>106</sup> 271. SF 436, CAS 164, Phase 4/5, Period III; 272. SF 1020, CAS 235, Phase 3, Period II.

*Perforated weights or ingots*

Bars of lead with rounded perforated tops, both with cuts near base. These may have been used as weights, but the cuts near and across the base suggest that they were ingots, with pieces cut off as required. A similar although larger object was found in 13th- or 14th-century levels in Aberdeen.<sup>107</sup> 273. SF 1137, CP 707, Period III; 274. SF 1382, CP 745, Period III.

*Window kame*

275. Twisted fragment with H-section. SF 1242, CP 732, Period III.

*Handle?*

276. Bent bar, edges slightly flattened, possibly handle or scrap for reworking. SF 440, CAS 148A, Phase 5/6, Period III/IV.

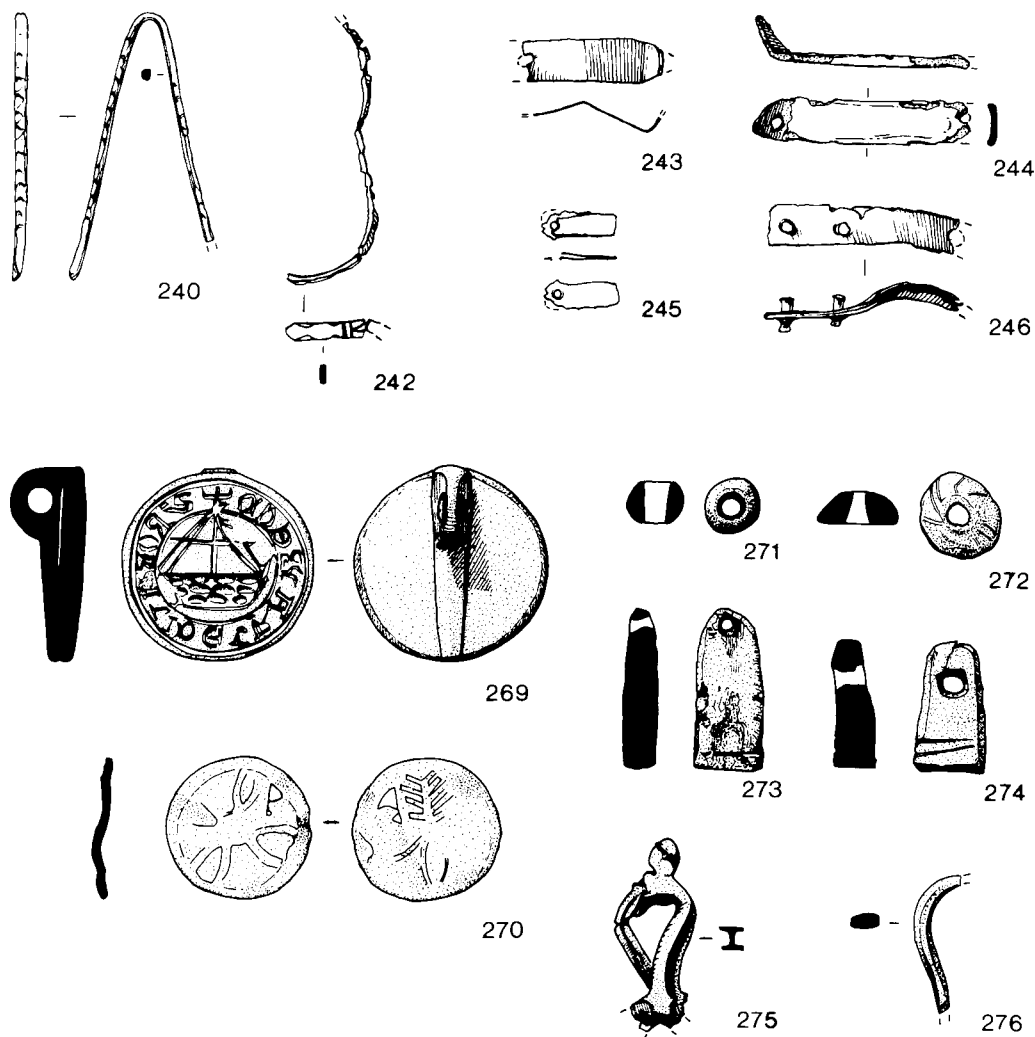
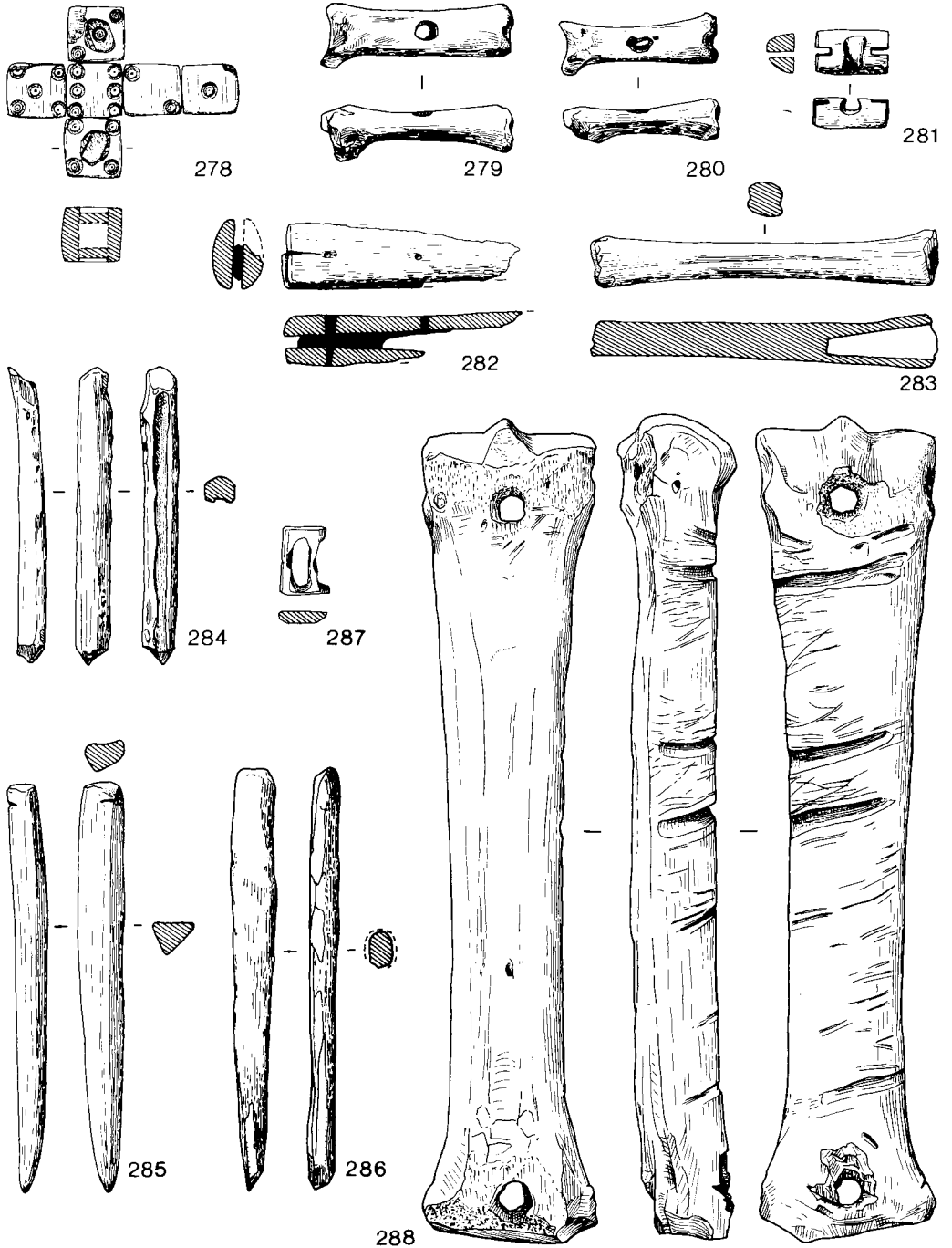


FIG. 43

Copper alloy objects 240-46. Scale 1:2, except 242 at 1:1. Lead objects 269-76. Scale 1:2, except 269 and 270 at 1:1



288  
FIG. 44  
Bone objects. Scale 1:2



## BONE OBJECTS (Fig. 44)

All species identifications by Finbar McCormick.

*Dice*

277. Small solid die of common 13th- and 14th-century type, paralleled in Aberdeen.<sup>108</sup> SF 162, CAS 89, Phase 5/6, Period III/IV. Not illustrated. 278. Large hollow die, hollow between 3/4 blocked with separate bone plugs.<sup>109</sup> SF 230, CAS 70, Phase 5/6, Period III/IV.

*Buzz bones or toggles*

279–80 are both perforated pig metacarpals, commonly regarded as either garment fasteners or as primitive musical instruments or 'buzz bones'.<sup>110</sup> 279. SF 289, CAS 70, Phase 5/6, Period III/IV. 280. SF 803, CAS 182, Phase 3/5, Period II/III.

*Toggle*

281. Possibly whalebone. Wide groove worn obliquely across upper side, probably by cord or thong, possibly a garment fastener. SF 41, CAS 24, Phase 4, Period III.

*Handles*

282, probably cattle metacarpal, two sides riveted together with traces of iron tang. SF 113, CAS 2, Phase 6, Period IV. 283 sheep/goat metatarsal, one end hollowed to hold tang. SF 1424, CAS unstratified.

*Roughly worked bone pins*

Possibly weaving tools. 284. SF 1423, CAS Phase 3, Period II. 285. SF 1425, CAS, unstratified. 286. SF 1426, CAS, unstratified. 284–86 were found during examination of the animal bone samples.

*Decorative strip*

287. SF 265, CAS 70, Phase 5/6, Period III/IV.

*Worked horse metacarpal*

288. Metacarpal with rough perforations at each end. Four clear and several fainter friction grooves and many fine scratches lie obliquely across the top and side of the bone, being deeper on the side as if a thread had been pulled down towards the user's right hand. The object had been used either way around as one wear mark runs down the opposite side from the rest. The fine scratches (less than 0.5 mm) suggest that the cuts were made by a very fine thread. There were no wear marks on the under surface so it does not appear to have been a skate.<sup>111</sup> SF 244, CAS 70, Phase 5/6, Period III/IV.

## STONE OBJECTS (Figs. 45 and 46)

Geological identifications by N. H. Trewin.

*Spindle whorls*

289–92 of possibly local schist.

289. SF 638, FP 67, Period II; 290. SF 592, FP 40, Period II; 291. SF 1246, CP 730, Period III; 292. SF 1212, CP 726, Period III.

*Hones, whetstones*

293. metamorphic, local schist. 294. metamorphic, Dalradian, possibly local. Both worn, with knife marks. 293. SF 1160, CP 705, Period IV. 294. SF 1373, CP 702, Period III.

