Ancient Monuments Laboratory
Report 86/97

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Summary

This report describes a small assemblage of animal bones recovered from the site of Coslany Street in Norwich. The life of the site spans from the 10th to the 19th century AD, but most bones are from the 10th to the 14th century. The majority of the bones belong to domestic animals, particularly cattle, but smaller species may be under-represented because of a recovery bias. The bones probably come from butchery and kitchen waste as well as horn-working debris. A few neonatal cattle bones indicate on-site breeding which confirms evidence from other sites in Norwich.

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ANCIENT MONUMENTS LABORATORY REPORTS SERIES

The medieval animal bones excavated in 1996 from Coslany Street, Norwich, Norfolk

Umberto Albarella

Introduction

Norwich is the main town in Norfolk, the most northern of the East Anglian counties (Figure 1). The archaeological site of Coslany Street, Norwich (TG228089), is situated on the north bank of the River Wensum approximately 500 metres north of the present city centre and 500 metres outside the Saxon defences of the town. The excavation was carried out by the Norfolk Archaeological Unit, under the direction of Heather Wallis, in autumn 1996. Two trenches (areas B and C) were dug to investigate the development of the water frontage, whereas a third area (A) was mainly aimed at recording the development of the tenements extending back from the Coslany Street water frontage and ultimately to explore the nature of the early colonisation of the street frontage (Heather Wallis pers.comm.).

The site was divided into six periods of occupation as follows:
period 1: 10th-12th century
period 2: 12th-14th century
period 3: 14th-16th century
period 4: 17th-18th century
period 5: 19th century
period 6: modern.

Most deposits found on this site have been interpreted as dumping of waste material, though some contexts from period 5 are associated with a well (Heather Wallis pers. comm.). The excavation produced a very small amount of animal bones, most of which derive from periods 1-3, a few from period 5 but none periods 4 and 6.

Methods

Animal bones from most contexts were hand-collected. A few samples and two monoliths of 50cm - from trench B - were also taken (Murphy and Fryer 1997) but produced only a few small, unidentifiable fragments of bones (Heather Wallis pers. comm.).

The mammal bones were recorded following a modified version of the method described in Davis (1992) and Albarella & Davis (1994). In brief, all teeth (lower and upper) and a restricted suite of parts of the postcranial skeleton were recorded and used in counts. These are: skull (zygomaticus), scapula (glenoid articulation), distal humerus, distal radius, proximal ulna, carpal 2-3, distal metacarpal, pelvis (ischial part of acetabulum), distal femur, distal tibia, calcaneum (sustentaculum), lateral part of the astragalus, naviculo-cuboid, distal metatarsal and the proximal ends of phalanges 1, 2 and 3. At least 50% of a given part had to be present for it to be counted.

For birds the following were always recorded: scapula (articular end), proximal coracoid, distal humerus, proximal ulna, proximal carpometacarpus, distal femur, distal tibiotarsus, distal tarsometatarsus.

Horncores with a complete transverse section and "non-countable" elements of particular interest were recorded, but not included in the counts.

Wear stages were recorded for all P_4s and dP_4s as well as for the lower molars of cattle, caprines and pig, both isolated and in mandibles. Tooth wear stages follow Grant (1982) for cattle and pig, and Payne (1973, 1987) for caprines.

Measurements are listed in the Appendix. These in general follow von den Driesch (1976). All pig measurements follow Payne & Bull (1988). Humerus HTC and BT and tibia Bd measurements were taken for all species as suggested by Payne & Bull (1988) for pigs. Measurements "a" and "b" in cattle metapodials were taken as in Davis (1992).

The bones from this site will be stored in the Norfolk Landscape Archaeology Section at Gressenhall (Norwich).

Provenance and preservation

Most bones derive from dumps, layers and pit fills. The preservation was rather good, though no bones showed the typically smooth and brown surface of waterlogged material. Gnawing marks, present on about 10% of the bones, are suggesting that at least some of the material has been secondarily deposited.

The level of fragmentation was that expected for material of anthropogenic origin. Most bones are broken and many of them have butchery marks.

