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A grumphie in the sty: an archaeological view of pigs in Scotland, from their earliest domestication to the agricultural revolution

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A dainty cowie in the byre
For butter and for cheeses
A grumphie feedin' in the sty
Wad keep the hoose in greases

'Johnny Sangster' (Bothy Ballad)

ABSTRACT

This paper considers the role and status of the domestic pig in Scotland, with particular reference to the period between the 12th and 18th centuries, and provides archaeological evidence to show that, although the species was never as important to the economy of Scotland as cattle and sheep, it nevertheless provided an important addition to the diet, both in the burghs and in the countryside. The history of the so-called pig 'taboo' of the north and north-east of Scotland is also considered.
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INTRODUCTION

Much has been written regarding the origin of the domestic pig, but it is now widely accepted that all are descended from the wild species, *Sus scrofa*, of which there are about 25 subspecies (Clutton-Brock 1987, 21), and were first domesticated in Eastern Europe and Western Asia by about 7000 BC (ibid, 72). Before the advent of true settled agriculture, pigs were being deliberately bred on the Danish coastal fringes from between 5000–4750 BC (Ashmore 1996, 24). When the early farming culture of the Neolithic spread throughout Western Europe, with it came domesticated cattle (the descendant of the aurochs) and pigs. Sheep and goats were less common throughout Western Europe at the beginning of the Neolithic period than they later became, since the wooded habitat was more favourable to those animals descended from forest dwelling wild species such as the wild boar and the aurochs (Clutton-Brock 1987, 72).

Domesticated pigs, therefore, were not to be found in Scotland until the advent of the Neolithic period, although wild pigs were certainly part of the diet of the Mesolithic human population. At the Mesolithic shell midden sites of Cnoc Coig and Cnoc Sligeach on Oronsay,

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wild pig bones were present alongside those of red deer, roe deer and seal (Grigson & Mellars 1987, 243–86).

From the Neolithic period onwards, it is thought that the indigenous wild population was allowed to interbreed with the introduced domesticated pigs. Such interbreeding continued into the historic era, and even in the early medieval period, pigs put out to forage in the forests would still have encountered wild boars. Management and deliberate feeding of the wild boar population in order to preserve it for hunting was thought necessary as early as the latter part of the 13th century: corn was bought in 1263 to feed the King's *porci silvestres* in the forest of Strathmore (Ritchie 1920, 91). By the middle of the 16th century, because of both deforestation and over-hunting, the wild population in Scotland was in decline, so much so that James V was obliged to import three *sangweleris* (Old French *sangler*, a boar) from France to his palace at Falkland in 1541 (Francisque-Michel 1882, 133; McNeill 1897, XVIII, 407, 513). The true wild boar had become extinct in Britain by the 17th century (Ritchie 1920, 185); the last animals in England were probably enclosed in parks in order to allow organized hunting (Aybes & Yalden 1995, 219; Clutton-Brock 1987, 71).

The Gaelic element *torc*, taken to mean the wild boar, and thus evidence for the wild species' presence, survives in some Scottish place-names, although it could also refer to the domestic pig, or even the 'hogback' appearance of certain topographical features (Aybes & Yalden 1995, 221).

NOTE ON ETYMOLOGY OF PIG NAMES

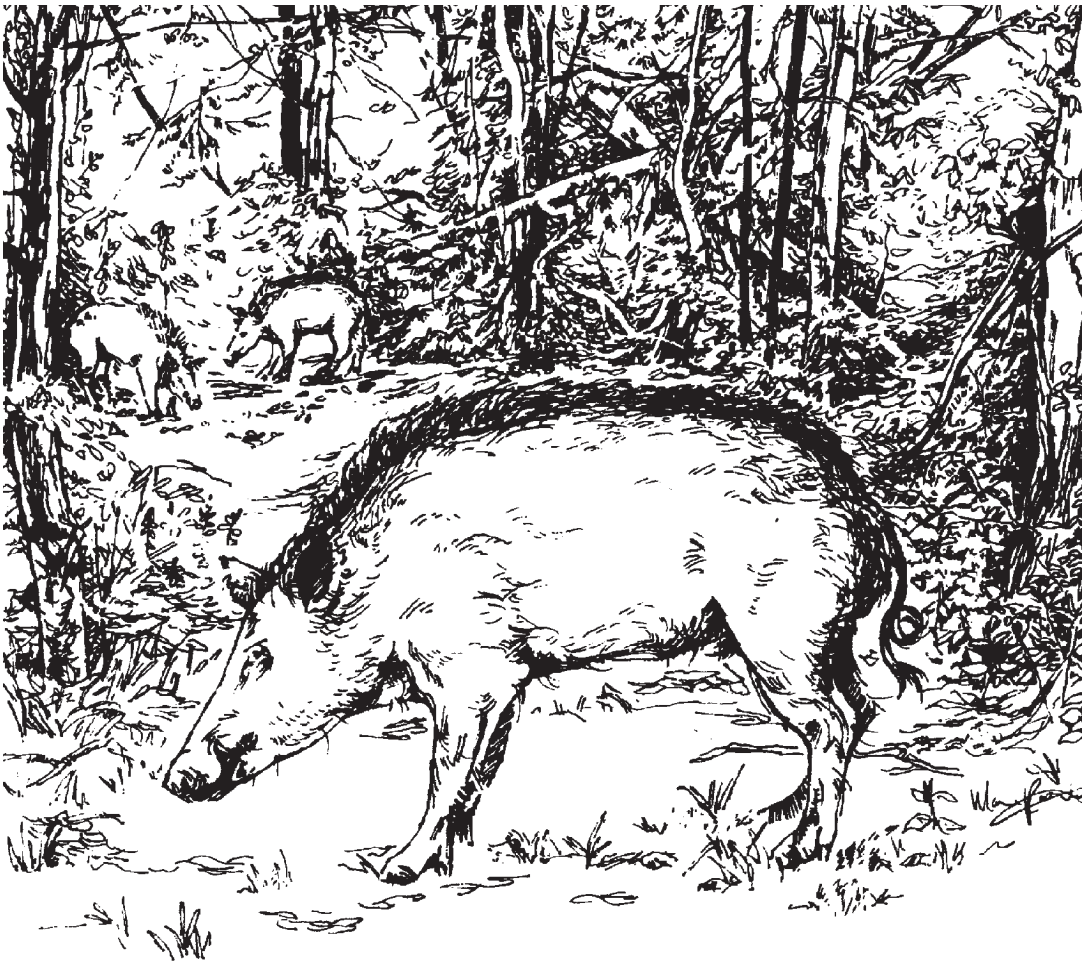
It is worth noting that in the earliest records written in Scots, the name 'pig' does not occur. The animals are universally described as 'swine' (often spelled 'swyne') from the 14th century onwards. The reason for this is that the Middle English term 'pig' originally referred only to the young animals; 'swine' means mature animals. It should also be noted that the name 'hog' was not used when referring to swine, but instead denoted a yearling sheep. 'Grice' or 'gryss' denotes a young pig, as does 'gussie' (which may also mean a ham). Both of these terms derive from the Old Norse *griss*, although while 'grice' was current from the 14th century onwards, 'gussie' is probably a later contraction of the word. 'Grumphie' is probably onomatopoeic and was current from the 18th century onwards (DOST; SND).

