Proc Soc Antiq Scot, 128 (1998), 859–885

Dogs, cats and horses in the Scottish medieval town

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ABSTRACT

Scottish medieval urban sites excavated over the last two decades have provided abundant evidence of the animals which were exploited by human populations. This paper is concerned with three domesticated species — the dog, cat and horse — and reviews the nature of their relationships with town dwellers. The majority of the excavations reviewed here were funded either wholly or in part by Historic Scotland, in conjunction with the Manpower Services Commission, and research for this paper was also funded by Historic Scotland.

INTRODUCTION

Over the last two decades, many town sites in Scotland have been the subject of rescue excavations, in advance of building developments. Such excavations have produced a wealth of evidence relating to the development of urban centres in the medieval period. Where waterlogging has occurred, for example in Perth, which is still periodically affected by local flooding, preservation of organic remains can be particularly good (see, for example, Bowler, Cox & Smith 1995). These remains, of both animal and plant origin, can provide a rich source of information as to the diet and living conditions of the medieval urban population. Analysis of animal bone assemblages can reveal not only evidence about the beasts themselves, but also about the humans who exploited and lived alongside them. Hodgson (1983) has reviewed and summarized the evidence for domestic animals at sites on the eastern Scottish seaboard; this paper focuses on, and updates, the evidence for, dogs, cats and horses, three species long associated with man, and their place in the Scottish medieval town.

THE SITES

The sites which have produced the most well-preserved and fruitful faunal assemblages, to date, are generally located in Scotland's more easterly burghs, such as Perth, Dundee, St Andrews, Aberdeen, Elgin and Inverness, although, in the west, Ayr has also been the subject of archaeological investigation (illus 1). The character of the sites includes prestige frontage properties (eg 75–77 High Street in Perth, excavated in 1975–7 and hereafter referred to as PHSE), industrial backlands (Meal Vennel in Perth), and monastic foundations (Carmelite friaries of Aberdeen and Perth). A single castle site, Ladyhill, now enclosed by the modern town of Elgin, also deserves inclusion in this study, since its location places it close to, if not within, the medieval

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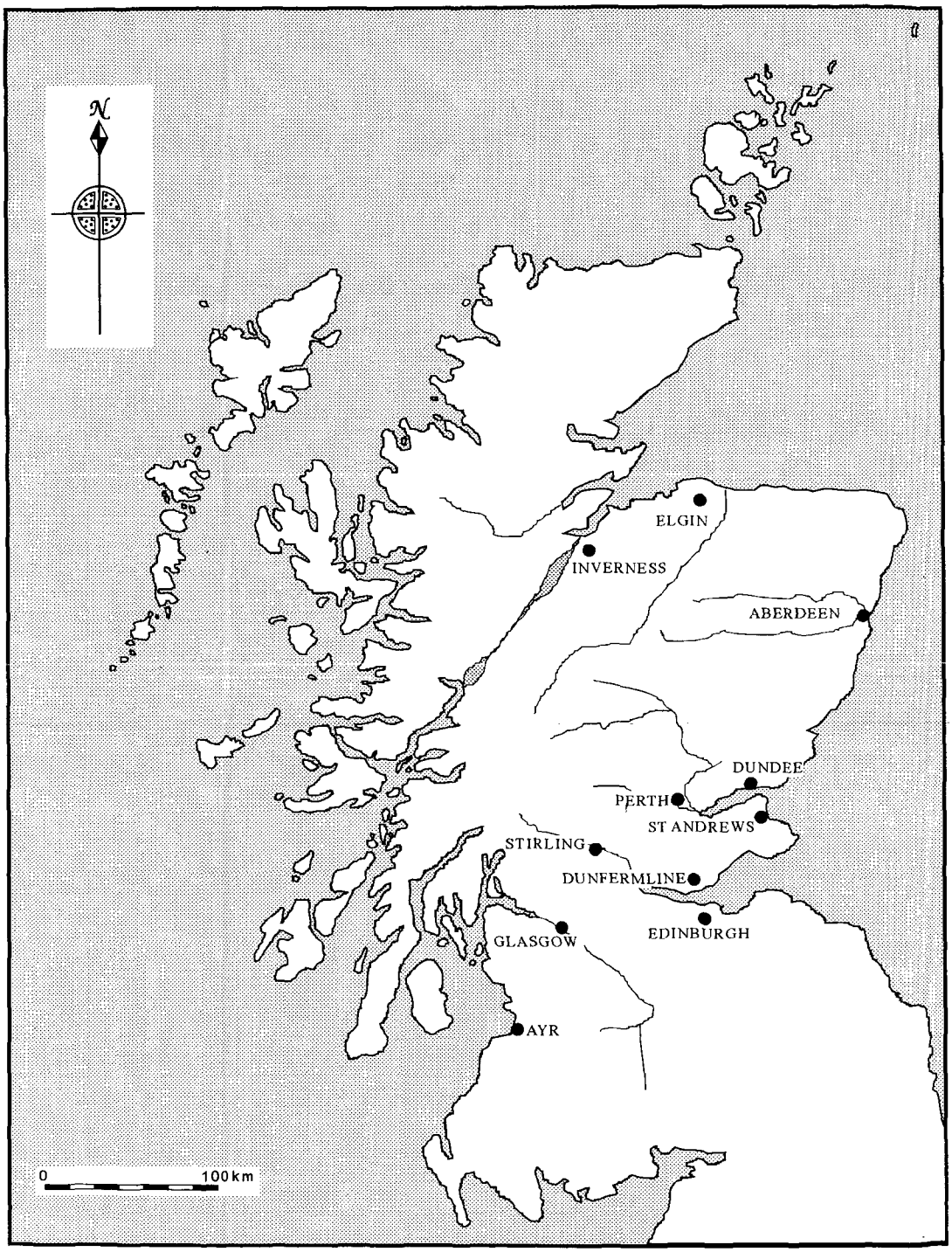


ILLUS 1 Location map of Scotland, showing burghs where principal excavations of medieval sites have taken place. *(Based on the Ordnance Survey map © Crown copyright)*

burgh. Because Ladyhill provides evidence of medieval hunting it is also a useful contrast to the burgh sites where remains of game animals are seldom seen.

The sites and appropriate references are listed in Table 1. Dates chosen for this review fall within the 12th to 16th centuries; site phases which are later than the 16th century have been omitted.

SPECIES IDENTIFICATION

It would be easy to assume that all the canine bones come from domesticated species, but of course there is the possibility of confusing post-cranial bones of wolves with those of large dogs. Wolves (*Canis lupus*) were driven to extinction in northern Scotland by the mid 18th century (Perry 1978, 55–6), but were certainly found throughout the country before that time, as numerous documentary records and evidence of place-names show. Aybes & Yalden (1995, 212–13) list 69 Scottish place-names with a 'wolf' element, both Gaelic and English, from the Borders to the Highlands. Gracile dog bones may also be confused with those of fox (*Vulpes vulpes*). However, no fox skulls, which are diagnostic of the species, have been found at any of the sites. Long bones which were identified in the original site reports as 'dog/fox' have therefore been omitted here.

Similarly, one cannot always be sure that all feline bones found in towns are from domestic cats, since wild cat skins with the feet attached may have been imported into the burghs. The native Scottish wild cat (*Felis silvestris*), while generally larger than its domestic relative (*Felis catus*), is probably morphologically indistinguishable from it, at least as regards the skeleton (S Davis, pers comm). Features in the skull have been claimed to differ, but it has been noted that 'skulls of domestic cats show great variation in form and size, and there is not a single feature in the skull of *F silvestris* which cannot be found in certain skulls of the Domestic Cat' (Kirk 1935). Besides, as cat skulls are relatively delicate, they do not always survive well under burial conditions. Since all the cat skulls and long bones reviewed were of a relatively small size it was decided to treat them as the domestic species (*Felis catus*).

As for equids, while it is believed that all the specimens seen were from horses (*Equus caballus*), there is a possibility of previous archaeozoological workers having failed to recognize remains of donkeys (*Equus asinus*). Perhaps for this reason, reports of equids other than horses are rare in Britain, although mules (crosses between horses and donkeys) have been reported from Roman London (Armitage & Chapman 1979). The Romans are thought to be responsible for the introduction of the donkey and the mule throughout Europe (Clutton-Brock 1987, 96). A donkey tooth has been tentatively identified from Burgess Street, Leith, although this is of recent date (18th- or 19th-century date) (D Henderson, pers comm).

RELATIVE ABUNDANCE OF DOGS, CATS AND HORSES

All of the animal bone assemblages from sites considered in this review contain relatively large quantities of the bones of cattle and sheep, mainly because these were the animals on which the Scottish medieval export economy of hides, wool and woolfells was based. This heavy reliance on both cattle and sheep results in their predominance in medieval faunal assemblages, to the relative exclusion of other species. Thus, although the remains of dogs, cats and horses are retrieved from urban sites where bones are preserved, almost without fail, their numbers are fairly small with respect to those of the ubiquitous hide and wool producers; for a recent comparison of the frequencies of food-forming mammals, see Smith 1995:b.

In Table 1, the numbers of bones from dogs, cats and horses are shown alongside the 'minimum numbers of individuals' calculated from the most frequent bone from each species, at each site. These 'minimum numbers' are undoubtedly an underestimate, but have the advantage of indicating relative abundance. For example, at 12–18 New Bridge Street, Ayr, 95 dog bones represented only two individuals, while by contrast, at PHSE, 218 dog bones (just over twice the number from Ayr) represented 17 individuals. This is because the majority of the bones at 12–18 New Bridge Street came from a single canine skeleton, while most of those from PHSE represented many single, stray bones not associated with articulated skeletons.

The pattern of distribution seems to show that the bones of dogs were more commonly recovered than those of cats, with the notable exception of the two Perth High Street sites. This may be because dogs were genuinely more numerous than cats, or because cat bones, being small, may have been missed during excavation.