Overview of the bone assemblage

The assemblage, like most from this period, is dominated by the main domestic animals - cattle, sheep and pig (Table 1). Cattle is the most common species, but, due to the absence of material from sieving, it is difficult to say to what extent this is due to a recovery bias. Nevertheless, beef, like in other Norwich sites (see

Albarella *et al.* 1997), is likely to have been the most common meat. Pig is almost as common as caprines in the first two periods (Table 2), as has been found in other early medieval sites (see Grant 1988 and Albarella and Davis 1996), including Norwich (Albarella *et al.* 1997). Noteworthy is the presence of two bones of goat, a species which is normally rare in English medieval sites (with the exception of the horncores: see below).

Domestic fowl and goose, as is normally the case, are the most common birds, but the presence of woodcock - a bird generally associated with high status - is worth mentioning (Table 1). Fish bones (which were kindly identified by Alison Locker) are few, and are represented only by marine species, consistent with what is found in other Norwich sites. Freshwater fishes are more commonly associated with high status sites, and Norwich was probably well supplied with sea resources imported from the nearby harbour of Great Yarmouth. It is likely that more fish bones would have been recovered if more sieving had been carried out.

Very limited information about the age and size of the animals and the distribution of body parts could be gathered from this assemblage, due to its very small size. It is also difficult to detect any obvious differences between different periods. In brief, most body parts of cattle are present, and this, again, is consistent with what has been found in other Norwich sites: complete carcasses must have been processed within the town. Two cattle neonatal bones from period 2 and one from period 3 attest to the presence of some cattle breeding within the town as previously suggested on the basis of the findings from Castle Mall, Norwich (Albarella *et al.* 1997).

Cut marks on cattle tarsals, metatarsals and phalanges are probably due to skinning and indicate an interest in cattle hides. Cut marks were also found on an equid - probably a horse - distal tibia. Butchery marks on bones of medieval horses are not uncommon (see Albarella and Davis 1996 for a summary of sites with butchered horse bones) and can be attributed to the consumption of horse flesh or, as is more probable in this case, to the use of horse hide.

Several cattle skulls have interesting perforations in the occipital bone (Plates 1 and 2). This condition has been found in a number of other sites in Europe, and most abundantly in late Roman Lincoln (Dobney *et al.* 1996). Brothwell *et al.*(1996) suggest that the condition has either a congenital (genetic) cause or it is caused by the pressure of a yoke. Medieval cattle were mainly used for their traction power and pathological conditions induced by this kind of stress are likely to have occurred.

The horncores

The Coslany Street assemblage has a relatively high number of horncores, mostly belonging to cattle and goat. These are more frequent in periods 2 and 3. Period 1, which has three times as many countable bones as period 3, has only three horncores versus the 27 of period 3 (Table 3).

The frequency of goat and the scarcity of sheep horncores is interesting.

Goat horncores have been found on British urban sites much more frequently than goat bones, like for instance at Kings Lynn (Noddle 1977). This suggests the existence of an independent trade of horns, possibly from overseas, in view of the scarcity of goat bones also in British rural sites.

Many horncores bear cut or chop marks at their base (Plate 3). Heavier marks were probably made when the horncores were chopped off from the skull, whereas finer cut marks were probably made when the horn was detached from its bony core. A higher number of horncores than found at Castle Mall (Albarella *et al.* 1997) were still attached to the frontal bone of the skull, which may suggest the existence of different techniques in different workshops. There can be little doubt that the horncores are associated with horn-working, a very important craft in medieval times. There is plenty of historical evidence attesting to the presence of horn-workers and other craftsmen in Norwich, in particular on the river front (Tillyard 1992-3).

The size of the cattle horncores is similar to that of medieval specimens from Castle Mall (Figure 2), which means that most animals were of the "short horn" type. Only one specimen (from period 3) is as large as the "long horn" types found in the post-medieval levels at Castle Mall.