ARCHAEOLOGICAL EVIDENCE

NEOLITHIC AND BRONZE AGE

During the period from 4000 to 3750 BC there is no evidence for intensive farming settlements north of Perthshire and Angus. From 3750 to 3500 BC, however, there is evidence of settlement reaching as far north as Caithness and the Western Isles. Pasture had replaced much of the native woodland by 3500 BC (Ashmore 1996, 40 & 43).

Archaeozoological information for many early monuments in the north of Scotland, such as the chambered cairns of Caithness, is unfortunately sparse. Many of the excavations were conducted in the 19th century and the artefacts and bones, both human and animal, have subsequently been lost (see 'Inventory' in *The Chambered Cairns of Caithness* by Davidson & Henshall 1991, 88–169). Exceptions are the cairns at Loch Calder (Tulloch of Assery B and Tulach an t-Sionnaich) for which bone and dentition reports were prepared (Young & Lunt 1966, 65–73). The two chambered tombs contained 'abundant' animal bone including domesticates



ILLUS 1 Conjectured appearance of the Scots sow, the unimproved pig prevalent in Scotland from the Iron Age to the Early Modern period

(cattle, sheep and pig). Deer, dog and fox were also present. The report unfortunately does not give the numbers of bones so it is not possible to compare the relative frequency of the domestic species. The pig bones, however, included a jaw bone which possibly came from a female. The tombs were probably constructed between 3750–3500 BC (Ashmore 1996, 29).

There is more archaeozoological information available for the period 3500–3000 BC, although the best-preserved assemblages come from the Orkney islands rather than the Scottish mainland. For example, at Knap of Howar on Papa Westray, an extensive midden contained bones of pigs, although bones of cattle and sheep predominated in the assemblage (Noddle 1983). Another substantial Orkney bone assemblage is that from the Neolithic site of Skara Brae. Here, although not enumerated, the remains of pigs were thought to be 'relatively very rare' (Watson 1931, 203).

At Jarlshof on Shetland, in the Bronze Age, cattle and sheep were the most numerous domestic species; Platt (1956, 212), who originally studied the bones, considered the remains of pig to be numerically 'of little importance'. Further evidence of pigs in the Bronze Age is found in the form of pig bones accompanying human burials. Joints of pork, predominantly from the fore quarter, were clearly deposited in a short cist at Longniddry, East Lothian (McCormick 1991, 113–14), a cist at Gairneybank, Kinross-shire (Cowie & Ritchie 1991, 98) and at Uppermill, Cruden, Aberdeenshire (Harman 1977, 90). That the practice continued for some time is shown by the deposition of 'the jaws and other bones of a young pig' in a grave thought to be of Early Iron Age date (Craw 1924, 143).

IRON AGE

Many of the more substantial archaeozoological records from the Iron Age are again from sites in Orkney and Caithness, for example Howe, Stromness (Smith & Hodgson 1994) and Crosskirk Broch (McCartney 1984). At Howe, although cattle and sheep were the most numerous species, pigs were relatively more plentiful than on the mainland. There is also some evidence that the relative frequency of pigs compared with the other main food-forming mammals increased with the progression of time from the earlier to the later Iron Age. This is interesting, since the islands were never densely wooded and thus would not be expected to provide pigs with much in the way of forage. Similarly, at Crosskirk in Caithness, where it has also been shown that scrub tree cover was sparse during the Iron Age (Dickson & Dickson 1984, 148), pigs were almost as plentiful as at Howe. This probably means that at both of these sites, supplementary fodder of some kind must have been available for pigs, since the botanical evidence from Howe, at least, indicates that wood, and by inference the scrub woodland from which most of it came, was becoming scarcer with the passage of time (Dickson 1994, 134).

It should be noted here that not all of the bone from Crosskirk was available to the archaeozoologist, who reported that the original quantity of bone recovered had been much greater than that eventually examined; the excavators had 'selected only such . . . material as was potentially identifiable' (McCartney 1984, 135). In effect, a selective sample had been made; this was not unusual at the time of the excavation, which took place between 1966 and 1972. However, this means that comparison of Crosskirk data with those from other sites should be treated carefully. Nevertheless, it is still the case that 16.4% of the bones of food-forming mammals recovered from Crosskirk were from pig. Cattle (60.8%) and sheep/goat (14.8%), however, dominated the Crosskirk assemblage, and only 2.1% of the bones were from horse (the figure of 5.6% calculated from the published data for deer (ibid, 133) may be too high, since it is quite likely that the total of deer bones includes unattached antlers). At Howe, the comparable figures for food-forming mammals in Iron Age phases 3–8 were: cattle 43.8%; sheep/goat 36.0%; horse 0.8%; deer (excluding antlers) 1.7%; and pig 17.7% (from data in Smith & Hodgson 1994, 139, Table 11).

The ages at which pigs were killed are available for Howe, based on mandibular evidence (see Smith & Hodgson 1994, 145; Table 26mf, 1:D13). Here, just over half of the pigs (52.5%) died, or were killed, before they reached the end of their first year of life; a further 32.7% died before the end of the second year and the remaining 14.9% survived into adulthood. The last group probably represents the breeding stock. At Crosskirk, a total of 61% of the bones came from young or juvenile animals (McCartney 1984, 142).

Broch sites have been reappraised by Pearson *et al* (1996) in the light of recent work in the Western Isles, particularly at Dun Vulan in South Uist. They concluded that while bone

assemblages from the Northern and Western Isles are dominated by the bones of cattle and sheep, pigs also played a significant part in the diet of the inhabitants. They also found that the proportion of pig bones in the assemblages from wheelhouses such as Sollas in North Uist (Finlay 1991) was lower than that from the broch sites of Crosskirk in Caithness, Howe on Orkney, and Dun Vulan in South Uist. At Dun Vulan, pigs made up 22% of the mammal assemblage, and the majority of these died as neonates (9%) or within their first year (70%) (Pearson *et al* 1996, 65). The high proportion of young animals killed (both calves and piglets) and the relatively high proportion of pigs in general led Pearson *et al* to conclude that the inhabitants of the brochs led a higher-status way of life than those of the wheelhouses (ibid, 66).

In the south of Scotland, excavations at Broxmouth hillfort near Dunbar (Barnetson 1982) and the enclosure site at Fisher's Road East, Port Seton (Hambleton & Stallibrass, unpublished) are probably the best-preserved assemblages to have been recorded. To date, Broxmouth has only been published in summary form, and although a large quantity of bones were found no numerical data are given. However, it would seem that there were more cattle bones than sheep, and more sheep bones than pig (Barnetson 1982, 102). At Port Seton, the pattern was similar. Both hand-excavated and sieved samples were recorded. In the hand-excavated material, cattle accounted for 69.3%, sheep for 11.8%, pig 10.3%, horse 8.3% and deer 0.3% of the food-forming mammals (although it is pointed out that sheep bones were obviously under-represented in the sample) (Hambleton & Stallibrass, unpublished). The age structure of the pigs, estimated from epiphysial fusion data, indicated that no animals survived beyond three years, and that most of them were probably killed for their meat in their first or second year (ibid).

