ANIMALS

AML Report 1627

Animal Bones from Mount Pleasant

My ref. S47
A.M.No: 700199

Introduction

The collection, comprising 1730 identifiable specimens, is made up of material from seven different archaeological features which fall chronologically into three separate groups: Late Neolithic (ca 2000 BC), Beaker (ca 1700-1600 BC) and Iron Age (ca 100 BC) and it is on this basis that the material is described.

In most collections of excavated bones it is found that extremities survive better than shafts but this one was found to be an exception. This fact much reduced the number of measurements available and also the information from which the age structure at death of the populations of the domestic species could be deduced.

No attempt has been made to express ages in years because, to do so without the knowledge of when various epiphyses fused and teeth erupted in the prehistoric and early historic periods gives a spurious impression of precision. There is no reason to suppose, however, that the sequence in which those events occurred was any different from that in modern animals, information about which is readily available (19. 20). The preferred approach has been that of establishing age groups for each species in which the sample is large enough. To do this the long bone epiphyses were divided into early and late fusing moieties, the number of fused and unfused specimens in each being expressed as a percentage of the total. The unfused epiphyses in the early fusing group then indicate the percentage of juveniles in the population and the fused specimens in the late fusing group, the percentage of fully mature adults and aged animals. The intermediate group of young adults can then be derived by subtraction.

Measurements are in millimetres throughout and the extremities of bones measured across articular surfaces.

I Late Neolithic (299 specimens identified)

The domestic species present, with the minimum number of individuals in brackets, were cattle (6), sheep (3), goat (1) - not certainly identified, pig (11) and dog (2). The wild species were horse (1), red deer (2), fox (1) and birds.

The measurements of bones are shown in Table I.

Table I Measurements of Bones from domestic species

	t.l.	t.l.h.	p.w.	m.s.d.	d.w.
Cattle					
Humerus	-	-	-	-	84
Radius	-	-	68	-	-
Metacarpal	202*	-	54	30	57
Tibia	-	-	-	-	47-50(2)
Astragalus	60	-	-	-	-
Lower third molar	38-40(3)	-	-	-	-
Sheep					
Tibia	-	-	-	-	22
Pig					
Humerus	-	188	-	21	35
	204	183	-	21	35
Astragalus	39-41(2)	-	-	-	-
Scapula	width of neck 24-35(3)				

t.l. = total length t.l.h. = total length to head (humerus only)

p.w. = proximal width m.s.d. = midshaft diameter

d.w. = distal width

Figures in brackets indicate the number of specimens measured

* The m.s.d. index (m.s.d. x 100/t.l.) is 14.8% suggesting this was a cow (9) so the length is multiplied by 6, giving an approximate shoulder height of 121 cms. (47 ins) (2)

Domestic species

Cattle

The measurable bones indicate large cattle typical of the Neolithic (6. 7. 14.) although the complete metacarpal is that of an animal at the lower end of the size range.

The sample was very small but the bones of fully mature animals comprised 80% of the total.

Sheep

Owing to the small amount of material all that can be said of this species is that it was there.

Goat

The presence of this animal in the Neolithic is well attested (4.6.12.) but on this site is not absolutely certain, the evidence being the somewhat intuitive identification of an incomplete juvenile tibia.

Pig

The animal from which came the smaller of the two humeri (204 mm. t.l.) mu have been very much the same height as Pitt Rivers' test animal which stood 71 (28 ins.) at the shoulder (17). There was not enough material to provide information about the age structure.

Dog

There was a total of only six specimens from the Neolithic levels and only worthy of note. This was a lower first molar (21 x 9 mm.) similar to that of a modern female Alsatian in size but in fact probably from a smaller dog because primitive dogs tended to have large teeth relative to skull and body size.

Wild species

The total number of specimens from horse (Equus caballus) red deer (Cervus elaphus) and fox (Vulpes vulpes) was only fifteen and only one was of note, a complete metacarpal of red deer (263 t.l., 37 p.w., 24 m.s.d. and 40 d.w).

It is thought that the horse was wild in the Neolithic (6. 22.) largely, perhaps, because there is no evidence to the contrary.

Birds

The single specimen found was from a Common Crane (Grus grus) in the Site IV ditch.

Cap II Beaker (972 specimens identified)

The domestic species represented were cattle (10), sheep (7) and pig (11) and the dimensions of all measurable bones are shown in Table II. The wild spec were aurochs (2), wild boar (1), red (3) and roe deer (1), fox (1) and birds.

