

Jones G.G. 1994 Animal Bone. In...
pps 37-43, fiche Tables 9-12.

Excavations at Fishergate, Norwich, 1985

Jgg94a_732N_Norwich

by Brian S. Ayers

with contributions from
E. Allison, P. Budd, C. Dallas,
A.K. Gregory, A.K.G. Jones, G. Jones,
H. Kenward, A. Locker, M. Manning,
D.M. Metcalf, P. Murphy, R. Scaife,
R. Stevenson, M. Tillyard, V. Williams

illustrations by
Jayne Bown, B. Funnell,
Hoste Spalding, Jean Stokes

photographs by
Brian S. Ayers

East Anglian Archaeology
Report No.68, 1994

Field Archaeology Division
Norfolk Museums Service

FN01

Fishergate Norwich 1994 med.

Jones G.G. 1994 Animal Bone. In...
pps 37-43, fiche Tables 9-12.

Excavations at Fishergate, Norwich, 1985

Jgg^{94a}_732N_Norwich

by Brian S. Ayers

with contributions from
E. Allison, P. Budd, C. Dallas,
A.K. Gregory, A.K.G. Jones, G. Jones,
H. Kenward, A. Locker, M. Manning,
D.M. Metcalf, P. Murphy, R. Scaife,
R. Stevenson, M. Tillyard, V. Williams

illustrations by
Jayne Bown, B. Funnell,
Hoste Spalding, Jean Stokes

photographs by
Brian S. Ayers

East Anglian Archaeology
Report No.68, 1994

Field Archaeology Division
Norfolk Museums Service

FN01

Fishergate Norwich 1994 med.

