

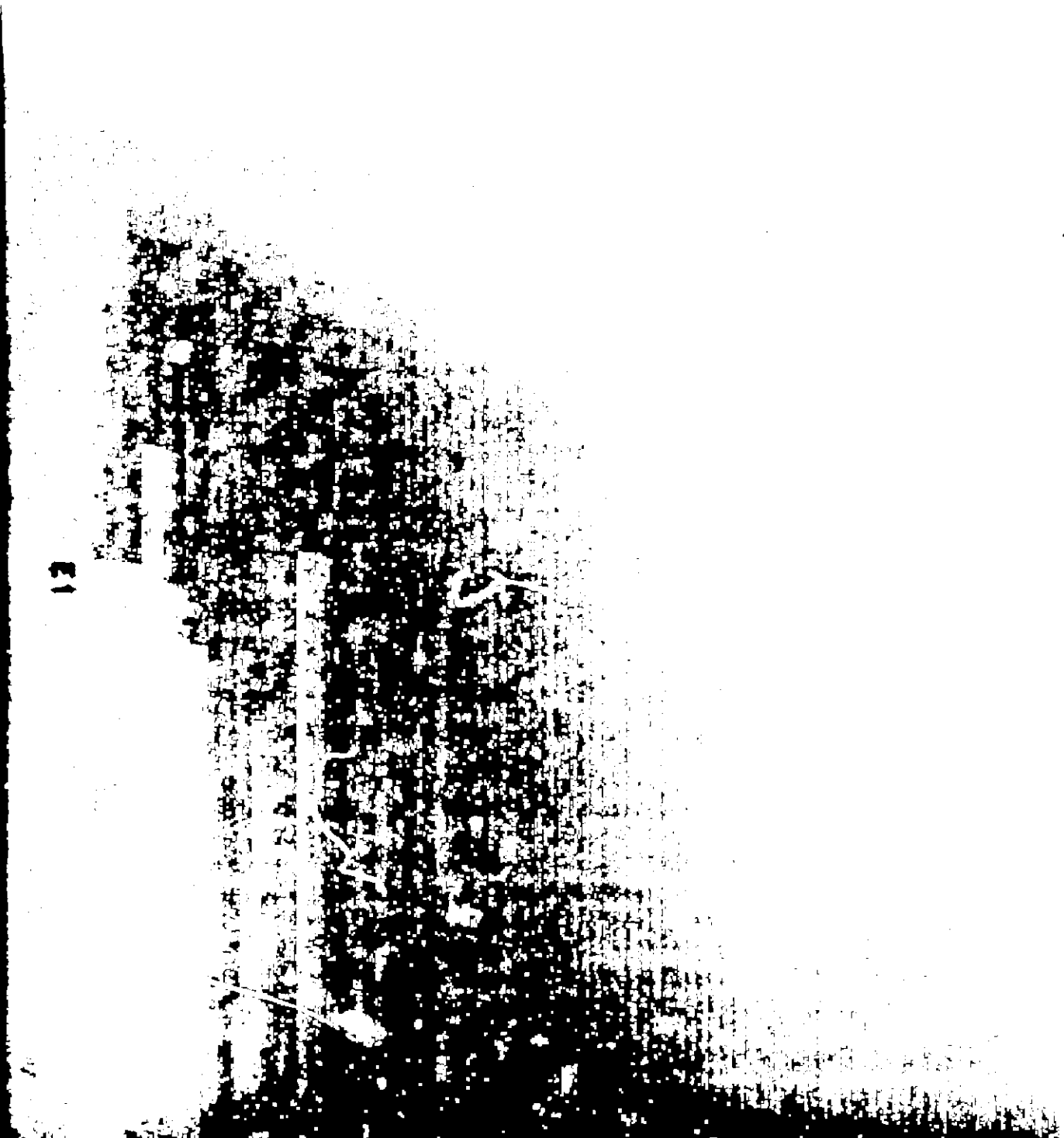
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EXCAVATIONS SOUTH OF BERNARD STREET, LEITH, 1980

N M McD HOLMES



BERNARD STREET, LEITH

N M McQ HOLMES

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TABLE 1: Fabric groups and types of pottery sherds from contexts within the 15th-century midden: Bernard St, Leith