Conclusions

This assemblage does not add much to what we already know about the diet and the economy of medieval Norwich. However, it is useful in order to get an idea of different activities in different areas of the city. The results from this study are consistent with what Murphy and Fryer (1997) found in their study of the plant remains and with the other archaeological finds too (Heather Wallis pers. comm.). The assemblage seems to have a mixed origin, with remains deriving from butchery, food consumption and handicraft (mainly horn-working). The water frontage was probably used for dumping refuse, and the bones, with their large volume, may have been useful as a barrier against a possible rise of the river level. It is not possible to determine whether this dumped material came from local sources or different parts of the town. However, we know that many workshops were situated near the river, and the local origin of many of these bones is therefore a strong possibility. The higher number of horncores in periods 2 and 3 may reflect increased dumping and/or industrial activity in the 12th to 16th centuries.

Acknowledgements

I would like to thank Heather Wallis for asking me to study the animal bones from Coslany Street, Simon Davis and Heather Wallis for comments on an early draft of this report, Alison Locker for identifying the fish bones and Graham Norrie for taking the photographs.

References

Albarella, U. and Davis, S. 1994. *The Saxon and Medieval animal bones excavated 1985-1989 from West Cotton, Northamptonshire.* London, English Heritage AML report 17/94

Albarella, U. and Davis, S. 1996. Mammals and birds from Launceston Castle, Cornwall: decline in status and the rise of agriculture. *Circaea* 12 (1) 1996 for 1994, 1-156

Albarella, U., Beech, M. and Mulville J. 1997. *The Saxon, Medieval and Post-medieval mammal and bird bones excavated 1989-1991 from Castle Mall, Norwich (Norfolk).* London, English Heritage AML report 72/97

Brothwell, D., Dobney K. and Ervynck A. On the causes of perforations in archaeological domestic cattle skulls. *International Journal of Osteoarchaeology* 6, 471-487

Davis, S. 1992. *A rapid method for recording information about mammal bones from archaeological sites.* London, English Heritage AML report 71/92

Dobney, K., Jaques, D. and Irving, B. 1996. *Of butchers and breeds. Report on vertebrate remains from various sites in the City of Lincoln.* Lincoln Archaeological Studies 5

Driesch, A. von den. 1976. *A guide to the measurement of animal bones from archaeological sites.* Peabody Museum Bulletin 1, Cambridge Mass., Harvard University

Grant, A. 1988. Animal resources. In Astill G. and Grant A. (eds.). *The countryside of medieval England,* pp. 149-261. Oxford, Blackwell

Grant, A. 1982. The use of tooth wear as a guide to the age of domestic ungulates. In Wilson B., Grigson C. and Payne S. (eds.), *Ageing and sexing animal bones from archaeological sites,* pp. 91-108. Oxford, BAR British series 109

Murphy, P and Fryer, V. 1997. *Plant remains and other macrofossils form Coslany Street, Norwich (26453 N): an assessment.* Unpublished

Noddle, B. 1977 Mammal bones. In Clarke H. and Carter A. *Excavations in King's Lynn 1963-1970* pp. 378-399. London, Society for Medieval Archaeology

Payne, S. 1987. Reference codes for wear states in the mandibular cheek teeth of sheep and goats. *Journal of Archaeological Science* 14, 609-614

Payne, S. 1973. Kill-off patterns in sheep and goats: the mandibles from Aşvan

Kale. *Anatolian Studies* 23, 281-303

Payne, S. and Bull, G. 1988. Components of variation in measurements of pig bones and teeth, and the use of measurements to distinguish wild from domestic pig remains. *Archaeozoologia* 2, 27-65

Tillyard, M. 1992-93. *Castle Mall Project (777N). Documentary research.* Unpublished