EARLY MEDIEVAL (ANGLIAN)

The excavation at Castle Park, Dunbar, recovered a large animal bone assemblage, dating from the Iron Age to the post-medieval period (Smith 2000). Of most interest in this context is the Anglian occupation of the site. Somewhat surprisingly, given the numerous references to swine in Anglo-Saxon documents (see Trow-Smith 1957, 54), the numbers of pigs kept at Castle Park showed only an insignificant increase from the earlier Iron Age period. In fact, the numbers of pigs compared with cattle and sheep appeared to increase after the end of the Anglian period (ie after Phases 7–13 at Castle Park). Unfortunately, there is a dearth of archaeozoological information for the Anglian period in Scotland and even the contemporary site at Yeavering may not be a useful comparison, for the reasons that bone survival was poor, and the assemblage found there may have been a ritual deposit rather than a domestic one (Hope-Taylor 1977, 325–32). Thus, at Yeavering only 1.09% of the mammal bones were from pig, compared with 9.2% in the Anglian period at Dunbar (Smith 2000).

Ages of the pigs at Dunbar in the Anglian period (Phases 7–13) were derived from both mandibular and epiphysial fusion evidence. On mandibular evidence, it appears that a substantial percentage (47.2%) of animals were over the age of 20 months and probably represented breeding sows. However, the epiphyseal fusion evidence indicated a much lower percentage of adult animals (10.4%). The difference in the two types of evidence may be partly due to poor preservation or a different pattern of disposal of young mandibles. None the less, it is apparent that a relatively smaller proportion of the animals were killed when young, compared with the Iron Age sites in the north of Scotland.

TABLE 1

Percentages of food-forming mammals from Scottish sites, from the Iron Age to the 16th century, based on fragment count

SITE	Date	Cattle	Sheep/ Goat	Goat	Pig	Horse	Deer
Orkney							
Howe Phase 7[1]	Later Iron Age	41.1	27.5	*	13.1	0.8	17.6
Howe Phases 7/8[1]	Later Iron Age	41.6	25.6	*	25.2	7.3	0.3
Howe Phase 8[1]	Later Iron Age	34.1	41.2	*	19.8	0.7	4.2
Caithness							
Crosskirk[2]	Later Iron Age	60.8	14.8	*	16.4	2.1	5.6
East Lothian							
Port Seton, Fisher Road East[3]	Iron Age	69.3	11.8	*	10.3	8.3	0.3
Dunbar, Castle Park, Phases 2–5[4]	Iron Age	63.8	28.0	*	5.5	2.1	0.5
Dunbar, Castle Park, Phases 7–13[4]	Anglian	57.3	31.2	*	9.1	2.0	0.4
Dunbar, Castle Park, Phases 15–20[4]	Medieval	54.2	29.8	*	12.7	2.3	1.0
Dunbar, Castle Park, Phase 21[4]	16th cent	60.7	27.7	*	7.7	3.2	0.7
Dunbar, Castle Park, Phases 22–23[4]	Post-Medieval	38.3	43.2	*	14.4	2.8	1.4
Iona							
Monastery site (1964–1974)[5]	Early Christian	46.5	8.6	*	8.8	0.2	35.9
Monastery, Ditch 1[6]	Early Christian	80.2	5.7	*	2.4	2.4	9.4
Monastery site, 1988[7]	Medieval	47.3	41.0	*	11.5	0.2	
Urquhart Castle, Loch Ness							
Phase 2, Cutting 100[8]	Medieval	56.3	19.1	*	15.7	0.7	8.1
Inverness							
Castle Street[9]	13th–15th cent	61.2	24.5	*	10.0	4.1	0.1
Elgin							
High Street (HS 77)[10]	13th-15th cent	56.0	22.3	10.3	7.2	3.5	0.7
Ladyhill[11]	12th-15th cent	61.8	8.8	*	13.4	1.9	14.1
Aberdeen							
Queen Street[12]	13th-14th cent	58.1	24.9	1.8	13.8	0.2	1.2
42 St Paul Street[12]	12th-14th cent	69.1	17.2	2.2	8.4	1.6	1.5
45–75 Gallowgate[13]	13th-16th cent	63.0	27.6	1.0	7.1	0.8	0.6
45–47 Gallowgate[14]	13th-14th cent	61.3	25.6	0.9	10.2	0.7	1.4
Gallowgate Middle School, Phase 2[13]	Medieval	54.9	32.1	4.5	7.6	0.2	0.7
16–18 Netherkirkgate, Phases 1–4[13]	Medieval	58.0	29.2	0.3	10.9	0.3	1.2
Carmelite Friary[15]	12th-15th cent	40.2	53.3	0.9	4.6	0.7	0.2
Aberdeenshire							
Rattray Castle[16]	Medieval	49.9	34.2	*	11.1	1.9	2.9
Perth							
75–77 High Street (PHSE)[17]	12th-14th cent	63.5	22.2	4.9	8.3	1.0	0.1
80–86 High Street[18]	12th-14th cent	51.8	37.1	*	10.6	0.1	0.4
St Ann's Lane[19]	13th-14th cent	57.6	32.8	*	8.9	0.4	0.2
South Methven Street[20]	Medieval	81.5	17.3	*	1.2		
Kirk Close[20]	13th-15th cent	76.1	18.7	*	4.8	0.2	0.1
Mill Street[21]	12th-16th cent	62.7	26.3	4.1	3.8	3.0	0.2
King Edward Street[21]	12th-13th cent	62.6	23.3	2.8	10.5	0.5	0.3
Kinnoull Street[21]	Medieval-Post-Medieval	63.1	29.3	*	7.6		
Blackfriars House[21]	13th-15th cent	67.1	21.4	*	11.4		
Scott Street[22]	14th-15th	66.7	27.8	0.2	3.0	2.1	0.2
Canal Street I[23]	14th-15th cent	58.2	32.1	0.1	5.8	3.6	
Canal Street II[20]	12th-15th cent	67.7	27.1	*	3.4	1.8	
Canal Street III, Phases 1–5[24]	13th-15th cent	66.0	28.1	*	4.5	1.3	0.1

SITE	Date	Cattle	Sheep/ Goat	Goat	Pig	Horse	Deer
Meal Vennel, Phases 1–5[22]	14th-15th cent	69.7	20.6	2.0	6.4	1.0	0.3
Whitefriars (Carmelite Friary)[25]	12th-15th cent	61.2	35.0	0.8	0.4	2.1	0.4
Peebles							
Bridgegate, Phases I & II[26]	13th-14th cent	36.5	53.8	*	2.6	3.8	3.4

Notes

* Indicates that sheep and goat are expressed as one figure
Antler fragments which are cast or not seen to be attached to skulls are omitted

Sources:

1 Smith & Hodgson 1994; 2 McCartney 1984; 3 Hambleton & Stallibrass unpublished; 4 Smith 2000; 5 Noddle 1981; 6 McCormick 1981; 7 McCormick 1993; 8 Smith forthcoming; 9 Hodgson & Smith 1982; 10 Hodgson & Jones, unpublished; 11 Smith 1998; 12 Hodgson & Jones 1982a; 13 Smith & McCormick forthcoming; 14 Smith & Hodgson 1984; 15 Smith unpublished; 16 Hamilton-Dyer *et al* 1993; 17 Hodgson *et al* unpublished; 18 Smith 1997; 19 Hodgson & Jones 1982b; 20 Smith & Hodgson 1987; 21 Smith 1995a; 22 Smith 1996a; 23 Hodgson & Jones 1983; 24 Smith 1996b; 25 Smith 1989; 26 Smith forthcoming (b)

LATER MEDIEVAL (12TH TO 15TH CENTURY)

Many excavations have taken place within Scotland's medieval burghs, from which a large body of archaeozoological data has been extracted. Perth, in particular, has been the subject of study, since the first large-scale excavation of the Marks & Spencer's site at 75–77 High Street took place between 1975–7 (Bogdan, unpublished; hereafter referred to as PHSE). This first major excavation is still unsurpassed in medieval Scotland for the wealth of organic remains, including animal bone, which survived.

A comparison of the percentages of pig bones with the other main domesticates (cattle, sheep/goat, horse and red/roe deer) from various urban sites in Perth, Aberdeen, Elgin and Inverness is shown in Table 1. Only a few rural sites of medieval date have been the subject of full-scale excavation and subsequent study: these include the castle sites of Urquhart on Loch Ness and Ladyhill in Elgin, and the deserted village of Rattray in Aberdeenshire (Smith, forthcoming (a); Smith 1998; Hamilton-Dyer *et al* 1993).

Pigs were obviously less plentiful in medieval Scotland compared with cattle and sheep (or goats), but there are variations between sites, even when these are located within the same burgh. For example, at Methven Street in Perth only 1.2% of the bones from the main food-forming mammals came from pigs, while at King Edward Street and Blackfriars House, both also in Perth, pigs accounted for 10.5% and 11.4% respectively of the food-formers (Smith 1995a, and Table 1). The average percentage for the whole burgh is 6.4%. The main reason for the low figure at Methven Street is because the assemblage consisted mainly of a deposit of discarded horn cores, primarily from cattle, and was thus atypical of the type of mixed domestic assemblages normally found in medieval Perth (Smith & Hodgson 1987, 197). The greater percentages of pig bones at King Edward Street and Blackfriars Street are perhaps more similar to those for sites in Aberdeen, which have a somewhat higher average percentage (9.7%). It is notable, however, that most of the urban burgh sites contain a lower average percentage of pig bones than do the rural sites of the same date. Thus at Ladyhill in Elgin, Urquhart Castle in Inverness-shire, and Rattray in Aberdeenshire, pig percentages are 13.4%, 15.7% and 11.1% respectively. Several explanations are possible: in the case of the two northerly castle sites, the assemblages may more truly reflect a domestic situation, rather than one in which much of the bone waste has come from industrial processes such as tanning or horn-working. Secondly, the degree of deforestation may have been less for the more northerly sites, and thus the local environment may have provided relatively

more forage for pigs. Thirdly, in the case of Urquhart Castle and Ladyhill in Elgin, it is obvious from the numbers of deer bones that hunting played a greater part in the economy of the site than it did in the towns. Thus the possibility that some of the bones from the rural sites may represent wild boar which were hunted, rather than domestic pigs, should be considered. As noted above, there is an inherent difficulty in identifying the bones of wild boar, since the main criterion for separating them from domestic stock is their larger size. Although a few very large bones were indeed found at Urquhart Castle, the majority were of relatively smaller size (comparable to those from urban assemblages) and it is likely that the latter were from domestic animals.

AGE AT DEATH AND SIZE

Although pigs can farrow all year round, Lauwerier (1983, 486–7) has suggested that, like the European wild boar, the most common months in which the earliest domestic pigs would have produced young were in March, April or May, but that given a mild climate and good food supply, subsequent litters were possible in the autumn. On the basis of the archaeological evidence, it may be postulated that the pigs which died at approximately 20–24 months were probably born about March and killed about November of the next year. If they were born in the autumn, the best time for killing them would be a full two years later, if the flesh was not to be preserved by salting, smoking or drying. This is because these processes are most successful if initiated under low temperatures, preferably within the range 2–13°C (Davidson & Coey 1966, 121). If the animals were to be consumed immediately, they could, of course, be killed at any time. This may have been the lot of the younger animals, between 8–12 months old, whose size made the carcasses less suitable for preservation.

Documentary sources may corroborate archaeological evidence of the ages at which pigs were killed in the medieval period; one example is found in a passage in the *Records of the Priory of the Isle of May* dating to between 1227 and 1231 (Stuart 1868, 16). Here the monks were granted an amount of pasture sufficient for a specified number of domestic livestock. Young sheep, cattle and horses were to be pastured until they became two years old, when 'they shall be removed'. Thus the piglets produced by the 'ten carrying sows with young until they become one year old' were presumably also to be removed from pasture. If they were not to be sold on, or further fattened, they would have been killed immediately at the age of one year. Sixteenth-century records also shed light on the age at which pigs were killed. A tack of 1541 for the lands of Mylnhorn stated that part of the rental (from Coupar Angus Abbey) should be the supply of 'ane fed bair' [boar], every two years, implying that it took two years to raise and fatten one animal (Rogers 1880, I, 13).

Estimates of the withers heights of pigs from all periods, from the Neolithic to the medieval period, based on Teichert's (1969) factors (quoted in von den Driesch & Boessneck 1974) are shown in Table 2. Animals in the Neolithic were probably slightly larger, or at least longer-legged than those in the Iron Age (despite the sample number from Neolithic Knap of Howar being much smaller than the Iron Age sample). At Knap of Howar, withers heights ranged from 71.6 cm to 78.8 cm, while at Howe the range was 51.9 cm to 73.4 cm, with one incomplete skeleton coming from an animal of about 64.7 cm. In the Anglian period, for which we have evidence from Castle Park, Dunbar, Phases 7–13, pig limb size probably remained the same as in the Iron Age, and the animals ranged from 55.5 cm to 76.1 cm high. During the medieval period, some larger pigs were present at PHSE, where the upper limit of the range was 82.3 cm, and at Dunbar, Castle Park (Phase 14), where the upper limit was 88.6 cm. In the medieval period, the presence of wild boar cannot be ruled out, particularly in the case of Dunbar, where a total of seven bones from Phases

