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**Frocester Court Roman Villa: Second Report**

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Frocester Court Roman Villa
Second Report 1968-77: the Courtyard

By H.S. GRACIE and E.G. PRICE

This report deals with the courtyard south-east of Building A and its immediate surroundings. The first report was published in Vol. 89 of these Transactions and described the dwelling house, Building A, O.S. Nat. Grid SO 785029. A formal garden was cut off by 5th-century cultivation which spread over much of the east corner of the yard. Medieval ploughing, on the ridge-and-furrow system, did further damage. The furrows started as straight lines but, as time went on, they drifted towards the left near the headlands to form the traditional reversed S shape. By the time the field was laid down to grass, c. A.D. 1600, this process had removed all the surface works to a depth of 50 cm at the headland ends. Such deeper features as the tannery pit, post holes and ditches remained. The general direction of the furrows is N 53°W and they are c. 5 m apart. The headlands lie just outside the south-east boundary fence and along the modern hedge to the north-west. (The inner hedge, shown in the first report, has now been removed). Beneath the courtyard was found a series of ditches belonging to a previous occupation to the south. This complex of ditches, dating from before the conquest to the last quarter of the 3rd century A.D., will form the subject of a subsequent report.

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THE EXCAVATION

The courtyard (figs. 2 and 3) was bounded by a wall on three sides and a fence on the fourth. The north-west side was occupied mainly by the house with a wall projecting from it 8.5 m to the south-west and 3.6 m at the other end, thus making a total width of 56 m. The north-east and south-west parts were built of dry stone but one side at least had been pointed. Judging by the foundations of a similar, modern wall in the vicinity it stood from two or three metres high. As they went further from the house the foundations became shallower and presumably the height of the wall was lowered. Near the medieval headland they were reduced to 53 cm or less and all traces

1. This report was in course of preparation at the time of Capt. Gracie's death. The section relating to the excavation and its interpretation together with figs. 2-7 are entirely his with little editing. The presentation of the whole paper including some of the specialist reports and remaining drawings has been completed by E.G. Price.
FROCESTER COURT
1978

Numbered ditches are pre 275 AD, except I-IV, period uncertain.

FIG. 1 The 4th-century villa and earlier ditch complex
FIG. 2 The courtyard at the beginning of the 4th century
FIG. 3 The courtyard at the end of the 4th century
had been removed. They did not appear again under the headland. All the stone had been robbed except on part of the south-western side. Here, where it crossed a ditch and had sagged into it, rebuilding had been found necessary.

Along the south-east side a row of post holes, c.4.5 m apart and 75 cm deep and with packing stones still in position, marked the boundary. On the line of the approach road two post holes, 3 m apart, formed the main gateway and another, one metre further on, formed a wicket gate. This was parallel to the main walls of the house. It met the line of the north-east wall which, if it ended here, would be 53 m long.

On the south-west side, 29 m from the west corner, a gate gave entrance to the courtyard. The adjacent wall was revetted over a length of 4 m either side leaving a gap of 1.22 m for the gate. The north-east side was pierced by two gates. The first, leading to the latrine, was indicated by two post holes and the second led to the dipping pool by way of a stone path. A widening of the foundation trench suggested a revetment of the wall similar to that on the opposite side.

The approach road to the villa (FIG. 4) started as a builder’s track, Road 1, consisting of builder’s rubble with no very definite boundaries. Road 2 was much better constructed having a camber on each side with an overall width of 5 m. Subsequently, 15 cm of heavy metalling was laid down forming Road 3. This was 4 m wide and bounded by kerb stones. Near the house it expanded into a turning area c.9 m by 6.5 m. At 20 m from the house it had been destroyed by 5th-century cultivation. Many sherds of hand-made, grass-tempered pottery, of the Westbury type, confirm the late date of this destruction. The line of the road, marked in places by much disturbed stone, continued until at 50 m from the house it passed through the gate. Outside the gate it passed over an earlier ditch into which a considerable quantity of stone and gravel had sagged. Near the bottom of this material was found a coin of Postumus (A.D. 259-268), thus confirming the date of construction as c. A.D. 275.

