

## APPENDIX 10 ANIMAL BONE

*Jennifer Thoms & Catherine Smith***A.10.1 Introduction**

Over 2,000 animal bones were recovered, both from the deposits under the burials and the earlier surfaces and from the burial contexts themselves. Full details can be found in the archive report in the National Record of the Historic Environment of Scotland.

**A.10.2 Hand-excavated material**

Sheep/goat was the dominant large mammal species, with cattle, pig and horse also represented. The smaller domesticates included cat and dog. Rabbit remains were minimal and probably intrusive. Bird bone included chicken. Butchery marks were recorded on sheep/goat, cattle, bird, chicken and large mammal fragments.

A minimum of 13 sheep/goat was present, most commonly in grave soil and immediately underlying deposits, but also between the medieval cobble surfaces. Epiphyseal fusion and tooth wear analysis indicated that with the exception of two individuals that died between 6 and 12 months, the sheep reached maturity, though there was no evidence that they survived beyond four years. The younger sheep were probably culled as surplus males or to satisfy demand for lamb meat; the older animals had attained their optimum size. This suggests the animals were bred primarily for their meat as opposed to being part of a dairy or wool flock. The presence of holes on the occlusal surface of several sheep teeth may have been caused by grazing on a sandy soil or being fed on gritty fodder.

The distal ends of the humerus, mandibles, scapula, radius and ulna were the dominant elements recovered. The majority of these bones are traditionally viewed as high-value meat cuts. It is most likely that these animals were slaughtered in a separate location and the meat was redistributed to this area. Without exception butchery marks demonstrated no particular evidence of skill, suggesting they occurred in a domestic situation.

At least three cows were represented in deposits ranging from the Meal Market Surface (Context 110) to medieval buried soils (Context 419). Epiphyseal

fusion indicated that at least one animal died between 16 and 20 months; the remaining animals reached maturity. In contrast to the sheep/goat, the cattle assemblage commonly comprised low-value meat bones. In late medieval Scotland, mutton and lamb were typically more affordable than beef or pork, which may explain why the cow elements were of a poorer quality. Several of these low-value meat bones were charred and burnt, implying that they were cooked. The cow bones also had the highest proportion of butchery marks; most of these appear to have been made by unskilled individuals, apart from probable cow vertebrae, which were cleanly chopped in half with a sharp machete-like blade. As with the butchered sheep elements, the professional butcher was apparently only halving or quartering the animal with the final butchery completed in a domestic setting.

Pig remains consisted of six bones from grave soil and immediately underlying deposits, representing at least two animals. Tooth eruption indicated that both died between 7 and 13 months. This is typical of a late medieval assemblage where pigs were slaughtered as soon as they achieved a reasonable size for optimum meat production.

The volume of recovered horse, dog and cat remains was negligible. The horse consisted of one complete metatarsal. The dog and cat remains were concentrated in particular contexts, including the burial ground (Context 170) and the immediately underlying deposits, which suggests that complete skeletons were deposited – at least two individuals from each species were present. These animals were probably pets or scavengers, disposed of with domestic refuse.

Bird bones, including chicken, showed evidence of butchery marks; those butchering and skinning these joints of meat lacked basic training in butchery techniques as the skill required is minimal.

**A.10.3 Material from sample processing**

A small assemblage was recovered from bulk samples recovered from burial and non-burial contexts, consisting of small incomplete fragments of bones and teeth from large domesticated mammals, and small, more complete bones from small mammals and birds.

Present in both burial and non-burial contexts were broken tooth fragments of cattle and sheep/

goats. Smaller mammals in non-burial contexts were field mouse (*Apodemus sylvaticus*; Context 435) and possible rat (*Rattus* sp; Context 419). Rat bones were more common in the burial contexts. A metapodial fragment associated with Skeleton 63 probably came from a rabbit.

Birds were present but were not identifiable to species level. However, a fragmentary distal tarso-metatarsus from a passeriform species possibly came from a small jackdaw (*Corvus monedula*; Context 432) or a related species. Other bird bones were ribs and foot phalanges from small species.

#### A.10.4 Conclusion

Most of the animal remains probably resulted from domestic refuse from the High Street above. The presence of burnt bone and unskilled butchery marks indicated that these bones were food and cooking waste. The majority of the large domesticated animals were killed as they reached their optimum size to satisfy the demand for meat.

Rabbit bone may have come from animals that burrowed into the site. Wild birds, such as jackdaws, were also present. The small mammal fauna included field mouse, which may invade human habitation in winter. Plentiful rat bones indicated the presence of a food supply, possibly the human remains themselves. Unfortunately it was not possible to determine whether the bones came from the black rat (*Rattus rattus*), which was present in medieval Scotland, or the brown rat (*Rattus norvegicus*), which did not arrive until the mid-18th century (Kitchener 1998: 79).

The animal bone experienced significant post-depositional activity. The presence of disarticulated human remains in all contexts was probably the result of disturbance by inhumation activity. There was also evidence of gnawing attributable to small mammals such as dog, cat and rodent on the animal bone (though not the articulated human bone); this activity was probably responsible for removing specific bones from the animal bone assemblage.