TABLE 2
Withers heights of pigs, based on the astragalus

Site	Date	Astragalus GLl (greatest length of lateral half) Range	mean	n	Withers height range in cm	Withers height based on calcaneum or tibia
Knap of Howar, Orkney[1]	Neolithic	40–44	42.2	5	71.6–78.8	
Howe, Orkney (Phases 7 & 8)[2]	Iron Age	29–41		52	51.9–73.4	
Howe, Orkney (Partial skeleton)[2]	Iron Age	35		1	62.7	64.7, based on tibia
Crosskirk Broch, Caithness[3]	Iron Age				58.0–73.0	based on long bones and astragali
Dunbar, Castle Park (Phases 2–5)[4]	Iron Age	39		1	69.8	74.5, based on tibia
Dunbar, Castle Park (Phase 6)[4]	Iron Age/ Anglian interface	40.5–41.0	40.8	2	72.5–73.4	
Dunbar, Castle Park (Phases 7–13)[4]	Anglian	31.0–42.5	38.3	8	55.5–76.1	72.9, based on calcaneum
Dunbar, Castle Park (Phase 14)[4]	Medieval	39.5–49.5	34.5	2	70.7–88.6	
Perth, PHSE[5]	Medieval	31.0–46.0	37.0	24	55.5–82.3	
Perth, Kirk Close[6]	Medieval	38.0–41.0	39.7	3	68.0–73.4	
Perth, King Edward Street[7]	Medieval	36.0–38.0	37.0	2	64.4–68.0	
Perth, Meal Vennel Phases 1–3[8]	Medieval					
Aberdeen, 42 St Paul St[9]	Medieval	37.0–38.0			66.2–68.0	
Aberdeen, 45–47 Gallowgate[10]	Medieval	39.0		1	69.8	
Aberdeen, 16–18 Netherkirkgate[11]	Medieval	36–37.3	36.7	2	64.4–66.8	67.2, based on calcaneum
Aberdeen, Carmelite Friary[12]	Medieval	38.9		1	69.6	72.3, based on calcaneum
Elgin, High Street[13]	Medieval	39.0		1	69.8	
Inverness, Urquhart Castle (Phase 2)[14]	Medieval	35.8–40.2	38.3	3	64.1–72.0	77.0, based on calcaneum
St Andrews, St Nicholas Farm[15]	Medieval	40.5		1	72.5	
Dunbar, Castle Park (Phase 21)[4]	16th century	30.0–37.0	34.5	2	53.7–66.2	69.1, based on calcaneum

Sources:
1 Noddle 1983; 2 Smith & Hodgson 1994; 3 McCartney 1984; 4 Smith 2000; 5 Hodgson *et al* unpublished; 6 Smith & Hodgson 1987; 7 Smith 1995a; 8 Smith 1996a; 9 Hodgson & Jones 1982a; 10 Smith & Hodgson 1984; 11 Smith & McCormick forthcoming; 12 Smith unpublished; 13 Hodgson & Jones unpublished; 14 Smith forthcoming; 15 Smith 1995b

13, 14 and 16 (including a distinctive maxillary fragment) was almost certainly from the wild rather than the domestic animal.

The appearance of pigs from the earliest periods can only be conjectured from their remains. However, a few contemporary illustrations of medieval pigs survive, which indicate an animal smaller than the wild boar, with bristly back, long legs and a long snout, as in the wild animal. A most ferocious, long-legged, curly-tailed animal is shown in an eighth-century psalter from Utrecht (Muniz 1997, 9, fig 3), while from the English Queen Mary's psalter of 1310, a herd of small, hairy pigs is seen feeding on acorns in a wood (Davidson & Coey 1966, fig 6). It is interesting, therefore, that an illustration of the Irish Greyhound pig of the 18th century is as long-limbed and hairy in appearance as the eighth-century version (ibid, 295, fig 237). Early pictorial evidence from Scotland comes mainly from the carvings on Pictish stones. Gordon

(1965, plates XXIX & XXX) illustrated several 'boars', although he was of the opinion that the example from Dunadd, which has a downcast appearance, and one from Knocknagael were hardly ferocious enough to represent the wild boars but were intended as domestic swine.

MEDIEVAL AND POST-MEDIEVAL BURGH RECORDS

Records dating to the medieval period contain relatively few references to pigs, compared with sheep and cattle. Where they are mentioned, it is generally because of their nuisance value. For example, in the *Leges Quatuor Burgorum* ('the lawys of the burghis of Scotland mayd and ordanyt be the Kyng David') it is stated that 'It is nocht leyfull til ony burges wythin the kyngis burgh duellande for to halde swyne in the burgh bot gif he hase a kepar folowand thaim in the feylde quhar thruch his nyeburis inryn na scathe nor noye or than that he hald thaim in sty' (LQB LXXXIV, 349). This is important for understanding how pigs were to be housed; within the town, pigs should be under the watchful eye of a swineherd, and if not then they should be confined to styes. This would serve to limit the damage (or 'scathe') that foraging free-range animals could do to garden plots and other property. 'Scathe' (sometimes 'scaith' or 'skath') was the damage done by the trespass of animals, or the act or offence of trespass itself. The penalty for allowing pigs to spoil another person's property would presumably be similar to that for damage caused by any other domestic animal: for example, goats or geese. In the *Fragmenta Collecta*, laws pertaining to the period 1124–1424, (Innes 1868, I, 179) it is stated that anyone who 'fyndis gayte or geiss in his scath, he sal tak the hedis of the geiss and festin the nebbis in the erd, and the bodyis he sall et, the gait forsuth he sall sla and hald the bodyis for eschet' ('nebbis', beaks; 'erd', earth; 'sla', kill; 'eschet', forfeit).

It is necessary to turn to later records, dating to the 16th century, to learn that mistakes were occasionally made and animals were wrongfully killed as a forfeit. This is indicated by an entry in the records of Elgin for 1546, in which one Thomas Beyn was obliged to pay four shillings to John Crokatt in payment for the 'wrangus slaying of ane young swyn out of his skayth' (Cramond 1903, I, 88).

Despite repeated acts of the individual burgh councils throughout Scotland, it was obvious that control of pigs was not effective enough. In 1577 the records of Glasgow included among their annual statutes the instruction that no geese or swine should be pastured within the burgh roods, but should be 'kept in houses, under pain of escheat' (Marwick 1911, 166). In Dundee, however, this action was not enough, for there, in 1563–4, pigs were to be removed entirely from the streets: 'all neighbours to remove and put fra them furth of the burgh, all swine, so that nane be apprehendit heirefter' (Maxwell 1884, 102). Apparently the citizens paid little attention to these strictures, for very soon afterwards it was necessary for the council to issue an edict to the effect that 'na persons pretend to have ony swine trows [troughs] at their doors, or under stairs, or yet in open windows upon the common gait, under the pain of 20 shillings' [fine]. The owners of the swine were ordered to dispatch them before Martinmas 'otherwise it sall be lesum to slay them' (ibid). Eventually it was necessary to add animal-catching to the duties of Dundee's hangman, one Michael Mores, who thus became official burgh scavenger. He was furnished with a municipal 'wheilbarrow' and instructed to keep the streets clear of 'fulzie' and, in addition, given full liberty to 'slay all the swine that he can apprehend within the burgh, and apply the same to his own use' (ibid, 103). The office of burgh 'scaffyngir' was not a new concept in Scotland. In Aberdeen, one Sande Cowtis was appointed as early as 1497 (Wyness 1966, 71) and although his job description is not known in detail, it is possible that he, like Michael Mores in Dundee, was responsible for keeping swine off the streets. In Haddington, too, the responsibility of keeping

pigs, dogs and cats off the streets fell to the burgh hangman, under an assize of 1530 (Ritchie 1920, 92).