Table II Measurements of bones from domestic species

	t.l.	p.w.	m.s.d.	d.w.
Cattle				
Humerus	-	-	-	67-75(5)
Radius	257	68	38	61
		71	42	60
		69-82(4)	-	63(1)
Metacarpal	203*	53	30	57
	-	63-64(2)	-	63(1)
	-	50	27	-
Astragalus	64-68 (8)	-	-	-
Lower third molar	35-42 (12)	-	-	-
Sheep				
Humerus	-	-	-	24
Radius	149	27	15	23
Lower third molar	20-22.5(6)	-	-	-
Pig				
Tibia	189	49	22	24
Astragalus	41	-	-	-
Lower third molar	32-40 (7)	-	-	-
Scapula neck	24			

* m.s.d. index 14.8. Shoulder height 122 cms. (48 ins) approx

(see note Table I)

Domestic species

Cattle

A comparison of Tables I and II shows that the Neolithic and Beaker cattle on this site were of very similar size. There seems to be a slight change in the relative proportions of the age groups, the juveniles showing an increase to 33% and the fully mature a decrease to 47%. This finding is to some extent reinforced by the relative proportions of lightly (65%) and the heavily worn (35%) temporary

lower third premolars. This tooth was replaced in nineteenth century cattle at about 3½ years of age (19) and perhaps even later in prehistoric animals. However all the teeth referred to still had long roots and were thus far from ready to be shed so probably came from much younger animals. Twelve lower third molars, a late erupting tooth, were found. Three (25%) had the third cusp unworn, in two (17%) it was just in wear while in seven (58%) all three cusps were well worn indicating fully mature, even old, animals.

Sheep

The only specimens suitable for ageing purposes were six lower third molars and six temporary lower third premolars. One of the latter group which showed no wear at all must have been from a lamb while the degree of attrition on the others indicated young adults while four of the six molars were so worn they must have been from fully mature animals. The dimensions of the bones are closely akin to those of the Soay, a small slender animal.

Pig

Fully mature animals formed 20% and juveniles 33% of the total but, as with the sheep, the number of specimens was small.

Wild species

Aurochs (Bos primigenius)

The evidence for the presence of this species consists of two astragali. These had a lateral length of 87 and 78 mm. respectively. From the data presented by Grigson (5) the larger may have been from a bull but the 78 mm. specimen is smaller than those recorded from any European country except Hungary where, the evidence suggests, there was a smaller race. However the total she records from Britain is only twelve specimens and the difference between those and that from this site is only 2 mm. and between it and one from Sweden only 1 mm. An astragalus of 79 mm. tentatively identified as aurochs was found at Marden (7). The largest astragalus of Neolithic or Bronze Age domestic cattle known to the writer from published and unpublished data is one of 72 mm. from Durrington Walls which is itself slightly longer than any previously recorded. There is little doubt that there was a gradation in size between domestic, those in the process of being domesticated and wild bovids (5) and thus any specimen not at the extremes

of the size range will be difficult to identify correctly.

One astragalus was from the Palisade Trench and one from the Site IV ditch.

Wild Boar (Sus scrofa)

Two specimens, an astragalus and a portion of tusk, both from the Site IV Ditch, were thought to belong to this species, the criterion of identification used being size. This is regarded by German workers as a valid distinction and on sites where pig bones are present in any number, if they fall into two distinct groups on this basis, the large bones are ascribed to wild boar and the smaller to the domestic species. The astragalus had a lateral length of 54 mm., which is bigger than all but one of the nine astragali of wild boar at the Iron Age site of Heuneburg (3.18). The tusk, of which only a short portion remained must, in life, have been formidable. The dimensions of the three sides were 25, 20 and 13 mm. respectively.

The remaining wild species, Red deer, roe deer and fox do not merit individual mention.

Birds

In the Palisade Trench were two bones of Song thrush (Turdus philomelos) and in the Site IV Ditch one bone each of either grey lag or bean goose (Anser anser or A.arvensis) and one from a pintail (Anas acuta).

Caps

III Iron Age (359 identified specimens)

The domestic species present were cattle (6), sheep (5), goat (1), pig (3) horse (1), dog (1) and the wild species Red deer (1), fox (1) and badger (1).

Table III Measurements of Bones from Domestic species

Cattle

	t.l.	p.w.	m.s.d.	d.w.
Humerus	-	-	-	60
Radius	318	83	48	-
	-	-	-	64
Metacarpal	-	60	-	-
Tibia	-	-	-	50 (2)
Lower third molar	32-35(3)	-	-	-

Pig	t.l.	p.w.	m.s.d.	d.w.
Tibia	-	-	-	24
Calcaneum	92	-	-	-
Astragalus	44	-	-	-
Horse				
Humerus	-	-	-	65
Metacarpal	202	41	28	42

Cattle.