The formal garden comprised two beds near the house, a hedge and two long beds either side of the approach road. These had been dug into the stone and gravel of the courtyard. They had then been filled with 20 cm of very dark soil. This contained potsherds, broken bones and jewelry, especially hairpins, which suggested that the garden beds had been manured with compost from the kitchen refuse dump and that the ladies took an interest in the flowers. The coins ranged from Victorinus (268-270) to Theodosius I (378-395) but, in the mud below the garden soil, was one of Constantius I as caesar (293-305) showing that the garden was not laid out till early in the 4th century. Twenty metres from the house the 5th-century cultivation had removed all traces of the formal garden together with the stone surface of the yard. One of the beds near the house had probably balanced the other but, when it became necessary to buttress the wall of room 7, the gravel path leading round this part of the house was moved out 1.4 m and the bed followed suit. The bed on the north-east side of the road was 3.5 m wide while that on the south-west was a metre less. Grass verges 75 cm wide lay between these and the road.

North-east of the approach road the courtyard was floored with stone, fairly solidly made up and often in two layers. It was surfaced with gravel which had survived in patches. The sag over an early ditch was very pronounced and had been filled several times with stone. This part of the courtyard carried a good deal of traffic. The latrine and dipping pool (see below) were just outside the wall. To keep the surface reasonably dry a drainage ditch ran beside the north-east wall and through to the boundary ditch on the north-west. Its total length was 80 m. About the middle of the 4th century, when the north-east wing of the house was built, it was deliberately filled with the remains of some building. Clearance of storm water from the yard was no longer so essential, as the latrine and dipping pool were given up at the same time, being transferred to the new bath suite.

A post hole (PLATE IIc) 1 m in diameter and 1.2 m deep was dug partly into the natural and

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partly into the silt of an earlier ditch. This was filled with packing stones, reused building stone, the upper layer of which had been slightly disturbed by the plough. It had contained a post 25 cm square which had been deliberately lifted out of the socket. Beside it was another post hole 50 cm in diameter and 74 cm deep, the centre being 60 cm from the former on the south side. Along the north-west side a stone floor 5 m long and 2 m wide lay above the filling of an earlier ditch. This massive post, standing by itself, evidently supported some structure, possibly a dovecot with a permanent single-pole ladder in the smaller hole.

Another post hole 91 cm by 68 cm and 89 cm deep, with packing stones still in position, was a further 8.5 m to the south. A coin of Valentinian I was found in the packing.

A feature of unknown use consists of a gutter, running north-west – south-east with no fall in either direction and 8 m long, which turns through a right angle to end in a pool 1.4 m in diameter and 85 cm deep. Another branch runs to an oven-like pit, again 85 cm deep, which was filled with large stones from a floor and a large amount of ash, though the sides were entirely unburnt. A stake hole, 94 cm deep and 12 cm in diameter, on the edge of the pool might or might not have been contemporary. The feature was cut through the stone surface fairly late but had gone out of use by the time of the 5th-century cultivation.

South-west of the approach road and the garden beds there was no sign of 4th-century cultivation or the gravel surface. Before the courtyard wall was laid out, the tiler’s working area (see first report p. 20) may have been used for a rick of corn. The tiler’s waste had been levelled to form a staddle or base and was honeycombed with rodent holes. A number of small stake holes suggest that this had been fenced with hurdles. Subsequently, after the building of the wall, a stone path with gravel surface, 2.75 m wide, was made running along the south-west side of the courtyard. It could not be traced much beyond the gate as a plough furrow had destroyed it.