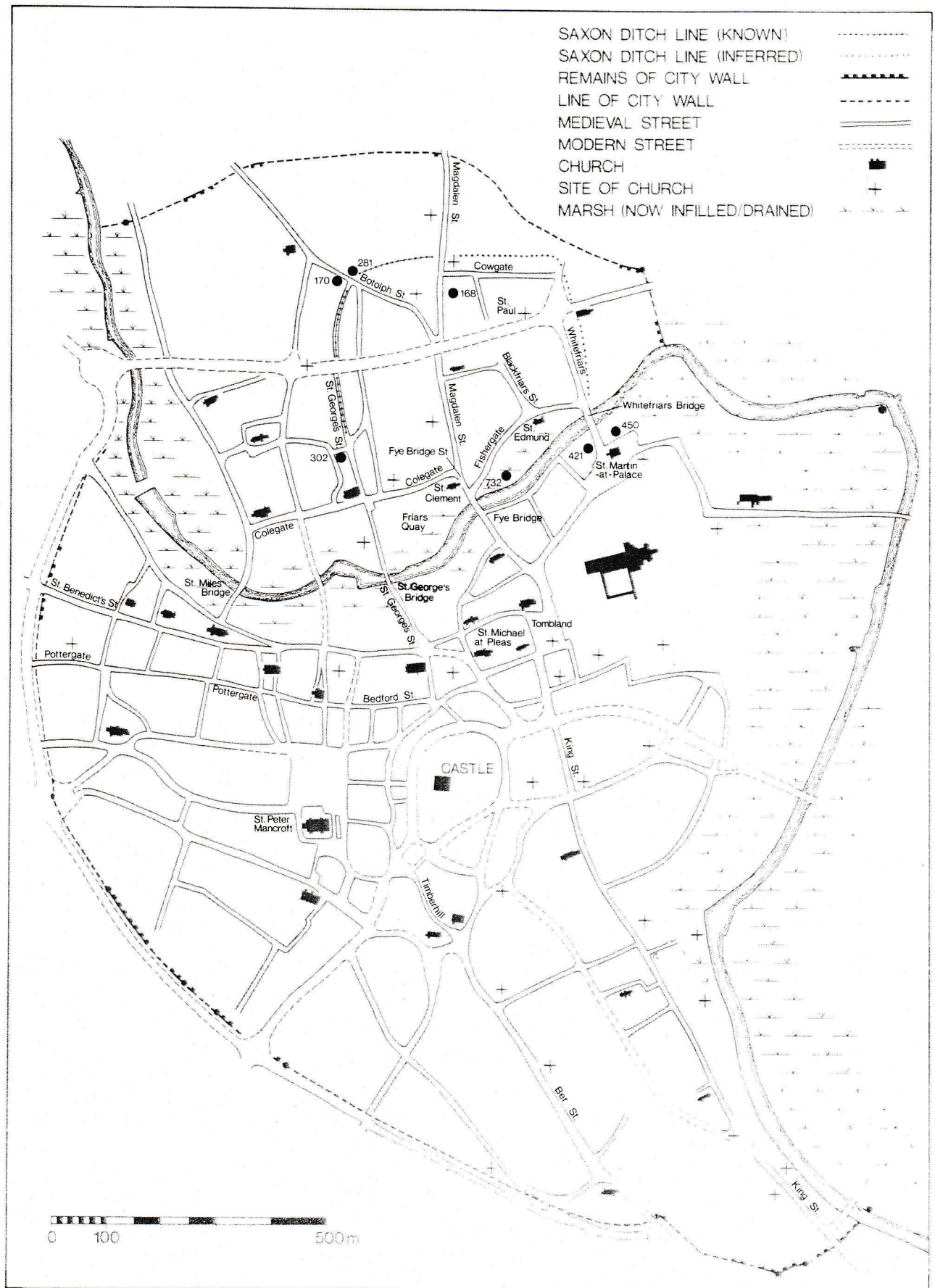


Figure 1 Norwich: the walled city area showing the location of the excavation (732) and other sites and places mentioned in the text. Scale 1:10,000.

at Fishergate includes vivianite and large quantities of charcoal and food refuse. It seems to consist predominantly of dumped material.

9. Deposits above 65cm (52, 54: Period IV (eleventh-twelfth century)). 54 consists of a densely packed deposit of crushed chalk, laid down presumably to provide a firm surface for riverside activities. On this surface deposits of refuse with a high chalk content (52) accumulated.

II. Mammal and Bird Bone

by Gillian Jones

The mammal and bird bone from Fishergate, of late ninth century to late medieval date, is summarised in Table 7.

Method

(Fig. 22)

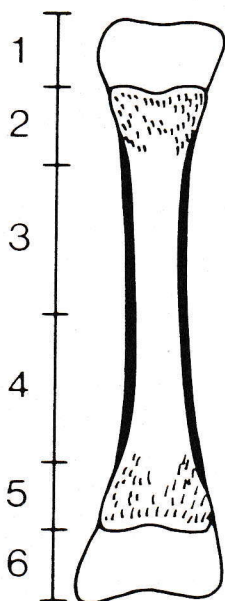
The main bone assemblage was hand collected. A small quantity of bone was recovered from the sieved samples. Bone was recorded on two lists, with the more complete bones on a zone list and the other bones on a fragments list. On the zone list were recorded complete bones or bone pieces as follows:

Skull:

substantial pieces of horncore, frontal, lacrimal, malar, parietal, squamous temporal, occipital; upper jaw and mandible with at least one tooth present; loose teeth.

Long-bones:

where more than half of any of the six areas shown on Figure 22 was present and where the following small areas of bone were present: humerus, the distal posterior part of the shaft; radius, the proximal part of the ulnar groove; femur, the supracondylar fossa; tibia, the anterior, distal part of zone 4.



Division of Long Bones into six zones (figure after Baker and Brothwell, 1984 p.44).

Figure 22 Division of long-bones into six zones.

Other bones:

more than half the following bone or bone elements: vertebra, the body and central arch; scapula, the neck and glenoid cavity; ulna, the olecranon and proximal articulation; pelvis, the iliac shaft and the iliac, ischial and pubic parts of the acetabulum; calcaneum, the proximal part and articulation; the patella, astragalus and phalanx.

With cattle, substantial pieces of the ends of long-bones, even when less-than-half complete, were included on the zone list. This was done in order to avoid loss of important epiphyseal fusion data. However, few bones fell into this category, due to the well-preserved and relatively unfragmented nature of the bone assemblage.

