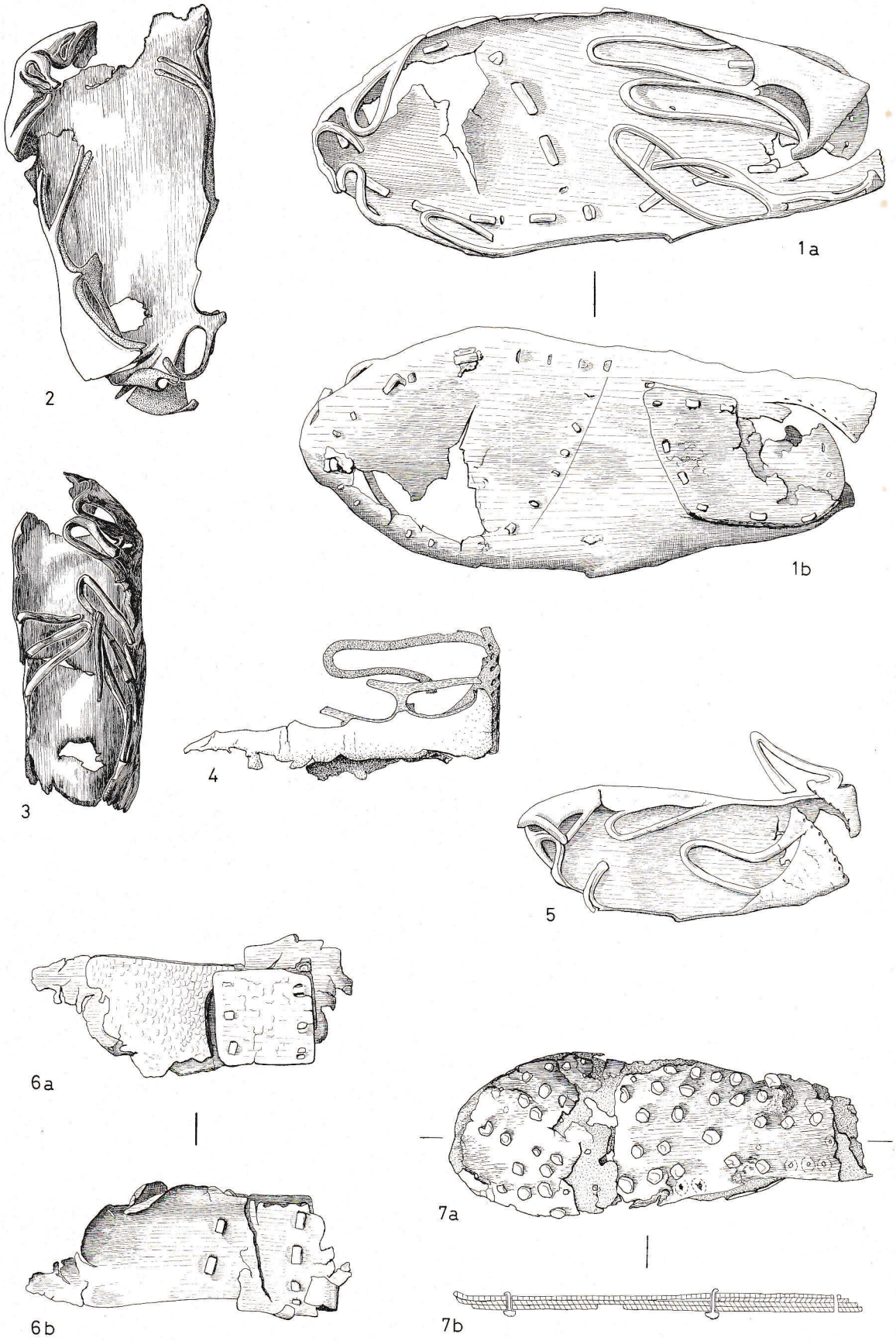

Fig. 88. Objects of leather 1-7. Scale 1:3.