As the excavation proceeded south-east it encountered the complex of earlier ditches which had silted up very considerably and had then been topped up with spoil from the foundation trenches of Building A. Much domestic refuse had then been dumped to fill up the sagging contents of the ditches. Finally the whole had been grassed over. The deposits below the medieval plough contained 1st-century pottery but had not in general been since disturbed. A scatter of coins on a line from the side gate to the approach road suggests a path.

Adjoining the approach road on its south-west side, some 18 m from the house, was a floor made of small stones and gravel. It was 14 m long by 3 m wide. There were no post holes but the south-east side was partly defined by a shallow gully or drip line. Many sherds of grass-tempered ware were lying in and around the floor. Beneath it lay pit 4, containing 4th-century material, into which the floor had sagged and been renewed three times. This and the grass-tempered pottery suggest a 5th-century date, though any building above it must have been of very slight construction. (FIG. 6)

Three shallow graves, G 10, 11 and 12, one outside the wall, were thought to belong to the 5th-century. One lay partly in and partly on the stone path and the feet were at a depth of only 27 cm below the modern surface. The wall may have collapsed by this time or the path may have been covered by an accumulation of rubbish. A fourth shallow grave at the back of the house was described in the first report. That these remains were interred after the Roman occupation cannot be doubted but the orientation does not conform to Christian practice and the absence of grave goods, other than sandals, does not suggest pagan Saxon.

Over the courtyard, where not disturbed by plough furrows or the 5th-century cultivation, there was a thin occupation layer. Above this, especially thick near the house, was a demolition layer caused by the gradual erosion of the ruins and the final systematic robbing of the foundations. A coin of Henry III and pot-sherds of the 13th century placed this robbing at the end of that century. This enabled the villa and courtyard to be ploughed in the usual medieval manner. The rest of field had been under plough for some considerable time as is shown by an earlier set of plough scores and a coin of Henry II found in the headland beyond the south-eastern fence.
THE SURROUNDINGS

Outside the courtyard wall on the north-east side a stone-lined conduit was constructed (FIG. 5 and PLATE IIIb). The channel was 30 cm deep by 15 cm wide in a trench 1.08 m to 1.22 m deep and 30 cm wide. The stone lining was packed round and the trench filled with clay from the trench. At the south-east the channel came to an abrupt end and was continued by a pit 2.7 m long and expanding to 1.22 m wide. It was 56 m deep and thus 20 cm above the bottom of the conduit. Any upper works above this had been destroyed, but it may have held a tank. The filling of the tank contained many fragments of upper and lower millstones c. 1 m in diameter. At 31 m from this end the stone lining ceased and a stream cascaded into the trench, coming in from the east. It continued without the stone lining for a further 8 m before turning into a recut ditch. Half way along this stretch a badly damaged stone floor appeared on either side with two small post holes. This was the latrine with a continuous flow from the stream augmented by a periodic flush from the conduit.

Key to layers:
1. Humus.
2. Worm sorted medieval plough.
3. Demolition layer.
4. Road 3.
5. Road 2.
6. Road 1.
7. Dark garden soil.
9. Make-up of courtyard.

FIG. 4 Section through approach road and garden bed
The stream was an artificial one which passed through two settling pools before arriving at a pool 1.1 m in diameter and dug 1.04 m deep into clay. The pool had a kerb of flagstones round the side nearest the wall where there was, presumably, a gate. Another pit 1.52 m wide and 75 cm deep, with a stone kerb on the side nearest the pool, was 2.13 m to the south and in gravel. It is thought that this complex may have been the wash-place used for eastern styled dhobing or for collecting drinking water, no other supply having been found. A 3.5 m length of the conduit in the vicinity of these pools had a double layer of capstones raising the top by 15 cm, as though to allow for much traffic across the conduit from the dipping pool to the courtyard gate. The source of the stream was above plough level and had hence been removed. The whole went out of use when the drain from the tanning pit was dug through the conduit and the stream, thus cutting off the stream and the water flushing the latrine.