*Discs*

295–96 of mortar, 295 with incised decoration. 297–98 thin bedded micaceous sandstone, possibly local. The two stone discs were probably used as lids for ceramic vessels. The mortar discs may also have been lids but appear too soft to be functional. The decorated example, 295 could have been a gaming piece but showed no signs of wear. 295. SF 848, CAS 48, Phase 4, Period III; 296. SF 548, FP 29, Period IV; 297. SF 1174, CP 705, Period IV; 298. SF 1403, CP 732, Period III.

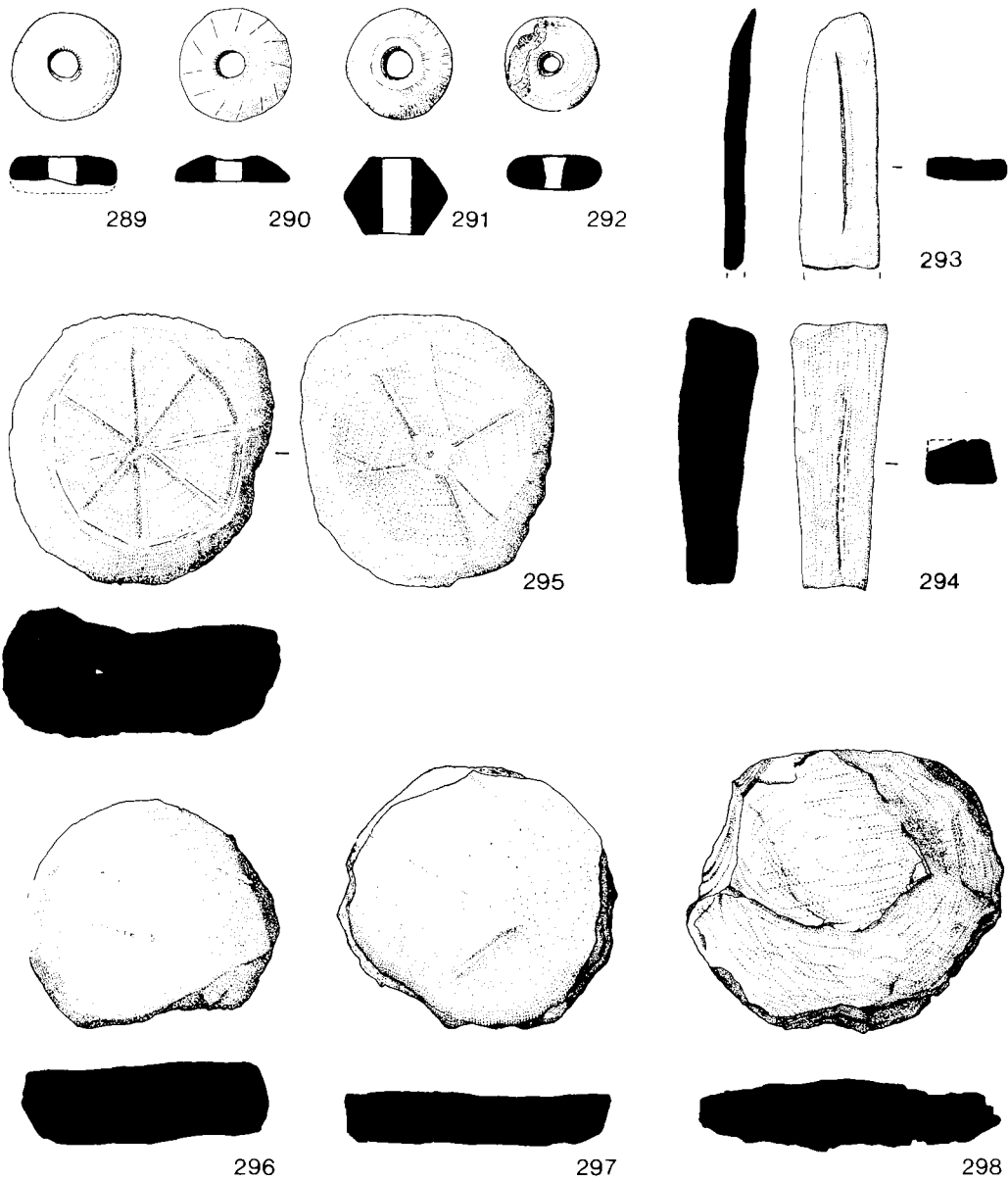


FIG. 45  
Stone objects. Scale 1:2

*Architectural fragment* By N. M. Cameron.

299. Red sandstone, possibly from New Aberdour area. Fragment of moulding, probably from a small embrasure such as a window. Moulding consists of a roll, 60 mm in diameter, which tapers to a rounded termination. The roll projects at right angles to a flat face which would have followed the wall line. The working on the stone is not refined and some chisel marks are visible on the main face. The simple form makes dating difficult but a 13th- or 14th-century date is probable. The fragment is from a topsoil context outside the Phase 4 stone hall from which it is probably derived. SF 439, CAS 148, Phase 5/6, Period III/IV.

## CLAY OBJECTS (Fig. 46)

*Spindle whorls*

300 cut from local fabric pottery vessel. See also 289–92 stone spindle whorls. 300. SF 1405, FP 29, Period IV. 301. SF 498, FP 27, Period II; 302. SF 186, CAS 76, Phase 3/4, Period II/III; 303. SF 1146, CP 707, Period III.

*Clay beads or small weights*

304. SF 1372, CP 743, Period II/III; 305. SF 1404, CAS 159, Phase 2, Period I.

*Gaming pieces*

306 cut from Scarborough ware, 307 cut from local fabric pottery. 306. SF 108, CAS 2, Phase 6, Period IV. 307. SF 764, CAS 208, Phase 3/5, Period II/III.

*Scoop/spoon?*

Possible fragment of scoop or spoon, rod handle widens to small bowl shape. Slightly sooted on underside. 308. SF 1184, CP 705, Period IV.

*Lamp?*

Small pinched vessel with external sooting. 309. SF 640, FP 67, Period II.

## GLASS OBJECTS (Fig. 47)

*Window glass* (Not illustrated), identified by *Judith Stones*

All the window glass fragments were very small and in poor condition. They were between 4 mm and 6 mm thick. Two pieces had part of a rolled edge, one piece had a grozed edge. All pieces were from the castle hill, with contexts ranging from a possible Phase 3 layer to Phase 4. Lead scraps possibly melted down from widow kames, were found in Phase 4. It is possible, therefore, that window glass was used in the Phase 3 timber hall (C1) but it was also probably used in the Phase 4 stone hall (B). 310 SF 800, CAS 182, Phase 3/5, Period II/III; 311. SF 907, CAS 214, Phase 3/4, Period II/III; 312. SF 866, CAS 166, Phase 5, Period III; 313. SF 852, CAS 217, Phase 3?, Period II; 314. SF 849, CAS 217, Phase 3?, Period II; 315. SF 896, CAS 214, Phase 3/4, Period II/III; 316. SF 847, CAS 182, Phase 3/5, Period II/III; 317. SF 1051, CAS 77A, Phase 4/5, Period III.

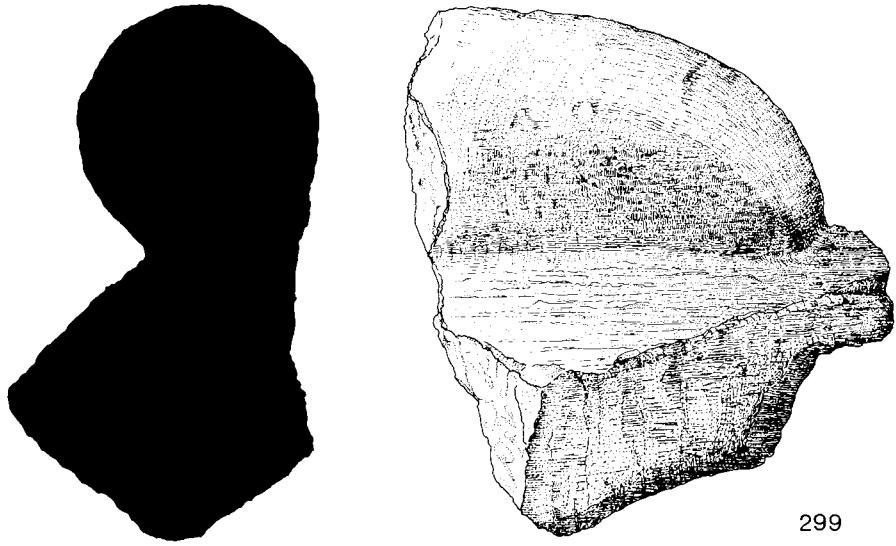
*Bead*

Blue glass. 318. SF 66, CP, unstratified.

*Vessel fragment.* By C. Pamela Graves

One fragment of very thin potash glass, pale to mid-green, almost translucent. The surface is extensively and very finely pitted, with a slight opalescent patina, due to post-depositional leaching of alkali. The fragment has a fairly flat underside and a curve on the upper edge on the horizontal plane. Hence this is neither a body nor an upper rim sherd, but the outer edge of a foot rim or base with very slight conical rise. The base has been decorated with trailed self-coloured threads, concentric with the outer edge. This smooth outer edge and slightly layered profile are characteristic of a foot rim which has been folded over the top (as opposed to underneath, which is more usual). Alternatively, a flattened thread may have been applied to the edge, but this is a less convincing interpretation of the visual evidence. The unusually thin nature of the fragment is most probably the result of weathering.

