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ANIMAL BONES FROM EXCAVATIONS W5, W6, W7, W8, W9, W10 BY THE WESSEX ARCHAEOLOGICAL COMMITTEE AT CHRISTCHURCH, 1981

JENNIE COY

A total of 1,114 bones was examined from the excavation of these trenches. Bones from 20th century disturbance and from poorly stratified 18th and 19th century layers were not studied. The identifications made and totals for the 6 trenches are shown in Table 1.

A provisional breakdown into periods is given in Table 2. Samples from the phases are too small to make valid comparisons in specific ratios and fragmentation between phases.

This account is therefore confined to a comparison of this material with that from earlier excavations in Christchurch (Coy n.d.); a discussion for each Trench of the material in its context with particular reference to butchery; and some general considerations such as animal size.

W5 The total of 22 bones was all from contexts 9 and 12 and found in loam spread and silt fill with some 19th Century material. None of these bones are represented in the phased material in Table 2. There was one highly eroded large mammal long bone fragment from the medieval ditch fill in context 41. None of the phased medieval contexts, however, produced bone, probably because the sandy and gravelly fill did not preserve them.

W6 produced only a handful of phased medieval bones. In the post-medieval rubble spread of context 43 (probably dating to the 18th Century) there were some interesting large cattle fragments including a fragment of a large horn core, slightly bigger than that found in the 18th Century layers of the earlier Dolphin III excavations (Coy n.d.). This is further evidence for the presence of longhorned+ cattle, possibly the actual Longhorn breed, in Christchurch at this time. We know that this was true in the South East at this time.

The development of long-horned breeds from the late 14th century and their relationship to the development of British Longhorns by improvements in the 17th century has been recently discussed (Armitage 1980, 1982; Clutton-Brock 1982).

Other 18th and 19th Century remains were fragmentary jaw and distal limb fragments of various domestic species.

W7 contained the second largest collection of bone fragments. Again medieval fragments were very scarce and consisted of teeth and

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+ In this account "longhorned cattle" refers to cattle with horns exceeding 200mm outer curvature (Armitage & Clutton-Brock 1976).

TABLE 1 Species Represented in the Excavated Trenches

	W5	W6	W7	W8	W9	W10	TOTAL
horse	-	1	12	8	3	12	36
pig	-	4	19	7	2	28	60
cattle	4	11	47	55	13	97	227
sheep (inc sh/go)	6	11	72	9	6	102	206
c-size	6	18	54	33	12	131	254
s-size	5	24	26	27	2	129	213
dog	-	-	-	9	-	-	9
cat	1	-	-	-	1	-	2
fallow deer *Dama dama*	-	1*	3	-	-	1	5
hare *Lepus* sp.	-	2	-	-	-	-	2
fowl	-	-	7	1	-	36	44
goose	-	-	8	-	-	18	26
pther bird	-	-	14	1	-	1	16
fish	-	-	7	-	-	-	7
frog	-	-	1	-	-	1	2
other	-	2	-	-	-	3	5
TOTAL	22	74	270	150	39	559	1114

TABLE 2 Animal Bones from Phased Deposits

	prehist	Roman	Saxon	12/13C	13/14C	'med'	'po-med'	18/19C	total
orse				2		14	9	1	26
ig			1	5	3	21	25	1	56
attle			6	37	13	88	73	18	235
heep(inc sh/go)		1	1	40	5	85	75	9	216
-size			20	41	4	112	90	28	295
-size	1		7	44	19	99	23	9	202
og				1		3			4
at				1			1		2
allow deer Dama dama							1		1
are Lepus sp.								1	1
owl				1	2	3	7		13
oose				2		3	1		6
ther bird						1	14	2	17
sh							6		6
rog				1					1
ther				1		1		1	3
otal	1	1	35	176	46	430	325	70	1,084

distal limb bone fragments. Most bone was from post-medieval layers with a collection of about 150 fragments from post-medieval cellar fill. Of those fragments analysed to anatomical element (most of them) a large number were from meat-bearing parts of the skeleton rather than from jaws and distal limbs. The breakdown of this for the three commonest species is given in Table 3.

