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The Animal Bones from the 1974, 1975 and 1978 Excavations at Silchester

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The animal bones from the 1974, 1975 and 1978 seasons of excavations at Silchester were analysed at the Department of the Environment, Faunal Remains Project at the University of Southampton. A total of 2,391 animal bone fragments was examined. These fragments were computer recorded using the system devised by Jones (n.d.). The number of fragments recovered is shown in Table 1, in which the bones are subdivided by period into Pre-Flavian, late 1st-early second century, and late 4th century assemblages.

The Pre-Flavian Deposits (c.40-70 A.D.)

746 fragments were examined, 598 of them from one feature (1978 1 (26)). This deposit, located by the south-west corner of the city wall contained a dense concentration of bones, particularly of cattle and unidentifiable large mammal(Table 1). Detailed analysis of the anatomical parts represented revealed that the cattle assemblage was dominated by skull, mandible and metapodia fragments (Table 2, Figure 1). The major meat-bearing limb bones were very poorly represented. The sample was therefore biased towards fragments of the skull and limb extremities. This in turn suggests that the cattle assemblage was derived principally from waste from the primary butchery and skinning of their carcases. This is supported by the fragmentation and butchery evidence that revealed a consistent pattern of carcase dismemberment. This is worth recording in detail.

a) Skull and Mandibles

Most of the numerous skull fragments did not bear butchery marks. One fragment, however, bore chop marks made during the removal of the horn core. Only two small fragments of horn core were recovered from this deposit and it seems likely that the horns were removed along with the major meat bones, probably for working. A fragment of a frontal bone bore a superficial chopmark suggesting that the top of the skull had been opened to remove the brain. Eight of the mandible fragments consisted just of part of the ramus and three of these bore chopmarks on their

Table 1

Number of Animal Bone Fragments Recovered from Silchester

Species	1978 1 (26)	Other Pre-Flavian	Late 1st-Early 2nd C.	4th centur (1975 4 4)
Cattle	244	29	201	164
Horse	1	-	6	6
Sheep/Goat	86	23	91	73
Pig	25	7	70	91
Dog	3	-	9	2
Red Deer	-	-	3	7
Roe Deer	-	-	2	1
Hare	-	-	-	1
Domestic Fowl	1	-	4	13
Dom. Duck/Mallard	-	-	-	4
Partridge	-	-	-	1
Golden Plover	-	-	-	1
Raven	2	-	-	-
Large mammal	175	64	288	265
Sheep-sized mammal	45	18	197	65
Unidentified mammal	16	7	52	6
Unidentified bird	-	-	2	-
TOTAL	598	148	925	700

Table 2

Bone Elements Represented of the Principal Stock Animals in Pre-Flavian Deposits

	1978 1 (26)			Other Deposits		
Bone	Cattle	Sheep/G.	Pig	Cattle	Sheep/G.	Pig
Mandible	35	24	1	2	2	-
Skull	54	5	4	1	-	1
Loose teeth	18	10	2	1	8	1
Scapula	23	2	2	2	-	-
Humerus	6	3	2	5	1	-
Radius	1	9	-	-	1	1
Ulna	2	-	1	1	1	1
Pelvis	11	-	2	3	-	1
Femur	2	5	3	4	-	-
Tibia	5	11	3	1	7	2
Astragalus	2	-	-	1	-	-
Calcaneus	3	-	-	-	-	-
Other tarsals	-	-	-	1	-	-
Metacarpal	21	3	1	1	-	-
Metatarsal	27	11	1	1	2	-
Metapodial	2	-	1	-	-	-
Phalanx 1	11	1	-	1	-	-
Phalanx 2	6	-	-	-	-	-
Patella	-	-	-	1	-	-
Vertebrae	9	2	2	3	1	-
Ribs	6	-	-	-	-	-
TOTAL	244	86	25	29	23	7

lateral surface just below the condylar process, made during the separation of the mandible from the skull. Finer knife cuts were found on the medial aspects of two anterior fragments of mandibles, possibly made during the removal of the tongue.