A tanning pit was constructed about the middle of the 4th century just outside the courtyard wall (PLATE IVa). A pit 2.7 m by 2.6 m was dug into the natural clay and into it was inserted a prefabricated timber lining with a post in each corner. The measurements were 2.13 m by 1.85 m by 1.2 m deep. It was made of boards 8 cm thick and fastened by 15 cm nails. The whole was packed tight with clay round the timber lining. A drain, level with the bottom, passed through a tunnel 60 cm long into the end of an open ditch, which had been dug for the purpose, and carried the used liquor away to the boundary ditch. Amongst the debris thrown into the pit when it was abandoned was a very highly polished stone slab 66 cm by 61 cm and 8 cm thick and fragments of another. These compare with the stones used as tables in old-fashioned tanneries and polished by the rubbing of oils and fats into the hides. Also there were several ox-skulls in the vicinity.

Of the 16 coins found west of the tannery pit and its ditch and outside the courtyard 13 were of the 3rd century and 3 of the House of Constantine, while of 9 found east of it 2 were of the House of
FIG. 6 The post Roman occupation as suggested by the pottery spread
Constantine, 4 of the House of Valentinian and 3 of the House of Theodosius. Activity in the neighbourhood of the latrine and wash-place evidently began in the 3rd century and ceased after 360, while the tannery saw much use after 360. This suggests that when the bath block was built both the latrine and laundry facilities were transferred to it.

This is very similar to a 'tanning pit' recently excavated at Brithdir,3 dated to A.D. 75-130. Such modifications as there are are such as would occur in the course of two and a half centuries of development.

Some time in the 5th century a timber building was erected at the east corner of the courtyard (FIG. 7 and PLATE VIa). This part of the wall had been demolished for a beam slot passed through its foundation trench. The tanning pit and its drain, as far as where the beam slot crossed it, were filled with debris topped up with stone making a floor, though this had been largely destroyed by the plough. It was roughly rectangular, 12 m by 9 m, with a gap in the north corner 1 m wide, no doubt for a door. The south-east side was indicated by only a short stretch of beam slot. Any remains of the rest had been destroyed by the plough. A ditch, 11 m outside the wall, ran north-east until it turned into the tannery ditch. It had been allowed to silt up but, between where the north-west and south-east beam slots joined it, the upper layer had been disturbed as though that end of the timber building had made use of it.

This building shows a strong resemblance to that at Bishopstone illustrated in Britannia II, p. 285, where it was suggested that it was in use in the 2nd and 3rd centuries. Further examination by Martin Bell (Current Archaeology No. 53) brings its construction up to the 5th or 6th century. The Frocester building yielded a few sherds of grass-tempered ware and coins of Valentinian were sealed under the stone floor. A date in the 5th century is suggested though it seems rather early for Saxon influence on building to appear so far west.

Outside the south-east fence early plough scores were found in the natural gravel running north-west - south-east. They stopped 5 m short of the fence, leaving room for the plough and its team to turn. The headland was not built up as occurred in later medieval times, but was used as a cart-track. At the end of the 13th century the courtyard itself was ploughed on the ridge-and-furrow system. The furrows passed through the fence, which by this time would have disappeared except for its post holes, and a formidable headland ridge was built up which protected some of the early cart ruts. The track has been traced for 55 m and is continuing further. The medieval headland although nearly levelled is still visible and continues, deviating slightly to the north, until it reaches the Roman main road. The track becomes the lane beside the barn which was built at the end of the 13th century. Until recently a footpath followed the old track as far as it has been excavated.

Following the fence south-west as far as the gate this track was on the line of an earlier Roman ditch and much stone had been used to level up the sag. Beyond the gate the medieval tracks were above a late Roman gravel floor with post holes and two hearths. This continued until the end of the Roman fence. Whatever structure was there has only been partially excavated but it may have been something like a porter's lodge. Round the south corner of the courtyard, outside the wall and fence, another building was indicated by a heavy stone floor laid over an Iron-Age ditch 4 m wide. This again has not been fully excavated.