The shape of the fragment suggests that it is most likely to have come from a stemmed drinking glass. The threaded decoration is also found on this type of vessel. Stemmed drinking glasses were common in Italy and N. Europe in the 14th century, a dating which accords well with the 14th- to mid 15th-century date of the site context of this fragment. The colour of the glass and the self-coloured decoration both suggest that the Rattray fragment probably came from a N. European workshop, but was made in imitation of more elaborately decorated forms,



299

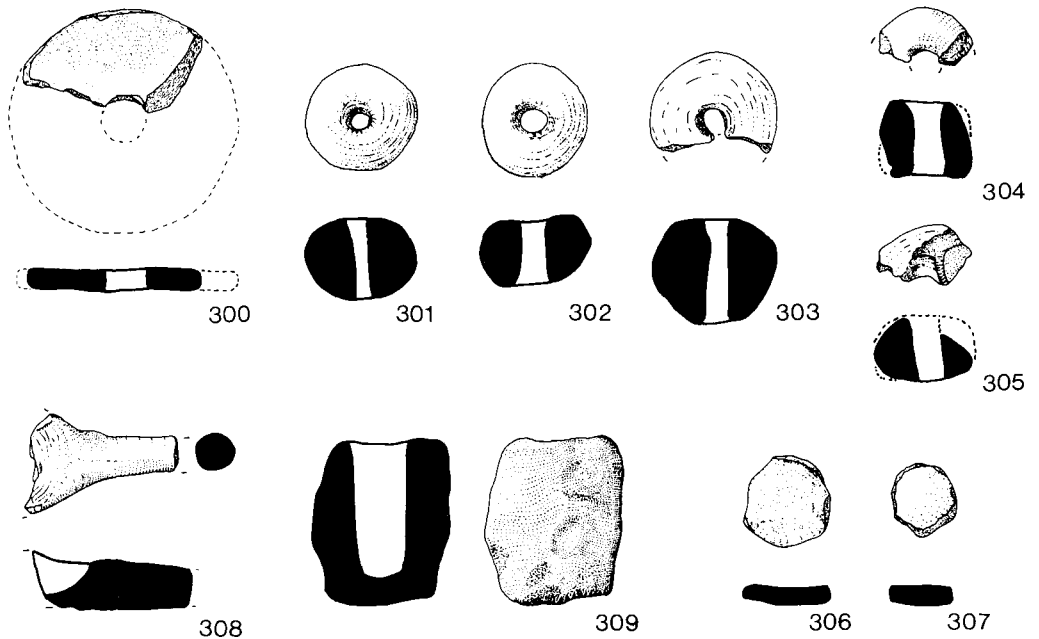
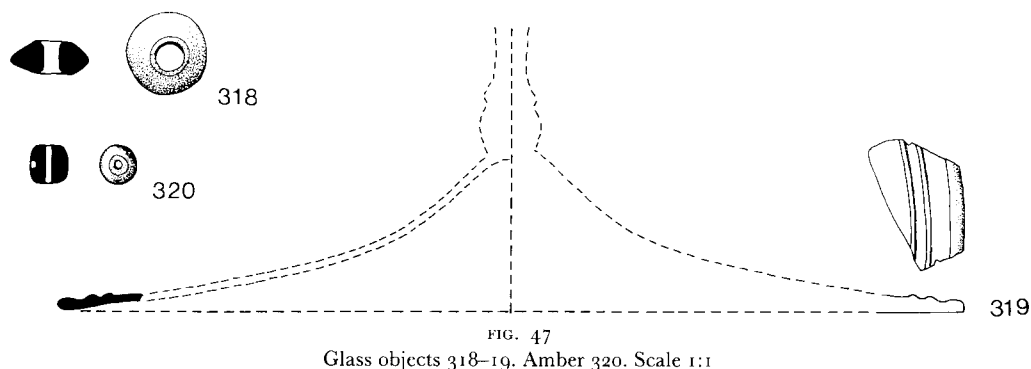


FIG. 46

Architectural stone fragment 299 and clay objects 300-09. Scale 1:2



deriving ultimate inspiration from Italian imports. It is therefore, stylistically, at a few removes from the finest glass tableware available at the time, although the quality of both the metal and the execution is high in itself. Examples of similar glasses have been found at Southampton<sup>112</sup> and London<sup>113</sup> and in a 14th-century context at Ludgershall Castle, Wiltshire.<sup>114</sup>

Whilst tableware was produced in pale green potash glass at the Blunden's Wood site in the Surrey Weald, dated to c. 1330,<sup>115</sup> it is more likely that such vessels as the Rattray example were imported to Scotland from France or the Low Countries. The *Exchequer Rolls for Scotland* record the import of both vessel and window glass, from the 14th century onwards, through the ports of Blackness, Dundee and Leith.<sup>116</sup>

319. SF 727, CAS 131, Phase 4, Period III.

#### AMBER OBJECTS (Fig. 47)

##### *Bead*

320. SF 726, CAS 187, Phase 5, Period III.

## THE ENVIRONMENTAL BACKGROUND

### NATURAL HINTERLAND

Assessment of the range of raw materials used in both structures and artefacts produced on the site emphasizes the very close relationship between the settlement and its immediate hinterland. Clay was used for some walls, both as a main structural element and as bonding; it was also used for lining and covering kilns and lining ovens, as well as for the pottery production itself. Analysis of the pottery clay shows it to be consistent with a local source and it is suggested that the potters utilized the clay band cut by a boundary ditch adjacent to their property. There are several such bands of clay immediately around the settlement.

With the exception of the sandstone, which was imported, the bulk of the building stone used was either glacial boulders from the fields or beach pebbles from the shore. Other building materials included timber and heather. In general timber construction was inferred from soil evidence, the only structural timber which could be identified to species being the oak used in the roof construction of Building CP 702. Scrub woodland may have existed around the margins of the site, but the manorial household may also have had some access to the Forest of Buchan. It is shown below that hunting took place in a wooded environment, possibly in the Buchan Forest. A reference in 1304 mentions that Edward I granted to the Bishop of

Aberdeen 30 oaks from this forest,<sup>117</sup> illustrating that dense woodland with mature trees lay in the area. The exact location of this forest is unclear, but it lay within the Buchan area W. of Rattray. It is clear that whereas timber was a main element in the 13th-century buildings excavated in the settlement, by the 14th century, stone and clay predominated. This may have been a change of preference but it could also reflect the exhaustion of the closest timber supplies.

Heather for thatch and the peat used as fuel both for domestic ovens and in the pottery kilns, are both likely to have come from the bog/heathland to the S. and W. of the settlement, the former extent of which is reflected in the large number of names including the elements *moss* and *myre*.<sup>118</sup> The bog iron used in the smithying may also have come from this area.

Most of these resources were abundantly available within a 3 km radius of the burgh, with the possible exception of larger timbers.

#### AGRICULTURE: FIELD SYSTEMS

The Scottish land system in the medieval period was based on an area of arable nearest to the settlement. The ground further away was used mainly as pasture and possibly occasionally cultivated.

Documentary research has defined the boundaries of the burgh roods in the 16th century, enclosing *c.* 36 hectares (90 acres) (Fig. 3B); some land further E. and the common lands are also mentioned pertaining to the burgh. It is not possible to use these 16th-century records to determine specific land uses in the 13th and 14th centuries. However, within the area of the 16th-century burgh roods, there are some physical indications of function which may refer to the earlier period.

Air photographs taken in 1983 show *c.* 40 widely spaced rig marks orientated NW/SE. in four of the fields nearest the S. side of the road, between the church and the site of the modern farmhouse, which appears to lie near the E. edge of the medieval settlement.<sup>119</sup> This area is interpreted as the medieval arable (Fig. 3A). Excavations in part of this arable area (Fig. 2:7, 11, 12) revealed cultivation from the medieval period, with midden manuring of the arable nearest to the settlement, although obviously modern cultivation has also drawn medieval material into the topsoil. Most of this area lies between 10 and 20 m above sea level and has a very light sandy soil with occasional bands of clay. Generally it is easily worked but it can be liable to severe wind erosion. There were few contexts from which sealed environmental samples could be taken and there is no direct evidence of crop types. However, oats and bere (barley) are both probable, both were found in samples from 13th- and 14th-century Aberdeen<sup>120</sup> and were still grown in the Rattray area in the 18th century, prior to the Agricultural Improvements.<sup>121</sup>

The air photographs also showed less definite cultivation marks on a different orientation both S. and E. of this area; this land may not have belonged to the burgh. The land to the N. of the road beyond the built-up zone may also have been used for grazing; it extends to the edge of the loch and trial trenches have shown that the land below the 10 m contour was seasonally waterlogged in the medieval period and probably used as salt grazings in dry seasons. The value of salt grazings is

emphasized by Walter of Henley's 13th-century *Husbandry*,<sup>122</sup> which estimates that two cows on salt grazing should yield equal to three cows on other grazing, the difference being possibly due to the mineral supplementation. Stock were probably winter grazed with little hay made.<sup>123</sup>

THE BONE ASSEMBLAGE AND ANIMAL HUSBANDRY. *By* S. HAMILTON-DYER, F. MCCORMICK, H. K. MURRAY AND J. C. MURRAY

The mammal bones have been identified and discussed by Finbar McCormick and the bird and fish bones by Sheila Hamilton-Dyer. Both full reports are available in archive. Tables of the bone distribution and ageing data are provided in Appendix 3. Due to the more acidic soil conditions on the settlement sites, the bulk of the bone recovered was from the castle site and as a result little comparison can be made between the use of meat at the castle and in the settlement itself. This bias should not affect the overall conclusions concerning animal husbandry or the diet of the richer inhabitants.

Cattle appear to have been the main animal farmed (52.5% of MNI (minimum number of individuals)) of primary meat-producing species (i.e. cattle, sheep, pig); this is similar to other Scottish medieval sites, both urban and rural. The majority of the cattle (82%) had been slaughtered at maturity (over three years), with many older animals represented. This is similar to the pattern at other Scottish medieval towns such as Aberdeen or Perth. The absence of young cattle bones (less than two years) may imply that the cattle were primarily used for meat, reared as suckled calves and fed over several winters until they reached optimum size. If the cattle had been mainly intended for dairy use, a larger number of bones of young animals, although not calves, might have been expected.<sup>124</sup> It has often been thought that calves, having been produced to instigate lactation, were killed soon after birth because they were in competition with humans for the milk. Consequently, a high proportion of very young calves on a site was interpreted as being indicative of a dairy economy. Recently, however, it has been shown that it was necessary to retain the calves for at least a limited period as primitive cows could not easily be milked without the calf present. Medieval observers, such as Walter of Henley (13th century) and Tusser (16th century)<sup>125</sup> indicated restricted suckling until final weaning around eight weeks. McCormick has shown that in a self-contained dairying economy there tended to be a peak in slaughter of one–two year olds,<sup>126</sup> so on balance the evidence at Rattray suggests that cattle were not being kept exclusively for dairying. However, it may be suggested that, if there was sufficient grazing and conserved feed available to take a large percentage of the herd through the winter, calves, produced either as a dairy by-product, or as part of a beef herd, could have been grown to full size. Perhaps, therefore, the main implication of the age of slaughter evidence is that sufficient feed was available at Rattray to overwinter the majority of the cattle. The coastal position of the settlement, which although bleak and windswept is seldom snow-covered for long periods, would have been an advantage in this respect. A further factor in the slaughter of cattle at maturity would have been the production of better leather from the hides.<sup>127</sup>

The fragmented nature of the bones made it impossible to estimate cattle sizes. Two of the cattle bones show signs of disease; one possibly osteoarthritis or more probably a joint infection, the other a bony growth distortion similar to ringbone which used to be common in draught horses and which may indicate the use of draught oxen.

Sheep/goat comprised 35.8% of the total (MNI of the primary meat species). This is less than the average for Scottish rural (castle) sites excavated to date, which may suggest that the wool trade was less developed in the NE. than in S. Scotland where the majority of the comparative sites lie. The percentage is, however, generally greater than the more developed Scottish urban centres, such as Aberdeen. The age at which sheep were slaughtered at Rattray also differs from urban sites in the area; at Rattray less than 10% of the sheep were less than two years at slaughter, whereas at Aberdeen 38–55% and at Perth 44–55% were young sheep.<sup>128</sup> This suggests that Rattray, as a more rural settlement, could be considered a production centre for the more urban markets (by sea to Aberdeen?), selling surplus young stock, while retaining the core flock, and only culling aged and unfit animals for their own consumption.