b) Scapula, Pelvis

The presence of a relatively large number of girdle bone fragments suggests that although the assemblage consisted mainly of the waste from the carcase extremities, some refuse was derived from the process of dismembering the limb bones from the trunk of the body. Six of the pelvis fragments had been chopped through the acetabulum to enable the severance from the femur. Two of the scapula fragments had been chopped near the articulation with the humerus to remove the forelimb.

c) Major Limb Bones

Two of the humeri bore butchery marks. One small midshaft fragment had been chopped near the proximal articulation. A distal fragment had been chopped through during the disarticulation of the cubital joint. A shaft fragment of a tibia had been chopped superficially on the posterior surface.

d) Metapodia

All the metapodia examined had been broken open, and roughly equal numbers of proximal and distal portions were represented. They were broken presumably to extract the marrow before they were discarded. In addition, two metatarsi had knife cuts close to the proximal articulation on the posterior surface, made either during the disarticulation of the bone from the tarsals or during the skinning of the carcases.

e) Phalanges

Four first phalanges had small knife cuts on the posterior of the bone almost certainly made during skinning.

f) Ribs

Including butchery marks observed on unidentifiable large mammal rib fragments (in the absence of horse and red deer bones these too almost certainly belonged to cattle), 14 bore either chopmarks or knife cuts or both.

The assemblage can be interpreted as evidence for the organised butchery of cattle carcases and the redistribution of their meat, horns, skins and marrow. The scale of this activity is uncertain. The bones from this deposit belonged to a minimum of only 10 cattle, although there is no reason to suppose that so few beasts are represented by these bones. Several factors, however, suggest that the butchery operation was performed on a large scale. The first is that the density of bones in the deposit was great and the limits of this deposit were not reached. In addition, there was much less canid gnawing evident on these bones compared to other deposits (2% of the cattle bones bore gnawing marks, compared to 9% in the late 1st-early 2nd century deposits and 18% in 1975 4 (4)). This could indicate that the bones were dumped and buried quite quickly before dogs had access to them.

Evidence for large scale organisation of cattle butchery has been found previously in Silchester. Most notable was the extensive and dense accumulation of cattle mandibles discovered in 1905 in Insula VI. In an area of less than half a cubic yard, 71 cattle mandibles were recovered, associated only with a few cattle scapula fragments and one or two bones from other domestic animals. The deposit, which can be dated to the 1st century A.D., extended over a much greater area and the number of cattle represented seems to have been very large (Newton 1906: 165-167; Boon 1974: 290). Elsewhere, a deposit of at least 60 horn cores, also probably dating to the late 1st century A.D., has been found (Boon 1974: 290). This find compliments the evidence from the present assemblage, which indicated that the horn cores were removed from the rest of the skull to be processed elsewhere.

Other Romano-British towns have produced similar deposits. The types of bone represented at Silchester have close parallels to a more extensive collection of cattle bones recovered from the Rack Street excavations in Exeter and dated to the late first century A.D. (Maltby 1979: 11). Both samples were dominated by mandibles, skull and metapodia fragments (Figure 1). Another close parallel for this butchery process has been found in London. Excavations at Aldgate revealed a pit densely filled with bones consisting predominantly of cattle mandibles, skull fragments, metapodia and phalanges. This assemblage was dated to the late first-early second century and associated with military occupation (Watson 1973). The butchery practised on these assemblages was

very similar to the one from Silchester. The metapodia had been broken almost invariably into proximal and distal portions and, despite the large number of skull fragments, virtually no horn cores were present. The early date of the Silchester deposit makes it seem likely that this system of butchery was introduced during the early Roman occupation and was organised initially by the military forces, who had in any case great demands themselves upon the food supply. The system seems to have continued in these urban centres at least into the second century.

The cattle bones in the concentration of butchery waste at Silchester belonged mainly to adult animals, although four out of nine distal metacarpi and two out of nine distal metatarsi had unfused epiphyses and thus belonged to relatively young animals. Metrical analysis of the bones showed that most belonged to relatively small animals, no larger than specimens of Middle Iron Age date in Hampshire. Given that in many parts of England, cattle increased in size during the Romano-British period (Maltby 1981: 185-187), this evidence may suggest that the cattle brought to the site were local, unimproved stock. Too little is known, however, about the stock of the late Iron Age in the area and the sample here is too small to provide firm conclusions.