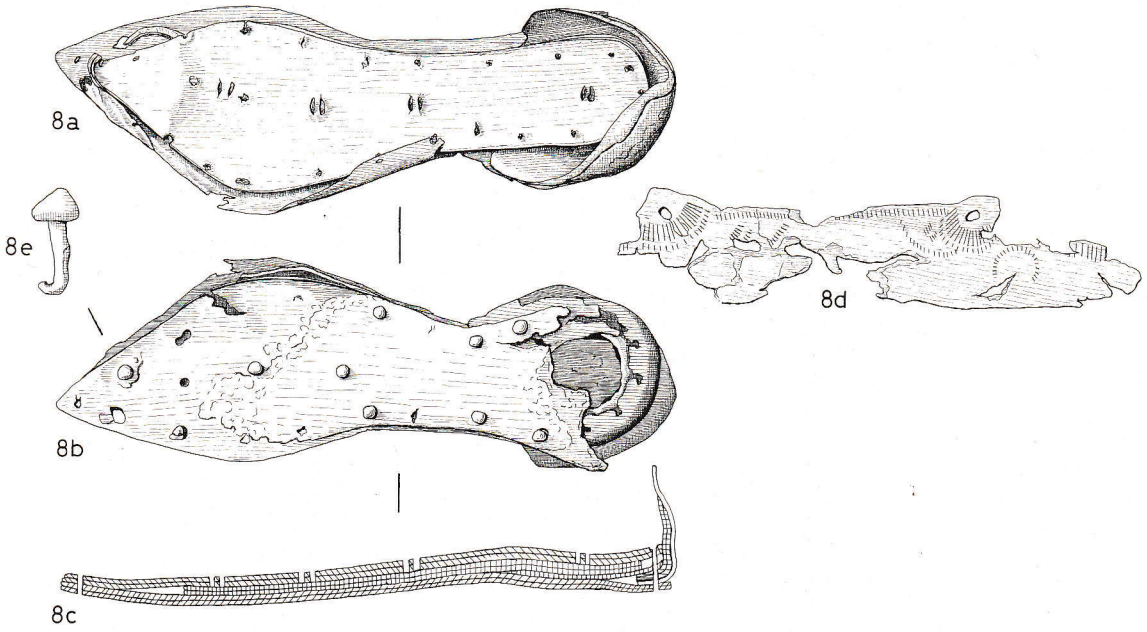

Fig. 89. Objects of leather 8. Scale 1:3 with iron hobnail 1:1.

Fig. 88, Nos. 7a and b (cont.) fourth under the foot arch; insole, upper and heel missing. No evidence for the type of upper survives. The closely set hobnails show considerable wear. Layer 318, Well I.

Calceus

Fig. 89, No. 8a-e Left shoe; complete sole, heel stiffener, and fragment of upper (8c) surviving. The sole is constructed of laminae; six beneath the ball of the foot and seven beneath the heel. Eight hobnails are still in situ but a possible twenty three were used originally. The insole shows four thong holes, indicating that the laminae were thonged together prior to being nailed to the outer sole. Two thicknesses of heel stiffener with 'skived' top edges retain their original shape. The upper is lapped under and nailed between the two lower laminae and the rest of the sole. It is pierced by two sub-rectangular holes through two crudely shaped tabs (cf. Robertson, et. al. 1975, 74, fig. 24, no. 40). There is rouletted patterning around the top margin, tabs and heel panels. Presumably this shoe was 'whole cut' as indicated by the absence of a seam at the back of the heel. The decoration may indicate a high grade shoe (Charlesworth and Thornton 1973, 141). Layer 433, Well II.

VI. ZOOLOGICAL EVIDENCE

ANIMAL BONES
by Gillian Jones

The bones studied were from pits of the late first to mid second century (pits 144, 223, 267, 408 and 540, Periods I and II) and from occupation and rubbish layers (19, 43, 58 and 65) and Wells I and II of the late second to fourth century (Periods III and IV). The species [17] identified are shown on Table 17.

TABLE 17. ANIMAL BONES: SPECIES, MINIMUM NUMBERS AND NUMBERS OF FRAGMENTS.