Little can be said as yet concerning the area outside the south-west wall. No structures impinge upon it, though there are indications of occupation when the field is under plough.

THE PITS (P1, P2 etc.: FIGS. 2 and 3)

Pits 1 and 2 were used by the builders of the house and were overlain by the material of the courtyard. They were described in the first report, where it was suggested that they were a lime slaking pit and a carpenters' saw pit.

Pit 3, used for mixing plaster and containing lime and brick dust, was dug in the north corner of the yard. It was 1 m square and 54 cm deep. It was not covered by courtyard material and was used during alterations to the building.

Pit 4 lay under the 5th-century floor south-west of the approach road. It was 3 m in diameter and 85 cm deep. Inside it was a further pit of square plan, 1.2 m wide and 1.4 m deep overall. A few 4th-century pot-sherds and a bone pin lay on the shelf between the two. The filling was sterile.
gravel with a certain amount of clay.

Pit 5, 1.75 m by 1 m by 1.4 m deep, near the south-west wall, had never been used. It remained open long enough for a few snails to appear at the bottom before it was back-filled with the material excavated from it. The remains of the heap of soil lay immediately under the plough and above the 1st-century deposit. It was evidently a late feature.

Pit 6, also in the south-west part of the yard, was rectangular, 1.20 m by 60 cm by 66 cm deep. It was found to contain two courses of stone partly mortared and was thought to have been a plinth supporting some kind of garden ornament.

Pit 7 was a circular rubbish pit 3 m in diameter and 84 cm deep. It abutted on the north-east wall and was 15 cm clear of the end of the drainage ditch. It was filled with rubble, animal bones and 4th-century pot-sherds.

Pit 8, near the east corner, was of unknown use. It was rectangular, 1.17 m by 69 cm by 97 cm deep, being slightly wider at the south-east end. Depressions appeared in the four corners of the base. The filling was sterile gravel and clay.

INHUMATIONS (G1, 10, 11 and 12: FIG. 3).

Detailed reports by Dr C.R. Oyler are deposited in Gloucester City Museum.


10. A male aged 30-40, height 1.68 m. The furrow of the medieval ploughing had removed all the bones above the lumbar vertebrae. A flexed burial on the left side. About the time of death the lateral side of the right femur received a severe cut from an axe or heavy sword. A boot was placed behind the pelvis. Head to south-west, depth 41 cm. W8.

11. A female aged 45+, height 1.52 m. The head had sagged about 12 cm with the upper fill of an earlier ditch, thus the skeleton had escaped much of the damage due to the plough. A prone burial, head to north-east, depth 48 cm. Z8.

12. A female aged c.48 height 1.53 m. Both second molars of the mandible had been extracted in order to allow the wisdom teeth to continue erupting and to avoid impaction of their neighbours. Chewing was almost confined to the left side. The grave had been dug only partially into a Roman garden path on the top of a ridge and the plough had removed some bones of the rib cage. Head to south-east, depth 37 cm rising to 27 cm under the feet. X10.

Graves 1, 10, 11 and 12 are of the 5th century or later. The graves are up to 48 cm deep and only those that lay under the ridges escaped damage or complete destruction by the medieval plough. Occasional human bones in the robber trenches are probably from shallow graves of the same period. The other graves are earlier than the courtyard and much deeper.

SUMMARY.

The villa, together with the approach road, was built c.A.D. 275. The courtyard wall was built about the end of the 3rd century when it may have replaced a fence. A formal garden was laid out soon after the wall was built. This was later destroyed by 5th-century cultivation except for a small portion near the villa. The north-east part of the yard was paved with stone and gravel, which provided a comparatively dry walk to the elaborately flushed latrine. When the bath block was added to the villa, the latrine was transferred to it and a tanning pit dug just outside the wall. Later this area was covered by a timber building. South-west of the approach road the surface had suffered little disturbance in the 4th century such as would occur in an orchard or shrubbery.
context. A complex of ditches, earlier than the courtyard, was filled in and covered by it. The ruins of the villa and courtyard were finally levelled in the 13th century and the whole was then ploughed until c. 1600 when it was laid down to grass, which it remained until 1940.