FABRIC GROUP	1	2	3	4	5	6	7	Misc
Body	746	22	29	77	89	14	19	24
Cooking pot rim	5	-	1	-	-	-	-	-
Jug rim	16	-	-	1	-	-	-	-
Bowl rim	7	-	-	-	-	-	-	-
Dish rim	2	-	-	-	-	-	-	-
Rim	-	-	-	1	-	4	1	-
Strap handle	22	1	-	4	6	-	-	-
Rod handle	1	-	-	-	-	1	-	-
Cooking pot base angle	2	-	-	-	-	-	-	-
Jug base angle	18	-	-	3	2	-	-	-
Base angle	25	-	1	3	5	1	1	1
Foot	-	-	-	-	-	1	-	-
?	-	-	1	-	-	1	-	-
Total	844	23	32	89	102	22	21	25

TABLE 2: Fabric groups of pottery sherds from large post-midden assemblages: Bernard St, Leith

FABRIC GROUP	1	2	3	4	5	6	7	Misc
Floors and floor levelling of 17th-century building	99	11	-	19	15	3	2	2
Occupation layers above midden	91	18	13	17	3	3	5	c10
Contexts contemporary with construction of 17th-century building	55	2	7	-	3	1	1	3

All sherds are from the 15th-century midden unless otherwise stated.

Fabric Groups 1 and 2

- 1 Jug rim with face-mask: pale pink with external reddish heatskin and dark brown glaze.
- 2 Jug rim: off-white with dark brown external glaze.
- 3 Jug rim and strap handle: off-white with grey core: splash of green glaze and stacking scar on rim.
- 4 Tubular spout and rim from ?jug: off-white with brown internal glaze and some dark brown external glaze.
- 5 Jug rim: white with off-white surfaces.
- 6 Jug rim: off-white to pink-orange: external green-brown glaze.
- 7 Jug rim: off-white with light grey core: green glaze.
- 8 Jug rim and handle: off-white with pinkish interior and decayed external green glaze.
- 9 Jug rim: off-white with internal orange-pink heatskin and external green-brown glaze.
- 10 Jug rim: fine-textured fabric variant: grey-white with green external glaze.
- 11 Jug rim: grey-white to light grey with dark green external glaze.
- 12 Jug rim: grey-white with external light pink heatskin and brown-green glaze (from occupation deposit above midden, context 118).
- 13 Jug rim: grey with green external glaze (context 118, as no 12).
- 14 Jug rim: grey with green external glaze (context 118, as no 12).
- 15 Jug rim from untypically thin-walled vessel: pink with external ~~glaze~~

- external traces of dark brown glaze (from fill of foundation trench of 17th-century wall, context 120).
- 16 Ribbed strap-handle: off-white with dark grey core and dark green glaze.
- 17 Incised grooved strap-handle: off-white with green glaze.
- 18 Grooved strap-handle: off-white with grey core.
- 19 Grooved strap-handle: off-white to light grey with pink heathskin and green glaze.
- 20 Grooved strap-handle: light grey to pink-orange: green glaze.
- 21 Thumbed lower junction of strap-handle: light grey with green glaze.
- 22 Grooved strap-handle and body: off-white with light pink surfaces (context 120, as no 15).
- 23 Small strap-handle: off-white with brown-yellow glaze.
- 24 Strap-handle: light grey with green glaze.
- 25 Strap-handle: light grey with green glaze (context 118, as no 12).
- 26 Lower junction of strap-handle: off-white with light grey core (context 118, as no 12).
- 27 Small strap-handle: white with dark pink surfaces (from post-medieval occupation deposit, context 113).
- 28 Small strap-handle: off-white (context 113, as no 27).
- 29 Decorated body-herd: light grey to grey with green external glaze.
- 30 Decorated body-herd: light grey with green external glaze.
- 31 Decorated body-herd: off-white with light brown internal surface and yellow-green external glaze (context 118, as no 12).
- 32 Decorated body-herd: off-white with green-brown glaze (context 118, as no 12).
- 33 Decorated body-herd: white with pale brown external glaze, decayed to grey in places.

34/

- 34 Base and body: grey to off-white with dark green glaze.
- 35 Base and body: off-white with light green external glaze.
- 36 Base and body of globular jug: off-white with green external glaze.
- 37 Base and body: orange-white with grey core: green external glaze.
- 38 Base and body: orange-white with grey core.
- 39 ?Cooking pot rim with applied 'flap': off-white with internal brown glaze and slight blackening.
- 41 Complete section of small cooking pot with handle: off-white with splashed brown to black glaze.
- 42 ?Cooking pot rim: off-white with green internal and external glaze.
- 43 Basal angle of cooking pot: light pink interior, dark grey core and brown, blackened exterior (from floor of 17th-century building, context 112).
- 44 Basal angle of cooking pot: grey with green internal and external glaze.
- 45 Basal angle of cooking pot: off-white with pink heatskin and green external glaze (context 118, as no 12).
- 46 Splayed basal angle of cooking pot: off-white with slight blackening.
- 47 Cooking pot rim: white with grey core and some green external glaze: fabric is untypical, with large grits giving 'pimply' surfaces (from natural sand below midden in trial trench, context 18).
- 48 Bowl rim and body: light grey with green-yellow internal and external glaze.
- 49 Rim and body of spouted dish, probably dripping tray: grey-white to pink-white with green internal glaze and blackened exterior with patches of darker glaze.
- 50 Bowl rim and body: light grey with light brown, green-tinged, internal glaze and darker glaze patches on exterior.