Late 1st - mid 2nd C Late 2nd - 4th C

	TOTAL				PERIODS I & II				PERIODS III & IV			
	fragments	% of main species	minimum no. of individuals	% of main species	fragments	% of main species	minimum no. of individuals	% of main species	fragments	% of main species	minimum no. of individuals	% of main species
Cattle	846	50	21	30	106	28	5	21	740	57	16	34
Sheep/Goat	674	41	38	53	237	62	17	71	437	34	21	45
Pig	153	9	12	17	39	10	2	8	114	9	10	21
Horse	18		3		4		1		14		2	
Dog	15* + 1sk		6		2		1		13* + 1sk		5	
Cat	2		1		-		-		2		1	
Red Deer	13		3		3		2		10		1	
Roe Deer	3		1		-		-		3		1	
Fowl	27		7		16		4		11		3	
Duck	3		2		-		-		3		2	
Corvid spp.	3		3		1		1		2		2	
Toad	[3]		1		-		-		[3]		1	

1758 ident *plus one skeleton 45 other 1350

23 other 408 ident

The minimum number of individuals (Table 17) was calculated by taking the most frequently occurring (right or left) of the following: ends of long bones and loose epiphyses retaining more than half of the articulatory surface, scapulae with the neck and most of the glenoid cavity, atlas and axis vertebrae, calcanea and astragali where more than half was present; or by looking at the number of mandibles and maxillae at each stage of tooth eruption, whichever was the greater.

Cattle

There is some evidence of the age at which cattle were slaughtered, chiefly from the dentition. There were no very young animals, at least seven immature (third molar not present or not in full wear), seven mature (third molar fully in wear) and three aged (teeth heavily worn). The evidence from the fusion of the long bones also suggests that about half the remains are from adult animals, probably more than five years old. Bones from all parts of the skeleton were present.

Horse

None of the few horse bones present were definitely from young animals. Remains came from eight separate contexts; from five of these a single bone only was recovered. The minimum number is therefore probably an under-estimate. Two complete metatarsals (Periods III and IV) can be used to estimate the height of the horses as roughly thirteen and fifteen and a half hands.

Zoological Evidence

Sheep and Goat

Both sheep and goats were kept. Four sheep horn cores, two pieces of skull from hornless sheep and one goat horn core suggest, along with corroborative but less certain evidence from other bones, that most of the sheep/goat remains are in fact sheep.

If what survived is typical, more than two thirds of sheep meat eaten was lamb, one third mutton. There were remains of at least six juveniles (second molar not erupted; most of these died during their first year of life), twenty immature animals (third molar not in full wear), nine adults (probably more than four years old) and three aged (teeth heavily worn).

Pig

Pig remains were mainly from young animals. There were at least one piglet (foetal or newborn), seven immature, and two mature (third molar in full wear; more than about four years old) individuals.

Dog

Apart from two fragments from Periods I and II, the dog bones were of the late second or third century. They consisted of the skeleton of a puppy some weeks old, a mandible of another puppy about six months old and other bones of three adults, one small (a nearly complete skull) and two larger. The skull can be compared with early dog bone finds published by Harcourt (1974): other skulls of small size have been found on Roman sites, although this example has a broader snout (Snout Width Index 49%) than any recorded in that study.

Cat

Two cat bones were found in Well II.

Deer

Eight out of thirteen red deer fragments were antler, one of these was definitely shed and the other small pieces may have been. Five pieces were cut or had been sawn through.

Two of the three roe deer remains were antlers; one was complete and had been shed (overall length 170 mm.), the other was nearly complete but broken above the burr. The third bone was a metatarsal fragment.

Bird

The bird bones (a more limited range than normally found on Romano-British sites) were very kindly identified by Mr. D. Bramwell. Poultry remains are not normally found in the pre-Roman Iron Age. Bones of fowl were found in more than half the contexts that produced bone, suggesting that the minimum number is an under-estimate. There was evidence of two pullets (six immature bones), and four adults (ten bones) of which three were hens and one a cock. One of the three duck bones was mallard size and the other two larger, probably from a domestic bird. Three corvid bones were found, one a rook or crow (Period I), and two which may be jackdaw.