Bones of horses, however, are as large as those of cattle and should therefore show less bias in recovery than bones of cats and small dogs. It thus appears that horses may have been relatively uncommon in the medieval burghs, or at least that they rarely died there. Perhaps surprisingly, comparison with the deserted medieval burgh site of Rattray in Aberdeenshire (Hamilton-Dyer *et al* 1993) indicates that here, also, horses were scarce.

TYPES OF DOGS: HUNDIS, MESSANS AND TOWNE TYKIS

Both Harcourt (1974) and Clutton-Brock (1987), the former an authority on early domestic dogs and the latter on domesticated mammals, have cautioned against identifying the remains of animals from archaeological sites with distinct, named, modern breeds. Harcourt (1974, 173) argued that the modern concept of 'breed' relies on such characteristics as colour and nature of the coat, carriage of ears and tail and even the temperament of the animals. It is notable that there is a resistance within the sheepdog fraternity to following such standards of appearance, preferring the attributes of the dogs which make them valuable working animals (Combe 1987).

'Types', based on the evidence of size and head shape provided by the bones themselves, are therefore described in archaeological literature. Where semi-complete skeletons have been preserved, shoulder heights can be estimated from the lengths of the limb bones with reasonable accuracy. A further method has also been devised in which the bones of the feet, the metapodials, are used to estimate canine shoulder height (Clark, K M 1995). However, results do not always agree with those obtained by Harcourt's method for the same skeleton. As the margin of error for the long bones appears to be less than that for the metapodials, shoulder heights based on the former method are shown (Table 2).

The smallest dog was found at PHSE. This animal was only 23.4 cm (or 9.2 in) high. Another notably small individual, found at Castle Street in Inverness, was estimated to be about 26.5 cm (10.4 in) high. The three tallest individuals were found at Meal Vennel in Perth, Ladyhill in Elgin, and 45–75 Gallowgate in Aberdeen, standing at 63.7 cm, 62.9 cm and 61.5 cm respectively. But the majority of the dogs fell into a middle range, standing between about 30 cm and 50 cm and averaging about 43 cm. To give an impression of what this means in the live animal, the smallest dog at PHSE was about the same size as a modern Cairn terrier, and the middle range perhaps about the same size as a Border collie, based on heights quoted in modern breed descriptions. The tallest archaeological specimens were not, surprisingly, as large as might be expected, and were certainly much shorter than, say, the modern greyhound breed, which stands at between 71 and 76 cm.

TABLE 1

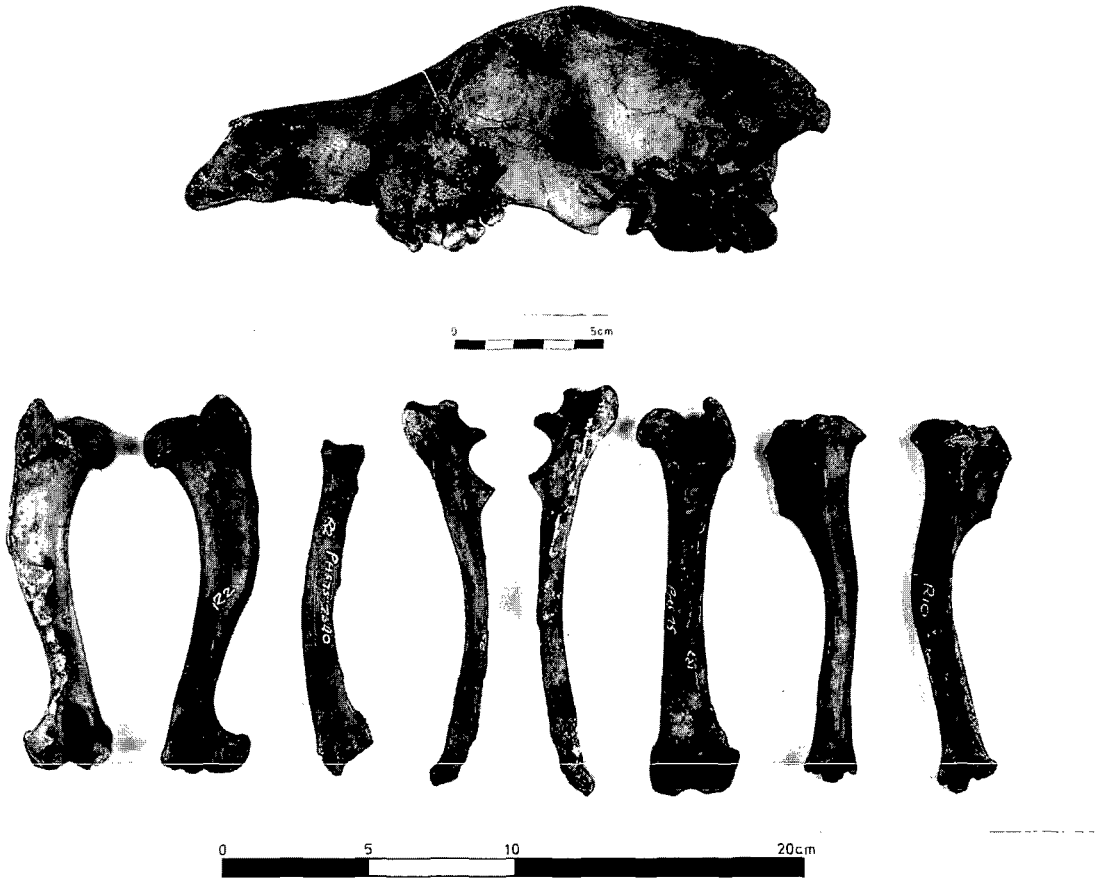
Numbers of bones and minimum numbers of dogs, cats and horses (MNI) at Scottish urban sites (12th–16th centuries)

Site	Date	DOG n	DOG MNI	CAT n	CAT MNI	HORSE n	HORSE MNI
Perth							
PHSE1	12th–14th cent	218	17	413	31	200	11
Canal Street I[2]	14th–15th cent	27	2	1	1	19	3
Canal Street II[3]	12th–15th cent	7	1	17	1	14	1
Canal Street III[4]	13th–15th cent	9	1	28	3	18	1
St Ann's Lane[5]	13th–14th cent	20	3	26	3	6	1
Kirk Close[3]	13th–15th cent	22	2	23	2	8	3
Methven Street[3]	medieval	1	1				
Mill Street[6]	12th–16th cent	47	5	4	1	35	5
Kinnoull Street[6]	medieval–post-medieval	3	1			1	1
Whitefriars (Carmelite Friary)[7]	medieval–post-medieval	4	1	2	1	7	1
80–86 High Street[8]	12th–14th cent	8	2	131	7	4	1
Scott Street[9]	14th–15th cent	3	1	1	1	13	1
Meal Vennel[9]	14th–15th cent	27	3	13	3	27	3
Meal Vennel[9]	15th–16th cent	95	5	17	2	54	2
Aberdeen							
Queen Street[10]	13th–14th cent	15	2	11	1	2	1
42 St Paul Street[10]	12th–14th cent	11	2	28	3	23	3
45–47 Gallowgate[11]	13th–14th cent	2	1			3	1
45–75 Gallowgate[12]	13th–16th cent	32	3	38	2	16	3
Gallowgate Middle School[12]	medieval–post-medieval	4	1	3	2	9	2
Castle Street[12] Areas A,B,C	13th/14th–15th cent	28	1	10	2	4	1
Castle Street Area H[12]	13th/14th–15th cent	1	1	8	1	5	1
16–18 Netherkirkgate[12]	medieval	21	2	49	4	5	1
30–46 Upperkirkgate[12]	12th cent and later	1	N/A	8	N/A	9	N/A
Carmelite Friary[13]	13th/14th–15th cent	1	1	6		4	
Elgin							
High Street (HS 77)[14]	13th–14th/15th cent	14	3	10	3	8	2
Lazarus Lane[14]	16th cent	111	7	34	3	7	1
Lossie Wynd[14]	15th–16th cent	4	1			6	1
Ladyhill[15]	12th–15th cent	36	1			8	1
Inverness							
Castle Street[16]	13th–15th cent	35	3	7	2	31	2
Inverkeithing							
5/7 Townhall Street[17]	13th–15th cent	7	1	2	1	14	2
Dundee							
106–110 Nethergate[18]	13th–16th cent	32	3	2	1	3	1
Stirling							
Broad Street (1978)[19]	medieval	41	3			10	1
Dunfermline							
Abbot House[20]	12th/13th–15th/16th cent	92	3	94	5	35	2
St Andrews							
St Nicholas Farm[21]	medieval–post medieval	24	3	3	1	34	2
120–4 Market Street[22]	medieval	24	1				
134 Market Street[22]	12th–13th cent	3	1	2	1	4	1
Cinema House, North Street[22]	12th/13th–14th cent	2	1	4	1	8	1
Ayr							
Harbour Street (6C)[23]	13th/14th–15th cent	10	1	1	1	1	1
12–18 New Bridge Street[23]	medieval–post medieval	95	2	2	1	14	1

Notes Only those site phases dating up to, and including, the 16th century have been included in this table. Later phases from these sites have in some cases been omitted. Where the site has been described only as medieval, this may be taken to mean the period from the 12th to the 15th centuries.