51/

- 51 Rim and basal angle from shallow dish: off-white with grey core: green internal glaze: some blackening.
- 52 Rim and basal angle from shallow dish: off-white with pink to grey surfaces: green internal glaze.
- 53 Pot which contained coin hoard: grey-white with green external glaze.

#### Fabric Group 3

- 54 Jug rim: dark grey with pink external surface and green glaze (context 118, as no 12).
- 55 Splayed jug basal angle, thumbled round external circumference and at edge of basal surface: grey with green-brown glaze (context 120, as no 15).
- 56 Decorated body-sherd: dark grey to pink-orange with traces of yellow-green external glaze (context 118, as no 12).
- 57 Rim and body of ?cooking pot: dark grey with pink tinge: patches of green glaze.

#### Fabric Group 4

- 58 Jug rim: dark grey with pink surface and traces of green glaze (context 118, as no 12).
- 59 Jug rim: grey with dark brown glaze.
- 60 Lower junction of strap-handle: dark grey with green glaze.
- 61 Cooking pot rim: dirty pink exterior, grey core and green internal glaze (context 113, as no 27).
- 62 Base and body: dark grey with light green external glaze.
- 63 Base and body: dark grey with green external glaze.

#### Fabric Group 5

- 64 Jug rim and strap-handle: light orange with grey core and green external glaze.

65/



- 65 Jug rim: pink with grey core and green external glaze.
- 66 Jug rim: pink interior with grey core and green external glaze.
- 67 Jug rim: dark pink.
- 68 ?Jug rim: pink (context 112, as no 43).
- 69 Strap-handle with upper junction and fragment of neck: pink with grey core and green glaze.
- 70 Grooved rod-handle: dark grey with light green glaze (context 112, as no 43).

Miscellaneous

- 71 Jug rim: light buff with brown-green glaze.
- 72 Rim of ?jug: dark grey.
- 73 Decorated body-herd: off-white with lustrous mottled green internal and external glaze.
- 74 Rim and rod-handle from pitcher: grey: Low Countries grey-ware.

Fabric Group 6

- 75 Cooking pot rim: orange with brown external glaze splash and some blackening.
- 76 Pipkin foot: orange with brown internal glaze and some external blackening.
- 77 Thumbed basal angle from ?cooking pot: orange with brown internal glaze and external blackening.
- 78 Rim and rod-handle from cooking pot: orange with brown internal glaze.
- 79 Rim and rod-handle from cooking pot: orange with brown internal glaze.
- 80 Rod-handle with lower junction from cooking pot: orange with slight external blackening.