	Period 1	Period 2	Period 3	Period 5	TOTAL
Cattle (*Bos taurus*)	31	27	7	4	69
Caprine (*Ovis/Capra*)	9	25	9	1	44
[sheep (*Ovis aries*)]	[4]	[6]	[3]	[1]	[14]
[goat (*Capra hircus*)]	[1?]	[1]	[-]	[-]	[2]
Pig (*Sus scrofa*)	10	19	2	-	31
Equid (*Equus sp.*)	1	1	-	-	2
Dog (*Canis familiaris*)	-	1	1	-	2
Dog/fox (*Canis/Vulpes*)	1	1	-	-	2
Rabbit (*Oryctolagus cuniculus*)	-	-	1	1	2
Hare (*Lepus sp.*)	1	-	-	-	1
Chicken/pheasant/guinea fowl (*Gallus/Phasianus/Numida*)	5	4	1	1	11
Goose (*Anserinae*)	3	4	-	-	7
Teal/garganey (*Anas crecca/querquedula*)	-	1	-	-	1
Woodcock (*Scolopax rusticola*)	-	1	-	-	1
Cod (*Gadus morhua*)	2	2	-	-	4
Ling (*Molva molva*)	-	2	-	-	2
?Haddock (*Melanogrammus aeglefinus*)	1	-	-	-	1
TOTAL	64	88	21	7	180

Table 1

Number of identified specimens (NISP) by taxon, at Coslany Street, Norwich. Sheep and goat specimens -in squared brackets - are not included in totals.

	Period 1		Period 2		TOTAL
	n	%	n	%	
Cattle (*Bos taurus*)	31	*62*	27	*38*	58
Caprine (*Ovis/Capra*)	9	*18*	25	*35*	34
Pig (*Sus scrofa*)	10	*20*	19	*27*	29
TOTAL	50		71		121

Table 2

Number of identified specimens (NISP) and percentages of main taxa, at Coslany Street, Norwich.

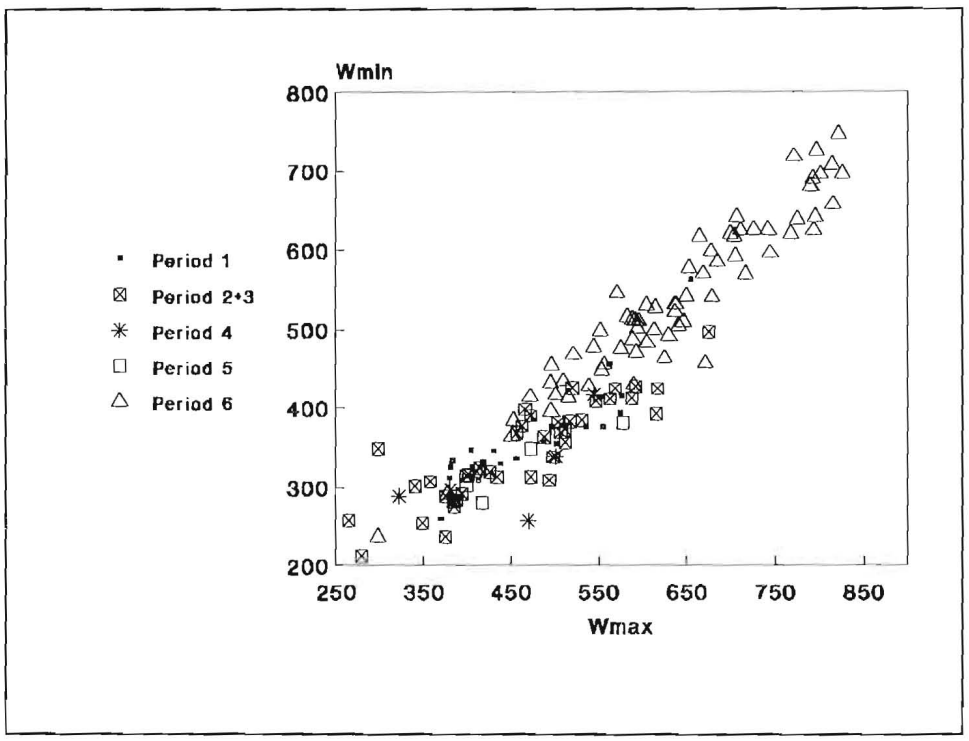
	Period 1	Period 2	Period 3	Period 5	TOTAL
Cattle (*Bos taurus*)	4	22	22	1	49
Sheep (*Ovis aries*)	1	1	-	-	2
Goat (*Capra hircus*)	2	10	5	-	17
TOTAL	7	33	27	1	68

Table 3

Number of horncores at Coslany Street, Norwich. Horncores are considered "non countable" specimens (Davis 1992) and are not included in Table 1.