Key
n number of bones
MNI minimum number of individuals
N/A not available

Sources: 1 Hodgson *et al* (forthcoming); 2 Hodgson & Jones (1984); 3 Smith & Hodgson (1987); 4 Smith (1996: b); 5 Hodgson & Jones (1982: a); 6 Smith (1995: b); 7 Smith (1989); 8 Smith (1997: a); 9 Smith (1996: c); 10 Hodgson & Jones (1982: b); 11 Smith & Hodgson (1984); 12 Smith & McCormick (forthcoming); 13 Smith (forthcoming: a); 14 Hodgson & Jones (unpublished); 15 Smith (in Hall *et al*, this vol); 16 Hodgson & Smith (1982); 17 Hodgson & Smith (1983); 18 Smith (unpublished: a); 19 Smith (unpublished: b); 20 Smith (1996: a); 21 Smith (1995: a); 22 Smith (1997: b); 23 Smith (forthcoming: a)



ILLUS 2 Skull and long bones of the bow-legged dog from the excavation at 75–7 High Street in Perth (PHSE)

In general, the canine long bones were slim with respect to their length. However, one animal from PHSE was noticeably stouter limbed, and probably slightly bow-legged. The impression gained was of a far more 'butch' individual than the typically fine-limbed dog which appears to be the medieval norm (illus 2). This animal was about 39 cm high. (Despite the injunction to avoid relating the bones to modern breeds, taken alongside the shape of the skull, the temptation to compare this animal with a bull terrier is irresistible.) Only three other bow-legged individuals were seen: one was represented by the humerus, radius and ulna from Castle Street, Inverness, which gave the estimate of 26.5 cm shoulder height; another came from 120–1 Market Street in St Andrews, and was approximately 29 cm high at the shoulder; the third came from a late medieval deposit from Burgess Street in Leith. This last dog was represented by a single, 's' curved tibia, and had a shoulder height of approximately 35 cm (D Henderson, pers comm). It should be noted for all these dogs, however, that shoulder heights based on bowed limbs are probably less accurate than those estimated from straighter legs.

Further evidence of dog type is provided by the shape of the head. Unfortunately, animal skulls are often in a damaged condition when found on archaeological sites, as a result of being crushed by pressure from overlying soil deposits. For example, a dog skeleton was found in a pit at Meal Vennel in Perth, but, although the spinal column was visible, disappointment ensued,

when it was found on excavation to disappear under a large stone which had crushed the head. However, in other cases where the skulls were well preserved, the measurement indices devised by Harcourt (1974) were used to describe the shape of the head. These indices are based on comparisons of the features which contribute to the shape of the skull, that is, the width of the zygomatic arch (the 'cheek bones'), the length of the snout and the width of the muzzle. Thus, the cephalic index (CI) relates the width of the skull to its overall length, the snout index (SI) shows the length of the snout relative to the whole head and the snout width index (SWI) shows the width of the muzzle relative to the width of the nose (*ibid*, 153). Amongst the medieval Scottish dogs reviewed here, there was a surprising uniformity of shape. Skulls from Perth, Elgin and Inverness, although varying in overall length, appeared to come mainly from wide-headed dogs with long, fairly narrow muzzles (metrical data are shown in Hodgson 1980, 49, Table 18), although one from Ladyhill, Elgin, was broader in the muzzle. Thus, with relatively few exceptions, on the basis of cephalic indices, most medieval Scottish dog skulls show little modification from the type described as 'plain dog' by Harcourt (1974, 160).

One skull variation which is not accounted for in these measurements, however, is that of the sagittal crest. This is a bony ridge at the back of the head which provides the attachment point for the muscles involved in closing the mouth, and which also serves to protect the roof of the cranium from injuries, such as blows to the head (Rollins 1991, 168). A well-developed sagittal crest and associated temporal muscles are thus important in a dog, which must catch and forcibly grip its prey. However, at PHSE, one small domed skull represented a good example of a type lacking the well-developed sagittal crest present in most of the other medieval examples. Because this specimen had its upper molar teeth fully erupted and the sutures of the skull were closed, it was thought to come from an adult dog rather than a juvenile which had not reached full development. Thus, there were at least three distinct types of dog present in the material examined: the 'plain dog' type, by far the most common, with a broad face and long snout, probably of slim build, though of varying height; second, a strong, bow-legged type, with a very strongly developed, downward-angled sagittal crest to its skull, accompanied by heavy mandibles; and third, a small, fine-boned animal with which the round, domed skulls probably corresponded (illus 3).

How do these dog types compare with evidence from historical sources? Early descriptions of dogs tend to concentrate on animals used in hunting, since this was the sport of kings, the nobility and higher clergy, and descriptions of common working dogs are omitted. Although appearing to originate from several independent sources, these accounts can usually be traced back to only a few authors, most particularly to Gaston Phoebus, Count of Foix (1331–91) author of the *Livre de chasse*, a treatise on the art of hunting (see Tilander 1971; quoted in Cummins 1988). According to Froissart, who enjoyed Gaston's hospitality, he loved dogs above all other animals (Brereton 1978, 264) and in his writing describes their good qualities as well as how to provide for their welfare. His work was later translated into English as the *Master of Game* by Edward, Duke of York, another *aficionado* of hunting (Cummins 1988, 13). For later medieval Scottish dogs in particular, there are 16th-century descriptions by Bishop Lesley and Boece (Gilbert 1979, 64). None of these accounts exactly agrees with another, and the confusion has been compounded by more modern writers who seem determined to find a Roman or Greek origin (or even an ancient Egyptian one in the case of the greyhound and the mastiff) for almost every British dog breed. There is no doubt that dogs resembling greyhounds and mastiffs did inhabit the ancient world, but Clutton-Brock (1987, 45) sounds a timeous note of caution when she points out the difficulty in deciding whether these dogs 'are really breeds with an unbroken line of 4000 years, or whether the genetic diversity inherent in the species causes similar

ILLUS 3 (above and facing) Three dog skulls from the 75–7 High Street excavation in Perth (PHSE) showing variations in size and shape: (above) and lateral view (opposite)

characteristics to re-combine so that the same type of dog is bred in different regions and at different periods when selective breeding is carried out for the same purpose'.

However, to return to the medieval record, from illustrations and descriptions in the *Livre de chasse* it is possible to pick out the main varieties of dog known in medieval hunting. These were defined by their function rather than their appearance, or even what we would call 'breed'. The point is illustrated by a clause in the medieval Forest Laws of Scotland, whereby the owner of a mastiff found unchained in the forest would be penalized. In order to recognize the mastiff (*canes mastivos*) again, the forester should record 'what the dog was like' (Gilbert 1979, 307). If all mastiffs were of a single breed and almost exactly the same, this would be exceptionally difficult to do, but if the mastiff was of a mixed origin, the individual animal would be far more distinctive.

The main types of hound, therefore, were either those which hunted by sight, or those which hunted by scent. Of the sight, or 'gaze' hounds, the greyhound, also known as the *grewhound* or simply, *grew,* was paramount, because of the speed with which it followed its prey. In the Roman period, Scotland was famed for her greyhounds, which despite the name need not necessarily have been grey (Rollins 1991, 11; Cummins 1988, 13). Unfortunately, no medieval Scottish skulls have been found to bear more than a passing resemblance to the greyhound; the attributes of the modern breed are a long narrow head with a rather straight zygomatic arch, well-developed sagittal crest and long jaws (Rollins 1991, 168). The medieval dog skulls all appear to have relatively wide zygomatic arches; it may be that the exaggerated, elongated facial features of the modern greyhound were less well developed in the medieval period.

Some of the larger limb bones (from, for example, Meal Vennel in Perth) may be candidates for the greyhound type. It is interesting to note that the *Livre de chasse* illustrates two distinct types of greyhound: a larger, rough-coated variety, and a smaller, smooth-coated type. Both coat types are also known from Pictish stones which depict hunting scenes, for example the Burghead stone, in which, in the opinion of Gilbert (1979, fig 4), one of each type is shown bringing a red deer stag to the ground. The modern Irish wolfhound is thought to have developed from the large rough-coated variety (Samaha 1991, 4) and this is also a likely origin for the Scottish deerhound. Both of these animals stand at over 71 cm, which is somewhat larger than any of the dogs found at medieval sites.

As well as the greyhound, the chase also employed dogs known as *alaunts*, reckless dogs whose job was to seize the running stag or boar and bring it down, a role also taken by the heavy mastiff (Cummins 1988, 15). The alaunt was a powerfully built dog, shown in contemporary

TABLE 2

Summary of dog shoulder heights

Site	Shoulder height (cm) based on: Humerus	Radius	Ulna	Femur	Tibia
Perth					
PHSE: 'Messan' skeleton				234	
Bow-legged skeleton				391	
Others	31.3–58.7	34.4–60.5	32.6–54.6	25.4–57.4	24.7–57.2
Canal Street I:skeleton				53.7	
St Ann's Lane	48.9			48.9	48.5–49.1
Mill Street: skeleton				50.4	
Others				40.8	45.3–48.5
Meal Vennel	54.2–63.7				
Aberdeen					
Queen Street	31.3	31.8			35.1
42 St Paul Street				34.5	
45–75 Gallowgate				38.3–61.5	61.1
16–18 Netherkirkgate			51.2		
Elgin					
High Street	45.6				
		54.4			
Lazarus Lane				45.3	
Skeleton 084					
Skeleton 090				34.9	
Other		44.6			
Ladyhill	50.2–62.9				
Inverness					
Castle Street: bowed humerus and ulna	26.5		27.3		
Other	44.7	44.9–45.2	45.8		
Inverkeithing					
5/7 Townhall Street				43.6	
Dundee					
106–110 Nethergate: skeleton	313				30.0
Stirling					
Broad Street	40.6			41.1	40.0
St Andrews					
120–4 Market Street: bow-legged skeleton				29.1	

Note Measurements of individual bones are available in the site archives

illustrations as prick-eared, and with a square bull terrier head. But this dog was notorious for its uncertain temperament, 'prickly and nasty-tempered, and altogether giddier and madder than other kinds of hounds' (Gaston Phoebus, quoted in Merlen 1971, 150). Since the height of the alaunt probably varied greatly, it is not too far-fetched to suggest that the sturdy, bull-headed individual from PHSE might have been just such a dog.