81/

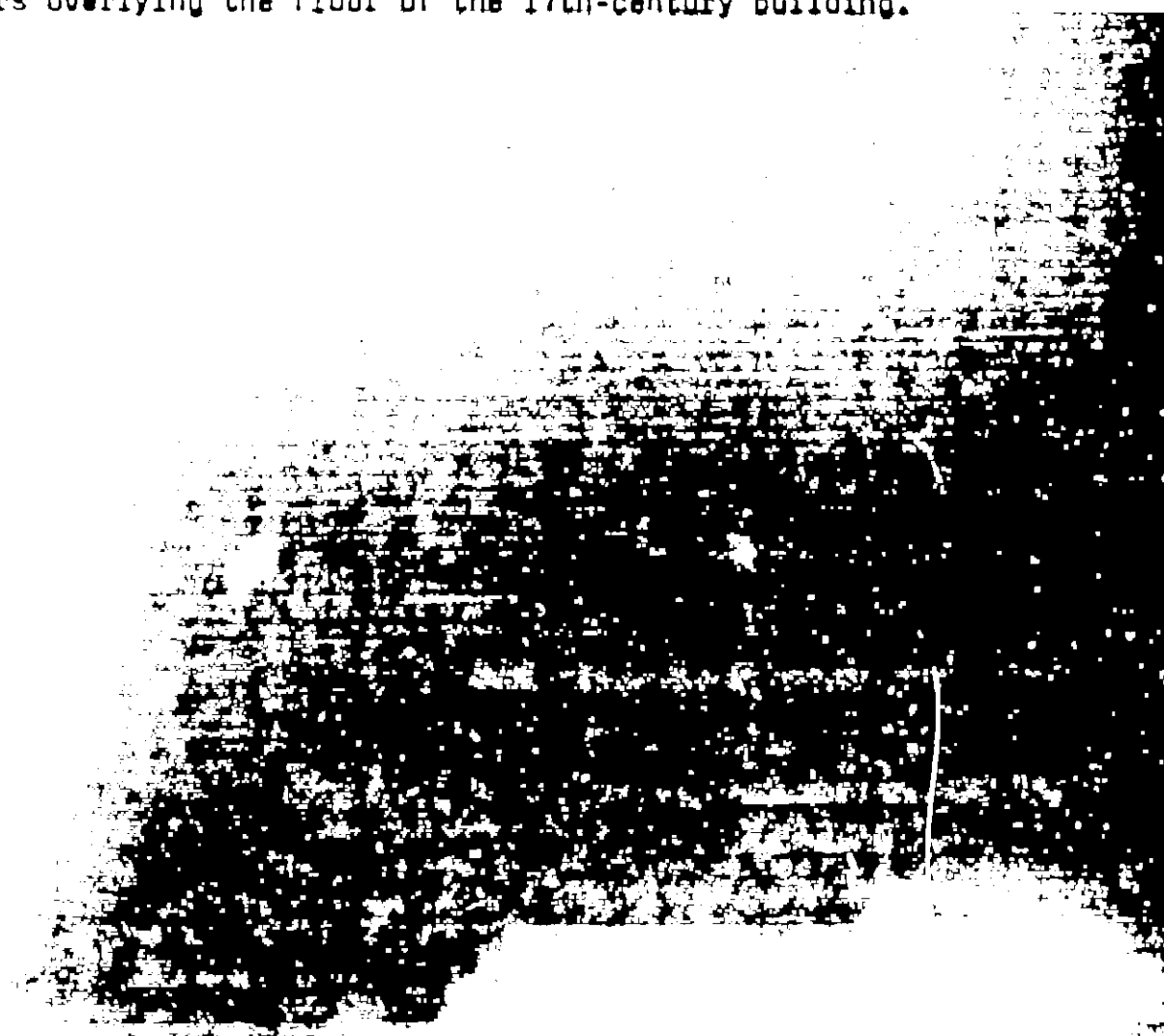
- 81 Strap-handle from ?skillet: orange with spots of brown glaze and blackening on lower surface near junction (context 118, as no 12).
- 82 Rim from large bowl: orange with brown internal glaze.
- 83 Basal angle from large bowl or cooking pot: orange with brown internal glaze and slight external blackening.

Fabric Group 7 - stonewares

- 84 Rim from Siegburg drinking cup: light grey with brown tinge (context 113, as no 27).
- 85 Rim from ?bottle: brown (from levelling layer below mortar layer from construction of 17th-century building, context 128).
- 86 Filled base from Siegburg drinking cup: light grey.
- 87 Decorated body-sherd: off-white with brown speckling.
- 88 Filled base of Siegburg jug: light grey-brown.
- 89 Base of small vessel (?Siegburg): grey with clear glaze.

## Building Materials

The various 15th-century midden layers yielded a total of 23 fragments of brick, none of them mortared. Of these, eight were of a yellowish-cream colour and the remainder in varying shades of orange-red. Those fragments from which original dimensions could be deduced were as follows: (yellowish-cream) 95 mm wide by 50 mm thick, 100 mm wide by 54 mm thick, 52 mm thick; (orange-red) 107 mm wide by 48 mm maximum thickness, 107 mm wide by 42 mm thick, 40 mm thick, 46 mm thick and 45 mm thick. The yellowish-cream bricks are of a coarse fabric, with no obvious inclusions, whereas the orange-red examples are of a finer, but micaceous, fabric, with inclusions of shell fragments. The midden also yielded three small pieces of daub and two pieces of red tile. Larger quantities of the latter occurred in the upper levels, especially in the demolition layers overlying the floor of the 17th-century building.



## Plain glazed floor tiles

Elizabeth Eames

Thirteen fragments of glazed tile were recovered, nine of them from midden deposits clearly associated with the land reclamation of the middle of the 15th century.