The lack of evidence for predominant cattle dairying suggests the probability that sheep dairying was practised as well as or instead of cattle; goats were also used for dairying, as shown by the clear indication of at least two female goats in the medieval levels at Rattray.

There was no evidence of polled (hornless) sheep. This may be due to the bone fragmentation as they are common on other medieval sites, although the evidence from Edinburgh, where they appear only in later levels, suggests that they may only have become common in the late medieval period.<sup>129</sup> Evidence was found for four-horned primitive sheep, but this may be regarded as a fairly unusual mutant rather than a distinct breed at this period.

Pigs comprised 11.6% of the total principal animals identified, a similar percentage to most medieval Scottish sites. This pattern is not unexpected as pigs could be reared in towns as well as on more rural sites. It is perhaps significant that Rattray castle site and Queen Street, Aberdeen both had a higher percentage of pigs slaughtered at younger ages, suggesting that they were affluent enough to kill them when they were at their most succulent, but not most economic size.<sup>130</sup>

A total of nine horses (MNI) was represented, with butchery marks on one tibia, indicating that either in times of hardship or perhaps when a horse had to be slaughtered for other reasons, horseflesh was eaten. A horse metacarpal had also been used for a tool (Small Finds Catalogue no. 288). The bones suggest pony-sized animals of between twelve and thirteen hands. Probable ringbone was present on one horse phalanx; this is a foot disease formerly common among heavy draught horses, suggesting that some of the horses were used for draught work. Among the finds were several items of horse equipment such as spurs (Small Finds Catalogue nos. 166–168), suggesting that some of the horses were primarily used for riding. Seven horseshoes were found (Small Finds Catalogue nos. 156–62).

Cat and dog bones were also found showing signs of butchery, probably from skinning, as similar evidence occurs on other Scottish sites and there is documentary evidence for the import of Scottish dog skins into London.<sup>131</sup>



Among the bird bones domestic fowl predominated, and included several in-lay hens. Geese of a probably domestic type were well represented but duck were less common. Four bones were found from peafowl; although not common, peacocks have been found elsewhere in Britain on medieval sites and an anonymous 14th-century Husbandry includes peafowl among the other fowl to be looked after by the dairymaid in the manor court.<sup>132</sup> Their presence at Rattray may reflect the apparent high status of the site.

### *Butchery*

Both knife marks and chop marks, at least one of which could be attributed to a narrow adze (*c.* 22 mm wide), were found on the bones. Long bones had been routinely broken for the extraction of the marrow. The relative proportions of meat consumed from each of the main domestic species can be estimated by using weights of unimproved types. Assuming a live animal weight of 450 kg for cattle, 23 kg for sheep and 80 kg for pigs, and with a dressing out percentage of 50% for cattle and sheep and 80% for pigs, it can be estimated that cattle contributed 86% of the meat weight consumed, pig 9.2% and sheep a mere 4%. Both prime and lesser joints were found on the castle site, with no evidence of specialized butchery dumps or of the better cuts being reserved for the castle inhabitants.

HUNTING AND FISHING *By* S. HAMILTON-DYER, F. McCORMICK, H. K. MURRAY and J. C. MURRAY

Red, roe and fallow deer had been hunted throughout all phases of occupation on the castle. The red and roe deer are native, the latter preferring a forested environment. The fallow deer, however, was probably a medieval introduction to Scotland to stock the hunting reserves. One such reserve lay to the W. of Rattray in Buchan from the 13th century, and in 1292 six deer were granted to Alexander Comyn from the forests of Cowie and Buchan, interesting in view of the Comyn ownership of Rattray prior to 1308.<sup>133</sup> It should be noted, however, that although deer bones occurred on the castle site in Phases 2 to 5/6, they were most common in Phase 4, which can probably be dated to the 14th rather than the 13th century. Wild boar bones, also from this phase, suggest hunting in dense forest and, as they are documented to have been fairly rare by the 15th century, also suggest the privilege of hunting in the forest reserve.

Among the finds were several arrowheads (Small Find Catalogue nos. 169–79) from Phases 2 to 6 inclusive. A highly elaborate copper-alloy swivel (Small Finds Catalogue no. 204) found in Phase 3/5 is very similar to the swivel by which a huntsman is holding his hounds' leashes on a carved tombstone at Rodel, Harris.<sup>134</sup> A ceramic horn (Pottery Catalogue no. 126) was found on the castle site in a midden associated with the Phase 3 timber hall, part of another was found in the settlement; these may have been used for hunting, or possibly even in battle. No deer bones were found on the sites in the settlement, although the small sample of bone surviving on these sites may mean this is coincidental, but it is also possible to associate the higher status hunting with the castle site. Hare and rabbit were also identified. An immature wolf, or less likely a large dog, was identified in Phase 4.

The coastal position of Rattray also allowed exploitation of marine resources. Seal, including grey seal, were found from both the castle and settlement sites, presumably from animals caught on the shore where they are still common. They included immature individuals suggesting the presence of a breeding ground in the vicinity. The remains of large cetacean suggest the exploitation of the occasional stranded animal. Definite Sowerby's whale, probable sperm whale and a small cetacean type, either pilot whale or dolphin, were noted. Strandings of the first two are relatively rare occurrences. Bones from small whales or porpoises from one of the burgh sites may suggest deliberate hunting. Whalebone had been used for making artefacts such as a toggle (Small Finds Catalogue no. 281).

With the exception of pigeon and raven, all the wild birds present were common seabirds. Cormorant, shag, fulmar and great black-backed gull were found; these may have been used for food but no butchery marks were observed. Three goose bones may have been either brent or barnacle goose, the rest were either domestic goose or wild greylag. Some of these may have been winter migrants to the sheltered sea inlet (now the RSPB reserve of the freshwater Loch of Strathbeg).

The fish bones were generally poorly preserved, possibly due to the nature of the soil, or possibly to the effects of salting or smoking of the fish. Although some contexts had been sieved, bones of small fish such as herring, common eel, whiting and flatfish were not represented although they are common on medieval sites; this is likely to be due to a lack of preservation as only the stronger bone elements of the larger fish survived. Cod, haddock and ling were all identified, some of the cod being over 1 m in length. These may have been caught by the Rattray fishermen, or possibly traded in salt or smoked form. There is an interesting reference in 1721, near the end of the life of the settlement, to 'the village of Rattray, famous for codfish which the inhabitants take in great plenty and have the best way of drying and curing them'.<sup>135</sup> Some of the ovens on the castle site may have been used for smoking fish or meat. With the exception of two shell-filled pits on one of the burgh sites, there was only a little evidence that shellfish formed part of the diet: on the castle site only 28 fragments were identified, six being oyster, the rest mostly winkle with some cockle and limpet. This implies exploitation of both sandy and rocky shores. Several fishhooks were found (Small Finds Catalogue nos. 105-111), but they were small and presumably for use in river fishing or in shallow water such as the sea inlet at Strathbeg.

#### TRADE AND THE WIDER ENVIRONMENT

The position of Rattray might suggest a strong trade involvement. However, the evidence indicates that the community did not produce vast surpluses for sale nor were the ordinary inhabitants large consumers of imported goods. Some of the imports, such as the few French or Low Countries vessels identified in the pottery (Appendix 1) and some of the more elaborate copper-alloy objects, may not reflect direct trade to Rattray but may have been part of the mobile possessions of the 'manorial' household and, as such, likely to have been imported elsewhere. A few are earlier but the majority of objects in this category occur in Period II/III and III. The

rather larger quantities of Yorkshire and E. Scottish wares may reflect either direct trade along the N. Sea, or may possibly be goods bought by trade through Aberdeen, where both were well represented. The Scarborough products include fairly elaborate vessels such as a knight jug and bearded face-mask jugs.

Most raw materials were available locally, but a few were imported. In Period II, tentatively identified as the period of Comyn ownership, sandstone had been brought in for certain architectural features in Building C<sub>1</sub> and in the Chapel of St Mary. The same stone occurred in later contexts but these appear to have generally derived from reuse of blocks salvaged from the earlier structures. The source of this sandstone is the New Aberdour area, and it can be assumed to have been brought along the coast, possibly from near the Comyn castle at Dundarg. The apparent Comyn association with this import is also emphasized by the use of the same stone at the Comyn foundation of Deer Abbey.

It is difficult to identify exports from Rattray. With the exception of Deer Abbey,<sup>136</sup> there have been few excavations of medieval settlements in the hinterland, so it is not clear if any pottery produced at Rattray was traded locally. It is perhaps unlikely that any quantity was traded, as the kiln size and other evidence indicates that production was on a small scale.

The bone evidence suggests that wool may not have been produced on a scale indicative of trade, but there is a suggestion that young sheep may have been exported for meat, possibly by sea to Aberdeen.

The Royal Charter of 1563/64 allowed the settlement to have a market, but although there are documentary references to agreements made at the market cross of Rattray, it is not clear if this was a physical reality. However, an annual fair held until *c.* 1860 at Dipplebrae, *c.* 1.5 km inland, may have been the remnant of at least occasional markets at Rattray.<sup>137</sup>

## CONCLUSION

Any conclusions regarding Rattray underline the need to be cautious in the application of legal definitions within settlement archaeology. The historical documentation shows that Rattray was legally instituted a royal burgh in 1563/64 and that it appears to have been a burgh of barony possibly from the 13th century. However, its legal status as a burgh cannot be used to form an assumption that the physical entity should reflect the attributes of a town, such as a planned layout, dense population, specialized crafts, trade within an extended sphere of influence and a focus of administrative power.

At Rattray, four differing types of settlement can be identified, none fulfilling all of these urban attributes. Initially, in the late 12th or early 13th century, there was a simple motte built to defend a harbour site (Period I).<sup>138</sup> Later, the motte was redeveloped into a more permanent, small lordly residence, which can best be described as a manor and beside which a small settlement developed (Period II/III). In the 15th century, the manor was abandoned and the settlement appears to have declined until by 1696 it contained only a handful of fishermen and crofters (Period IV). Finally, after the eventual blocking of the harbour entrance by sand

dunes in 1720, the fishermen moved nearer to the sea, and by the present day only a single farming unit remains.

The only stage in the evolution of this settlement which can in any respect fulfil an urban definition is the manorial phase of the 13th to 15th centuries. The manor and the church were the physical signs of secular and religious administrations. There was a limited degree of planned layout, perhaps best indicated by the fairly regular 13th-century property boundaries, although many of these seem to have been altered in the 14th century. A degree of craft specialization can be seen in the establishment of iron-working and pottery industries, both apparently technically fairly competent, but perhaps not on a very large scale. There was also some evidence of trade, but probably only of a limited coastal nature. At this stage Rattray was a nucleated settlement fulfilling some of the urban criteria, but probably not housing a large population and still very reliant on its agricultural and maritime environment.