Pigs are repeatedly mentioned in the early 17th century in the Minutes of the Town Council of Perth (held by the Guildry Incorporation; M Stavert, pers comm). It is obvious by that time that the custom of ringing was common. This involved piercing the nasal septum with a metal wire, twisted into a ring, which could then be secured by a rope if necessary. Ringing prevented the pigs from causing damage to planted crops by stopping them from turning the soil over with their snouts. (The pig's defence against damaging its snout is a small bone, called the rostral bone, quite separate from the bones of the skull, which also serves to protect the skull when rooting through soil for food; no archaeological evidence has been found relating to ringing, since it is the cartilage which is pierced rather than the nasal bone of the skull or the rostral.) In Perth in 1604, ringing had become obligatory; an order was in force prohibiting 'swine from being seen on the Inches [common land] and Blackfriars Yard without rings, or the same to be sticked and the owner punished' (Guildry Incorporation Bundle B59/17/1). However, as with all similar orders in the past, almost identical instructions were given out a further three times between 1604 and 1610, implying that the populace took insufficient care to make sure that their swine were ringed, resulting in a 'statement of injuries done . . . to the Inches, lands, yards, goods etc' being raised (ibid). Even in the 18th century, the situation had still not improved. As late as 1710 Dundee town council was still trying to make sure that 'no swine [were] to be kept unless in houses; any person deprehending swine in his skaith can kill them' (Warden 1872, 392).

Pigs kept in town were not only responsible for damage to goods and gardens, however. The burgh of Lanark placed a restriction on them because reputedly 'ane sow eat ane barin in this toun in creddill' [child in cradle] (Whyte 1979, 81). This may or may not have been the case; pigs can exhibit aggressive behaviour, especially when kept in confined spaces such as their styes may have been, and cannibalism is not unknown (Boden 1998, 86). A curious pig, tempted by a wriggling baby, might mistake the movements for those of a small, edible animal. It is interesting that one of the reasons given in 1654 by the Town Council of Aberdeen for banishing 'ane great number of swyne' which had lately been brought into the town was that they might prove dangerous to young children; the other more unsavoury reasons being that they caused great damage with their 'heeds and snoutts, and that in the churchyard they haue cassin up great graves and uncoverit dead corpses, which is both dangerous and shamefull . . . and doe converse in all the filthie dunghillis, myddings, gutters and sinkes of all sorts of excrements and by their working raise ane infectious and intolerable smell' (Scott Burgh Rec Soc 1872, 143). By 1696 there was no longer any complaint 'anent the swyne' digging up the burial grounds, but they were still considered a hazard to 'childring' and were again required to be removed to at least a quarter of a mile away from the town (ibid, 319–20).

THE COUNTRYSIDE AND THE PORK 'TABOO'

The Forest Laws of Scotland provide one source of documentary evidence for pigs in the medieval period. Gilbert (1979, 271–328) has collated the various manuscript recensions of these laws and has deduced that the earliest probably dates to the 1130s, although additions continued to be made to their substance throughout the medieval period. Pannage was a term used in these early laws to describe the payment to be made in return for the privilege of allowing pigs to forage for acorns or beech mast: 'If there is an abundance of acorns in the king's forest the forester ought to summon both town and country dwellers to bring their pigs there so that the king may have pannage from them' (ibid, 304). Thus, pannage was seasonal, and also provided the opportunity

for domesticated animals to interbreed with wild boars in the forest. The right of pannage was also granted by the king to favoured religious establishments, for example a charter of David II (dated 1342) confirming earlier charters of Robert I and David I, granted *padnagium* (the right of pannage) to Holyrood Abbey (RSS 1982, 100–3).

With so much evidence for the presence of pigs in the towns of Scotland in the medieval period, both documentary and archaeological, it is perhaps surprising to learn that there ever existed a prejudice against pig meat. As has been remarked, they could cause a significant nuisance when kept within the confines of a built-up area, but, it might be supposed, were less troublesome outwith the burgh roods. Certainly pig-keeping provided an economic method of converting the waste from both industrial processes such as milling and brewing, as well as domestic kitchen waste, into protein and fats for human consumption. None the less, there is some evidence that a prejudice against pig meat did exist, particularly in the rural areas of the north of Scotland, although its origins remain somewhat obscure.

Perhaps the first documentary reference to such a prejudice is the statement in Bishop Lesley's 16th-century 'History', that in Scotland the flesh of fat oxen is salted 'as swyne flesh is uset in uthir cuntries, of quilke *our cuntrie peple hes lytle plesure*' (I, 32, quoted in MacKenzie 1935, 58). It is perhaps notable that Bishop Lesley seems to be referring to the rural population only.

There seems to be no further mention of a dislike of pig meat until the mid 1650s. In the collection of writings known as 'MacFarlane's Geographical Collections' (Mitchell (ed), I-III, 1906–8) the description of the district of Strathnaver in Sutherland includes the following observations: 'Pork is here, as everywhere, rather scarce. And it may suffice to say this once about the whole kingdom, that pork is generally despised, and left to be consumed by the mean populace, and that many *utterly abhor it*' (ibid, II, 254). It is the belief of the author of the Strathnaver account that pigs would have become extinct in the area were it not the custom whereby the tenant of a mill was obliged to pay, as part of his rental, a castrated pig, presumably fed on the milling waste (ibid). Evidence of this practice can be found in the 16th-century Rental Books of Coupar Angus Abbey; in 1541, the tack for the 'corn myln and landis' of Mylnhorn stated that part of the rental should be the supply of one fattened 'bair' every two years (Rogers 1880, I, 13).

It is left to writers of the 18th and early 19th centuries to elaborate on first-hand evidence of the Scottish pork prejudice; there are several references in the first *Statistical Account of Scotland* confirming, at least, the writers' belief in it. For example, the minister of the parish of Lorn, writing in 1793, notes that 'the deep-rooted prejudice against swine's flesh is now removed: most of the farmers [in Lorn] rear some of that species which, not thirty years ago, they held in the utmost detestation' (OSA VI, 177). In Lesmahagow, the minister reported that there had formerly been a 'superstitious prejudice against swine' but remarked that 'now there are a number reared and fed in this parish' (OSA VII, 481).

One of the authors of the series compiled for the Board of Agriculture and General Improvement, the *General View of the Agriculture* (written at a similar date to the *Statistical Account*) noted, in the volume for the county of Perth, that 'not many years ago, the Highlanders in general had a disgust at this kind of food, without being able to give any reason for it' but it is notable that he is using the past tense. He goes on to say 'their dislike of pork has greatly worn off; in so much that in a short time this loathing at swine's flesh will be accounted a singularity even among the Highlanders' (Robertson 1799, 326). 'Herds of thousands at a time' were claimed to have been brought down from the hills of Atholl, Strathardle, Glenisla and Glenshee (ibid). It

seems odd that there is little mention of pigs, therefore, in the *Statistical Account* for any of the 75 parishes in Perthshire. There are, in fact, very few remarks on pigs at all. Of the 38 parishes of north and west Perthshire, all but five returned records of livestock, and of the 33 parishes which did, only two, Bendochy and Caputh, made mention of pigs. In south and east Perth, eight parishes did not return records of livestock and of the remaining 29 only Longforgan, Scone, Tibbermore and Trinity Gask admitted to pig-keeping. This is not to say that there were no other pigs in Perthshire, but may merely mean that some of the ministers thought the animals of insufficient economic importance to mention, compared to the numbers of black cattle and sheep of the time; pigs may have been considered as being largely a subsistence animal, primarily for domestic consumption. Neither might it have been politic to admit to superstitious beliefs among the human flock.