Acid fill probably attacks teeth and foot bones least so that the bias, if any, due to preservation may be to underestimate the remains from meat-bearing bones that were deposited. The general impression of these cellar fills is of food remains of a fair degree of affluence with the presence of calf, fallow deer (Dama dama), fowl, goose, and a number of wild birds, including partridge (Perdix perdix), reinforcing this impression. Thirty-eight of the cellar bones bore knife cuts or chopping marks - these covered cattle, sheep, pig, and fallow and involved not only meat bones such as femur, pelvis, scapula, and vertebrae but there was also evidence of skinning, horn core removal, and halving of the carcase. A cattle scapula in Context 93 was sawn, possibly for bone working. There was only a low incidence of canid gnawing and erosion on the bones.

Very little evidence for the ages of the domestic animals was available from this sample. Apart from the calf bones in contexts 93, 107, 121, 122, and 126, most cattle evidence from epiphyses and teeth was from mature animals. Sheep bones were from mature animals with the distal metapodials fused, although there was an immature radius in context 121. All pig bones were from animals in their first or second year with no evidence, however, of sucking pig.

There were occasional bones of horse in these deposits, none with butchery.

W8 provided a smaller sample of 150 fragments. Forty-five of these could be phased to the 12th or 13th Century but there were very few in each context. Of particular interest were three cattle horn core fragments of long-horned type in Context 206. If these are of 13th Century derivation they are of great interest as they are earlier than normal appearances of this type of cattle, which do not normally appear until the Late 14th or Early 15th Century (Armitage 1982). Table 4 gives details of these fragments together with other cattle horn core remains from Christchurch from earlier

TABLE 3 Percentage of Fragments from Meat-bearing and Non Meat-Bearing Bones in Post-medieval Cellar Fills in W7

species	no. fragments	meat	non-meat
cattle	70	69%	31%
sheep	46	50%	50%
pig	17	59%	41%

TABLE 4 Cattle Horn Core Measurements for Christchurch

Christchurch Site no.	context	date A.D.	side	max. basal	min. basal	basal circum.	outer length	est type
W10	85	12/13	L	44	35	120	130	D
W10	85	12/13	L	34	33	105	111	D
W8	206	13	R	58	49	170	250	L
W8	206	13	L	fragment		est 240		
X12*	F163	13	R			est 100		D
X12*	F145	1a 13	L	47	31	121		D
X12*	F145	1a 13	R	57	45	160		D
W10	7	12-14	L	32	24	99		
X12*	82	13/14	L			est 170		
X12*	82	13/14	R	42	(33)	123		D/M
W9	44	1a13/14	L	56	44	160		
W10	8	12-14	L	26	22	75	60	S
X12*	F165	14?	R	39	35	119	100+	D
X12*	F75	13-15	L	49	38	145		
W8	3	13-15+PM		fragment		est170		
W8	55	PM		50	39	143	161	M
W7	93	PM	R	45	39	135		
X9*	SGA 73	PM	L	35	26	100	70+	S
W6	43	18	R	65	55	190		L
XII.3*	F9	1a 18	L	61	48	186		M/L

Key

S small horn
D short horn
M medium horn
L long horn
} according to Armitage & Clutton Brock (1976).

PM post-medieval

* Sites marked thus were written up by Keith Jervis, Poole Museums (Coy n.

excavations.

Only a few fragments from Ditch 92 and the top of a pit were dated by 13th and 14th Century finds and a dozen or so more from 13th to 15th Century finds - all these gave evidence for was the presence of the major domestic species and some degree of erosion. A group of 76 fragments in Context 3 with 13th - 15th Century and Post-ieval finds were above the group in Context 206 mentioned earlier. As in Trench W7 post-medieval bones, meat-bearing fragments of the common species with cut marks were in the majority. There were also remains of horse and dog. A cattle horn core here was comparable in size with the one in Context 206 which had a basal circumference of 170mm.

There was sawing on a cattle radius fragment and midline chopping on a sheep or goat thoracic vertebra (possibly evidence of carcase splitting).

Ageing evidence, where present, was of mature animals with all their molars in wear. Horse teeth represented animals probably about 14-16 years of age.

Altogether 39 fragments were found in the fill of the post-medieval gulley (Feature 61). These are probably very mixed finds and some may be quite late - a tibia of sheep is as large as modern individuals and there is some very modern- looking butchery with sawing. A whole sheep metacarpal in context 55 gave a withers height estimate of 62cm which is merely consistent with a post-medieval context (see discussions of sheep size below and Table 6).