Of the other species in this deposit, only sheep and pig were represented in any numbers. 13 of the 86 sheep/goat fragments could be identified definitely as sheep, whereas goat was not positively identified. The sample contained a relatively large number of mandibles (24) and relatively few good meat bones and it is possible that some primary butchery of sheep was performed alongside cattle.However, the more fragile sheep skeletons are more likely to have been affected by the differential preservation of their elements. Sturdy fragments, such as the mandible, loose teeth and shafts of the radius, tibia and metapodia are often over-represented in poorly preserved samples and all are well represented here (Table 2). Eight of the sheep mandibles could be aged. Five of these had the second molar in an early stage of wear but with the third molar not erupted. These therefore belonged to immature animals, possibly second year cullings when the animals were at an age and size suitable for slaughtering for their meat. Many Romano-British sites have concentrations of sheep slaughtered around this age (Maltby 1981: 175). The other three mandibles had fully erupted toothrows and belonged to

Pig (25 fragments)was poorly represented in this deposit and bones of horse, dog, raven (Corvus corax) and domestic fowl were present (Table 1). The discovery of domestic fowl is of interest since their remains are absent from many Iron Age sites (Maltby 1981: 161-2).

Only 148 fragment were recovered from other Pre-Flavian contexts and most of these were in a poor state of preservation. The sample was too small to draw any firm conclusions.

Late First-Early Second Century Deposits

925 fragments of animal bone were examined from several contexts of this date, nearly all from the 1978 excavations. Once again cattle dominated the sample (201 fragments). In addition, considering the low representation of horse and red deer, it is likely that nearly all the unidentified large mammal fragments (288) also belonged to cattle (Table 1). The cattle sample was again dominated by fragments of mandible, skull, metapodia and scapulae, although phalanges were found more commonly than in the earlier deposit. Fragments of the major meat-bearing bones were still quite rare, although slightly better represented (Table 3, Figure 1). It is therefore possible that some of this material belonged to the waste from primary butchery of cattle carcases. This may imply a long term practice of such activities in that area of the town. Alternatively, there could simply have been some admixing of bones from the earlier levels. Certainly this material could have been derived from several different disposal processes and it is not purely a primary butchery assemblage.

14 of the 91 sheep/goat fragments were identified as sheep, whereas only a single horn core fragment definitely belonged to a goat. Although mandible fragments were still the most common bone element recovered, they did not dominate the sheep/goat assemblage as much as in 1978 1 (26) (Table 3). Eight of these mandibles could be aged. Of these, six had completely erupted toothrows and belonged to adult animals, one had the second molar in an early stage of wear and another belonged to a lamb that had only the first of the molars in early wear. Pig (70 fragments) was better represented in these levels. Loose teeth and mandible fragments were (as usual in pig assemblages) the most commonly occurring bones but most other elements of the skeleton were recovered in small numbers (Table 3). Of the other domestic species, horse, dog and domestic fowl bones were found in small

Table 3

Bone Elements Represented of the Principal Stock Animals in Late First-Early Second Century Deposits

Bone	Cattle	Sheep/Goat	Pig
Mandible	16	15	11
Skull	30	9	5
Loose teeth	17	10	14
Scapula	25	5	3
Humerus	1	5	6
Radius	2	4	3
Ulna	4	-	2
Pelvis	14	3	2
Femur	6	6	4
Tibia	9	11	3
Astragalus	2	1	1
Calcaneus	6	1	1
Carpals	1	-	-
Metacarpal	13	7	3
Metatarsal	15	9	-
Metapodial	1	1	1
Phalanx 1	8	2	1
Phalanx 2	11	-	-
Phalanx 3	2	-	-
Patella	1	-	-
Fibula	-	-	7
Vertebrae	10	-	1
Ribs	7	2	2
TOTAL	201	91	70

numbers. Evidence for the occasional consumption of horsemeat was found. The proximal portion of a radius in 1978 1 (21) was found to have been chopped in several places presumably during the disarticulation of the cubital joint. No butchery marks were found on the remaining few horse or any of the dog bones. Red deer (Cervus elaphus) was represented by three bones including a scapula that had been chopped near the articulation with the humerus during dismemberment and a sawn offcut of antler. Roe deer (Capreolus capreolus) was represented by a mandible of an immature animal and a metapodial fragment. Domestic fowl was the only species of bird represented (Table 1).