The belief in the supposed abhorrence of both pigs and pork persisted into the 19th century, finding its way into the works of the folklorists. For example Gregor (1881) says it was regarded 'as a kind of unclean animal', although none of the writers of previous centuries had given this reason for its avoidance. This is perhaps significant since Gregor's phraseology recalls the biblical proscriptions against pig flesh in Leviticus 11:7 and Deuteronomy 14:8. Sir Walter Scott, in two of his novels (*Waverley* and *The Fortunes of Nigel*), alluded to the prejudice, and claimed that the deeply religious King James VI 'abhorred pork almost as much as he did tobacco' (quoted in McNeill 1974, 39–40).

In the early 20th century, it began to be doubted whether the pig problem had existed at all, leading to a series of letters in *The Scotsman* in 1921, in which the folklorist D A MacKenzie became involved. He was certain that the prejudice had indeed existed and later went on to include these ideas in *Scottish Folk-lore and Folk-life* where (to summarize) MacKenzie (1935, 41–74) concluded that the notion had its roots in Celtic mythology. He discounted the idea that the prejudice stemmed from the Mosaic Laws of the Old Testament, since in his opinion it had begun in the Highlands of Scotland, and as there had been no early translation of the Bible into the Gaelic language, then this could not have been the source (ibid, 57–8). However, as noted above, the prejudice was found in areas of Scotland far beyond the Gaelic-speaking areas in the 18th century; Lesmahagow is certainly not in the Highlands, yet the belief was extant there. Although the Bible may not have been translated into Gaelic until relatively recently, it was readily available in English following the Reformation. A law of King James was enacted in 1579 by which each householder in possession of an annual income of 300 merks, as well as burgesses who had 500 pounds in land or goods, must have 'a bible and psalme buke *in vulgar language* in thair houses' (APS III, 139). Admittedly most of the population either fell far below the required income or could not read, but this does not mean that the ideas contained in the books did not reach the masses through word of mouth.

A belief had also been current in the 14th century that eating rotten meat of any sort, including measly pork (that is, infected with tapeworm cysts) predisposed people to contract the dread disease of leprosy (Clay 1909, 61). Therefore, any rotten pork and salmon presented at the burgh markets could be removed and sent to the local leper hospital (APS 1844, 199; Innes 1868, 183), since, as the meat was already 'unclean', it could have no further effects on the recipients. It was still believed in the latter part of the 18th century that the diseases of 'measles, imposthumes [abcesses] and scrophula', carried by the pig, were a direct result of the animal's 'foul feeding and intemperance' (Morison's *Encyclopedia Perthensis 1796–1807*).

Whether there is any archaeological evidence of this prejudice against pigs, for whatever reason, is open to question. Certainly in the earliest prehistoric periods, there is evidence that pigs

were kept, and presumably eaten, like all other domestic animals. There is however, some variation in the frequency of pigs kept, with respect to cattle and sheep, depending on geographical location and date. Excavations on Iron Age sites in Orkney have probably recovered the highest proportions of pig bones, and there is evidence that pig-rearing was an important part of the subsistence economy in the Northern Isles until at least the early years of the 20th century (Fenton 1987, 496ff). During the medieval period, it has been noted (above) that rural sites contained more pig bones than urban sites, and that the lowest relative frequencies come from the most southerly of the burghs considered, Peebles and Perth (see Table 1). This contradicts the notion that it was the 'Highlanders' who abhorred pork, unless it is assumed that, despite this dislike, they continued to produce it for sale to others.

Other factors may therefore be involved in the apparent low uptake of pork in the more southerly burghs. Although pigs are not specifically named in the earliest regulations concerning the sale and slaughter of livestock, it might be argued that in the phrase 'all beif muttoun veill and lyke bestiall' they are actually included in the last named (APS II, 543). The reason for regulating the sale of livestock was in order to be able to collect customs on the animals. Any meat sold in the burgh was required to be accompanied by the hide or skin of the animal from which it came; the most practical way of doing this was to drive the animals in 'on the hoof'. However, if, as is possible, the sale of swine was not so closely regulated as that of cattle and sheep, then numbers of them were probably slaughtered at the point of production, rather than in the burgh fleshmarkets. If the carcasses were then partly deboned, salted and barrelled, any waste, including bones, would have been disposed of at the point of preparation, and thus would not appear in the archaeological record (Hodgson 1983, 11).

Another factor in the relatively low numbers of pig bones found may be related to the heavy reliance placed on primary products of the land in Scotland's medieval export economy. Scotland's wealth, and therefore that of the burghs, which were able to levy their own customs duties, was based on animal products such as cattle hides, wool, woolfells and, to a lesser extent, skins of fur-bearing animals, with salmon, coal and salt also providing important sources of revenue. Since cattle and sheep were of such prime economic importance, it is not surprising to find that assemblages from medieval burghs are dominated by their bones, with the result that pigs may seem relatively rare.

Thirdly, environmental factors, such as deforestation, may have limited the amount of suitable pannage provided by deciduous woodland, which in turn may have tended to restrict the numbers of pigs which could be kept. (However, as has been noted, the Northern Isles, which were relatively treeless, were abundant in swine.)

Lastly, taphonomic factors, such as conditions of preservation and age of the animals at death, may have had an effect on the numbers of bones which survive under archaeological conditions. Bones of younger animals are less durable than those from adults, and may therefore tend to survive less well under burial conditions. Gnawing of the bones by dogs and other carnivores would also tend to remove them from the assemblage; bones which have been thrown away with cartilage and other soft tissue attached would have been attractive to dogs. Bone articulations have important diagnostic features which allow identification to be made; once these have been destroyed by gnawing, the remaining pieces of shaft are often impossible to identify to species. One further factor, that of accelerating decomposition brought about by the presence of fatty acids in the soft tissues, has also been postulated (Noe-Nygaard 1977, 234). Since the pig carcass contains a higher proportion of fat than that of cattle and sheep, it might be expected that its bones would be more susceptible to decomposition.

