AGS
Aylesbury, George St 1983

Anatomical Analysis (Tables 15-16) and Measurements

Table 15 Anatomical Analysis

	Cattle		Sheep		Pig		Horse
	z	BN	z	BN	z	BN	BN
horn core	6	13	8	8			
skull	29	67	11	16	10	16	3
maxilla	8	8	7	8	7	7	1
mandible	13	44	10	34	19	28	1
tooth	71	77	60	71	20	24	8
Head		**40%**		**32%**		**36%**	
vertebra	21	21	23	24	3	3	3
scapula	9	23	15	20	10	15	1
humerus	17	24	30	33	15	17	2
radius/ulna	24	37	28	42	11	13	-
pelvis	7	15	15	22	3	7	-
femur	10	27	13	29	7	17	1
tibia	18	27	27	45	15	16	-
fibula					8	18	
Body		**34%**		**50%**		**47%**	
calcaneum/ astragalus	15	15	2	2	9	16	-
other carpal tarsal		8					
metacarpal	21	31	25	33	4	4	1
metatarsal	18	28	24	31	4	4	1
metapodial		4		1	2	3	3
phalanx	42	42	8	8	8	8	5
Foot		**26%**		**18%**		**17%**	

Unidentified (total 1791)

	A	B	C	D
Vertebra	66	59	-	
Rib	221	330	13	72
Other	406	600	24	

A - cattle sized fragments; B - sheep sized;
C - small mammal; D - bird.

BN - number of bones

z - zone. Bones were recorded on the zone list if more than half the bone element (e.g. proximal/distal end, shaft, pubic part of acetabulum) was present, to establish the minimum number of individuals. The zone/BN ratio also gives an indication of fragmentation.

Table 16 Percentages of the three main species for local sites (see Figure 19 in text)

		N	Cattle	Sheep	Pig
Bierton	late iron age	1356	33	45	22
Bierton*	Romano-British	668	42	39	17
Maxey	Dark Age	444	44	43	13
Chicheley	Saxon	189	37	56	7
Walton	Saxon	1431	42	35	23
Walton	Saxo-Norman	1993	36	44	20
Walton	medieval	1764	37	47	17
Copt Hay, Tetsworth	11th-14th C	654	34	34	33
Hunter St., Buckingham	13th C	62	29	55	16
Buckingham 1978	later med.	84	40	44	14
George St., Aylesbury	12-14th C	1128	45	38	17
Hunter St., Buckingham	post med.	174	33	62	5
Buckngham 1978	post med.	221	37	53	10

*Bone was from features with 23% residual iron age and 3% intrusive medieval pottery, by weight.

Measurements

12th - 14th Century

		N	Range	Mean	SD
Cattle					
horn core	L outer curve	4	90 -110	100	
	Basal circumf.	6	102 -119	109	
humerus	B Trochlea	5	63 -75	69.4	
metacarpal	GL/Bp/SD/Bd		195/55/30/55		
	GL/Bp/SD/Bd		203/62/35/63		
	B distal	6	51 -63	54.7	
metatarsal	GL/Bp/SD/Bd		227/50/27/57		
	B distal	4	48.4-57	52.0	
Sheep					
horn core	L o c/bas. circ.		125/87		
	L o c/bas. circ.		145/125		
scapula	Index	6	0.85-1.07	0.97	
humerus	B Trochlea	13	25.1-29.6	27.2	1.58
radius	GL/Bp/SD/Bd		142/32/18/29		
	GL/Bp/SD/Bd		147/30/17/29		
	Bp	7	27.0-31.6	30.1	
tibia	Bd	6	22.5-26.6	25.0	
metacarpal	Bp	5	18.7-23	21.1	
	Bd	5	22.6-24.9	23.6	
metatarsal	GL/Bp/SD/Bd		118/18/10/22		
	Bd	8	21.4-24.9	22.6	
Pig					
scapula	SLC	4	22.0-25.4	23.9	
skull (>1 year old)					
	(29) L premolar row		44		
	(21)/(22)/Index*		35/21/167%		
[Buckingham, 17th C					
	(21)/(22)/Index*		36/27/133%		
Wild sow	(21)/(22)/Index*		56/30/187%]		

*(21) L of lacrimal; (22) Height of lacrimal; Index. (21) x 100/(22)

Measurements, cont.