However, the hound responsible for scenting the game was the *chien courant* or running dog — the *canis currens* of the Forest Laws of Scotland (Gilbert 1979, 294). For Gaston Phoebus, the favourite hounds above all other were the '*chiens courants* which hunt on all day long bawling and giving tongue, and shouting all sorts of insults at the beasts which they are after' (Merlen 1971, 155). Sadly, there can be no archaeological evidence for the noise which they must have set up, any more than there is for some of their other admired attributes, viz 'a small pair of ballocks well trussed together' (*ibid,* 154). The running hound of the chase may have evolved into a type similar to the modern fox-hound. The head proportions of the larger medieval dogs studied here bear more than a passing resemblance to this type. Allied to the *chiens courants* were the dogs known as *raches* (sometimes spelt *rauches, rachets* or even *brachets*) although the Scots preferred them to be silent rather than noisy (Gilbert 1979, 65). Raches were usually coupled together in

pairs; thus an entry in the Rental Book of Coupar Angus Abbey, dating to the 16th century, states that the tenants of Glenisla 'sall nwrice [nourish/keep] ane leiche [leash] of gud howndis, with ane cuppill of rachis, for tod and wolf' (Rogers 1880, 107).

Another hunting dog, the *harrier*, was also known in Scotland as the *kennet* (probably from the Old French, *chienet*; DOST). Of smaller size than the alaunts and raches, the kennets were run in packs and used for lesser game, such as hares. A litany of 'kennet' names is given by the late 15th-century makar poet, Robert Henryson, in 'The Cock and the Fox':

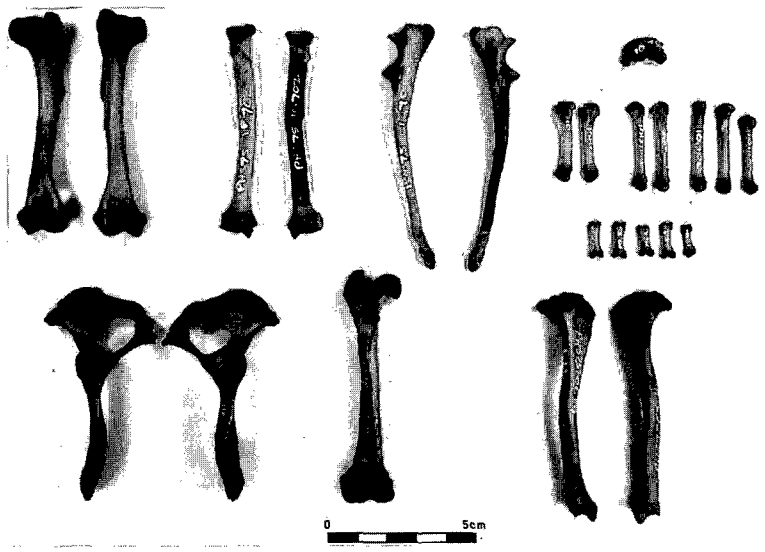
> this wedow . . . on hir kennettis cryde:
> How! Berkye, Berrie, Bawsie Broun
> Ripe-Schaw, Rin-Weil, Curtes, Nuttieclyde
> Togidder all but grunching furth ye glyde!
> (Bawcutt & Riddy 1992, 18)

Possible evidence of hounds kept in a pack comes from the castle site of Ladyhill in Elgin. Here, a single deposit contained six mandibles from at least four different dogs. These mandibles were of medium size with a basal length ranging from 99.4–119.5 mm. There is a strong possibility that these dogs were of the same type, or were otherwise closely related: the mandibles were all of a similar size and appearance and in three cases showed congenital absence of the third molar tooth, as well as crowding of the first molar against the fourth premolar. Developmental defects such as these suggest a degree of inbreeding, such as may be seen in a closely related pack. The size of these jaws indicates they may have been kennets.

One other medieval hound which hunted by scent deserves mention: this is the *strecour*, or *sleuth hound* mentioned by Bishop Lesley (Gilbert 1979, 64) also known as a *lymer* in English texts. As well as hunting deer, these dogs hunted men: during a period of lawlessness in south-west Scotland, a 'sleuth hound dog' was used to track down the Armstrong band responsible for stealing 240 sheep from Lanarkshire (Stewart 1990, 147). Sleuth hounds were of medium to large size and again it is not possible to relate this type to any of the bones which have been found. They seem to have developed into the type known as bloodhounds.

Besides these hunting dogs, which were of relatively high value, there were also present in the medieval period the common-or-garden dogs which have gone almost unrecorded in the literature of the time. However, some are listed in *The Boke of St Albans*: butcher's hound, midden dog, trundle-tail, prick-eared cur and 'smale ladies popis that beere away the flees' (Cummins 1988, 12). There is no doubt that many of the dog remains from the towns are likely to have come from just such a motley collection. Indeed some dogs must have lived a semi-feral existence on the fringes of human society. Presumably these are the ones described as 'myddyng dogges' or the 'towne tykes [that] yowles' (Montgomerie's 'Answer to Polwart', in Bawcutt & Riddy 1987). There was certainly scope for rich pickings on the burgh middens, the contents of some of these having survived, particularly at Queen Street in Aberdeen and at PHSE. The butchers' dogs were also known as 'alaunts of the butcheries' (Reeves 1995, 107) so that some of the bow-legged individuals from PHSE, Inverness, St Andrews and Leith mentioned above may just as well have been the sort of proletarian animals which herded cattle on their way to market, as those which accompanied the nobility in the chase.

However, although there is little specific evidence to say whether the remains were of scavengers, working dogs or indeed the middling size of hounds, the last kind, the 'ladies popis' or lap-dogs may be represented by at least one example. At PHSE, an incomplete skeleton, alas,



ILLUS 4 Small lap-dog (messan) skeleton from 75–7 High Street excavation in Perth (PHSE); the skull was not found

minus the head, was found in a pit (illus 4). As described above, this is Scotland's smallest known medieval example, at only about 23 cm high at the shoulder. This dog might as well have been a terrier as a lap-dog, but for the fact that the skeleton displayed traces of pathology, showing it to have been an elderly, perhaps decrepit individual, which indicated it may have been a cossetted pet. In medieval Scotland, such lap-dogs were known as *messans*, an appellation which could also be used as a term of abuse, as in 'a crabbit, scabbit, evill facit messan tyke' (DOST). There are oblique references to both messans and mastiffs in another satirical poem of Dunbar, in which the Queen's Wardrobe official, James Doig (or Dog) is likened to 'an mastive, mekle of mycht' and 'over mekle to be your messan', in other words, too big to be a pet ('The wardraipper of Venus boure', Bawcutt & Riddy 1992, 208, 241). By the time of Burns, the name also seems to have been applied to common small dogs, presumably of the terrier type. Thus in his tale of 'The twa dogs', the laird's dog had nae pride, 'But wad hae spent an hour caressin', Ev'n wi' a tinkler-gipsey's messan' (Carr (ed) 1990, 106). The term *tyke* on its own seems to signify a common mongrel from at least the late 15th century onwards, in Scotland, although originally the name came from an Old Norse word meaning only a female, a bitch. The tyke, then, is the most likely origin for the skulls referred to as 'plain dog' from urban sites.

HORSES

Complete horse skeletons are a rare find on archaeological sites and unfortunately, with the exception of the incomplete remains of a foal from the Gallowgate Middle School site in Aberdeen (Smith & McCormick, forthcoming), none has been recovered from the medieval period. In addition, horse bones are often damaged by butchery or the depredations of burial conditions. Where intact long bones have survived, however, they can provide evidence of the stature of the animal. Kieswalter, working in the 19th century, produced a set of multiplication factors which can be applied to the lateral length measurements of limb bones in order to estimate the withers height, or highest point at the shoulders of the live animals (quoted in Ambros &

Müller 1980, 30). Lateral length measurements ('Ll' in von den Driesch 1976) were available for horses in Perth, Aberdeen, Stirling and Dunfermline, and are shown alongside the withers heights, in centimetres, estimated from them in Table 3; the height in hands (a unit of 4 in) has also been included. (Although the convention is to use a full stop in the notation of height, as in eg '14.2 hands', meaning 14 hands and 2 in, this may be confused with a decimal point, therefore a colon has been used here; thus, 14:2 hands.) What emerges from these data is the conclusion that all of the medieval animals are under, or equal to 14:2 hands height (58 in, or 147.3 cm). Since a pony is defined as any horse standing under 14:2 hands, the conclusion must be that all of the medieval animals encountered are best described as ponies. The smallest pony, standing at about 12 hands, was found at Stirling Broad Street, while the tallest, at just 14:2 hands, was found at Abbot's House, Dunfermline. From 15:2 to 16 hands is thought of nowadays as a good height for a riding horse, while Shire horses and modern police horses stand at around 17 to 18 hands (Clark, J 1995, 23). Horses from sites in medieval London have been found to range in height from 10:1 hands to nearly 16 hands (Rackham 1995, 169), although most seem to be in the same range as those from Scotland. Elsewhere in medieval Britain, at Flaxengate in Lincoln, Coppergate in York and Hamwih in Southampton, horses also tend to cluster around 13 to 14 hands height (*ibid*).

John Major, in his 16th-century *History of Greater Britain,* refers to horse markets held at Perth, which he refers to by its alternative name of St John's Town. Of these animals he says 'they are of no great size, and are thus not fitted to carry a man in heavy armour to the wars, but a light-armed man may ride them at any speed where he will. More hardy horses of so small a size you shall nowhere find' (Constable 1892, 39). This description would appear to fit the physical evidence from Scottish sites very well indeed. The descendant of this medieval type may well be found in the sturdy garron of the Highlands, renowned for its activity and stamina (Grant 1961, 86). The ideal height for the modern garron is about 14:1 hands, although it can be smaller, and shortness of the metapodials (cannon bones) is preferred because of the rough terrain in which they often work (Fraser 1980, 45, 85). The horse metapodials found at urban Scottish sites are indeed sturdy as regards their mid-shaft width, as well as being fairly short. A Pictish representation of such a small pony and its rider (possibly rendered with more than a touch of burlesque; see Alcock, this vol, illus 12) was found at Bullionfield near Dundee.