THE SMALL FINDS

The bone, glass and iron objects deferred from the first report are now included with the courtyard material. A small quantity of cinnabar was found in the Roman filling of an earlier ditch and several fragments of chalk, including one used as hone or polishing stone, were found among the villa debris.

STONE Illustrated FIG. 8

1 Pillar capital, split longitudinally and heavily worn before being used to block a ditch outlet. Oolitic limestone.
2 Hone, frag. with suspension hole. Micaceous sandstone.
3 Point sharpener. Old red sandstone.
4 Shale bead, lathe turned. Two perforations for suspension.
5 Jet bead, frag. As A. Lawson, Archaeologia CV, 247 Fig. 2, 10.

Not illustrated

6 Green veined marble inlay, 40 × 23 × 9 mm. Corner of larger slab, polished on one face.
7 Six roughly finished discs, 70-120 mm diam., two with neatly drilled hole through centre, 11-15 mm diam. Possibly used as pot lids.
8 Plano-convex counter, 19 mm diam., local marble pebble.
9 Two frags. of polished shale slabs, convex moulded straight and curved edge.
10 Sphere, 12 mm diam., oolite.

CLAY

1 Tile frag., stamped TPLF (fragmentary). As Clifford, JRS XLVI no. 13
2 Tile frag., stamped (TP)LF. As above.
3 Tile frag., stamped TPL(LF). As above.
4 Tile frag., stamped T.P( ). Resembles Clifford, no. 8b.
5 Three circular counters, 20-40 mm diam., reused grey/black pottery body sherds.
6 Disc, neatly finished, 90 mm diam., hole drilled through centre 11 mm diam., reused buff pottery body sherd.
7 Five spindle whorls, 37-48 mm diam., centre holes 7-9 mm diam. Two made from reused pot bases, three from body sherds.

LEAD

The few objects include what is probably a fisherman’s leger weight and a net sinker, both made from a folded sheet; two rivets, one dome headed, the other flat headed with a long shank, unused; eleven offcuts from sheets of varying thickness. One offcut was 5 mm thick and weighed 6½ ozs.

BONE OBJECTS — all of the 4th century. Illustrated FIGS. 9 and 10.

Miss Barbara Noddel helped with the identification of the bone and antler sources and Dr Juliet Jewell kindly examined the ivory.

1 Four bone spoons with handles in the shape of weapons; spear, sword, axe and one missing. Found together on the kitchen floor.
2 Part of a decorated disc inlay, badly broken and burnt.
3 Handle with ring and dot decoration on all four sides. Sheep metacarpel.
4 Spindle whorl or counter. Red deer antler.
5 Dice. All ring and dot spots except the 3 and 4 are slightly oval indicating shrinkage along the grain. Ivory, uncertain source but probably hippo.
FIG. 8 Miscellaneous stone objects
FIG. 9 Small finds of bone
FIG. 10 Small finds of bone
Curved bone strip. Three similar are without decoration.

Bone pins. 7-11 and nine not illustrated are carved. 11-16 and six others are turned on a lathe. 18 is elaborately decorated.

Bone needle. One other was broken at the eye.

Sheep metacarpel perforated on one side only. One other was broken at both ends.

Point from a horse metatarsal. Two others not illustrated.

Bodkin. Red deer antler.

Bodkin? Red deer antler.

Bone handle of awl (see under iron objects No. 13)

Bone handle of knife or razor (see under iron objects No. 28).

Fragments of a double sided comb.

Horn handle.

Four bone handles.

Bone scored as for making pins.