Fourth Century Deposit (1975 4(4))

700 fragments were examined from 1975 4 (4), a late fourth century deposit consisting of rubbish piled around the back of the South Gate and on the tail of the old rampart behind the city wall. This material was dry-sieved through a 5mm mesh during excavation. The limits of the deposit were not reached. It contained a substantial assemblage of fragmentary bones. A large percentage (11%) of the material showed evidence of canid gnawing, indicating that the assemblage had been modified by dog scavenging. Of the identifiable material, cattle bones again dominated (Table 1). However, the bias towards mandibles, skull and and metapodia fragments was not evident in this deposit. In consrast, meat bones were found more commonly.and there was a much more even representation of the different carcase elements (Table 4, Figure 1) Apart from the presence of a comparatively large number of phalanges and a smaller number of mandibles, this sample compares reasonably closely with the fourth century material recovered from Trickhay St. in Exeter (Figure 1, Maltby 1979: 13, 102). Most of the cattle represented &R&S& were adult animals but the material was too fragmentary for detailed ageing or metrical analysis.

The poorer preservation of bone in this deposit is reflected in the sheep/goat sample (Table 4). Over 20% of the fragments were loose teeth and the sturdier shaft fragments of the radius, tibia and metapodia formed a large part of the assemblage. Despite sieving, no phalanges, carpals or tarsals were recovered from this layer. No goat bones were positively identified, whereas seven fragments certainly belonged to sheep. Pig (90 fragments) was better represented than sheep/goat but whether this is an indicatio

Table 4

Bone Elements Represented of the Principal Stock Animals in 1975 4 ④

Bone	Cattle	Sheep/Goat	Pig
Mandible	12	7	10
Skull	13	3	5
Loose teeth	17	15	13
Scapula	6	2	5
Humerus	10	4	3
Radius	7	6	3
Ulna	5	-	3
Pelvis	12	4	2
Femur	10	5	3
Tibia	9	12	8
Astragalus	4	1	-
Calcaneus	2	-	5
Metacarpal	6	6	8
Metatarsal	7	7	5
Metapodial	1	-	7
Phalanx 1	19	-	4
Phalanx 2	6	-	-
Phalanx 3	2	-	-
Fibula	-	-	1
Vertebrae	13	-	4
Ribs	3	-	2
Sternum	-	1	-
TOTAL	164	73	91

for the increased importance of pork cannot be determined from the evidence of a single deposit. Loose teeth and mandible fragments continued to be the most common pig elements recovered but metapodial fragments increased significantly forming over 20% of the assemblage (Table 4). Large concentrations of the bones of pig trptters thrown away as waste have been found in some Romano-British contexts (Huggins 1978; Maltby 1979:11-13).and it is possible that this assemblage included a small amount of butchery waste. The assemblage from 1975 4 (4), however, did not have marked consentrations of primary butchery waste and it appears to have been built up of material that could have derived from a whole range of disposal activities, including kitchen and cooking refuse. Butchery marks, mostly chopmarks, were found quite commonly on bones of all these species.

Of the other species represented, the six fragments of horse included a third metatarsal that had been worked. The bone consisted of the proximal articulation and the top part of the shaft. It bore superficial chop and sawmarks near the articulation where the bone had been disarticulated from the tarsals. The bone had also been sawn through the shaft c.75 mm from the proximal articulation. It is probable that the central portion of the shaft had been required for working and this fragment represents an offcut from that process. No other butchery was found on the horse bones. Only two dog bones were found including a mandible in which the third premolar had been lost during life. Such an ante-mortem loss is not uncommon in dogs. Seven fragments of red deer were identified including an antler fragment and a portion of the ilium which had been chopped through the acetabulum during the disarticulation of the hind limb, a practice similar to that carried out on cattle pelves in the same context. Roe deer and hare (Lepus sp.) were each represented by a single fragment. 19 bird bones were identified, the majority (13) belonging to domestic fowl. Four bones belonging to domestic duck or its wild equivalent the mallard (Anas platyrhynchos) were found including a humerus with knife cuts on it. A single bone each of a partridge (Perdix perdix) and a golden plover (Pluvialis apricaria) were recovered and these species too could have been an occasional supplement to the meat diet.