The name garron itself is Gaelic in origin and strictly applied only to geldings, although the term now applies to all Highland ponies whether gelded or not (*ibid,* 16). Major also asserted that 'in Scotland for the most part the horses are gelded' but that 'some stallions are kept by great men in stables . . . but in the matter of riding they are neither swifter than more willing' than the geldings which he says will 'travel further in a day, and for a longer time, than a horse which has not been gelded' (Constable 1892, 39). There is, however, little archaeological evidence allowing the determination of sex in horses. Even the presence of a canine or 'wolf tooth', seen in one specimen, does not prove maleness, since it also occurs as a variation in some females; thus, one such specimen from PHSE might be from either sex.

Size is also indicated by the small dimensions of articles of horse 'furniture'. For example a horse shoe found at Ladyhill, Elgin, was of very small size indeed; and a horse shoe from Queen Street, Aberdeen (Stones & Goodall 1982, 188–9), although fragmentary, is of a size not inconsistent with a pony or small horse. As well as horse shoes, bits are occasionally found. Because the size of the bit is necessarily related to the size of the mouth into which it fits, an estimate of the animal's size can be made (Dent & Goodall, 1962, quoted in Clark, J 1995, 28). One horse bit found in a 14th-century deposit at Lochmaben Castle was thus thought to come from an animal of between 13 and 14 hands height, which agrees very well with the evidence of

TABLE 3
Withers heights of horses

Site	Bone	Lateral length (mm)	Shoulder height (cm)	Hands height
Perth				
Whitefriars	Metacarpal	207	132.7	13
Meal Vennel, Phases 1–5	Radius	333	144.2	14:1
	Metatarsal	247	131.65	13
Meal Vennel, Phases 6–7	Tibia	296	129.1	12:3
80–86 High Street	Metatarsal	253	134.85	13:1
	Metatarsal (ice skate)	est	133.25	13:1
Aberdeen				
45–75 Gallowgate	Tibia	314	136.9	13:2
	Metatarsal	244	130.05	12:3
Stirling				
Broad Street	Radius	282	122.1	12
	Metacarpal	191	122.4	12
Dunfermline				
Abbot's House	Metacarpal	228	146.1	14:2

Note A pony is a horse of under 14:2 hands (58 in or 147.32 cm)

the equine bones. Examples of medieval and post-medieval horse accessories from sites in Elgin High Street are illustrated in Hall *et al* (this vol, illus 17).

At first sight then, there would appear to be little evidence for the large war horses ridden by knights, which, according to documentary sources, existed in the medieval period. Recent work on contemporary pictorial evidence (eg Clark, J 1995) shows that it was customary for the height of the shoulder of the rider to equal the horse's withers height. Knowing the average heights of medieval men and women from excavated skeletons, it has been estimated that the average horse, even the noble 'great horses', probably stood no higher than about 15 hands (*ibid*, 25); thus in Barbour's poem 'The Bruce', the king, riding to the battle of Bannockburn, 'raid apon a *litill* palfray' (Bawcutt & Riddy 1987, 15). In later centuries, the term 'palfrey' was used to describe a lady's small riding horse, rather than a man's. During the battle of Bannockburn, many of the English 'great horses' were killed or captured by the Scots; in the years that followed, until the Union of the Crowns, it became a felony to sell horses to the Scots, for fear of improving their stock (Chivers 1978, 18, 29).

Other references to the horses of the Scots army at this time are made by the chronicler, Froissart. Although he himself was writing some years after the events which he describes, he used an eyewitness account of the Scots invasion of England of 1327. Froissart did indeed visit Scotland himself in 1365 and there is no reason to doubt that he wrote accurately of his everyday surroundings (Brereton 1978, 10). In Froissart's account of the events of 1327, 'the knights and squires are mounted on fine, strong horses and the commoners on small ponies' (*ibid*, 46). Elsewhere he describes the knights' horses as 'good rounseys and coursers' while the other men ride 'those little ponies which they neither groom nor tether, but turn loose to graze freely wherever they dismount' (*ibid*, 47). There is also mention of pack-horses, which became stuck in bogs 'never to be seen again' (*ibid*, 48). The archaeological evidence from town sites in Scotland, then, confirms the presence of small sturdy horses. Even those ridden by knights do not seem to have been much larger. Efforts made by the Scots to improve the size of their war horses by importing new, large animals from the continent were continually thwarted by the English, although some were smuggled over the Border in the mid 15th century (Chivers 1978, 18).

CATS

Unlike dogs, which were present in Britain from at least the Neolithic period, cats do not appear in the archaeological record until the Iron Age. In Scotland, they have been found at the broch of Howe in Orkney, in secure contexts pre-dating the Roman conquest of Britain (Smith & Hodgson 1994, 139). The arrival of the cat in the islands, if indeed the bones represent the domestic rather than the wild species, must therefore have come about through trade. After the Roman colonization of Britain, cats began to spread from the south, but by the Roman withdrawal in the fifth century, cats were becoming feral and the population increased (Tabor 1991, 39). The cat's value to humans was as a controller of rodents, and this is reflected in the ninth-century Welsh laws of *Hywel Dda*, which valued the animal at four pence (incidentally the same as a 'dunghill dog'). The cat's qualities are 'to see, to hear, to kill mice, to have her claws whole, to nurse and not devour her kittens' (Clutton-Brock 1976, 384). Alcock (this vol) comments on the extraordinary proliferation of cats (as well as mice) throughout the illuminated pages of the *Book of Kells.*

Sadly, and probably because they were of lesser value than the horse and the hound, there is much less documentary evidence for the medieval cat. One of the few late medieval appearances of the cat in Scottish literature is found in Henryson's fable of 'The two mice'. Here the cat is referred to as 'Gib Hunter, our jolie cat' and 'Bawdronis', the second being an affectionate feline name, sometimes also applied to the hare (Bawcutt & Riddy 1992, 47, 213). Although there is no archaeological evidence that cats were neutered, some reference is made to it in the cat-name 'Gib' (the short form of Gilbert) which referred to a tom-cat, and more specifically a neutered male (CSD). Thus Shakespeare's Falstaff can say 'I am as melancholy as a gib-cat' (*Henry the Fourth*, Part I, Act 1; Wells & Taylor 1986). In recounting the animals kept as pets in medieval monasteries, Gordon (1875, 9) notes also that 'S[aint] Gregory kept a gelded Tom Cat, and was very fond of him'. Neutering the male cat makes him less likely to fight and of course keeps the cat population under control. However, it was probably only practised occasionally, since a large cat population could be exploited for the monetary value of the skins.

As to the physical attributes of medieval cats, there are no documentary clues. Cat bones from archaeological sites, however, indicate that the typical Scottish animal was smaller than the modern domestic feline, with altogether slimmer mid-shaft dimensions. This size difference may be due to better nutrition at the present day. McCormick (1988, 24) found that medieval urban cats in Ireland were smaller than those from Early Christian period rural sites, perhaps indicating that town cats were left to fend for themselves in the matter of food and shelter. That existence in the medieval burgh was precarious is indicated by the presence of cat bones showing the evidence of traumatic damage. For example, three tibiae and a radius from PHSE (representing 0.9% of the total cat bones from this site) showed evidence of fracture or other lesions caused by trauma. The age distribution of cat bones at PHSE, where as many juveniles as adult cats died, also indicates a hard life.

THE ROLE OF DOGS, CATS AND HORSES IN THE MEDIEVAL TOWN

From the evidence of documentary sources and the bones of the beasts themselves it can be seen that the animals fulfilled several different functions in life. Dogs, in particular, were necessary servants of man, especially in the hunting field. A good hunting dog was a valuable asset, well-fed and cared for. Some of the larger dogs from urban Scotland could well have belonged to the hunting fraternity. However, others found within the towns were more likely to have been

herders' dogs, or 'alaunts of the butcheries'. Given that trade in the burghs was heavily reliant on the by-products of sheep and cattle, with the towns filled with herds of livestock on market and fair days, dogs would have been needed to exercise some sort of control. Smaller dogs, known as *heelers*, were used in relatively recent times to persuade recalcitrant livestock to move on, usually by nipping at the heels of the cattle, and it is not unlikely that some small medieval dogs were also used in this way (Combe 1987, 49). A reference is made to butchers' dogs in records of the Flesher Incorporation of Perth in 1717: the burgh magistrates obliged the fleshers to 'keep [their] dogs ty'd in the night time and muzl'd in the day time in all time thereafter under the penalty of five hundred merks Scots money'. However, the fleshers objected to keeping their dogs and 'bicks' muzzled on the grounds that it was 'altogether impracticable and what would render them entirely useless' to them and were successful in having the ruling altered to merely keeping their 'dogs and bicks ty'd in the night time' (Flesher Incorporation Records, Bundle 13). Although this dispute took place in the early 18th century, the situation was probably similar to that in the medieval period, and illustrates the need for the dogs to nip at the heels of the cattle, which they certainly could not do if muzzled.

A related function to that of the butcher's or drover's dog was that of the shepherd's dog. Livestock was too valuable to lose to the wolf or other predators, and the 16th-century shepherd of Dunkeld who was enjoined to guard his sheep 'faithfully and diligently from common danger, excepting the bites of wolves [and] foxes' (Hannay 1915, 274) would have required some canine assistance. Ironically, in shepherding, man has merely exploited the natural behaviour of the dog's wild ancestor, the wolf, an animal which it may be argued has an unjustifiably bad reputation (Serpell 1996, 199). In the 18th century the best shepherds' dog could be described by Burns as 'a gash and faithfu' tyke, As ever lap a sheugh or dyke' ('The twa dogs'; Carr (ed) 1990, 106) and intelligent animals with these attributes must also have been preferred in earlier times.