The lack of size might perhaps be of less significance considering that well-established and truly urban burghs such as Aberdeen appear to have been small compared to English medieval towns.<sup>139</sup> However, at this period Rattray must be regarded as a village, because its failure to develop into a town became clear when the manor moved and the industries it had patronized declined; this strongly suggests that the proportion of their production traded externally or within the hinterland was not sufficient to maintain or develop them. Without the manorial patronage, the physical limitations of the site perhaps assumed greater importance. The harbour, for example, although sheltered, was shallow and approached past difficult rocks which have wrecked many ships over the years;<sup>140</sup> so that even before the sand dunes blocked it, it was more suitable for small fishing boats than larger vessels. Equally, while Aberdeen, for example, had good inland routes up the valleys of the Rivers Don and Dee, the hinterland of Rattray had no good long-distance natural routeways, the only road in the area shown on Roy's military map of 1747-55 being a shoreline route between Peterhead and Fraserburgh.<sup>141</sup> This lack of good inland communications would have limited the possible sphere of influence and trading potential of the settlement.

Clearly, the archaeological evidence indicates that although a thriving community in the 13th to 15th centuries, Rattray can at no point be considered a real town, regardless of its legal status. Increasingly, both archaeological and documentary research has shown that it is time to reassess the Scottish burgh, recognizing that many burgh charters were granted for political or fiscal reasons and did not necessarily describe the actual state of the settlement.<sup>142</sup> The real settlement pattern of NE. Scotland in the medieval period may have been varied and generally rural in character. Examining the documentary evidence of rural settlement types in medieval Scotland, Barrow has shown that nucleated village settlements existed in the SE. but the documentary evidence for this type of settlement in the N. is less clear.<sup>143</sup> Rattray illustrates that where the landscape was suitable, as in the Buchan plain, a similar settlement type may have existed in parts of NE. Scotland. The form of this particular settlement would not have been apparent in the documentary sources and underlines the need for an inter-disciplinary approach to Scottish medieval settlement studies.

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## APPENDIX I

IMPORTED POTTERY *By* J. C. MURRAY (Fig. 48)

The imports comprised only some 9.17% of the total vessels identified, with 63% of these imports being from Yorkshire. The main pattern of imports follow the N. Sea coastal routes from Yorkshire and SE. Scotland. This trade may have been direct or through a larger town such as Aberdeen. The very small quantity of continental imports came almost certainly through such an entrepot (see Table 3, p. 150).

*Scarborough ware* (Fig. 48: 170–73)

Scarborough ware was ubiquitous throughout all areas of the site, Periods I to IV, but with a greater proportion occurring on the castle site. A vessel count based on rims and bases would indicate a minimum of 53 vessels, of which a probable 30 were from the castle hill. The vessels would all appear to have been jugs and include a number of highly decorated Scarborough products such as a knight jug bearing a hunting scene, of which a deer (170) and part of a horse (171) survive; and bearded face mask jugs (172, 173). The remainder of the jugs are of a richly glazed type with grooved rod handles and plain rims; the rim forms include both straight rims and those with a carination at the neck. Farmer's Fabric 2 predominates but Fabric 1 is also present.<sup>144</sup> Examples of local products imitating Scarborough ware have been noted above (120–23). Illustrations: 170 CAS 9/182, Phase 3/6, Period II/IV, 171 CAS 9, 5/6, Period III/IV, 172 CAS 45, Phase 4/5, Period III, 173, CAS 182, Phase 3/5, Period II/III.

*French wares* (not illustrated)*Rouen*

A handful of bodysherds from a single Rouen jug were found on the settlement site (CP) Period III/IV. They are of a white, slightly sandy fabric. The external decoration consists of applied white stripes of slip against a background of an orange glaze with spots of mottled green glaze.

*Other French wares*

Fragments of a maximum of four/five jugs of probable N. French origin derived from all areas of the site, Periods II/IV. One basal angle sherd shows the vessel to have been glazed internally with a mottled green glaze.

*Low Countries* (not illustrated)*Aardenburg type wares*

Two base sherds and a decorated bodysherd were found, possibly all from the same jug. They were from the castle site, Phases 3/5, Period II/III. They are of a brick-red sandy fabric, with a thick white slip covered with green glaze. The decorated bodysherd bears two bands of rouletted linear decoration. Two other body sherds with mould-impressed decoration from the settlement (CP), Period II/III, may be of Low Countries origin.

*Grey ware pitcher*

Bodysherds and a handle were found of an unglazed Low Countries Grey ware pitcher, settlement site, Period II/III.

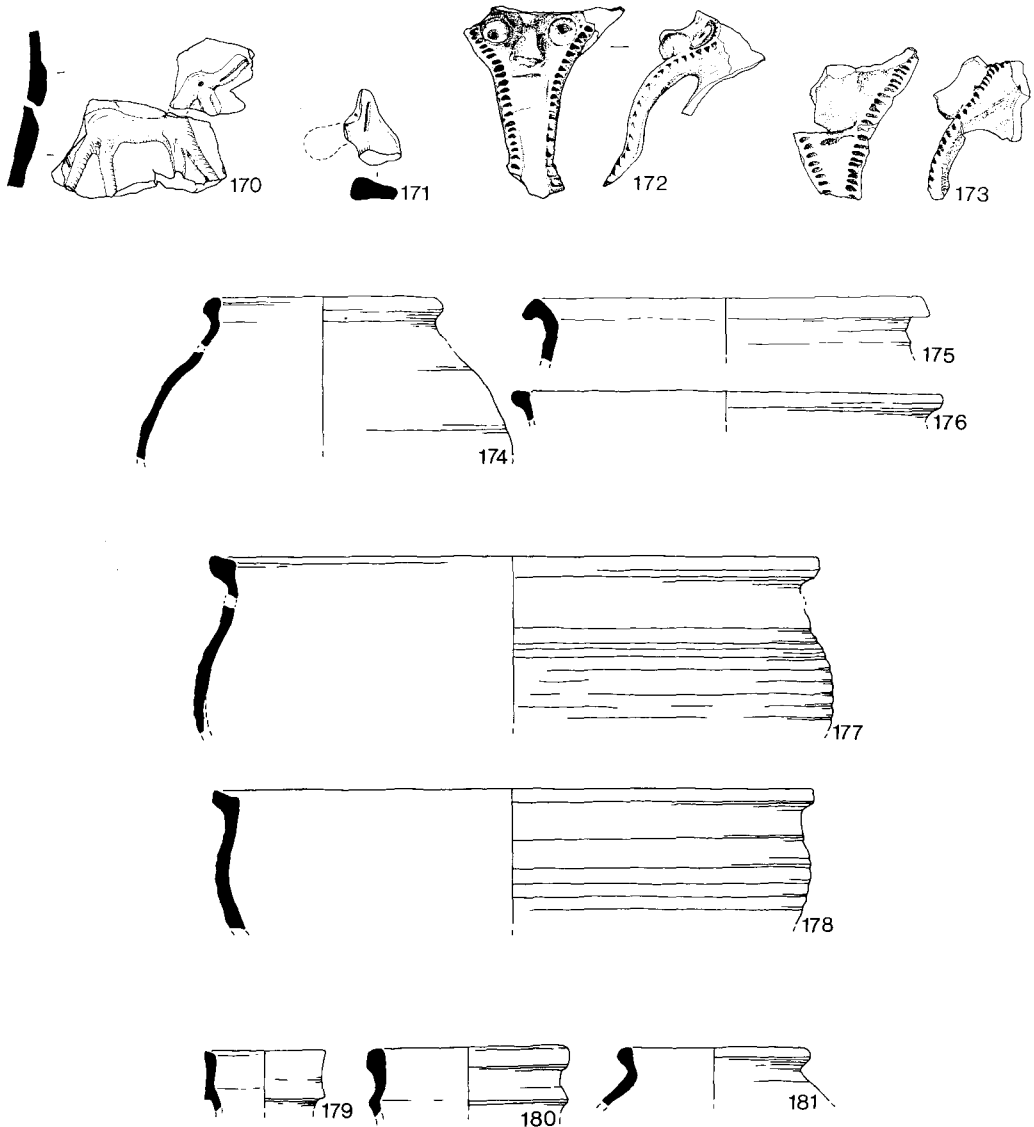


FIG. 48

Appendix 1. Selection of imported pottery. Scale 1:4

*Unidentified ware, possibly Low Countries*

Unidentified ware with mould impressed 'raspberry roundel' and 'flower' decoration, dark olive-green glaze. Reduced ware but red below glaze. Decoration suggests Low Countries origin. Context: castle site, predominantly Phase 4, Period III.

*Scottish E. Coast white gritty ware (Fig. 48: 174-76)*

A relatively small quantity of bodysherds and four rims of supposedly E. coast white gritty ware were found, representing only a handful of vessels in total. Varying from white to pale beige, this quartz-gritted fabric is

undoubtedly part of the tradition of gritty ware produced in E. Scotland but the exact source is as yet unknown. The vessels represented by the sherds include both cooking pots (174–76) and splashed green glazed jugs (bodysherds and handles only). Of the cooking pots only one (176) could possibly be of the straight-sided type.

Context: Occurs in well stratified contexts on the castle hill in Phase 1 (Period I) and is well represented in Phase 2 (Period II); it also, however, occurs throughout Phases 3–6 (Period III/IV). On the settlement site (CP) the fabric occurs predominantly in Period II, but also in Periods III/IV. The occurrence in Periods III and IV on both sites is probably residual. Illustrations: 174 CP 713, Period III; 175 CAS 222, Phase 1, Period I; 176 CAS 230, Phase 1, Period I.

*Unidentified gritty ware bowls* (Fig. 48: 177–78)

Coarse gritty fabric with some mica, grey core with buff surfaces. Three bowls. The rims are squared in section. A distinctive feature of these bowls is the pronounced rilling on the external surface below the rim. Unglazed. Rim diameter: 32 cm.

Context: settlement (CP). Total: 3. Illustrations: 177 CP 713/738, Period III; 178 CP 738, Period III.

*Unidentified gritty ware jug* (Fig. 48: 179)

Small collar rim jug. Rim diameter 6.5 cm. Unglazed. Illustration: 179 CAS 69/70/2/104/79/68/81, Phase 3/6, Period III/IV.

*Unidentified grey wares* (not illustrated)

Four jugs and one jar represented. Unglazed with the exception of one body sherd.

Context: all areas, Period II/IV.

*Unidentified grey ware jug* (not illustrated)

Jug with rod handle. Green glazed with incised wavy line decoration.

Context: CAS, Phase 3/5, Period II/III.