Figure 1. Map to show the location of Norwich.

Castle Mall, Norwich



Coslany Street, Norwich

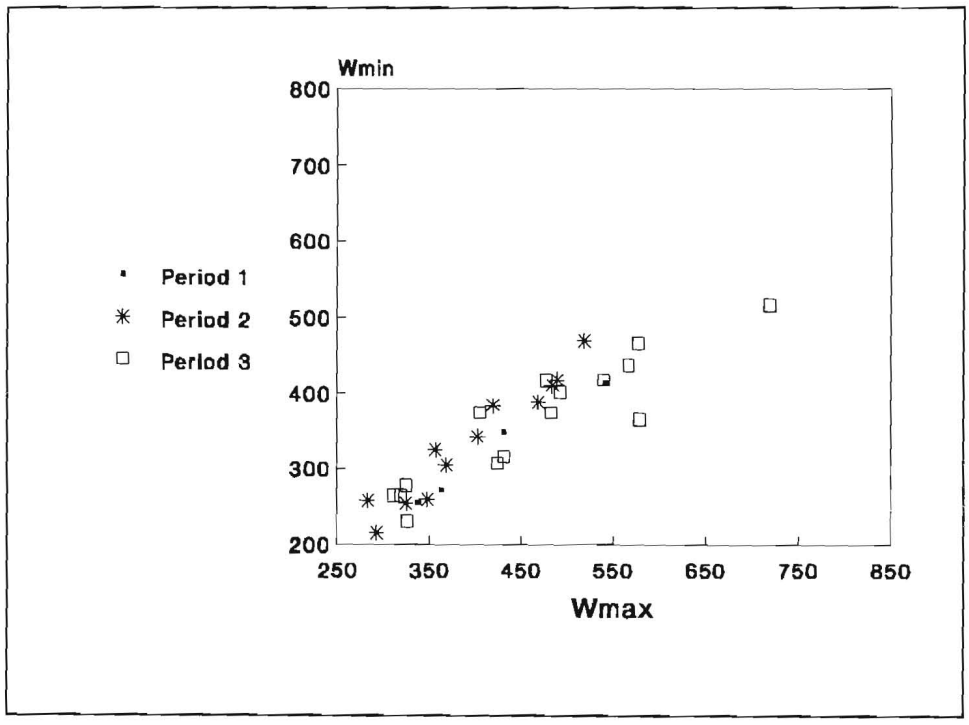


Figure 2

Size of cattle horncores at the two Norwich sites of Castle Mall (Albarella *et al.* 1997) and Coslany Street .
Castle Mall: period 1 = late9th-11th cent.; period 2+3 = late11th-12th cent.; period 4 = late12th-mid14th cent.; period 5 = mid/late14th-mid16th cent.; period 6 = late16th-18th cent.
Coslany Street: period 1 = 10th-12th cent.; period 2 = 12th-14th cent.; period 3 = 14th-16th cent.

APPENDIX.

Coslany Street, Norwich. **Measurements** of animal bones and teeth. All measurements are in tenths of a millimetre. See text for an explanation of how measurements are taken.

Key:

Context (CO)

Period (PER):
1 10th-12th centuries AD
2 12th-14th centuries AD
3 14th-16th centuries AD
5 19th century AD

Parts of skeleton (ELEM) are coded as follows:
HC horncore
HU humerus
MC metacarpal
PE pelvis
FE femur
TI tibia (tibiotarsus in birds)
AS astragalus
CA calcaneum
MT metatarsal