As now, there must also have been a problem of sheep-worrying by unwatched or stray dogs. In the records of the burgh of Elgin, an act of 1658 which sought to limit the numbers of dogs in the countryside, forbade 'kearters [carters] and uthers that caries dogs alongs with them unneccessarlie to the country for peatts and turffs' (Cramond 1903–8, I, 308).

Another important function of the dog was in guarding property from theft or vandalism. Presumably these animals would have been chosen for their fierceness and ability to bark loudly. They may have been a danger to passers-by, but were regarded as of such value that it is recorded in the Acts of Parliament of Scotland that any man who 'slais a mannis [house] hund thruch villany . . . sal wak apon that mannis myddin for a tuelf moneth and a day' (APS, XXXIII, 325).

The fortunes of the town dog were not always so favourable, however. With the passage of time, the dog population of the burghs may have become unmanageable, and attempts must have been made to control canine numbers. By the late 18th century, legal means were employed, and an annual tax of 2s 6d (a half crown) was levied on each animal, but 'from this tax . . . shepherd's and butcher's dogs are very properly exempted' (Morison 1796–1807, VII, 412). The exclusion of working dogs from this tax emphasizes their continuing importance to a society still tied to the economics of livestock keeping. Another method of control was to ban all bitches from the town, as in an act recorded in the Town Council minutes of Elgin in the year 1683, 'siclyk that no bitches be keipid within brugh' (Cramond 1903–8, I, 332). However, this evidently met with little success, as in the year 1690, the act was widened to exclude 'cur dogges' from the town (*ibid*, 349). Several archaeological sites in Elgin have produced deposits containing significant numbers of dog bones. One such deposit was recorded in a 16th-century well at Lazarus Lane, which contained a minimum number of seven dogs as well as three cats. Surprisingly, these were not puppies; only one of the skeletons came from an immature animal, while the rest were fully adult, and one was

definitely male. Perhaps these were 'cur dogges' and bitches, dumped in the well, in order to avoid a penalty such as that imposed by the Town Council in the 17th century.

Horses were also employed in a variety of ways. Until the advent of the horse collar, oxen, rather than horses, were used to pull the plough. Horses, however, were employed otherwise as beasts of burden. Several references are made in late 15th-century literature to a type of pack-horse known as a *capill*, often in poetical conjunction with the 'creillis', or panniers, which they carried. The capill also pulled carts, 'sa curtasly the cart drawes and kennis na plungeing' (Bawcutt & Riddy 1987, 227). The term capill is also known in Gaelic, spelled 'capull' by MacBain (1896, 71), and derives from the Latin *caballus*, a pack-horse. Another, possibly less valuable type of work horse known in Scotland in the medieval period was the *aiver*, sometimes averill, corresponding to the English affer or stott, which was the peasants' plough or harrow animal (Clark, J 1995, 27). The word 'aiver' eventually came to mean an old or worthless nag in Scots. The most valuable horse, however, was the one reserved for riding. In Scotland, this type was the *coursour*, a charger or stallion, but was of course the mount of the king and the nobility. James IV (1488–1513) rode such an animal (Gilbert 1979, 66). In the 15th century 'Taill of Rauf Coilyear', the capill and the coursour are contrasted, but the first carries 'twa creillis', presumably full of coal, and belongs to the collier, while the second is the property of the king, incognito (Bawcutt & Riddy 1987, 100). Another horse type known in 16th-century Scotland was the *jonet*, known in English as the *jennet*. This was a small animal of Spanish extraction and is mentioned in Lindsay's *Satyre of the Thrie Estaitis*: 'I wad gif baith my coat and bonet, To get my Lord Lindesayis brown jonet' (Lyall 1989, 117).

From the evidence of Scottish medieval horse bones, however, it has not been possible to differentiate between these different types of horses, excepting that a range of heights, from 12 to 14:2 hands has been recorded. Of a study carried out on medieval horses in London, only one (out of a total of nine tibia specimens) had the slender leg proportions which indicated it may have come from a riding horse (Rackham 1995, 172). In comparison, the Scottish animals were probably all sturdy-legged, perhaps indicating they were pack or cart-horses.

The excrement of horses and dogs was also of value, the equine variety as fertilizer for the plots of garden land within the burghs, and the canine variety as a preparation used in leather tanning, a process known as baiting or puering (Forbes 1966, 4). Hides were an important source of revenue to the medieval economy, and the tan-pits in which they were steeped have been found at several Scottish sites. Ironically, a butchered dog skeleton was found in a tanning pit at 45–75 Gallowgate, in Aberdeen, after the pit had gone out of use in leather preparation (Evans 1987).

The value of the cat in the medieval burgh lay chiefly in keeping the rodent population under control. While the black rat (*Rattus rattus*) has yet to be found in Scottish medieval deposits, bones of other small mammals such as house mouse (*Mus musculus*) and field vole (*Microtus agrestis*) have been recovered from sites in Elgin (Hodgson 1980, 14). Bones of brown rat (*Rattus norvegicus*) (or evidence of rodent gnawing in the form of tooth-marks on bones) are found regularly in post-medieval deposits, for example in Perth and Dunfermline. Rodents can seriously deplete stored grain and other foodstuffs, and what they do not eat, they contaminate with their excreta. In the medieval period this must have been a great problem and could have dire consequences for the human population. Periods of dearth occurred regularly as a result of poor harvests, and cats must have been of practical use in defending the stores, both in the town meal girnals and in the home. Birds, as well as mice, were seen as a problem, eating the crops of grain before they could be harvested. Here too the cat could find itself useful employment, as well as a source of food and entertainment.

The foregoing uses of cats, dogs and horses, of course apply only to the live animals. As usual, in the medieval period, few natural resources were wasted, and these animals, even when dead, continued to serve the communities in which they had lived. Possibly the most valuable in this respect was the horse, which could provide a good-sized hide. Evidence that horses were indeed skinned is plentiful at Scottish medieval sites. This usually takes the form of thin knife cuts on the shafts of the long bones, which are otherwise left intact. Where the covering of musculature and connective tissue is relatively thin under the skin, it is easy for the skinner's knife to penetrate through the periosteal membrane covering the bone and leave cut marks there. The proximal end of the metapodial and the phalanges of the feet are common sites for such cuts.

Butchery marks, indistinguishable from those on cattle bones, are also found in the form of hacks left by butchers' axes on the bones of horses. In some cases the meat has undoubtedly been removed, for example, at Castle Street, Aberdeen, where knife cuts were found on the ventral border of a horse ilium (part of the pelvis) (Smith & McCormick forthcoming). Horse bones were sometimes split open lengthwise (in the sagittal plane) to obtain the marrow, a procedure frequently carried out on cattle bones also. Examples of horse bone marrow-splitting were found at 30–46 Upperkirkgate, Aberdeen (McCormick, archive report). Obviously, the meat and marrow was removed from such bones, but it is not easy to determine whether it was intended as dog food, or for human consumption. Dogs, perhaps, would have been left to get on with the job by themselves, but they were not responsible for marrow splitting. Although gnawing marks made by dogs are often found on horse bones, they seem to appear equally frequently on the bones of cattle, sheep and pigs.

There is some documentary evidence that worn-out horses were sometimes fed to dogs. Hunting dogs in particular were well fed and cared for, principally because of their value. Documentary evidence from the 14th-century French Royal Hunting Accounts shows that '4 carcasses of old, worn-out horses' were bought at market to feed 'several thin and ailing hounds kennelled at Fontainebleau' (Cummins 1988, 257). There is also evidence from Witney Palace in Oxford, where a hunting kennel was kept in the late medieval and post-medieval period, of butchered horse bones which are presumed to have come from dog food (Wilson & Edwards 1993). In early 18th-century England such 'dog horses' were bought to feed kennelled hounds on country estates in Derbyshire, Norfolk and Worcestershire (*ibid*, 52).

The Early Christian Church frowned upon the human consumption of horseflesh, which was considered by Pope Gregory III in 732 to be 'an unclean and detestable practice' (Harris 1986, 96). None the less, it appears that early communities, such as the Anglian settlement at Dunbar, were either unaware of the proscription on consuming horseflesh, or wilfully ignored it, for here there was plentiful evidence for horse butchery, and very little osteological evidence of dogs (Smith, forthcoming:b). Indeed, butchery of horses at Dunbar continued throughout the occupation of the site, from the Anglian to the post-medieval periods. At the medieval Carmelite site of Whitefriars, Perth, butchered horse bones were found in both pre- and post-Reformation deposits, perhaps indicating that the religious proscription of the eighth century had been forgotten. At the medieval leper hospital of St Nicholas, just outside the burgh of St Andrews, horse bones with knife cuts may represent meat donated to the lepers; rotten meat and fish left over from the burgh markets was disposed of in this way and it is possible that horse flesh was also thought to be acceptable (see Smith 1995:a, 73).

In summary then, the butchered horse bones found at urban medieval sites in Perth, Inverness, Inverkeithing, St Andrews and Aberdeen may represent the waste from knackering of meat for human consumption as well as for dog food.