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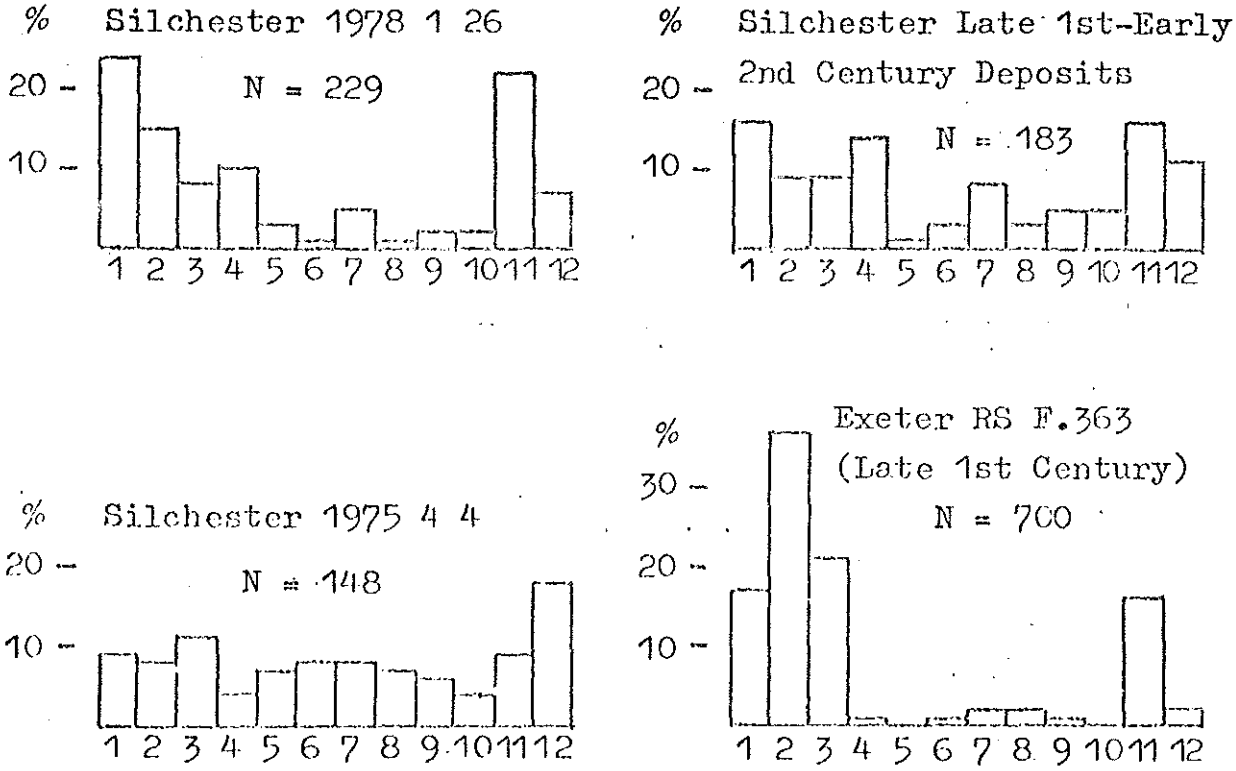
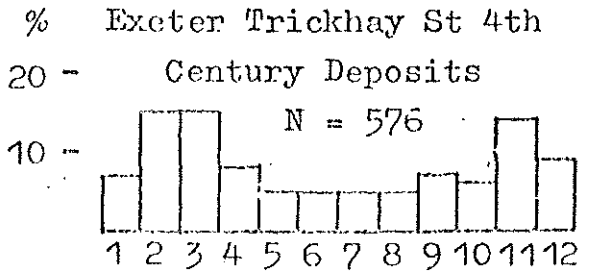
Figure 1



Key

1 Skull
2 Mandible
3 Loose teeth
4 Scapula
5 Humerus
6 Radius, ulna
7 Pelvis
8 Femur
9 Tibia
10 Tarsals, carpals
11 Metapodia
12 Phalanges



Percentages of Cattle Anatomical Elements (excluding vertebrae and ribs) from Deposits in Silchester and Exeter