*Unidentified* (not illustrated)

Jug rim and top of handle of very hard-fired coarse sandy fabric with quartzite inclusions. Thick-walled with squared rim. Post-medieval? Origin unknown.

Context: Settlement (CP), Period III.

*Smooth wares* (Fig. 48: 180–81)

Small group of very fine smooth buff-red fabric vessels. External olive-green glaze. Possibly of NE. Scottish origin. Six jugs and one jar.

Context: All areas, most Period III. Total: 7. Illustrations: 180 CAS 166, Phase 5, Period III; 181 CAS 2, Phase 4, Period IV.

## APPENDIX 2

### THE INDUSTRIAL DEBRIS *By* R. M. SPEARMAN and I. CULLEN

#### *The range of debris*

Tabular information on the distribution of the industrial debris by context for all the Rattray excavations appears in the site archive. What follows here is a summary of the various types of debris recovered and their significant distribution. As noted above, the figures presented for the FP site are only in the order of a tenth of what was excavated.

- a. Bog-iron ore — 1 kg coming only from CP 700 in a trench directly opposite the FP 'smithy' site.
- b. Tap-slag — waste from bloomery smelting — from site CP 700 (0.7 kg) in a trench directly opposite the FP site and from the FP site (0.8 kg × 10).
- c. Bloomery debris — grey vesicular slag extruded during the processing of blooms from all sites (70 kg) of which the FP site produced the majority (44 kg × 10).
- d. Bloomery-bottoms — circular and semicircular masses of homogenous bloomery slag with diameters of between 120 and 180 mm. Only from the FP (11.6 kg × 10) and CP 700 (6.7 kg) sites.

- e. Furnace-lining — vitrified pieces of slag and clay — part of the structural remains of high-temperature furnaces. Only from the FP (4.2 kg × 10) and CP 700 (1.9 kg) sites.
- f. Smithy-concretions — fused masses of hammer-scale, prill and fuel ash from the vicinity of the smithy hearth. Mainly from FP (1.7 kg × 10) and CP 700 (0.5 kg).
- g. Smithy-bottoms — fused masses of hammer-scale, prill and fuel ash built up on the bottom of the smithy hearth. Only from FP (8.9 kg × 10) and CP 700 (1.9 kg).
- h. Object concretions — concretions of sand and hammer scale around a fragment of iron waste or an iron object. Mainly from the FP (23.9 kg × 10) and CP 700 sites (2 kg).
- i. Cinder, sand, bloomery waste, stone and coal — a diverse range of cindered and vitrified material including coal and iron slag. Mainly from FP (41.9 kg × 10) and CP 700 (10.5 kg).
- j. Non-ferrous slag — vitreous slag — possibly from copper-alloy working. From CP 700 (11.5 g) and FP (4.2 g × 10).
- k. Vitrified debris — vitrified stone and other non-metalworking debris — a few pieces from FP (0.2 kg × 10) and the castle site (0.02 kg).

## APPENDIX 3

## ANIMAL BONE

The minimum number of individuals was calculated on the basis of the most frequently recurring bone element taking left- and right-handedness into consideration. No attempt was made to take the state of epiphyseal fusion or bone size into consideration while making this calculation.

All the tables in this appendix refer specifically to the castle site. The samples from other parts of the excavation were small and poorly preserved and are recorded in the archive.

TABLE 4

ANIMAL BONE MINIMUM NUMBER OF INDIVIDUALS' DISTRIBUTION BY PHASE

Animal	Phases								MNI Total N	%
	1	2	3	3/4	3/5	4	4/5	5		
Cattle	1	4	5	13	15	15	4	5	62	31.8
Horse	1	1	1	1	2	1	1	1	9	4.6
Sheep/Goat	2	4	6	11	11	14	4	4	56	28.7
Pig	1	3	3	6	4	4	1	1	23	11.8
Dog	—	2	1	1	1	2*	1	1	10	5.1
Cat	—	—	1	1	—	—	—	—	2	1.0
Red deer	—	1	1	1	1	2	1	1	8	4.0
Roe deer	—	—	2	1	1	1	—	—	5	2.6
Fallow deer	—	—	1	1?	1	1	—	—	4	2.0
Rabbit	1	1	—	1	—	1	—	2	6	3.1
Hare	—	1	—	—	—	1	—	—	2	1.0
Wild pig	—	—	—	—	1	—	1	—	2	1.0
Seal	—	—	—	—	—	—	1	1	2	1.0
Cetacean	—	1	—	—	1	1	—	1	4	2.0

\*Probable wolf present.



TABLE 5  
BIRD AND FISH BONES BY PHASE

<i>Bird</i>	<i>Phases</i>							
	<i>1</i>	<i>2</i>	<i>3</i>	<i>3/4</i>	<i>3/5</i>	<i>4</i>	<i>4/5</i>	<i>5</i>
Fowl	2	5	21	15	3	24	1	—
Greylag/ domestic goose	1	4	4	6	1	8	3	—
Mallard/domestic duck	—	—	2	2	—	1	—	—
Rock Dove/domestic pigeon	—	—	1	—	—	—	—	—
Peacock	—	—	3	—	—	1	—	—
Fulmar	—	—	—	—	1	—	—	—
Cormorant	—	—	16	2	—	2	—	—
Shag	—	—	—	1	1	—	—	—
Brent/Barnacle goose	—	—	2	—	—	—	—	—
Great Black- Backed Gull	—	—	—	1	—	—	—	—
Raven	—	—	3	—	—	—	—	—
Gadidae (cod family)	—	—	1	—	—	3	—	—
Cod	1	1	17	34	10	55	3	3
Haddock	—	2	1	—	—	1	—	—
Ling	—	—	—	—	—	2	—	—

TABLE 6  
AGE DISTRIBUTION OF CATTLE IN PHASES 1-5

<i>State of eruption</i>	<i>Approximate age (in months)</i>	<i>No.</i>
M3 in tertiary eruption	30	1
M3 erupted cusp 3 unworn	31-32	2
M3 erupted cusp 3 in secondary wear +	36+	14

After Higham.<sup>145</sup> The M3s with cusp 3s in secondary wear display the following Grant wear stages: Gx8, Jx3, Kx2.<sup>146</sup>

TABLE 7  
SHEEP/GOAT SLAUGHTER PATTERN

<i>State of eruption</i>	<i>Approximate age (in months)</i>	<i>No.</i>
M1 in secondary eruption	4	1
M2 in primary eruption	9-11	1
M2 erupted, M3 not	12-21	1
M3 in tertiary eruption	21-24	2
M3 erupted, cusp 3 unworn	25-26 (24-36)	9
M3 erupted, cusp 3 worn	26+ (36-39)	25

After Higham.<sup>147</sup> The ages given in brackets are the older age values provided by Payne.<sup>148</sup> All the M3s with cusp three worn are in Grant wear stage G.<sup>149</sup>

TABLE 8  
PIG SLAUGHTER PATTERN

<i>Higham Stage</i>	<i>State of eruption</i>	<i>Approximate age (in months)</i>	<i>No.</i>
4	Milk pm4 tertiary eruption	1-2	1
5-6	Milk pm4 erupted, M1 not	2-5	1
8-9	M1 erupted and unworn	6-8	1
11	M2 in primary eruption	9-10	1
12	M2 in secondary eruption	10-11	2
14-17	M2 erupted, M3 not	12-17	2
19	M3 in secondary eruption	19-21	3
20	M3 in tertiary eruption	21-23	2
21	M3 erupted cusp 3 unworn (B)	23-25	2
22	M3 erupted cusp 3 primary wear (C)	25-27	2

After Higham<sup>150</sup> and Grant.<sup>151</sup> The ages given for eruption on 18th-century pigs shows a much slower rate of growth.<sup>152</sup>

#### NOTES

<sup>1</sup> H. K. Murray, *et al.*, 'Evidence of agricultural activity of the later second millennium B.C. at Rattray, Aberdeenshire', *Proc. Soc. Antiq. Scotland*, 122 (1992), 113-25.

<sup>2</sup> K. Walton, 'Rattray: a study in coastal evolution', *Scottish Geographical Mag.*, 72 (1956), 85-97. W. Ritchie *et al.*, *The Beaches of North East Scotland* (Aberdeen, 1978), fig. 5.22.1.

<sup>3</sup> J. Sinclair (ed.), *The Statistical Account of Scotland 1791-1799* (reprint Edinburgh, 1982), 15, 73-75.

<sup>4</sup> Cumyn of Rattray MSS. box 1, National Register of Archives (Scotland) Survey 1188. Printed in abridged form in J. Robertson (ed.), *Illustrations of the Topography and Antiquities of the Shires of Aberdeen and Banff*, vol. 4 (Spalding Club, 1862), 637-39.

<sup>5</sup> Cumyn of Rattray MSS. box 1, bundle 2. Extract decret, Hay v. Keith and others before Lords of Council, 27 January 1561/62.

<sup>6</sup> J. Stuart (ed.), *List of Pollable Persons within the Shire of Aberdeen 1696*, vol. 2 (Aberdeen, 1844), 54.

<sup>7</sup> J. Robertson (ed.), *Collections for a History of the Shires of Aberdeen and Banff: a view of the Diocese of Aberdeen 1732* (Spalding Club, 1843), 423-24.