Horse

metatarsal	GL1*/Bp/SD/Bd	253/50/29/48
skeleton (pit 622)		
rad + ulna	GL1/Bp/SD/Bd	321/79/35/74
femur	GLC/ Bd	359/ 90
tibia	GL1/Bp/SD/Bd	320/91/37/74
metatarsal	GL1/Bp/SD/Bd	264/50/27/47

*GL1 - greatest lateral length (Kiesewalter, in von den Driesch & Boessneck 1974).

Dog

Skeletons		337:314 1 12-e 13th C	397:396 14th C	622:489 14th C
skull*	I length	143	182	208
	II braincase L	81	101	103
	III snout L	67	c.90	104
	IV width	83	100	111
	IX palatal L	70	83	99
	X palatal width	46	c.55	63
	XI upper cheek tooth row length	52	60	70
	XII snout width	29	38	45
	XV lower ch.t.row	56	73	78
	M_1 Length/width	18.6/7.4	20.6/8.2	22.1/9.1
	CI Cephalic ind.	58	55	53
	SI Snout index	47	49	50
	SWI Sn.width ind.	43	42	43
humerus	GL/SD	119/8.3	144/11.0	
	Bp/Bd	-/23	-/28.1	
radius	GL/SD	122/8.2	144/11.3	
	Bp/Bd	12.7/16.2	15.3/19.9	
ulna	GL	141		
femur	GL/SD	125/8.4	154/11.3	
(left)	Bp/Bd	25.3/22.0	31.9/26.0	
tibia	GL/SD	132/8.3		
(left)	Bp/Bd	24.2/16.2		
shoulder height est.		39cm	47cm	

*Skull measurements are defined in Harcourt 1974.

Other dogs (all mid 14th century)

radius	GL/SD	182/14.1
ulna	GL	214
femur	GL/SD	192/13.7
tibia	GL/SD	195/12.8;196/13.5; (c.238#)/16.0;

Average height estimates (all medieval phases)

7 394-704#mm 561

227mm of this broken bone survives; estimated total length at least 238mm.

Measurements, cont.

Cats. All 14th century.

mandible	(1) total L	49.5	54.1	57.8	58.4		55.0
	(5)cheek t.row	17.6	17.6	18.9	19.5	18.3	18.4
	(10) H at P_3	7.4	7.8	9.6	9.6	8.1	8.50
	L diastema C_1-P_3	4.4	6.0	5.5	6.0		5.48

Skeletons 1-4 all 640:529		1.	2.	3.	4.	Other bones	Mean
Humerus	GL	85.2	91.2	92.7	95.8		90.1
	Bp	14.3	16.7	15.8	15.9		15.7
	SD	5.6	7.0	6.4	6.6		6.4
	Bd	15.5	18.3	17.2	17.6		16.8
radius	GL		89.4	89.9	89.3	80.1	87.2
ulna	GL	96.7	106.0	105.2	106.8		103.7
femur	GL		102.3	100.7	104.3	94.2	101.4
	Bp		19.5	19.6	19.7	17.6,16.8,17.0	18.4
	SD		8.6	7.7	7.7	6.8	7.7
	Bd		18.4	17.5	18.8	16.3	17.8
tibia	GL		107.8	107.1	108.4	99.9	105.9
	Bp		18.5	18.2	19.9	16.9	18.4
	SD		8.0	7.3	7.4	6.0	7.2
	Bd		14.7	13.6	14.5	12.3	13.8

Where both bones were present, measurements of the left one is given.