Toad

Three bones from Well I are thought to be toad.

Fish

Both pit 504 and Well II contained two perch scales (Perca fluviatilus).

A B

Fig. 90. Animal bones; teeth with developmental abnormalities. Scale 1:1.

Pathology

Dr. Calvin Wells very kindly examined a few abnormal bones. A third century sheep upper second molar (Well I, 160), had a small developmental abnormality of the dentine (Fig. 90a). A mid second century lower second molar (pit 144), had a developmental abnormality of the enamel (Fig. 90b). Both conditions were probably the result of feeding irregularity when small. The first upper molar of a mature sheep maxilla had a slight radiculitis - an inflammatory reaction - in the root below the level of the enamel (pit 144). A pig fourth metacarpal showed a mild degree of periostitis probably due to an infection (pit 144).

There are two examples (Periods I and II) of a cattle lower third molar with only two pillars instead of the normal three; in one of these, the mandible also had a gap (5.5 mm. wide) between the second and third premolar. There were twenty seven normal lower third molars. These conditions have been observed in other ancient, particularly Roman, and modern material and are reported on by Andrews and Noddle (1975).

Butchery

As is usual with cattle remains, there was a great deal of breaking of bones presumably after the removal of most of the meat. Ribs, for example, were mostly between 6 and 10 cm. long and nearly half had the marks where they had been chopped into pieces. There was some evidence about methods of dismemberment, the most striking being fifteen scapulae whose heads had been cut usually on both sides (anterior and posterior), allowing the separation of the front limb. One scapula had a hole c. 3 cm. across, in the centre of the blade, which may be where the animal was hung. The front limb seems also to have been dismembered sometimes at the base of the humerus and sometimes at the bottom of the ulna. In the hind limb heavy cuts were noticed on the proximal tibia; at the bottom of the tibia separation was at the astragalus or just above the metatarsal. Meat on the head was certainly used and the mandible seems usually to have been removed. There were three fairly complete skulls: one had a round hole, 4-5 cm. across, in the right frontal bone going through to the braincase, where the animal had been poll-axed; one was cut on the side/back apparently to remove the mandible; and in all three cases the back parts were missing, which suggests that the brain was removed. (cf. Grant 1975, 390).

Marks seem to have been made with choppers and knives. The only use of saws observed was on pieces of red deer antler.

Zoological Evidence

Discussion

The animal remains from Scole show that cattle and sheep predominated. Cattle, with a carcass weight up to ten times greater than that of sheep, always provided the most meat, although in the first and early second centuries sheep surpassed cattle numerically. The diet was supplemented by pigs which were probably farm bred (if they were hunted wild pigs one would not expect to have so many remains of young animals), domestic fowl, duck and deer. Venison was only an occasional item on the menu, as most of the deer remains can be accounted for by small boys being sent out antler hunting in late autumn. Worked antler and other bone artefacts are reported on above (p. 201–4). Whether the horse and dog bones are food remains is not known; they were found scattered among food debris but no butchery marks were observed. It is interesting to find in Norfolk evidence of small dogs, which are not known in Britain till Roman times. Horses were in use but probably not for the important tasks of ploughing and carting. The estimated size of horses, about 13 and 15½ hands, of light build, may be larger than that suggested by the very small horse bit (Fig. 61, No. 1). All parts of the skeleton (of the three main animals) were found, which probably means that animals were killed, butchered and eaten on the site. It is not known whether the inhabitants produced their own livestock and/or bought on the hoof; the proportion of immature sheep is thought to be rather high for a single flock and it may be that Scole was a market for some of the surplus from the surrounding countryside. A high percentage (63–91% in different phases) of immature sheep was also observed at the late Roman fort of Portchester (Grant 1975).

MOLLUSCAN REMAINS
by Andrew Jones

The most frequently encountered molluscan remains were oyster shells (Ostrea edulis). These were scattered through all layers over much of the site, being slightly more common in the northern area. Most Romano-British settlement sites produce large quantities of oysters. So far attempts to analyse these for food value and place of origin have entailed many hours of careful measurement, often producing little useful evidence. On these grounds it was decided that oyster shells should neither be kept nor counted.