- <sup>8</sup> Scottish Records Office (S.R.O.), C.S. 7/27 f.121v0-123v0; Master of Erroll *v.* Keith, 7 July 1563.
- <sup>9</sup> Op. cit. in note 4. Judgement was given 26 February 1563/64 (S.R.O., C.S. 9/1), but the record of court has not been found.
- <sup>10</sup> Erected as burghs 1546 and 1587 by the Laird of Philorth and the Earl Marischal respectively.
- <sup>11</sup> J. M. Thomson (ed.), *Register of the Great Seal of Scotland A.D. 1306-1424*, 2nd ed. (London, 1912), 632.
- <sup>12</sup> G. S. Pryde, *The Burghs of Scotland — a critical list* (Glasgow, 1965), 47.
- <sup>13</sup> Calendared in National Register of Archives (Scotland), Survey 925.
- <sup>14</sup> Robertson, op. cit. in note 7, 426-27.
- <sup>15</sup> Robertson, op. cit. in note 4, 77-79.
- <sup>16</sup> Thomson, op. cit. in note 11, 460.
- <sup>17</sup> E.g. Robertson, op. cit. in note 7, 428.
- <sup>18</sup> Cosmo Innes (ed.), *Registrum episcopatus Aberdonensis*, vol. 1 (Spalding Club, 1845), 14.
- <sup>19</sup> Aerial photographs taken in 1983 by Ian Shepherd and held in Grampian Regional Council, Sites and Monuments Record.
- <sup>20</sup> Magnetometer survey in settlement area FP, CP, 1986; J. A. Gater, Bradford. Magnetometer and resistivity survey in area of castle hill, 1987; J. A. Gater, Bradford. Extent of surveys: Fig. 2.
- <sup>21</sup> *Ordnance Survey Record Cards* NK 05 NE 4.
- <sup>22</sup> J. Cumine, 'The burgh of Rattray', *Trans. Buchan Field Club*, 1 (1887-90), 114-21.
- <sup>23</sup> Cumyn of Rattray MSS. (N.R.A.S. survey 1188: bundle 5, items dated 1529, 1586; bundle 29, (1521); from unsurveyed second box, bundle 6, 7 items (1564-1588). Originals examined. Hay of Erroll charters (N.R.A.S. 925 pt. II: 223, 258, 270-71, 298, 301, 310, 343-45, 1507-26). Calendar consulted.
- <sup>24</sup> Cumine, op. cit. in note 22, 118.
- <sup>25</sup> O.S. 1: 2500 Aberdeenshire ix.9.
- <sup>26</sup> Op. cit. in note 19.
- <sup>27</sup> Cumine, op. cit. in note 22, 119.
- <sup>28</sup> D. Littlejohn (ed.), *Records of the Sheriff Court of Aberdeenshire, II, 1598-1649* (New Spalding Club, 1906), 91.
- <sup>29</sup> O.S. 1:10560 Aberdeenshire viii, ix, xv.
- <sup>30</sup> Cumine, op. cit. in note 22, 120.
- <sup>31</sup> Photographs in Peterhead Public Library; D. MacGibbon and T. Ross, *The Ecclesiastical Architecture of Scotland* (Edinburgh, 1896), vol. 2, 292-93, fig. 718.
- <sup>32</sup> Identified by N. H. Trewin, Department of Geology, Aberdeen University.
- <sup>33</sup> J. G. Dunbar, 'The medieval architecture of the Scottish Highlands', in L. Maclean (ed.), *The Middle Ages in the Highlands* (Inverness Field Club, 1981), 40-42, and fig. on p. 62.
- <sup>34</sup> MacGibbon and Ross, op. cit. in note 31, vol. 2, 280-85, 290-92.
- <sup>35</sup> *Ibid.*, 273-74.
- <sup>36</sup> W. Gall, 'Parish of Crimond', in Sinclair, op. cit. in note 3, 74.
- <sup>37</sup> *Ibid.*
- <sup>38</sup> P. A. Yeoman, 'Excavations at Castlehill of Strachan, 1980-81', *Proc. Soc. Antiq. Scotland*, 114 (1984), 315-64, fiche 4:C1-G3.
- <sup>39</sup> N. S. Newton, 'Excavations at the Peel of Lumphanan, 1975-79', *Proc. Soc. Antiq. Scotland*, forthcoming.
- <sup>40</sup> M. E. C. Stewart and C. J. Tabraham, 'Barton Hill, Kinnaird, Perthshire', *Scot. Archaeol. Forum*, 6 (1974), 58-64.
- <sup>41</sup> M. K. Greig and C. Greig, 'Remains of a 12th-century structure and other medieval features on the knoll of Castle Point, Troup (Cullykhan), Banff and Buchan', *Proc. Soc. Antiq. Scotland*, 119 (1989), 279-96, fiche 4: A3-D5, especially 282-83, ills. 4, 12.
- <sup>42</sup> H. Murray and G. Ewart, 'Two early medieval timber buildings from Castle Hill, Peebles', *Proc. Soc. Antiq. Scotland*, 110 (1978-80), 519-27, fig. 2.
- <sup>43</sup> Yeoman, op. cit. in note 38, 323-29, 344-45, ills. 3 and a differing interpretation of the same structure in H. Murray, *ibid.*, 346-47.
- <sup>44</sup> C. Tabraham, *Scottish Castles and Fortifications* (Edinburgh, 1986), 38, and D. MacGibbon and T. Ross, *The Castellated and Domestic Architecture of Scotland* (Edinburgh, 1887), vol. 1, 386-90.
- <sup>45</sup> A. Gibson, 'Medieval corn-drying kilns at Capo, Kincardineshire and Abercairny, Perthshire', *Proc. Soc. Antiq. Scotland*, 118 (1989), 219-29.
- <sup>46</sup> G. Ewart, *Cruggleton Castle: report of excavations 1978-81* (Dumfries, 1985), 33-34.
- <sup>47</sup> J. C. Murray (ed.), *Excavations in the medieval burgh of Aberdeen 1973-81*, Soc. Antiq. Scotland Monogr. Ser. 2 (1982), 53-54, ill. 26.
- <sup>48</sup> Ordnance Survey, op. cit. in note 21.
- <sup>49</sup> Newton, op. cit. in note 39.
- <sup>50</sup> A. J. Aitken (ed.), *Dictionary of the Older Scottish Tongue* (University of Chicago, 1973), vol. iv, 67-68.
- <sup>51</sup> G. W. S. Barrow, *Robert Bruce* (3rd edn., Edinburgh, 1988), 319-20, based on J. Stuart and G. Burnett (eds.) *Exchequer Rolls of Scotland* (Edinburgh, 1878), i, 56, 118, 123-36.
- <sup>52</sup> Yeoman, op. cit. in note 38.
- <sup>53</sup> Newton, op. cit. in note 39.
- <sup>54</sup> Sinclair, op. cit. in note 3.
- <sup>55</sup> L. H. Blanchard, 'Kirk Close, 86-100 High Street', in P. Holdsworth (ed.), *Excavations in the Medieval Burgh of Perth 1979-1981*, Soc. Antiq. Scotland Monogr. Ser., 5 (1987), 18-45.
- <sup>56</sup> H. K. Murray, 'Excavation at 45-47 Gallowgate, Aberdeen', *Proc. Soc. Antiq. Scotland*, 114 (1984), 303-13, fiche 3: C7-G14, 4:A3-B11.

<sup>57</sup> H. K. Murray, 'The wooden and wattle buildings', Perth High Street report, presently in archive with Historic Scotland, Edinburgh.

<sup>58</sup> G. Stell, 'Urban buildings', in M. Lynch *et al.* (eds.), *The Scottish Medieval Town* (Edinburgh, 1988), 60–80, especially 73–76.

<sup>59</sup> G. Stell, pers. comm. on site. We are grateful to G. Stell for discussing the report on the Rattray buildings.

<sup>60</sup> Trewin, *op. cit.* in note 32.

<sup>61</sup> Murray, *op. cit.* in note 57, Building B18.

<sup>62</sup> M. Wood, *The English Medieval House* (London, 1965), 35–44.

<sup>63</sup> Barrow, *op. cit.* in note 51.

<sup>64</sup> G. L. Good and C. J. Tabraham, 'Excavations at Threave Castle, Galloway, 1974–78', *Medieval Archaeol.*, 25 (1981), 90–140.

<sup>65</sup> Newton, *op. cit.* in note 39.

<sup>66</sup> I. B. D. Bryce, 'Castellum meum de Bucharm: a Banffshire hallhouse of circa 1220', *Aberdeen Univ. Review*, 185 (1991), 13–22.

<sup>67</sup> Good and Tabraham, *op. cit.* in note 64, 99–101, fig. 5.

<sup>68</sup> H. K. Murray, 'Medieval wooden and wattle buildings excavated in Perth and Aberdeen', in A. Turner Simpson (ed.), *Town Houses and Structures in Medieval Scotland: a seminar*, Scottish Burgh Survey (Glasgow, 1980), 39–52.

<sup>69</sup> A. Fenton and B. Walker, *The Rural Architecture of Scotland* (Edinburgh, 1981), 76–83.

<sup>70</sup> A. Fenton, 'Clay building and clay thatch in Scotland', *Ulster Folklife*, 15/16 (1970), 28–51.

<sup>71</sup> Fenton and Walker, *op. cit.* in note 69, 51–56.

<sup>72</sup> Heather [*calluna vulgaris*] and oak [*quercus sp.*] identified by Dr B. A. Crone.

<sup>73</sup> S. A. Moorehouse, 'The medieval pottery industry and its markets', in D. W. Crossley (ed.), *Medieval Industry*, *Counc. Brit. Archaeol. Res. Rep.*, 40 (1981), 96–125, especially 100–05.

<sup>74</sup> G. F. Bryant, 'Experimental kiln firings at Barton-on-Humber, S. Humberside, 1971', *Medieval Archaeol.*, 21 (1977), 106–23, especially 121.

<sup>75</sup> P. Mayes and K. Scott, *Pottery kilns at Chilvers Coton, Nunzeaton*, Soc. Medieval Archaeol. Monogr. Ser., 10 (1984), fig. 7 and 54–55, 65.

<sup>76</sup> Bryant, *op. cit.* in note 74, 111–12.

<sup>77</sup> Murray, *op. cit.* in note 47, 125.

<sup>78</sup> C. M. Brooks, 'Medieval pottery from the kiln site at Colstoun, E., Lothian', *Proc. Soc. Antiq. Scotland*, 110 (1978–80), 364–403.

<sup>79</sup> N. L. MacAskill, 'The pottery', in P. Holdsworth (ed.), *Excavations in the Medieval Burgh of Perth 1979–81*, Soc. Antiq. Scotland Monogr. Ser., 5 (1987), 89–120.

<sup>80</sup> N. L. MacAskill, 'The pottery', in J. Wordsworth, 'Excavation of the settlement at 13–21 Castle Street, Inverness, 1979', *Proc. Soc. Antiq. Scotland*, 112 (1982), 355–68.

<sup>81</sup> J. Le Patourel, 'Ceramic horns', in D. Gaimster and M. Redknap (eds.), *Everyday and Exotic Pottery from Europe: studies in honour of John G. Hurst* (Oxford, 1992), 157–66, especially 161 and fig. 3.

<sup>82</sup> C. M. Brooks and G. R. Haggerty, 'Notes on Scottish medieval kiln furniture from Rattray, Aberdeenshire', *Proc. Soc. Antiq. Scotland*, 108 (1976–77), 379–82, for a discussion of the 19th-century finds.

<sup>83</sup> R. M. Spearman, 'Physical analysis of metalworking debris', in Wordsworth, *op. cit.* in note 80, 354.

<sup>84</sup> R. M. Spearman, 'The industrial debris and features', in W. J. Lindsay, *Excavations in Elgin*, forthcoming.

<sup>85</sup> Scottish Urban Archaeological Trust, *The Meal Vennel Excavations, Perth*, forthcoming.

<sup>86</sup> R. F. Tylecote, *The Prehistory of Metallurgy in the British Isles* (London, 1986).

<sup>87</sup> Metal-detector users working in the area of the burgh fields have reported five copper coins of Charles I (1625–49) and Charles II (1660–85). A James IV billon penny (1495–1513), a fragmented Scottish penny of Alexander III's 1st coinage (1250–80) and an English silver short-cross cut halfpenny of Henry III, class 7 (1223–42) have been reported by the same source. The 13th-century coins were from the vicinity of the CP sites. Identifications have been verified by S. Thain, Aberdeen Art Gallery and Museums Div., City Arts Dept. Details of find locations in archive.