A small group of 26 fragments from the post-medieval gulley was associated with 18th Century finds. It included one sheep metacarpus (Table 6). Apart from 5 fragments of sheep and a few loose cattle teeth all these were fragments of major meat-bearing bones of cattle. They were much-butchered. A rib was sawn across halfway along its length and some other ribs were considerably chopped and cut. There was a calf humerus shaft and a very large immature cattle humerus. All these are quite likely to occur in 18th Century deposits. There were no pig bones in this group.

W9 There were very few bones altogether from this trench. The medieval fragments were all from ditch fill and, apart from one cattle humerus fragment, were all of peripheral parts of the skeleton of cattle, sheep, horse (1 bone), and pig (1 bone).

There were 24 fragments from post-medieval contexts - again all from ditch or gulley fills. In contrast to the fragments

above, these were mostly meat-bearing fragments of cattle, including calf. Some of the bones were badly eroded. Ovicaprid, pig, horse, and cat were also represented, the cat by a tibia with distal knife cuts which were presumably marks made in skinning.

W10 This trench produced half the bones from these excavations. The possible prehistoric and Roman contexts produced only one charred unidentifiable fragment of a small ungulate and a sheep or goat tooth, respectively.

A group of 33 fragments from a gulley (Context 68) was associated with 9 - 10th Century finds. These bones were mostly stained a very dark brown and represent a selection of fragments from both peripheral and meat-bearing parts of the skeleton of cattle and sheep with one pig cranial fragment. Some bones bore knife cuts.

The 430 fragments from a variety of medieval contexts appear to show no intrinsic variability or pattern but overall results shown in Table 5 for the three major species show a preponderance of peripheral fragments in cattle and an equal balance for sheep. The amount of pig is almost negligible . The results contrast with those for the largest post-medieval sample in W7. This might suggest that carcase preparation discards are more highly represented for cattle in the medieval than in the post-medieval sample but it would be wise to urge caution on such conclusions from such small samples.

Neither the contexts nor the disposal strategies of the periods are necessarily comparable. Although fragmentation patterns were superficially similar in the two samples - i.e. there were similar proportions of whole, half, and fragmentary bones - a slightly higher level of identification to species was possible in the post-medieval cellar fill (64% as opposed to 56% of total fragments) suggesting better preservation. The less well-preserved the material, the greater the incidence of loose teeth and these would influence all counts of the kind discussed above. Obviously a more careful analyses of all these factors might be possible in a larger sample but it is not worthwhile at the present stage of investigation of Christchurch. These results can merely act as the basis for theories to test out in any future excavations in the town.

In Context 19 were part of a calf distal forelimb - the cannon bone and toes - which must have gone into the pit articulated by soft tissue.

There was a scattering of charred bones throughout these medieval contexts. Butchery noted was mostly knife cuts although a larger implement was used in a few cases, especially on skulls and at

TABLE 5 Percentage of Fragments from Meat-Bearing and Non Meat-Bearing Bones in Medieval Contexts in W10

species	no. fragments	meat	non-meat
cattle	121	33%	67%
sheep	130	50%	50%
pig	20	40%	60%

the base of horn cores. There was evidence here , as in the post-medieval bone, for skinning and horn core removal but no definite evidence of halving of the ovicaprid carcase as there was in Trench 8. There was only an ovicaprid vertebra in Context 25 showing axial splitting somewhat off the midline. There was no evidence for halving of the cattle carcase as there was in Trench 7.

O'Connor showed at Lincoln that regular splitting of the carcase into sides came in as early as the 11th Century (O'Connor 1982). It presumably went with suspension of the carcase. There is no consistent evidence for this in Christchurch although remains of vertebrae are so far few.

The ages of cattle represented here are various with some calf peripheral remains already referred to and some very big immature cattle fragments. Sheep jaws with ageing data are few but all have all molars in wear. The four cattle horn cores that were measurable are all 'short' or 'small' according to Armitage and Clutton-Brock's (1976) classification. This fits their supposed 12-14th Century origin (Table 4).

Cattle and Sheep Size

For cattle the number of measurable bones was small and most measurements came within the ranges for earlier Christchurch results (Coy n.d.). The medieval range for distal breadth of humerus was extended upwards to 90.0mm by a find in Trench 6, Context 81. One or two measurements were at the upper end of medieval ranges for Southampton (Bourdillon personal communication).