Horses, however, were not alone in being skinned or butchered. Examination of the bones of cats and dogs from medieval Scottish sites reveals that knife cuts, indicative of skinning, are common. A common site for such knife cuts is on the frontal bone of the skull of cats, in the region of the orbits of the eyes. The reason for this is that when skinning a cat, the convenient way to proceed is from the feet up: the paws are cut off to free the skin, the pelt is then removed from the back and neck and pulled up and over the head (rather like removing a pullover when undressing) to the point where the layer of skin over the nose is at its thinnest. Here the skin would be cut free from the head, releasing the whole pelt from the carcass, and it is here that the knife would cut into the frontal bone, leaving tell-tale marks behind. Close scrutiny of 12 cat skulls from PHSE in which the snout was present showed that seven of them had multiple knife cuts in the supra-orbital region. Other sites where cuts were observed in an identical position on the skull were 80–86 High Street, Perth, and Canal Street III, Perth, as well as at 16–18 Netherkirkgate, Aberdeen. McCormick (1988, 226) notes that cat skulls from 13th-century Wood Quay in Dublin, displayed cut marks on the orbits, evidence of a remarkably similar technique. Evidence of skinning of the paws comes from a metatarsal from PHSE which displayed knife cuts on the shaft of the bone.

A further common position for knife cuts associated with skinning is the basal border of the mandible; these marks were found on some of the cat jaws at PHSE and 80–86 High Street, Perth. By contrast with the other sites in Perth, where dog bones were more numerous than those of cat, at the two High Street sites cats were more abundant. These factors lead to the suspicion that a cottage industry in cat skinning had flourished in the High Street during the medieval period.

Dogs were also regularly skinned in Scotland in the medieval period. Bones with typical skinning cuts were found at PHSE, Meal Vennel and Whitefriars in Perth, 53–59 Gallowgate and Castle Street in Aberdeen, 106–110 Nethergate in Dundee, and Lossie Wynd in Elgin. In a dog skull from PHSE, the cut marks were found across the snout rather than between the orbits, but at least one dog mandible had cuts on the basal border, as in the feline examples.

There is some evidence that dog skins were exported from Scotland to England and France in the 17th century. With the hair, they were used in muffs or 'made into a kind of buskins for persons in the gout'; without the hair, they were used for ladies gloves and the linings of masks 'being thought to make the skin peculiarly white and smooth' (Morison 1796–1806, VII, 412; see also Smout 1963, 218).

A further, more mundane, but ultimately more useful way of employing dog skins was in the making of fishing floats, or bowies. These were traditionally made in east coast fishing communities, first recorded in the 19th century, and used the whole, inflated skin, scraped, oiled and tarred to make it float. There seems to have been no effort made to breed an ideal 'bowie dog', although a large skin was preferred for herring nets, and a smaller size for lines (Shepherd 1979, 83–6).

Cat skins were also traded within Scotland. An entry in the records of the Guild Merchant of Perth for the year 1552 details a list of skins, which includes 'cattis', although it is not clear whether this refers to the domestic breed or to the wild cat (Stavert 1993, 216). Skins of cat were also exported from the port of Youghal in Ireland in the 14th century, and dog skins in the mid 16th century (McCormick 1988, 226). An intriguing illustration of a cat skin, dating to c 1510 is incorporated in the painting now known as *The Prodigal Son* by Hieronymus Bosch, where the pelt is shown attached to the basket carried by the figure in the foreground. The skin probably has an allegorical meaning, but the painting (now in the Museum Boymans van Beuningen, Rotterdam) none the less illustrates a real facet of ordinary 16th-century life.

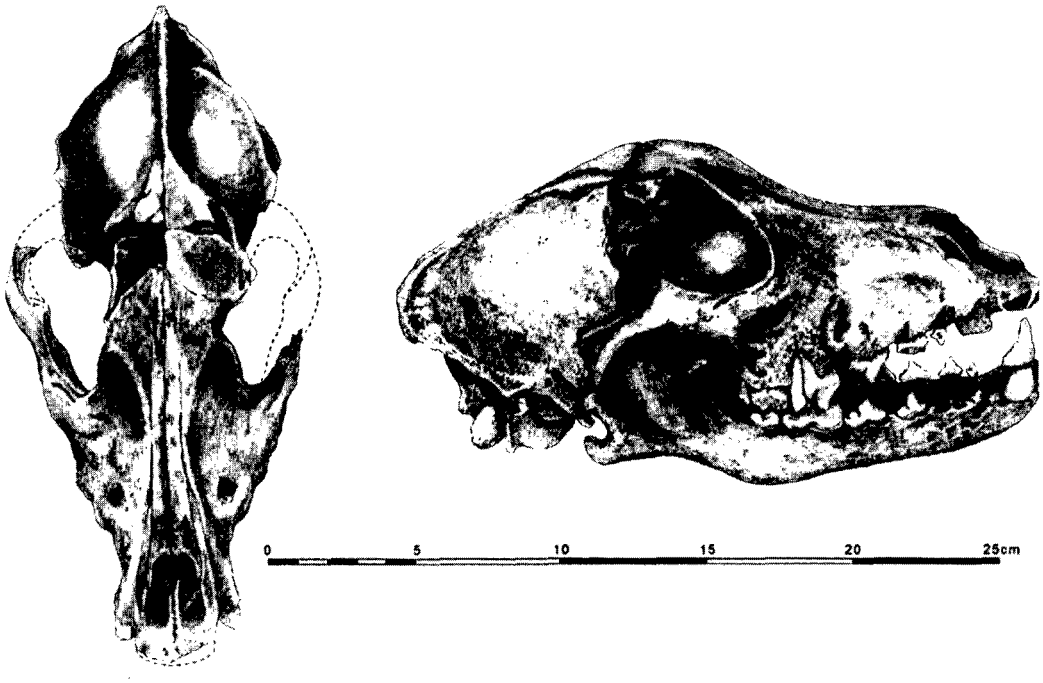
Some marks found on the bones of dogs and cats at archaeological sites were far more reminiscent of butchery than of skinning. For example, a dog humerus from 16–18 Netherkirkgate, Aberdeen, had cut marks around its distal articulation identical to those commonly seen on dismembered sheep bones. These cuts indicate that the meat was cut off the bone. At PHSE, also, bones of both dogs and cats showed far deeper cuts than would be necessary merely to remove the animal's pelt. Cuts on both the cranial edge and blade of a dog scapula are far more likely to be associated with removal of the musculature, that is, the flesh, than with skinning. Similarly, deep knife cuts on the head or greater trochanter of four different dog femora, as well as one from cat, at PHSE, indicate that the hip was disjointed. This seems excessive if the main aim was only to get the skin off the animal, not its meat. Also at PHSE, two cat innominates had parallel knife cuts around the acetabulum, as well as on the ilium and ischium, which are also highly suspicious. Urban sites are not, however, the only ones at which dogs were thought to have been eaten. McCormick (1994, 412) found that a dog skeleton recovered from a stone-lined pit at Pluscarden Priory, Moray, had knife marks around the acetabulum of the pelvis (the hip articulation). In addition, a cat skeleton from the same pit had also been dismembered.

Eating the meat of dogs and cats was probably only practised during periods of dearth or food shortage. Perhaps the most influential source of prejudices or taboos regarding food animals has come from the biblical notion, in the books of Leviticus and Deuteronomy, of ritually 'clean' and 'unclean' beasts; 'animals that go on their paws' must not be eaten, and this probably refers to fissipedes such as dogs and cats (Davies & Davies 1991, 55).

As well as using the meat, skins and hair of dogs and horses, the people of the medieval period also found uses for the bones. The favourite bone was the horse metapodial or cannon bone, which was sought after for the manufacture of ice skates. These can be made with only a few simple modifications, mainly by trimming the bone at its proximal end to give an upswept 'toe', and flattening the posterior aspect of the shaft and the distal articulation to give a smooth surface which will glide along the ice. A hole was sometimes added at the toe or heel to attach the metapodial skate to the foot, and with the help of a pole, the skater could propel himself along, without lifting the feet (MacGregor 1985, 142). Bone skates were common throughout Europe in the medieval period and have been recovered from sites in Aberdeen and Perth (MacGregor 1982, 182). Other favoured horse bones were the accessory metapodials known as splints, which have a long, tapering shaft and are easily modified into awls and points. Dog bones do not seem to have been used regularly, as they do not have the special features of the horse metapodial or splint which make it easy to adopt the morphology of the bone to a specific function. Thus, a dog humerus from a 13th- to 15th-century context at 106–110 Nethergate, Dundee, which was used as a mortar mixer, was probably just a stray bone picked up from the midden; this type of tool could just as easily have been made from a long bone of sheep. The snapped-off shaft of the bone was surrounded and filled with mortar, indicating a rough-and-ready tool, but in addition, the bone also had knife cuts on the distal articulation which may have related either to skinning or meat removal (Smith 1998, 196).

EVIDENCE OF DISEASE AND INJURY

The rate and type of bone pathologies in animal bone assemblages can sometimes be related to the success of husbandry practices. Although medieval Scottish horses occasionally suffered from relatively minor arthritic changes to their joints (for example at St Nicholas Farm, St Andrews), no gross pathologies or evidence of trauma were seen. The health of the horses, as shown by the evidence of their bones, was no worse, and possibly better than that of contemporary plough



ILLUS 5 Skull of dog found in post-medieval cesspit at Mill Street, showing traumatic damage to muzzle and right frontal bone: (a) frontal view; (b) lateral view

oxen in Scotland. However, it must be remembered that only a small number of diseases leave traces on the skeleton. In addition, there is very little evidence that young horses died, with the exception of two bones from a very young, possibly newborn, foal at Gallowgate Middle School. The presence of butchered adult horse bones in the same context indicates that a pregnant mare may have died or been killed. At the other sites where horse remains were found, the evidence of both bones and teeth indicates the animals had reached adulthood when they died. The oldest animal (from PHSE) was at least 11 years old at death, on dental evidence.