<sup>88</sup> South Witham, Lincs, excavated by P. Mayes, unpublished.

<sup>89</sup> P. V. Addyman and I. H. Goodall, 'The Norman church and door at Stillingfleet, North Yorkshire', *Archaeologia*, 106 (1979), 90, fig. 9; J. Geddes, 'The well cover', in A. D. Saunders, 'Lydford Castle, Devon', *Medieval Archaeol.*, 24 (1980), 165, fig. 17.

<sup>90</sup> I. H. Goodall, 'Four medieval iron objects from Rathmullen, County Down', *Ulster J. Archaeol.*, 48 (1985), 132–33, fig. 1, no. 1, and Wordsworth, *op. cit.* in note 80, 368, fig. 21, no. 7.

<sup>91</sup> For an indication of the range of barrel padlock forms see I. H. Goodall, 'The medieval blacksmith and his products', in Crossley, *op. cit.* in note 73, 60, fig. 57, nos. 2–6.

<sup>92</sup> For a broad indication of the mechanism, see I. H. Goodall, 'Locks', in M. Biddle, *Object and Economy in Medieval Winchester* (Winchester Studies 7, ii, 1990), 1003–05, 1017, figs. 319–21.

<sup>93</sup> I. H. Goodall, 'Horseshoes', in Biddle, *op. cit.* in note 92, 1055–56.

<sup>94</sup> I. H. Goodall, *Ironwork in Medieval Britain: an archaeological study* (Ph.D. thesis, Cardiff, 1980), 181–83.

<sup>95</sup> Museum of London/H. M. Stationery Office series on medieval finds from excavations in London, volume on horse harness, etc., forthcoming.

<sup>96</sup> J. B. Ward Perkins, *London Museum Medieval Catalogue* (London, 1940), 100, fig. 30, nos. 2, 4.

<sup>97</sup> B. M. A. Ellis, 'The spurs', in Holdsworth, *op. cit.* in note 79, 137 and ill. 68, 69; spur no. 103.

<sup>98</sup> *Ibid.*

- <sup>99</sup> G. Bise, *Medieval Hunting Scenes* ('The Hunting Book' by Gaston Phoebus) (Fribourg-Geneva, 1978), passim.
- <sup>100</sup> J. G. Callander, 'Fourteenth century brooches and other ornaments in the National Museum of Antiquities of Scotland', *Proc. Soc. Antiq. Scotland*, 58 (1924), 172-73 and fig. 5, 1-2.
- <sup>101</sup> A. R. Goodall, 'Copper-alloy objects', in D. D. Andrews and G. Milne (eds.) *Wharram: a study of settlement on the Yorkshire Wolds, vol. 1, Domestic settlement, 1: Areas 10 and 6*, Soc. Medieval Archaeol. Monogr. Ser., 8 (1979), 108, fig. 55.11.
- <sup>102</sup> D. A. Hinton, 'Buckles and other clothes fittings', in Biddle, op. cit. in note 92, 509, 514, fig. 129: 1110.
- <sup>103</sup> J. Cherry, 'Harness pendants', in P. Saunders and E. Saunders (eds.) *Salisbury Museum Medieval Catalogue: Part I* (Salisbury, 1991), 20, fig. 1.7.
- <sup>104</sup> J. B. Ward Perkins, 'A medieval harness mount at Termoli', *Antiq. J.*, 29 (1949), 1-7.
- <sup>105</sup> We are grateful to J. Cripps for help in reading this inscription and to M. Redknapp for discussion of the boat.
- <sup>106</sup> H. Clarke and A. Carter, *Excavations in King's Lynn 1963-70*, Soc. Medieval Archaeol. Monogr. Ser., 7 (1977), 290, fig. 131:39.
- <sup>107</sup> J. A. Stones, 'The small finds', in Murray, op. cit. in note 47, 188, ill. 109:89.
- <sup>108</sup> A. MacGregor, 'Bone, antler and ivory objects', in Murray, op. cit. in note 47, 182, ill. 104:18, 19.
- <sup>109</sup> We are grateful to Dr A. MacGregor for suggesting that although there is a lack of medieval parallels for plugged dice, there are examples of plugged chessmen of medieval date, so the technique used in 278 was known in the medieval period.
- <sup>110</sup> D. Brown and G. Lawson, 'Toggles', in M. Biddle, op. cit. in note 92, 589-91.
- <sup>111</sup> A. MacGregor has kindly brought to our attention a group of horse and ox metatarsals, which are often perforated at the ends, but which also lack the characteristic wear of skates or sledge runners. However, these objects of unknown function do not provide a clear parallel to 288 as their characteristic is a deep cut in the upper surface of the bone. None of the recorded examples show the fine grooving of 288, e.g. F. W. Reader, 'Notes on a bone object found at Braintree, Essex and on some similar objects found elsewhere', *Essex Naturalist*, 16 (1910), 82-96 and E. Curwen, 'An unusual bone implement', *Sussex Archaeol. Collections*, 84 (1945), 108-13.
- <sup>112</sup> R. J. Charleston, 'The glass', in C. Platt and R. Coleman-Smith (eds.), *Excavations in Medieval Southampton, 1953-69, vol. ii: The Finds* (Leicester, 1975), 205, fig. 221, nos. 1483, 1485; fig. 222, nos. 1510-12, 1514.
- <sup>113</sup> D. B. Harden, 'Medieval glass in the west', *Proc. of the 8th International Congress on Glass* (London, 1968), figs. 19-20.
- <sup>114</sup> P. Addyman, in D. M. Wilson and D. G. Hurst, 'Medieval Britain in 1969', *Medieval Archaeol.*, 14 (1970), 177, pl. xiii, A.
- <sup>115</sup> S. Frank, *Glass and Archaeology* (London, 1982), 100.
- <sup>116</sup> G. Burnett (ed.), *The Exchequer Rolls of Scotland, III: 1397-1406* (Edinburgh, 1880), 222; and *The Exchequer Rolls of Scotland, IV: 1406-1436* (Edinburgh, 1880), 621.
- <sup>117</sup> J. M. Gilbert, *Hunting and Hunting Reserves in Medieval Scotland* (Edinburgh, 1979), 50-51, table 2.
- <sup>118</sup> M. Robinson, (ed.), *The Concise Scots Dictionary* (Aberdeen, 1985).
- <sup>119</sup> Op. cit. in note 19.
- <sup>120</sup> M. Fraser and J. H. Dickson, 'Plant remains', in Murray, op. cit. in note 47, 241.
- <sup>121</sup> Sinclair, op. cit. in note 3, 67-70.
- <sup>122</sup> Walter of Henley, *Husbandry*, ed. E. Lamond (London, 1890), 26-27.
- <sup>123</sup> A. T. Lucas, *Cattle in Ancient Ireland*, Studies in Irish archaeology and history (Kilkenny, 1989), 33-38, discusses the contemporary Irish evidence concerning hay.
- <sup>124</sup> F. McCormick, 'Evidence for dairying at Dun Ailinne?', *Emania*, 8 (1991), 57-59.
- <sup>125</sup> Walter of Henley, op. cit. in note 122, 25 and T. Tusser, *Five Hundred Points of Good Husbandry*, ed. G. Grigson, (Oxford, 1984), 76.
- <sup>126</sup> F. McCormick, 'Early Faunal Evidence for Dairying', *Oxford J. Archaeol.*, 11 (1992), 201-09.
- <sup>127</sup> J. Clutton-Brock, 'Garrards livestock models', *Agricultural Hist. Rev.*, 24 (1976), 21.
- <sup>128</sup> Cf. Perth: G. W. I. Hodgson, 'Report on the animal remains excavated during 1975-76 from the medieval levels at the High Street, Perth', Historic Scotland, archive report. Aberdeen: G. W. I. Hodgson and A. Jones, 'The animal bone', in Murray (ed.) op. cit. in note 47, 234-36.
- <sup>129</sup> P. L. Armitage, 'Seven sheep skulls and inferences from them', in J. Schofield, 'Excavations south of Edinburgh High Street, 1973-4', *Proc. Soc. Antiq. Scotland*, 107 (1975-76), 239.
- <sup>130</sup> G. W. I. Hodgson and A. Jones, op. cit. in note 128, 236.
- <sup>131</sup> *Ibid.*, 232.
- <sup>132</sup> Anonymous, 'Husbandry', in Walter of Henley, op. cit. in note 122, 74-75.
- <sup>133</sup> J. M. Gilbert, op. cit. in note 117, 50.
- <sup>134</sup> *Ibid.*, fig. 6.
- <sup>135</sup> D. W. Summers, *Fishing Off the Knuckle — the fishing villages of Buchan* (Aberdeen, 1988), 7.
- <sup>136</sup> J. A. Stones, 'Abbey of Deer', *Discovery and Excavation* (1986), 10.
- <sup>137</sup> Cumine, op. cit. in note 22, 120.
- <sup>138</sup> The evolution of other Scottish burghs beside earlier fortress sites is discussed in Lynch *et al.*, op. cit. in note 58, 12-13.
- <sup>139</sup> Murray, op. cit. in note 47, 249.
- <sup>140</sup> Summers, op. cit. in note 135.
- <sup>141</sup> General William Roy, *Map of Scotland (c. 1750)*, unprinted, Edinburgh University Library.
- <sup>142</sup> The best recent discussion is in Lynch *et al.*, op. cit. in note 58, 1-13.
- <sup>143</sup> G. W. S. Barrow, 'Rural settlement in central and eastern Scotland', *Scottish Studies*, 6 (1962), 123-44, especially 124, 127-28.

- <sup>144</sup> P. G. Farmer, *An Introduction to Scarborough Ware and a Re-assessment of Knight Jugs* (Privately published, Hove, 1979).
- <sup>145</sup> C. F. W. Higham, 'Stock rearing as a cultural factor in prehistoric Europe', *Proc. Prehist. Soc.*, 33 (1967), 84-106.
- <sup>146</sup> A. Grant, 'The use of tooth wear as a guide to the age of domestic ungulates', in B. Wilson *et al.* (eds.), *Ageing and Sexing Animal Bones from Archaeological Sites*, British Archaeological Rep. (Brit. Ser. 109 (1982), 91-108.
- <sup>147</sup> Higham, *op. cit.* in note 145.
- <sup>148</sup> S. Payne, 'Kill off patterns in sheep and goats', *J. Anatolian Studies*, 23 (1973), 281-303.
- <sup>149</sup> Grant, *op. cit.* in note 146.
- <sup>150</sup> Higham, *op. cit.* in note 145.
- <sup>151</sup> Grant, *op. cit.* in note 146.
- <sup>152</sup> I. A. Silver, 'The ageing of domestic animals', in D. Brothwell and E. Higgs (eds.), *Science in Archaeology* (London, 1963), 250-68.