In general the few bones that were measurable were similar to those from other contemporary sites with one remarkable exception; the radius with a length of 318 mm. This is considerably bigger than any other ~~beast~~ bovine radius recorded from the Iron Age. The longest from little Woodbury was 237 mm. (13) and from Longbridge Deverill was 260 mm. (8). In any population outstandingly large individuals occur from time to time. This animal may have been such a one or it may well be that, as more Iron Age sites are excavated, it will become apparent that the range of size among the cattle was greater than is now thought. Another noteworthy specimen was a skull, much damaged, but of which enough remained to show that it was from a hornless animal. (Fig I).

Sheep

A total of fifty three specimens, mostly teeth provided very little useful information. The presence of a radius with fused distal epiphysis and lower third molars showing marked wear attested to survival well into maturity.

Goat

The evidence for the presence of this species was a single specimen, the proximal extremity of a radius.

Pig.

All the available information is contained in Table III.

Horse

The only complete bone, out of some twelve specimens, indicated a pony of the size regularly found on Iron Age sites (8) that is about 12½ hands (130 cms.) in height.

Dog

The only specimen of note was part of a mandible in which the lower first molar measured 22 x 9 mm.

Wild Animals

These were red deer, fox and badger (Meles meles) represented by a total of only twelve specimens.

Discussion

From Table IV can be seen the way in which the relative numbers of the various domestic species altered during the time span of this site, some 2,000 years. Cattle increased only slightly, sheep showed a two fold increase and the pig, nearly a three fold decrease. The alteration in the numbers of these two species can presumably be attributed to forest clearance and the consequent reduction of habitat suitable for the pig.

Table IV Numbers and Percentages of Domestic Species

	Cattle		Sheep		Pig		Horse		Goat	
Neolithic	6	30	3	15	11	55	-		-	
Beaker	10	36	7	25	11	39	-		-	
Iron Age	6	38	5	31	3	19	1	6.25	1	6.25
	M.N.I.	%	M.N.I.	%	M.N.I.	%	M.N.I.	%	M.N.I.	%

M.N.I. = Minimum Number of Individuals

A comparison of the age structure of the cattle in the Neolithic and in the Beaker periods seems to point to a change in the pattern of stock-rearing but in view of the small size of the sample from the Neolithic it would probably be a mistake to rely too much on the validity of this conclusion although it is consistent with the supposed importance of pastoralism during the Bronze Age when it might be reasonable to assume that more cattle, especially young adult surplus steers, would be available for slaughter for meat. However, it should never be forgotten, although it frequently is, that the exploitation of stock in earlier times may have been for reasons and by methods which, by 20th century western European standards, were neither rational nor efficient. They may have been kept as a form of visible, indeed conspicuous, wealth, being killed, if at all, only on special, perhaps ritual, occasions or formed a nutritional reserve drawn on only when cereal

or other food was scarce. Furthermore, attitudes to and uses of stock may have differed between one species and another. Tacitus says of the Germani "Their cattle were poor but it is number that is chiefly valued; they are in fact the most highly prized, indeed the only riches of the people". (21).
All these and other aspects of this problem as they apply to stockowning people of the present or recent past have been recently discussed. (1).

Polled skulls have been found at three other Iron Age sites in Wessex, All Cannings Cross (10), Swallowcliffe Down (11) and Longbridge Deverill (8). This feature in cattle is hereditary and almost certainly arose as a mutation. It is due to a dominant gene which, in Europe, occurs only in Scandinavia and Britain (15) and thus cannot have been introduced in the cattle of Iron Age immigrants. It has not been recorded before the Iron Age nor, as far as the writer is aware, outside Wessex. Such a phenomenon is unlikely to have happened at more than one site in such a restricted area and its occurrence at several different sites in Wessex has been adduced as evidence of interchange of cattle, probably by stock theft (8). The diffusion of the gene could also have been brought about by cattle trading, a more legitimate but duller activity.

There were very few skull fragments and mandibles but it is hard to know what, if anything, other than chance, this signifies. Apart from the portion of polled skull the only other recognisable remains of skull from all periods were two fragments of horn core.

Apart from antlers, red deer were represented only by teeth and a few lower leg and foot bones. This suggests the possibility that animals were killed, skinn and the meat removed from the carcase, the skin with lower limb bones still attach the meat and the head then being taken away. It would have been as easy to carry away a severed head as to detach antlers from the skull first. A similar finding was noted at a village of Neolithic hunters in Turkey. (16).

Pathology

There were three specimens from two animals, both cattle. From the Beaker levels there came a second and third lower left molar, both heavily worn and thus from an old animal, which showed coral-like bony outgrowths around the tips of th roots. A single tooth of Iron Age date showed an identical change which was probably caused by a long standing alveolar infection.

Acknowledgements

The bird bones were kindly identified by D. Bramwell.

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