THE SCOTS SOW AND THE BACON INDUSTRY IN THE 18th CENTURY

Before the era of agricultural 'improvement' of the later 18th century, Scottish farm livestock was considered to have fallen into a poor, almost degenerate and stunted state. Before the end of the century, societies dedicated to improving both pastoral and arable farming were set up, and interested landowners began to experiment with animal breeding in order to increase the yields that could be gained in terms of meat, milk and wool production. Potatoes were increasingly planted commercially, and it was found that the waste from potato production could be put to good use in feeding pigs (Handley 1963, 127). The hardy native 'Scots sow' had met its nemesis. The somewhat disparaging description of 'a small, thin-formed animal, with bristles standing up from nose to tail' (Douglas 1909, 59), with a 'long snout, long legs, [its] belly less pendulous, the back raised and the ears less slouching than in the other [improved] breeds' (Robertson 1799, 326) could as easily have described the medieval pig. It is probable that both its stature and temperament were almost identical. But like the Irish 'Greyhound' type (Watson 1998, 64, fig 1) to which it was similar in appearance, the Scots sow was about to be bred out of existence, despite its proven ability to convert cottagers' domestic waste into valuable protein and fats. By 1908, it could be stated that the breed which had probably changed little in size and appearance since the Iron Age had 'now happily been entirely eliminated' from Scotland (Douglas 1909, 61) — happily, that is, for commerce. (Unbeknown to the author of this account, the native breed still clung on in Fetlar in the Northern Isles, but eventually died out in the 1920s (Fenton 1987, 502).) The reason for the expurgation was that the conformation of the native breed was entirely unsuited for commercial bacon-curing — it was not fat enough, its legs were too long in proportion to its body, and the fore-quarters were, as in the wild boar, much more developed than the hind-quarters. This is related to the biology of the wild ancestor: it is the powerful shoulders and head end of the animal which enable it to dig into the soil to a considerable depth (Davidson & Coey 1966, 71), and as noted above, enable it to cause such damage to crops and gardens. The bacon-producers' pig was ideally much heavier in the hind-quarters than the fore-quarters. It should also yield the maximum amount of flesh, with the minimum of bone, and preferably weigh about 168 lb when the carcass was dressed (Douglas 1909, 61). The smallest size which was thought to be of use for producing hams commercially was about 112 lb dead weight. Unfortunately, the native pig must have fallen far short of either of these ideals, for bacon or hams, and was probably between a half to a third of this weight, perhaps as low as the 50 lb (dressed carcass weight) estimated for Saxon pigs (Chaplin 1971, 134).

Despite the small size of the animals, however, commercial barrelling of pork flourished in the earlier 18th century. In parts of Aberdeenshire it was for some time found successful; in Buchan in 1721, for example, there was 'an abundance of swine, of which some are carried off to Aberdeen [and] some are salted and exported' (Mitchell 1906, II, 46). Barrelled Aberdeen pork had a good reputation for keeping well on long voyages, according to Defoe, who observed it being loaded on to ships in the harbour at about the same date (Hope 1989, 154).

In Cromarty, an experiment in commercial pig-rearing was begun by George Ross, in the years prior to 1787, and recorded by Wight in his *Present State of Husbandry in Scotland* (1787, 252–5). The agricultural writer was most impressed with the conditions in which the pigs were housed: 'Here there is a large square, with buildings and stone walls on every side, for swine; the only one I ever saw. It stands in a sheltered situation on the shore, near the village of Cromarty. The houses for the breeding swine are on one side of the square, and the shades for feeding on the other side. The area is paved; and it is kept clean by a stream of water. The buildings for slaughtering, salting, and barrelling, are spacious, and conveniently placed in the centre of the

square.' Not only was the accommodation spacious and well-kept, but the pigs were apparently well treated: 'when the weather is hot, the hogs are every dry day in summer driven to the sea; and after bathing and cooling themselves, each returns to its own place'. The motivation behind the sea-bathing was purely practical, since it was believed that it facilitated fattening, and made the flesh firm and high-flavoured. Of course, it was not the native Scots sow which was the object of this attention, but the 'great Hampshire kind' (a term still used in America for the Wessex saddleback; D Alston, pers comm). Unfortunately, although barrels of Cromarty salt pork were exported to expatriate Scots living in the East and West Indies, George Ross had too many entrepreneurial irons in the fire, and the hog-yards of Cromarty were never, as had been hoped, 'applied to for salt pork, as Corke in Ireland [was] for salt beef' (ibid, 256).

None the less, in other parts of Scotland, mainly in the south-west, pig rearing was established and continued to be carried on profitably as the 18th century progressed. In Annandale, Robert Henderson of Broomhill published a treatise on the breeding of pigs and bacon curing, in which he noted that large droves of 'Highland swine' were brought to Annandale, and bought by the farmers there 'more from motives of curiosity than of profit' (Douglas 1909, 58). It was here in the south-west of the country, in Dumfriesshire and Ayrshire, that the Scottish bacon industry became established, surviving in some degree to the present day. The dairy industry had become established in Ayrshire, and the by-products of Dunlop (or sweetmilk) cheesemaking, mentioned in the *Statistical Account* (OSA VI, 186, 202) as well as the increasing acreage of potatoes, were found to be highly suitable for fattening pigs.

The processes of bacon-curing at the end of the 18th century were described by Henderson, who used to cart the flitches and hams around the countryside, in order that they could be hung in the traditional way in the cottars' chimney pieces to cure, 'some seasons to the amount of 500 carcases' (Douglas 1909, 64). Henderson noted that bacon could be cured only between the months of September and the middle of April, since it is important to cool the carcass after slaughter in order to avoid spoiling (ibid). Similarly, on Fetlar in the Northern Isles, pigs were killed in November, preferably at the time of the full moon, otherwise the belief was that the flesh would turn to fat (Fenton 1987, 503).

CONCLUSIONS

Evidence from broch sites on Orkney has shown that pigs were plentiful, and may have been regarded as high-status animals in the Iron Age, consumed by people at the upper end of the social stratum. This is also indicated by the ritual deposits of joints of pork (particularly the shoulder joint) placed in burials from the Bronze Age to the Iron Age. Like its ancestor the wild boar, the pig at this early period may have been regarded as food suitable for feasting. During the medieval period, however, its role was probably as a subsistence animal, whose ability to turn the organic wastes from both semi-industrial and domestic processes into food fit for human consumption was valued chiefly by less wealthy folk. Its ability to damage both property and, occasionally, humans led to its eventual banishment from towns. The widespread prejudice against pig meat, current from the 16th century and lasting in the north-east of Scotland until the 20th century, may have derived from concepts of 'clean' and 'unclean' foods originally presented in the Bible, particularly the Old Testament. That these ideas were not always adhered to is indicated by the fact that early religious houses kept herds of swine; for example a series of excavations on Iona has retrieved animal bone assemblages associated with both the Early Christian and medieval occupation of the monastery, in which pigs are well represented (see Table 1) (Noddle 1981; McCormick 1981 & 1993). However, in the later medieval period, there is some

indication from the assemblages from the Carmelite Friary, Aberdeen, and Whitefriars, Perth, that pigs may have been less popular as food than they were at secular sites within the same burghs; certainly the proportion of pig bones in the assemblage at the Perth friary appears strikingly low, at only 0.4% of the total food-formers, but in this case the overall sample number was small (Smith unpublished; Smith 1989). The prejudice against the native 'Scots sow' or 'Highland swine' culminated in its extinction, although it had survived with little evidence of change from the Iron Age until the early years of the 20th century. Its final demise came about not because of its 'uncleanliness', but because it did not have the characteristics required in a bacon-producing pig. It is perhaps ironic that the wild boar, exterminated in Britain in the 17th century, has been reintroduced in the south of the country (albeit accidentally), while its descendant, the unimproved domestic pig, is now extinct.

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