Fowl 12th-14th centuries		N	Range	Mean	SD	Rjf
skull	G Height		18.1, 20.4			
coracoid	G Length	9	46.8-58.4	51.3		
humerus	GL	12	63.7-76.1	68.2	3.2	71.5
radius	GL	12	59.0-68.9	61.6	3.6	61.3
ulna	GL	13	60.8-75.8	66.8	4.2	67.4
carpometacarpus	GL	5	34.8-40.4	37.9		37.8
femur	GL	13	68.3-84.5	74.6	3.9	76.5
	Bp	12	13.6-18.1	15.2	1.1	14.8
	SC	12	5.3- 8.0	6.5	0.6	6.1
	Bd	13	13.2-18.5	14.7	1.3	13.8
tibiotarsus	GL	10	97.5-119.7	106.2	7.1	107.9
tarsometatarsus	GL	13	62.3-81.9	70.9	5.8	76.0

(all without spur, see text)

Rjf - Measurements of a male red jungle fowl (Gallus gallus) in the British Museum (Ornithology), Tring. Ref. C.Darwin 1868-2-59.

Red kite		
humerus	GL	122.4
radius	GL	134.0
ulna	GL	141.3
carpometacarpus	GL	71.9
tibiotarsus	GL	87.0

Postmedieval

Skeletons of a goat, a dog and a calf were found in post-medieval features.

Dog. The skeleton of a small male dog was excavated from a midden-like deposit, of 17th century date. Measurements are given below.

Calf. The skeleton of a calf was of uncertain date, but probably 17th-18th century. A brief description is given here, because of the rarity of such skeletons.

Burial of a calf raises the possibility that stalled dairy cattle were being kept in the vicinity.

There was a small horn bud. The lower jaws were present, as follows:

Di_1	Di_2	Di_3	Di_4	Dp_2	Dp_3	Dp_4	M_1
W+	W+	W+	W+	a	in wear	d	E

(For method see Deniz and Payne 1982 (incisors) and Grant 1982 (cheek teeth)).

The upper first molars were also erupting. The bicipital tuberosity of the scapula and the acetabulum of the pelvis were unfused, as were all other epiphyses. The two halves of the metapodials were united.

Goat. The skeleton of an elderly nanny goat was found in a small pit of 19th century date. The pit was dug to bury the carcass, which exactly fitted the oval cut of the pit.

All eight incisors were recovered. In all the cheek teeth, upper and lower, the central 'island' of enamel was worn through and in the right M^3 the pulp cavity was exposed. The wear was very uneven. On the right side, for example, it was most severe on P_4/M_1, and less so on P_3 and M_3; and contrariwise on the upper jaw.

Tooth	I_1	I_2	I_3	I_4	P_2	P_3	P_4	M_1	M_2	M_3
Left	W¾	W⅔	W½	W⅓	vw	vw	n	n	k	l
Right	W¾	W⅔	W½	W⅓	vw	vw	o	o	n	m

(For method see above - Calf; vw - very worn).

The late-fusing epiphyses were all fused, as were the vertebral centra and the radius to the ulna. The surface of the bones was rough, as would be expected in an old animal. A second and third phalanx were fused to each other and the left lateral malleolus was fused to the tibia. Four caudal vertebrae were found.

Measurements Post medieval

Dog 17th century

skull	I	136	XI		51, 50
	II	76	XII		30.5
	III	67	XV		55.7, 55.5
	IV	86	cephalic index		63
	IX	71	snout index		49
	X	46	snout width index		46
humerus	GL	116	ulna	GL	133
radius	GL	111	tibia	GL	126

Goat 19th century

horncore	basal circumf.	79, 82
humerus	GL/ BT	153/ 28.5
radius and ulna	GL	180
radius	GL/Bp/SD	141/ 31/ 19
femur	GL/GLC/SD/Bd	169/166/ 18/ 37.0
tibia	GL/Bp/SD/Bd	189/ 40.7/15.9/26
metacarpal	GL/Bp/SD/Bd	99.5/23.6/16.2/26.6
metatarsal	GL/ SD/Bd	106.5/ 13.5/24.2

For definition of the dog measurements, see Harcourt 1974.