A small number of other marine molluscs principally mussel (Mytilus edulis) and whelk (Buccinum undatum) shells were collected. Terrestrial molluscs included garden snail (Helix aspersa) and three specimens of Cepaea nemoralis/hortensis.

VII. BOTANICAL EVIDENCE

TREE-RING ANALYSIS OF THE TIMBERS FROM WELLS I AND II
by Ruth Morgan

Several associated groups of Roman timbers, particularly from wells where conditions for their preservation and discovery are good, have now been collected from East Anglia, with the aim of establishing a relative framework for the dating of Roman sites until such time as the English tree-ring sequences have been extended far enough back to allow the absolute dating of material from these contexts. The Scole well timbers form a part of this project. A total of fourteen oak timbers from the two wells was analysed dendrochronologically and in addition aspects of their use and processing were studied.

The annual growth rings of many tree species in temperate climates are formed of two parts: a zone of earlywood vessels formed in the spring, which varies little in width and, in oak, consists of between one and four rows of large vessels, and a zone of small latewood cells formed throughout the summer which can vary considerably in width. Oak timbers of the Roman period are almost invariably wide-ringed, at least in East Anglia, and were probably selected as a result of the greater strength provided by the high pro-

VIII. DISCUSSION

No pre-Boudiccan occupation has yet been identified at Scole and, as at Caistor St. Edmund [19], a Flavian foundation seems certain. The evidence for a fort is dubious, and its possible site is unlikely to be investigated in the foreseeable future. A military origin for the settlement remains unproven, despite the recent identification of a possible marching camp south of the river (p. 236) [20]. The construction of the main north to south road in c. A. D. 70 may have led to the establishment of a posting station at Scole (Clarke 1937, 161-2; 1960, 117); and some of the earlier Period I contexts on the site (particularly ditch 461) may date to this period. The road must lie east of the excavation and approximately under the modern A140, the irregular line of which dates from at least 1564 (S. R. O., Ipswich: map, HD 417/61). The apparent lack of finds along it may largely reflect the lack of observation in the past and the small amount of modern disturbance in the area of the present village. The northern limit of the settlement is, however, indicated by the cremation burials at Waterloo (Fig. 39, No. 3), and no Romano-British finds are recorded north of the present main road to Diss.

The east to west road (400), which was a secondary feature on the site, has now been located at nine points within the settlement. It still has to be traced outside this, but is probably heading for Needham to the east [21] (Clarke 1937; Frere 1941; Frere and Clarke 1945), and perhaps, after a change of alignment to Brettenham on the west (Gale 1936, pl. iv; Clarke 1937). The concentration of finds along this road (Fig. 39) may reflect its importance in providing access to the Waveney.

The importance of the River Waveney in the economy of Romano-British Scole was probably great, although there is no positive evidence for this. The published description of the waterlogged timbers at Waterloo (Fig. 39, No. 1) does not permit any reconstruction to be made (Gale 1936, 263-5, pl. IV). Gale suggested that they had formed a wharf, and that a creek may have led south from this structure to the river. There is now no trace of such a waterway. Despite post-Roman drainage, weirs, and changes in relative land and sea levels, the navigability of the Waveney in the Roman period may have been little different to that at the present day [22]. Small craft with shallow draughts surely used the river and thus augmented the importance of Scole as a trading centre, although the shallowness and narrowness of the Waveney this far upstream cannot have allowed passage to any substantial vessels (Liversidge 1968, 403).

The coin list from the excavation appears to indicate that after c. A. D. 275 there was either only very slight occupation on the excavated site, or that it had moved away from the area examined (cf. the evidence of seeds p. 220). One explanation would be that the status of Scole was drastically altered after the collapse of the Gallic Empire in A. D. 273. This assumes that Scole was the centre of an imperial estate, and therefore critically sensitive to such political events. There may be a significance in the fact that the coin list from a Romano-British building on Stuston Common (p. 101) ends with Tetricus I (Gale 1936, 236, pl. II). An equally short list (only seven coins) from the excavation of a bath-house at Stonham Aspal, 20 km. to the south, also ends with Tetricus I (Smedley and Owles 1966, 234). It would perhaps be unwise to attempt any historical conclusions on the basis of such short coin lists, and there is plenty of evidence on many Norfolk and Suffolk sites for activity in the late third and fourth centuries [23].