The separation of the fragments in bone recording may be useful, in that it is likely to be less repeatable than that of the more-complete segment. Accurate identification of fragments probably varies somewhat between bone analysts, and for a single analyst depending on the time available for study. It will also tend to vary according to the number of similar-sized species present. Some fragments may be assigned to cattle which, if red deer and horse were as common as cattle, would have remained as 'large unidentified'. However, a fragment was not identified unless it bore clear features typical of the particular species.

Table 9 (microfiche), the Anatomical Analysis, shows the total number of bones (BN) and a reduced number of zones. For long-bones, these are zones 2 and 5, labelled p (proximal) and d (distal), and zone 4 for the humerus, femur and tibia, and zone 3 for the radius and metapodials, labelled s (shaft).

Dating

The dating of the bone is based on the identified site periods (see Chronological summary, p.ix) which were themselves dated by artefacts. There was, however, residual earlier pottery in later phases and some of the bone may therefore also be residual earlier material.

General description of the bone

The bone from the Period I marsh deposits was well-preserved and dominated by cattle. Many of the bones were fairly complete and had surfaces which were dark in colour and hard with little abrasion. The good state of preservation of the bone suggests that the marsh was used as a primary dump. In general few bones appeared to relate to each other. Upper and lower jaws of cattle from context 129 probably belong to each other, but, for example, no distal tibiae with matching astragalus were found and only two immature cattle bones were recovered as both metaphysis and epiphysis (against fourteen unfused metaphyses without epiphyses and eight epiphyses without metaphyses). Of thirty immature vertebral centra, in only one case was a matching epiphysis preserved.

Bone from Periods III1 and III2 was also well-preserved. The bone was less dark in colour than the Period I bone and some of it bore a sandy accretion. Again, few bones related to each other (upper and lower jaws, hock joint bones, or metaphyses and epiphyses). One might suggest that casual dumping of bone took place over time and that there may have been some post-depositional movement of bone in the deposits.

It is expected that access to the marsh to dump bone would favour the large bones of cattle and that the high percentage may be more informative about the particular area of the town than the general supply of meat in Nor-

	I		II		III		III2		IV		V		VI	
	z	BN	z	BN	z	BN	z	BN	z	BN	z	BN	z	BN
Cattle	317	497 75%	22	46 56%	235	350 54%	480	774 61%	107	178 41%	5	8	76 67%	120
Sheep/Goat	47	60 9%	12	20 24%	96	142 22%	147	219 17%	68	90 21%	3	7	25 18%	33
Pig	71	85 13%	9	14 17%	100	117 18%	170	223 17%	57	66 15%	2	2	6 5%	9
Horse		9				11		4						
Deer	red	1	red	2					cf.red roe	1a 1			fallow	2
Dog		1								1				
Cat		1								4+2s		1		
Hare						1s								
House-mouse										3s				2s
Black Rat										6s				1s
Fowl		2				11 1.7%	47 3.7%			66 15%		1		14
Goose		3				7 1.1%	8 0.6%			25 5.7%				7.7%
Duck (cf dom.)						1	1			3				2
Teal (<i>Anas crecca</i>)						1	1			1				1.1%
Woodcock (<i>Scolopax rusticola</i>)										1				
Frog/Toad							10s							
Total identified		659		82		639	1279			437		19		180
3295														
Total 6207		1084		185		1101	2472			1001		40		324

Notes: z - more complete bones; BN - total number of bones; s - sieved (not counted in totals)

Table 7 Summary of animal bone.

wich. Percentages using other methods of calculation give the results shown on Table 8.

As is usually the case, proportions which exclude fragments give lower percentages for cattle. This is so for all the phases. It is even more marked in the count of the more complete main bones alone. This excludes those bones which were seen to be under-represented in the sheep or pig anatomical analysis, *i.e.* skull pieces, maxillae, loose teeth, vertebrae (except the first two cervical vertebrae), astragali, calcanea and phalanges.

Dominance of cattle bones was greater in Period I than Periods III1 and III2. This could be a depositional difference. The marsh may have been further from the settlement in the earlier period. It remains possible, however, that the difference reflects a greater reliance on cattle husbandry in the late ninth and tenth centuries. Pig bones were also significantly more numerous than sheep. There seems to be no reason why dumping in the marsh should favour pig rather than sheep bones, so it is concluded that more pork than mutton may have been eaten at this period in Norwich.