The remaining four pieces are from later or unstratified contexts, but there seems little doubt that these represent survivals and belong to the same group as the fragments from the midden deposits.

All the fragments are worn and abraded, and there are no complete examples, but one piece includes a complete edge of length 245 mm and is probably from a square tile. The fabric in all cases is somewhat underfired, pink to red in colour, and of a sandy texture with inclusions of haematite and mica in the clay. The bases of the tiles tend to be rough, but all the edges present are neatly cut, with a slight bevel. All the fragments bear a plain glaze, either yellow over a very thin white slip or speckled dark green directly over the body. The yellow examples show the characteristic marks of a wooden scraping implement, and the largest has brown patches where the slip was completely removed by over-zealous scraping. Some of the glaze has flaked off, suggesting biscuit firing before glazing, and two fragments display considerable wear on the surface, but one small piece has mint condition glaze. Two of the fragments include a corner with a nail-hole, indicating that a board with protruding nail-points was used to hold the tiles firm while they were trimmed. Only five fragments show the complete thickness of the tile, and of these one measures 27 mm, one c 35 mm, and three (including the largest, with 245 mm edge) 40 mm.

The evidence combines to suggest that all the fragments belong to a single group, probably imported from the Netherlands./

Netherlands. Since there was little evidence of building demolition contained within the midden deposits, and since none of the tile fragments has mortar adhering, it seems unlikely that they had ever formed part of a floor, and they may well have been rejects or surplus pieces from a consignment. They are therefore unlikely to have been made much before the date of deposition of the midden (c 1466-75). The tiles are comparable in many respects with a group found during the excavation of a site on the south side of the High Street, Edinburgh, in 1973 (Group II, dated c 1450) (Eames 1976).

Shells

D Heppell\*

The assemblage of mollusc shells from Bernard Street is exactly as might be expected from domestic and midden deposits in eastern Scotland, with no surprising occurrences or absences. The species which predominate are all edible, although some individual specimens are unlike to represent food remains.

A total of 25 layers within the 15th-century midden/reclamation deposits yielded shells of oyster, periwinkle, whelk and cockle, the species count being as follows:

<u>Ostrea edulis</u> (oyster)	130 valves
<u>Littorina littorea</u> (periwinkle)	86
<u>Buccinum undatum</u> (common whelk)	19
<u>Nucella lapillus</u> (dog-whelk)	13
<u>Cerastoderma edule</u> (cockle)	11 valves
<u>Littorina littoralis</u> (or <u>L. obtusata</u> ) (flat winkle)	1
<u>Mytilus edulis</u> (mussel)	1 fragment

All the oysters and whelks are likely to represent food remains. Juvenile whelks are often found on the shore, but adults tend to retreat into deeper water, and it is not certain how they were harvested in medieval times. The species is often found in modern crab and lobster pot which individuals enter in search of the bait, but there was no evidence from this site of the exploitation of crustacea in the 15th century. It is more probable that the whelks which found their way into the midden had been stranded on the beach after a storm and collected by hand. The total number of periwinkles includes juvenile specimens which/

\*Royal Scottish Museum, Edinburgh

which are too small to have been eaten and must have been gathered unintentionally along with the adults. Dog-whelks were probably eaten, although they are not particularly palatable. It is possible to extract a purple dye from this species, but the number of examples recovered does not suggest that they were being harvested for this purpose. Cockles ought to have been present in larger numbers if they had been gathered for food, but their shells were also ground down commonly for making lime mortar and chicken meal. The almost total absence of mussel shells is not surprising, as the species appears not to have been present in large numbers locally until a later date. The flat winkle is not usually considered edible.

The only post-midden layers from which shells were recovered in any quantity were those associated with the remains of the wooden floors in the 17th-century building. These yielded periwinkle, oyster, whelk and cockle:-

<u>Littorina littorea</u>	30
<u>Ostrea edulis</u>	22 valves
<u>Buccinum undatum</u>	9
<u>Cerastoderma edule</u>	5 valves
<u>Nucella lapillus</u>	4
<u>Patella vulgata</u> (limpet)	1
part of a crab claw	1

From the foundation trench cut through the midden for the construction of the 17th-century building came three noteworthy specimens. Two were of species not represented elsewhere on the site - Aequipecten opercularis (queen scallop), which is edible, and Helix aspersa (garden land-snail). The latter tends to be found in maritime contexts in Scotland as well as in gardens, and it can be eaten. A dead and worm-eaten shell of Nucella lapillus does not represent food remains. It was probably collected for use in mortar.