Taxa (TAX) are coded as follows:
B *Bos* (cattle)
O *Ovis/Capra* (sheep or goat)
OVA *Ovis aries* (sheep)
CAH *Capra hircus* (goat)
S *Sus* (pig)
EQ *Equidae* (equid)
CV *Canis/Vulpes* (dog or fox)
ORC *Oryctolagus cuniculus* (rabbit)
GN *Gallus/Numida* (domestic fowl or guinea fowl)
GNP *Gallus/Numida/Phasianus* (domestic fowl, guinea fowl or pheasant)
ANS *Anserinae* (goose)
ACQ *Anas crecca/querquedula* (teal or garganey)
SCR *Scolopax rusticola* (woodcock)

Approximate measurements are designated:
c - within 0.2 mm
e - within 0.5 mm

TEETH

CO	PER	TAX	M1WA	M1WP	M2L	M2WA	M2WP	M3L	M3WA	M1/2WA	M1/2WP
2357	1	B						c339	144		
2457	1	B						362	156		
2026	2	O							88		
2351	1	S	98	107	120	130					
12672	1	S								124	131
2307	2	S	106	109		128	128				

HORNCORES

CO	PER	ELEM	TAX	L	W_{max}	W_{min}
2225	1	HC	B		364	271
2348	1	HC	B		432	348
2351	1	HC	B	906	338	254
2438	1	HC	B		542	415
2026	2	HC	B		357	324
2026	2	HC	B		490	418
2063	2	HC	B		283	257
2063	2	HC	B		314	
2063	2	HC	B		344	
2063	2	HC	B		469	388
2063	2	HC	B		484	411
2148	2	HC	B		325	253
2358	2	HC	B		403	342
2433	2	HC	B		519	469
2436	2	HC	B		369	304
2436	2	HC	B		420	384
2436	2	HC	B	557	293	215
2436	2	HC	B	e1094	348	259
2260	3	HC	B			404
2260	3	HC	B		311	264
2260	3	HC	B		319	264
2260	3	HC	B		325	277
2260	3	HC	B		326	230
2260	3	HC	B		406	374
2260	3	HC	B		425	307
2260	3	HC	B		432	315
2260	3	HC	B		483	374
2260	3	HC	B		493	402
2260	3	HC	B		540	418
2260	3	HC	B		567	437
2260	3	HC	B		578	466
2260	3	HC	B		579	365
2260	3	HC	B		719	517
2260	3	HC	B	1111	392	
2260	3	HC	B	c1452	477	417
2163	5	HC	B		345	248
2351	1	HC	CAH	1248	294	195
2355	1	HC	CAH		285	202
2026	2	HC	CAH			250
2026	2	HC	CAH		327	207
2026	2	HC	CAH		e340	209
2063	2	HC	CAH		317	216
2436	2	HC	CAH		251	163
2436	2	HC	CAH		321	233
2436	2	HC	CAH		474	300
2436	2	HC	CAH	1950	e525	355
2260	3	HC	CAH		505	330
2260	3	HC	CAH	c1700	315	212
2260	3	HC	CAH	e1365	450	388