The identification of Roman Scole with the Villa Faustini of Iter V of the Antonine Itinerary (Crawford 1925) has received widespread acceptance (Rivet 1964, 104, 162), although it has recently been challenged (Rodwell 1975, 80-81). The 1973 excavations produced no new certain evidence to support or refute this identification. The poor quality of Roman buildings in Scole has been explained by the suggestion that Villa Faustini may have been an imperial estate run by bailiffs (Rivet 1970, 47). No evidence for flint and mortar structures was found in 1973, although such buildings have been

located to the east and west (Fig. 39, Nos. 1, 14 and 15). The only plan of a building recovered in 1973 (Fig. 52, 30) which has a surface area of c. 72. sq. m., is neither 'luxurious' nor primitive. Fragments of Purbeck marble slabs (p. 150, Nos. 11 and 12) do however suggest that there may have been a building of some importance close-by [24].

Clearly the two roads, the river, the river-crossing, and perhaps its role as the centre of an imperial estate, all affected the status of the settlement at Scole. It is not included in a recent list of small towns (Frere 1975) and previous descriptions have been as disparate as 'major settlement' (Clarke 1960, fig. 29) and 'small farm' (Clarke 1960, 125). Scole would seem to belong to a very general class of roadside settlements described by Todd (1970, 116-117). These are straggling sites, sometimes defended, of varying size, with greater or lesser economic dependence on the surrounding farmland (cf. the animal bone evidence p. 213), and often including posting stations along major roads. The lanes or streets found in 1973 suggest that there may have been some element of planning in the lay-out of the settlement, although they may have been laid out by individuals when required. Iron working remains the only attested industry with the exception of some bone working. No public buildings have yet been recognised. These factors all shed some doubt on the urban status of Scole.

December 1976.

REFERENCES

1. Accession number: NCM 539 973.

2. The present parish of Scole includes the former parishes of Frenze to the west, Thelveton to the north, Thorpe Parva to the north east, and Billingford to the east. In Domesday, Scole is entered as Osmundeston. The name Scole originally referred to a hamlet within the parish, and in the sixteenth century it came to refer to the whole parish (Blomefield 1805, 130-131). It apparently derived from the Old Norse 'skali', meaning a 'hut, shed, or temporary building' (Ekwall 1960, 424).

3. Map L NW of the Geological Survey of England and Wales (1880) shows chalk in the northern part of the excavation field and alluvium to the south. Sand, presumably that shown in section in Bennett 1884, fig. 3 is probably that encountered in the excavation. Well II may have dug through chalk because chalk blocks were found in the construction pit (p. 117). However the base of the shaft seemed to consist of chalky clay. The author is grateful to Peter Lawrence of Norwich Castle Museum for his advice on Scole's geology.

4. The author has not attempted to produce an up-to-date gazeteer of Romano-British finds in the area around Scole. Further information is available in the Suffolk Archaeological Index at County Hall, Bury St. Edmunds and in the Norfolk Archaeological Index at Norwich Castle Museum and the Norfolk Archaeological Unit.

5. More recently Scole has been considered only a 'possible' fort site (Frere 1967, 91; Jones 1975, 188). Crop marks of a probable marching camp have recently been photographed south of the Waveney (p. 236).

6. Natural sand was reached c. 50 cm. below ground surface over the area of both trenches except over the post-Roman ditches (2 and 69). A clay ?floor, in places burnt red, was cut by ditch 69 at the eastern end of the more northern trench. Although no manual excavation took place, it was clear that there was no intense Romano-British occupation at the southern end of the field.

7. Throughout the description of the excavation the terms 'north, south, north east, south west, etc.' are not intended to refer to true north or grid north, but to the alignment of the field and of the main road. Therefore 'north' is really closer to north east.