## Faunal Remains

Lin Barnettson\*

### Introduction

Compared to the rest of Britain, Scotland has relatively few medieval and post-medieval faunal assemblages, partly owing to soil conditions, which do not favour the preservation of bone, and partly because of limited excavation in the urban environment. The east of Scotland has fared better than most other areas, with large-scale excavation at centres such as Perth which is an on-going project which has already yielded valuable information about local economy and trade in the Middle Ages. Scotland is well served with documentary evidence, especially for the 16th to 18th centuries, but very little archaeo-zoological evidence for this period is available for study. In recent years, however, archaeologists have retrieved faunal material from both urban and rural contexts in southern and eastern Scotland. In rural areas total excavation is often possible, but urban excavation involves its own particular problems, with obvious restrictions as to how far the area under examination can be extended. Even so, any clues about livestock handling, meat consumption and utilization of by-products are useful in reconstructing past economies, and no matter how small the assemblages are from urban areas, the information they provide is of vital importance.

The excavation at Bernard Street, Leith, provided an opportunity to compare samples of domestic debris from, literally, two adjacent towns. Excavations in and around the High Street of Edinburgh, carried out over the past 12 years, have yielded a number of bone assemblages relating to the medieval and post-medieval occupation of the city (Chaplin & Barnettson 1975; 1976; 1980). Leith, the port of Edinburgh and a 'town' in its own right, had a special, if unenviable,/

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unenviable, relationship with the city as regards trade, and no doubt most of Edinburgh's salt-water fish would have been supplied from Leith. Although the Bernard Street excavation was able only to sample the midden and features within a limited area, the excellent state of bone preservation guaranteed that the faunal analysis would be worthwhile.

#### Material and Methods

Of some 55 stratified and three bank deposits yielding animal bones, 39 were constituent parts of the 15th-century midden. All the bones had been cleaned and stored in polythene bags after the excavation, and where fish-bones had been recognized, these had been bagged separately according to context. Midden material is generally well preserved but, paradoxically, is often in poor condition, having been broken up prior to, and after, deposition. The Leith collection was indeed in a highly fragmented state, but most of the material was easily identifiable to both bone and species. A few of the more delicate bones of the fish skeleton had actually survived virtually intact. As the individual deposits were small, no attempt was made to estimate minimum numbers. The range of species identified is given in tables 3 and 4. Measurements were taken whenever possible, using the conventions established by von den Driesch (1976). The resulting lists, together with detailed identification of all the fish bones, are contained in the site archive and copies may be obtained from the writer on request. As many contexts contained only one or two bone fragments, detailed descriptions of only the larger deposits are given below, followed by a discussion of the assemblage as a whole.

#### Summaries: midden contexts (table 3)

126 (extensive midden spread)/

126 (extensive midden spread)

This deposit typified the midden, showing a wide range of domestic species, fish and birds. Butchering marks on some of the bones confirmed that this was domestic debris, but virtually all the bones of the skeleton were present for both cattle and sheep. Presumably residues from both houses and slaughter-yards would have accumulated here. One cattle thoracic vertebra had obviously been sliced through, usually signifying that a carcass had been split into two sides of beef, and the body of this particular vertebra had then been cut into, presumably when detaching the meat. The head (which articulates with the backbone) of a pig rib had been sliced off, and one sheep rib showed marks of cutting. Thin knife cuts were also visible just below the proximal end of a sheep metatarsal (cannon-bone), showing where the butcher had slipped the knife into the hock to sever the lower leg bones. These have little meat value and are normally discarded as waste. The bird bones all belonged to domestic fowl, and one femur exhibited medullary thickening, which is sometimes indicative of laying hens. Eggshells are derived from the calcium deposits accumulated in the bird's long bones. As this was a midden, it was not surprising to find remains of horse, but it unlikely that the animal was eaten. One piece of thoracic vertebra identified as horse showed slight signs of exostosis on the vertebral body, probably indicative of old age. Presumably the horse carcass was utilized for by-products.

133 (rough surface within midden)

Most of the cattle bones were in the form of small scraps of long bones, pieces of rib and vertebra, and some cranial fragments had also survived. One of the latter, from the frontal region of the skull, was broken in such a way as to suggest possible pole-axing of the beast. This was the commonest/

commonest method employed of slaughtering livestock in the Middle Ages and is still used in some countries today. A cattle hyoid bone showed signs of having been cut, indicative of removal of the tongue. Butchering cuts were also noted on several sheep bones. Two sheep mandibles belonging to animals aged about four years at death/kill were recovered, one of which showed signs of malocclusion with abnormal tooth wear on the first molar. Of especial interest were the pig remains. One maxilla fragment exhibited tooth crowding, commonly noted in domestic pigs from archaeological contexts. In this case the second premolar had grown in slightly askew because of crowding from the often absent first premolar. Pigs suffer badly from arthropathic conditions, and one pig phalanx did show signs of exostosis and malformation at the proximal end. The distal end had signs of 'lipping', presumably in response to the increased pressure on that joint resulting from the diseased proximal end.