Amongst dogs, the evidence suggests that dental problems, such as ante-mortem tooth loss, occurred fairly infrequently. Loss of the first lower premolar teeth was noted in one dog mandible at PHSE; another example from the well deposit at Lazarus Lane, Elgin, had lost the lower fourth premolar. These teeth may have been lost through damage caused by hard food, or alternatively, through periodontal disease caused by food impaction around the teeth. Another site where breakage or complete loss was noted was in the upper canine tooth; in the dog found in the cesspit at Mill Street, Perth, this tooth suffered only breakage (illus 5), but in another individual from Lazarus Lane, Elgin, the tooth was long gone, with the result that the natural infilling of the root-holes (alveoli) with new bone had occurred by the time of death. Otherwise, dog dental health was fairly good amongst the known examples.

Likewise, dog long bones were found to be relatively free of visible signs of disease. Where it did occur, pathologies were either mainly of the arthritic variety, or had been caused by trauma. The most interesting example of arthritic change occurred in the smallest dog in the sample, the 'messan' from PHSE. The long bones, vertebrae and ribs showed various symptoms of osteoarthritis, including lipping, grooving and eburnation of articular surfaces, particularly in the spine. There was also evidence of localized osteoporosis, most noticeable in the lower fore limbs.

Unfortunately the animal's skull and teeth were not retrieved, but it seems likely that it had reached old age. The small size of this dog, together with its somewhat decrepit condition, and the fact that it was disposed of in a pit rather than on the ever-available open midden, seem to indicate this was a cosseted pet rather than a working terrier, as suggested above. It was extremely unlikely to have been a feral animal.

By contrast, the dog from a cesspit at Mill Street in Perth seems to have led a less sheltered life. The skull of this animal showed evidence of a healed fracture, as well as traumatic damage to both the upper and lower canine teeth and loss of several of the upper incisors resulting in a complete reshaping of the animal's muzzle (illus 5). In addition to this, there was a large healed oval lesion, passing completely through the bone, on the dog's right shoulder blade, as well as various other small lesions and evidence of swelling. Such damage was probably caused by a piercing injury of some kind, such as the bite of another dog. Taken along with the evidence of blows to the head, the suggestion that this may have been a guard dog is attractive, although other possible explanations must include organized dog-fighting. Had the dog been a stray it is unlikely to have been deliberately buried in the cesspit; feral animals usually find somewhere far away from people, perhaps sheltered by a hay-stack or wall, in which to curl up and die.

It is worth mentioning here that there was no evidence on the bones of dogs' feet for the brutal practices of 'knee cutting' (*genuiscissio*) and 'expeditioning', which were operations carried out on dogs' feet and legs during the Norman period in England (Merlen 1971, 134–6). The purpose of these mutilations was to ensure that no commoners' dogs were capable of the speed required to catch the King's deer. In the Assize of the Forest of 1184 it is stated that 'mastiffs shall be lawed', referring to the removal of the claws and three toes of the forefeet (Bagley & Rowley 1966, 73). The Forest Laws of Scotland, although including some borrowings from English sources, never enforced 'lawing' of dogs (Gilbert 1979, 27).

Cats found at medieval sites showed only infrequent evidence of disease. One femur specimen, found at PHSE, had a grossly misshapen proximal end, which must have resulted in a defective hip joint and associated lameness. Other abnormalities seen at PHSE were associated with trauma, for example one radius, from an incomplete skeleton, showed a probable healed fracture, while three tibiae displayed bony lumps on the shaft which were probably caused by injury to the soft tissue and periosteum overlying the bone. Injuries like these perhaps reflect the precarious existence of urban felines.

As with dogs, cat dental health was good on the whole, although in the case of the site where cat bones were most frequent (PHSE) this may be related to the young age at which they died. On the basis of both epiphyseal fusion and dental evidence, roughly equal numbers of kittens and adult cats died. By contrast, few puppies or juvenile dogs were found at the same site.

MEDIEVAL ATTITUDES TO DOGS, CATS AND HORSES

In the medieval period, some animals, particularly those from which good financial returns could be made or which performed functions indispensable to their owners, were well cared for. Probably the only animal retrieved from a medieval Scottish excavation which can be said with any degree of conviction to have been one of the privileged minority treated as pets, was the small messan-dog found at PHSE. Others, such as the dog found in the cesspit at Mill Street, Perth, were not so fortunate. The grand total of seven dogs and three cats found in the well at Lazarus Lane in Elgin, two more cats dropped into a well at Canal Street III in Perth, five adult cats and five kittens launched into a disused garderobe chute at Dairsie Castle in Fife, and three adult dogs, a puppy and two cats interred in a pit at Meal Vennel in Perth, all seem to have met similar fates.

Disposal in pits need not mean these animals were given some semblance of 'decent' burial, however; one of the dogs from the Meal Vennel pit showed evidence of skinning cuts, and it is very likely that all of the dogs and cats found there were first stripped of their pelts.

Skinning, however, was not seen as abuse, but simply as an opportunity for economic gain, in some circumstances even a necessity, in the same way as the slaughter of animals for food. It was accepted that these things were part of God's providence (Maehle 1994), or as Henryson explains in 'The preaching of the swallow': 'All creature he maid for the behufe, Of man and his supportatioun' (Bawcutt & Riddy 1992, 41). Even where animals were exploited by people in their leisure activities, for example in bear-baiting and dog- or cock-fighting, there was no guilt attached to the acts themselves. The only danger which was perceived came from the possibility that acts of cruelty to animals would lead inexorably to similar actions against other members of the human species (Serpell & Paul 1994, 137). Archaeological evidence of both cock-fighting and bear-baiting is thought to have been found in medieval Scotland. At PHSE, in a 15th-century context, the bony spur of a cockerel's leg was sawn off in order that a sharper, artificial spur could be attached. At Castle Park, Dunbar, a scapula of brown bear (*Ursus arctos*) was found in a 14th- or 15th- century context, where it had no natural business, since bears are thought to have been extinct in Scotland since at least the 10th century (Ritchie 1920, 114; Aybes & Yalden 1995, 217). Only human amusement can explain this animal's presence. In addition, the pathetic condition of the dog found in a cesspit at Mill Street in Perth indicated injuries caused by dog-bites, as described above. This dog, too, may have been a trained fighting animal.

Apart from pitting animal against animal for the purposes of entertainment, there were other kinds of amusement to be had from brute beasts. One such required the services of a live cat, and persisted in the towns of Perth and Kelso until the 18th century at least. In Perth, the game coincided with the Midsummer Market held on the town's South Inch. Penny, a 19th-century historian of the town, described the scene:

> a small barrel inclosing a cat and a quantity of soot, was hung up . . . [the men] rode through, giving the barrel a stroke; and the man that broke the barrel and let out the cat (by which he received a plentiful quantity of soot about his ears) gained the prize. The poor cat was then tossed about amongst the mob, which put an end to its future usefulness. Its remains afforded rude sport to the youths (1836; reprinted 1986, 135).

In Kelso, too, the sport, as recorded in 1789, also required a cat and a bag of soot (Hazlitt 1905; reprinted 1995, 96). This custom seems to be a survival from earlier times and is presumably similar to one Shakespeare makes allusion to in *Much Ado About Nothing*, when Benedick says 'if I do, hang me in a bottle like a cat, and shoot at me' (Wells & Taylor 1986). Cat-torturing feasts are also known from medieval France and the Low Countries, often taking place on St John's Eve (Midsummer, as in the Perth survival) and involving the entire population of the town; in France a large pyre was erected, and not one but several dozen cats in bags were placed on it. A variant of this practice involved throwing the cats from a tower (Cohen 1994, 65). St John's Eve festivities contained many traditional elements originating from folklore rather than Christianity, despite being held in honour of the saint, and the involvement of cats may also be of some antiquity (*ibid,* 66).

The evidence from medieval Scotland has shown that although animals which were treated as pets or privileged companions undoubtedly existed, these were probably in the minority. Rather, species such as dogs, cats and horses, were exploited for their hides, fur and their meat in

the same way as other domesticated beasts such as cattle, sheep and pigs. Cruelty to the 'brutall beistis' was not unknown, but probably did not result in the same feelings of sentimentality, abhorrence and guilt as we experience today. Instead, as their remains show, most animals were a means to an economic end. The teachings of the Christian Church allowed human communities to exploit all of creation for their own benefit. Animals, in this scheme of thought, were created so that 'every living thing may be meat for you' (Genesis IX, 3) and according to Thomas Aquinas possessed no immortal souls (Serpell 1996, 153–4). This philosophy conveniently allowed animals to be treated in a variety of ways, depending on the ends which they were bred to serve, thus justifying both cruelty and indulgence towards the same species, as circumstances required.

ACKNOWLEDGEMENTS

Thanks are gratefully extended to a number of individuals and institutions. Historic Scotland was the body responsible for funding in whole or in conjunction with the Manpower Services Commission, the excavations mentioned here, and was entirely responsible for funding the preparation of this paper. My former colleagues at Duncan of Jordanstone College of Art, Dundee, the late G W I Hodgson and Angela Jones collected the unpublished data for sites in Elgin, which I have re-worked here; David Henderson supplied his unpublished data from Burgess Street, Leith. Simon Davis gave advice regarding wild and domestic cats. Perth Museum and Art Gallery, Perth and Kinross Council, facilitated access to the dog and cat bones from the Perth High Street Excavation, 1975–7, and gave permission to reproduce the skeleton of the bow-legged dog (illus 2). A K Bell Library Archives Department, Perth, facilitated access to the Fleshers Records. Dave Munro was responsible for illus 1 & 5; the photographs (illus 2 (skull), 3 & 4) were by Adrian Cox. Illus 2 (limb bones) was photographed by Paul Adair, Perth Museum and Art Gallery. Olwyn Owen, Denys Pringle and Melissa Seddon of Historic Scotland, and past and present colleagues at Scottish Urban Archaeological Trust Ltd, made valuable comments on earlier drafts of this paper.

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This paper is published with the aid of a grant from Historic Scotland