BONES

CO	PER	ELEM	TAX	GL[1]	Bd	Dd[2]	BT	HTC	LA[3]	SD[4]	Lm[5]	BatF	a	b
2690	2	AS	B	586	369	337								
2163	5	AS	B	661	404	370								
2163	5	CA	B	1289										
2350	1	HU	B				718	312						
2689	1	HU	B					247						
2027	2	MC	B	1860						307				
2148	2	MC	B		540	267						496	260	252
2080	3	MC	B		570	264						507	282	267
2260	3	MC	B		e576	258						504		
2689	1	MT	B	1970	612	290				293		500	310	275
2063	2	MT	B		498							456	241	223
2260	3	MT	B									416		
2063	2	PE	B						728					
2163	5	PE	B						596					
2689	1	TI	B		538									
2008	1	HU	O				345	156						
2131	2	HU	O				258	130						
2013	2	PE	O						277					
2063	2	PE	O						254					
2013	2	MT	CAH		247	128								
2225	1	TI	CAH?		249									
12676	1	AS	OVA	244	168	138								
2063	2	AS	OVA	283	185	156								
2545	2	AS	OVA	263	184	155								
2059	1	HU	OVA				280	143						
2063	2	HU	OVA					130						
2063	2	HU	OVA				272	121						
2260	3	MC	OVA		231	129								
2264	3	MT	OVA		231	128				114				
12670	5	MT	OVA	1255	239	126				120				
2225	1	TI	OVA		250									
2689	1	TI	OVA		259									
2063	2	TI	OVA		258									
2242	2	TI	OVA		256									
2260	3	TI	OVA		238									
2063	2	HU	S				357	226						
12672	1	PE	S						314					
2225	1	PE	S						288					
2027	2	TI	EQ	3360	682					269				
2013	2	HU	CV	1070	188					73				
2031	3	HU	ORC	590			87	41		36				
2164	5	PE	ORC						82					
2689	1	FE	GN	743	148	121					697			
2063	2	FE	GN	c658	129	116				57	622			
2031	3	FE	GN	720	137	115				60	670			
12670	5	FE	GN	c825	160	c132				79	776			
2689	1	MT	GN	658	c116					57				
2225	1	HU	GNP		163									
2063	2	TI	GNP	1110	114	120				61	1072			
2351	1	HU	ANS	1610	e234					119				
2013	2	HU	ANS		246									
2063	2	HU	ANS		234									
2013	2	HU	ACQ		91					41				
2455	2	HU	SCR	538	102	46								

[1]GL1 in astragalus and GLC in humerus

[2]D1 in astragalus and 3 in metapodials

[3]LAR in pig and rabbit

[4]SC in birds

[5]La in tibiotarsus

Plate 1.

Posterior view of cattle skull from context 2026 (period 2) showing the perforations in the occipital bone. Total length of scale bar is 13.6cm.

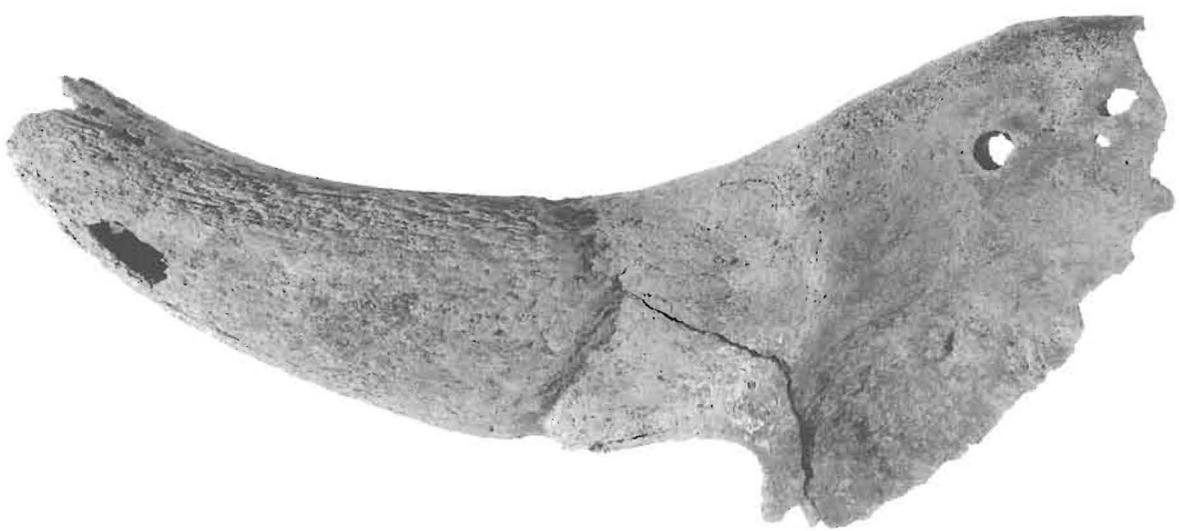


Plate 2

Posterior view of cattle skull from context 2260 (period 3) showing the perforations in the occipital bone. Total length of scale bar is 22.8cm.

Plate 3.

Chop marks on goat horncore from context 2355 (period 1). Total length of the scale bar is 16.8cm.