136 (sand accumulation with midden material)

Many cattle bones in this deposit had been cut by a knife and chopper, and one mandible had been sliced through in the region anterior to the premolars. Mandibles have little meat value and are normally discarded after the cheek meat has been removed. Once again limb bones of horse are present in the sample, and in this instance the innominate (pelvis) bone shows clear signs of having been split by a chopping implement. One cattle innominate fragment displayed a small oval foramen just below the rim of the acetabulum and may be the result of an injury or possibly some infection. There were minor lesions on the inner surface of the acetabulum near the site of the foramen, but there was no sign of exostosis.

154 (levelling for sand and pebble surface)

The midden composition, already established by the findings in the preceding deposit, was repeated here. Most of the

the cattle bones had obviously been cut or chopped. Of note was one pig rib showing signs of a healed fracture.

161 (midden layer)

Among this assemblage were two horse phalanges and a fragment of distal metatarsal which could be re-articulated (ie part of a horse's foot minus the hoof). Again, many of the bones had been cut, and also present was a fragment of sheep cranium bearing the base of a horn-core. Several bones had been gnawed by dogs and, indeed, bones of dogs themselves were found in several midden deposits.

162 (midden layer)

Part of the cranium of a ram, with the base of the left horn-core in situ, was identified and, although the core had broken off near its base, it was possible to measure the base circumference. Many of these bones were different in colour and texture, suggesting long periods of exposure to the elements and differing depositional conditions. A bovine first phalanx exhibited several signs characteristic of an arthropathic condition grooving and burnishing of the articular surface.

169 (midden layer)

Several bovine vertebrae had been sliced through, indicative of splitting into two sides of beef, and several pig bones, including a mandible, had been cut. One sheep mandible had no second premolar a fairly uncommon condition but possibly congenital. Signs of dog-gnawing appeared on many bones.

172 (shell midden within midden deposit)

A wide range of species was identified here, and signs of butchery were noted on the cattle bones only. Evidence of detachment of the head of the beast could be seen on the occipital condyles of a bovine cranium fragment.

Summaries: non-midden contexts (table 4)

111 and 112 (remains of floor of 17th-century building)

The composition of these deposits differed little from those of the midden, and the same wide range of species was present. Signs of butchery were detectable only on cattle bones, but there was considerable evidence of gnawing by both dogs and rodents. One cattle rib had obviously been broken at a point a couple of inches below the head, but the fracture had healed successfully. There were several small lesions on the articular surfaces (proximal and distal) of a bovine first phalanx. Although it is difficult to be certain, these had the appearance of some nutritional disorder.

118 (post-medieval occupation deposit)

This deposit was in all respects similar to the preceding deposits, and of interest was the occurrence of lesions, of exactly the same type as those noted above, on the articular surface of a bovine first phalanx.

#### Discussion

Although the Leith assemblage was rather fragmented, several interesting points emerged from the overall analysis. Firstly, the high incidence of butchering marks on cattle bones and the possible predominance (for it is almost impossible to quantify in such a sample) of waste bones seem to point to carcass preparation rather than consumption. Sheep and cattle bones were present in roughly similar quantities throughout the Leith deposits, but the former were generally fairly intact compared to the highly fragmented cattle bones. Admittedly, the size of the carcass usually dictates the amount of butchering necessary, large carcasses requiring more cuts in order to reduce them to reasonably sized pieces.

Secondly, although it is difficult to assess the relative proportions, pig does appear to be better represented here than in any of the Edinburgh assemblages. Differential preservation of pig bones has been noted at other sites and is due to the composition of the bones themselves, although the different preparations used in preserving pork (salting, pickling, etc) may also be a contributory factor. For whatever reason, surprisingly few pig bones were found among the medieval and post-medieval faunal assemblages so far recovered from Edinburgh. It is possible that pigs were 'banned' from densely populated areas, with the result that pork had to be imported into the city, either in the form of live animals, or, for example, as smoked hams. Pigs which are not securely penned can wreak great havoc in a built-up area, but Leith may have had more open spaces (even midden areas) where pigs could be kept and slaughtered for fresh pork.