Period IV bone has a pattern more typical of occupation debris. The cattle percentage is lower and sheep bones are more numerous than pig. The number of species is greater and includes cat, house-mouse, teal, woodcock, rat and a surprisingly large quantity of fowl and goose, together forming 21% of the Period IV identified bone. The packed chalk surface of this phase indicates occupation/riverside work, and the bone also suggests occupation rubbish. The poultry bones may be remains from 'working lunches'. (The poultry percentage seems to be a real difference; fowl and/or goose were present in ten of the seventeen contexts and where many bones were found, *e.g.* forty-one bones in context 55, they did not appear to be partial skeletons).

Very few bones from Period V were found. They include both cat and fowl and perhaps suggest occupational debris.

Period VI was of note for the pit containing cattle horncores (see Cattle section) which suggest a nearby horn

workshop, appropriately sited near the river. Even excluding the horncores, the percentage of cattle bones is high for the late medieval period. This is the only phase of the site where sheep bones greatly outnumber pig. Numbers of poultry bones are also high. The only records of fallow deer (including a metatarsal, see measurements) are of this late medieval date.

Cattle

An anatomical analysis of the larger groups of cattle bones is shown on Table 9 (microfiche). For Period I, the body parts found reflect the good preservation of the bone. Upper jaws with at least one tooth present were as common as the stronger lower jaw, and there was moderately good preservation of the large cancellous long-bone epiphyses. It appears that all parts of the carcass were being deposited including numerous ribs and fragmentary vertebrae (see unidentified bone). The lack of caudal vertebrae may be a recovery bias.

The proportion of cattle bones recorded on the more-complete list was surprisingly similar for the main periods, at 64%, 67%, 62%, 60%, and 63% for Periods I, III1, III2, IV and VI respectively, suggesting similar degrees of fragmentation. This is higher, for example, than is usual on Romano-British sites where cattle bones were chopped into smaller pieces (*e.g.* 48–54% at Prestatyn, 52% at Amer-sham, Jones 1989 and forthcoming). An interesting question at this point is the size of cooking pot available. Many of the cattle main limb bones survived as one end plus a substantial length of shaft. For example, substantial pieces of cattle bone from context 100, in Period III, measured 12–18cm. Rib pieces were also quite often as long as 17 or 20cm.

The Period III1 and III2 cattle bone shows some of the characteristics of poorer preservation. The lower jaw is much more numerous than the upper, and the compact-bone epiphyses are much more numerous than the softer, cancellous-bone epiphyses. Notable for their near-absence from these tenth-eleventh century periods were horncores.

	I				III1				III2			
	N	C	S	P	N	C	S	P	N	C	S	P
Total (BN)	642	77	9	13	609	57	23	19	1216	64	18	18
Zone	435	73	11	16	431	55	22	23	797	60	18	21
Zone, main bones	227	65	12	22	248	47	28	25	476	52	24	25
Min. no. of individuals		9 (pe)	3 (sc)	6 (ra3)		10 (ti5)	7 (sc)	9 (md)		12 (sc)	9 (ti4)	11 (md)
	IV				VI							
	N	C	S	P	N	C	S	P				
Total (BN)	334	3	27	20	162	74	20	6				
Zone	232	6	29	25	107	71	23	6				
		without horncores				77	59	32				
Zone, main bones	152	44	34	22	60	58	37	5				
Min. no. of individuals		3 (sc)	3 (ti5)	4 (md)		16 (hc)	5 (ra3)	1 (hu5)				

N - sample size;

C, S, P - cattle, sheep/goat, pig;

"zone main bones" counts only mandibles with at least one tooth, atlas and axis vertebrae, scapulae, pelves and long-bones including metapodials (not abaxial ones). The minimum number is the most numerous bone element; *e.g.* for Period III1 cattle this was the right tibia, zone 5 (Fig.22).

Table 8 Percentages of the cattle, sheep and pig bones.