Three withers heights were calculable from metapodials. From Trench 8, Context 3, containing both medieval and post-medieval pottery, there were two very different ones - an estimate from a metacarpus of 108 cm. and one from a metatarsus of 131 cm. The former compares with one of 112 cm from earlier medieval Christchurch excavations and with a range of 98 - 119 cm. given by Bourdillon from Southampton at the same period. The latter is much bigger than would be expected from the medieval period and may be from the post-medieval contamination expected in this layer. The third figure is one of 132 cm. from a metacarpus in Trench 6, Context 43, dated to the 18th Century.

Such a small amount of evidence is only a beginning but it may be that there was at Christchurch a general increase in cattle size as at Southampton in post-medieval times after what had been a drop in size after the mid-Saxon Period (Bourdillon 1980).

TABLE 6 Estimated Withers Heights of Sheep from Southampton & Christchurch

site	context	date	anat	withers height	(n)
Southampton	Hamwic	Mid-Saxon	mc+mt	range 54 - 71	118
X11.3 *	F92	15C	mc	46	
X11.3 *	F76A	med	mc	49	
X11.3 *	F14	1a 12?	mt	55	
W10	9	12-14C	mc	54.5	
Southampton		12-13C	mc+mt	range 52-59	19
Southampton		14-15C	mc+mt	range 52-63	16
Southampton		16C	mc+mt	range 48-62	37
Jervis Sites *		16C	mc+mt	range 51-60	25
W7	123	PM	mt	61.4	
W8	55	PM	mt	61.8	
W8	84	18C	mc	56.8	
Jervis Sites *		18/19C	mc+mt	range 53-71	9

mc metacarpus
mt metatarsus
PM Post-Medieval
* Sites written up by Keith Jervis, Poole Museums

The development of long-horned cattle is probably linked with such a general increase in size. The overall pattern emerging from Christchurch is that the medieval cattle were 'short' or 'small' horned and that long-horned examples were present in the 18th Century. There are anomalous results in Context 206 which might suggest post-medieval contamination as there was in the context above this according to both pottery and bone finds.

There are a few results for withers heights from sheep (as there were no goat bones it is assumed that all ovicaprids were sheep) and these are summarized alongside earlier Christchurch resu s and contemporary and Saxon ranges for Southampton (Table 6). At Southampton medieval sheep appear to be smaller on average in post-Saxon times than during the mid-Saxon Period of Hamwic but did not increase in size during the Medieval Period as did cattle. The only difference at Christchurch so far noted is the extremely small size of some of the early sheep. The metapodial from Trench 10, Context 9, confirms this. The three withers heights for post-medieval Christchurch fit within the range calculated for total post-medieval material from earlier sites but two of them more happily into the Jervis 18/19th Century range.

Results for the other domestic species are too limited for size analysis . Cattle and sheep measurements are sparse enough but such measurements are the only evidence we have of changes in animal husbandry which might have involved selective breeding and changes in feeding practice. When the changes, if any, in bone size with time have been established bones can then be used as a vital check on context dating. Changes in proportion are now being analysed for a number of Wessex sites, along the lines of O'Connor (1982), and this may give more evidence on what was happening at Christchurch.

Wild Species

Apart from the species already mentioned, there were post-medieval finds of cormorant, Phalacrocorax carbo; black-headed gull, Larus ridibundus; great black-backed gull, Larus marinus; jackdaw, Corvus monedula; and an 18th Century find of jay, Garrulus glandarius.

In W9, Context 29 there was a fragment of bird femur not yet identified.

Fragmentary remains of fish were found in several layers. Most were unidentifiable to species but Sarah Colley of the Faunal Remains Project identified the following : pike, Esox lucius, from W8 context 142; common eel, Anguilla anguilla, from W7 context 104; a species of

sea bream, Sparidae, in W10 context 9; a possible haddock, Melanogrammus aeglefinus in W10 context 12; and flatfish vertebrae in W10 context 19. The sea bream and eel represented fish more than 1 kg in weight. All these fish remains came from results of wet sieving.

Conclusions

The small samples discussed here reinforce earlier results from Christchurch. They mostly fit into the expected pattern for medieval and post-medieval animal husbandry although there are one or two surprises which may need revision in the light of further study of the associated dating evidence. Contexts cannot yet be dated by the bones in them. The study of animal husbandry must depend upon bones from contexts well-dated by pottery and associated finds. Yet as samples accumulate for an area or a period we can become more skilful at recognising traits in the bone collections.

For this reason animal bone is an essential part of the total evidence, even from urban excavations.

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