Thirdly, the occurrence of two healed fractures on rib bones among such a small sample is perhaps rather unusual. Injuries of this kind are not uncommon among livestock and do not necessarily imply mis-handling of the animals. If cattle are penned too closely together, jostling can result in rib fractures. The cattle rib in question, however, did appear to have been broken rather near the dorsal end, possibly indicating a blow from a goad, although this is purely speculative. Similarly, the pig rib could easily have been broken in the same manner.

Apart from one dental anomaly (the mandible in context 133), the sheep showed no signs of disease or ill-health. Estimates of withers' heights were derived from three intact radii, and these placed the animals at the lower end of the size range for medieval sheep : 516, 553, 575 mm. (A modern Soay sheep stands roughly 50 cm at the shoulder.)

Age estimates of cattle, sheep and pigs, based on epiphyseal fusion of the long bones and eruption of the teeth, revealed a wide range of ages from neo-nate (or foetal) to c 4 or 5 years. None of the bones appeared to belong to old/

old animals except for a few of the horse bones.

Equid remains were recovered from 14 different contexts, and it was possible to estimate the withers' height of one of these animals as 1354 mm. This falls into the category of small to average-sized, and although stature could not be assessed for any of the other horses, most of them seemed to belong to this category.

The other domestic species were dog and cat, both of which probably acted as scavengers to judge from the amount of evidence from the assemblages as a whole of the gnawing of bones by carnivores.

The bird bones were predominantly of domestic fowl, although goose and herring gull were also present.

The fish bones were predominantly of cod, although ling, haddock and possibly plaice were also present. Delicate bones, such as the operculum, had survived, but it was not always possible to identify these fragments to species. Most of the skeletal elements were from the skull region, which suggests disposal of the non-edible fish-heads. Presumably fish were gutted at the harbour before being sold at the market, and it is possible that heads were removed at this stage. Cod and ling have been identified at the 18th/17th-century harbour site at Eyemouth, on the south-east coast of Scotland (Dixon, *pers comm* and *forthcoming*). Both are popular food fish today and can be caught off the coast in a day's fishing. It is difficult to estimate size of fish from fragmentary remains, but the Leith specimens all appeared to be in the greater than 2-3 kg range.

The haddock and flatfish were present in very small numbers and the bones were from small individuals, suggesting perhaps that these fish were sold entire, whereas the bigger fish, in this case cod and ling, had the heavy, inedible parts removed prior to selling.

The/

The marketing of fish in this period is of great interest. For example, remains of haddock have been recovered from the 16th/17th-century deposits at Smailholm Tower, in the heart of Roxburghshire, and this points to a coast-inland trade, probably in smoked or salted fish (Good & Tabraham, forthcoming).



TABLE 3: Range of species in midden contexts

Deposit	Cattle	Sheep	Pig	Horse	Dog	Other	Bird	Fish
12/13	x	x						
125	x	x						
126	x	x	x	x		Rabbit	x	x
127		x						x
131	x	x						
132	x	x	x				x	x
133	x	x	x			Cat	x	x
134	x	x					x	
135	x	x	x			Rabbit		x
136	x	x	x	x	x	Cat	x	x
138	x	x						
139	x	x	x					x
142	x	x		x		Rabbit	x	x
145	x	x						x
146								x
147	x	x	x				x	x
148			x					
151		x						
152	x	x	x	x			x	x
153	x	x	x	x				
154	x	x	x	x			x	
155	x	x						
156	x	x	x	x		Rodent	x	x
160	x	x	x					x
161	x	x	x	x			x	x
162	x	x	x	x				x
163	x	x						x
164								x
167	x	x	x			Frog	x	
169	x	x	x	x			x	x
170	x	x	x					x
171	x							
172	x	x	x	x	x		x	x
175	x	x				Cat		
178	x	x						
Baulk	x	x						

x = present

TABLE 4: Range of species in non-midden contexts

Deposit	Cattle	Sheep	Pig	Horse	Dog	Other	Bird	Fish
102		x						
104	x	x					x	
108	x	x				Rabbit	x	
111	x	x	x	x		Rabbit		x
112	x	x	x		x		x	x
113	x	x	x	x		Rabbit Cat	x	x
116		x						
118	x	x	x	x			x	x
120a+b	x	x					x	x
120b	x	x						
120c		x						
120d	x							
121	x	x						
122a	x							
122b		x						
128	x	x	x				x	x
144	x	x	x					
165	x	x	x	x				
1	x	x				Rabbit	x	x

x = present