NON FERROUS METALWORK (to end of 1976). By ELIZABETH FOWLER. Illustrated FIGS. 11 and 12.

This catalogue continues the descriptive list in the first report (Gracie, 1970). The same method and sequence there used has been followed here, and the numbering of the objects is continuous. The more significant objects are described in full and illustrated ones asterisked. The complete catalogue is lodged in Gloucester Museum.

The rather fragmentary nature of much of this bronze work is presumably partly due to its position in late-4th and 5th-century cultivated ground, the later medieval ploughsoil, or the occupation debris and destruction layers. This alone would account for the number of broken or incomplete bracelets and brooches. The astonishing thing is the survival under such circumstances, of the late-1st- and 2nd-century bow brooches.

BRACELETS (145-174)

Again the sheer volume of bracelets is astonishing. Perhaps they were a form of investment, certainly most were comparatively easy to produce on the spot. The recent Uley Temple excavations have produced similar mass-produced bronzes, and reinforce the conviction that there may well have been a thriving industry serving Uley, Lydney and Frocester. Work on bronzes from North Somerset and Avon suggests that Charterhouse performed a similar function.

Decorated bracelets are described first, followed by twisted and plain ones.

145* Bronze, complete, thin strip notched on outer edge as Frocester 7. 70 mm diameter. N6 IV, outside courtyard wall, occupation debris.

149 Bronze, complete, flattened oval section, faintly incised ends. Diameter 50 mm. K7 III, courtyard occupation debris.

150 Bronze, fragment, decorated with oblique grooves and pattern of five sunk dots. 20 mm long. N8 III, courtyard wall robber trench.

151 Bronze, almost complete, flat section decorated with alternating V-shaped nicks, close to Frocester 21. 45 mm long. J8 III, courtyard occupational deposit.

152* Bronze, complete, slightly bent. Hook and eye fastening. Ends decorated with V-nicks, central portion with alternate ribbing and dot and circle, similar to Frocester 1. 75 mm diameter. H8 III, courtyard as 151.

164 Bronze, fragment, flat section decorated with oblique strokes from each edge to central line. 32.5 mm long. P13 II, outside courtyard, medieval plough.

Decorated bracelets, none complete.

154 as Frocester 21.

155 rolled strip with dot decoration.

156 close to Frocester 15.

157 as Frocester 145.

163 flat section with incised straight lines.

171 hook end of faintly incised flat edge bracelet.

173 as Lydney L.

174 flat section with opposed V’s, simple version of Frocester 17.

161* Hook end and part of two strand wire bracelet. 450 mm long. L10 III, courtyard, 5th century cultivation. This may be part of a steelyard hook but its condition makes this difficult to be sure.

Twisted wire bracelets, none complete and most corroded. Mostly two strand round section wire. Characteristic type illustrated by ring, Frocester 131.

146 double strand.

148 as 146.
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153 double strand, flattened.
158 two strand.
159 twisted rod, possible bracelet in manufacture.
160 very thin two strand.
162 one strand, twisted.
165 two strand twisted wire with thinner wire wound round.
167 solid twisted wire.
168 hook end with second wire twisted round.
169 as 158.
166 Bronze, fragment, large plain strip flattened very thin for most of its length. 75 mm long. M18 IV, courtyard, timber slot. Late 4th or 5th century.
170 Bronze, flat section edge, plain. D10 IV, courtyard.
172* Bronze, two thirds of plain flat bracelet with notched end to receive eye of opposed end, as Frocester 30 or Lydney 56. 80 mm diameter. C10 V, ditch 7, deliberate fill.

BROOCHES (175-199)

In contrast to the first report, there are a number of bow brooches in good condition. Though most came from the upper deposits and cultivation soils, they are, since mostly of late 1st or 2nd century manufacture, either survivals or more likely out of fashion throw-outs. Attention should be drawn to nos. 182, 190, 191 which are so similar as to suggest a single workshop production. Interestingly they appear to hark back to late La Tène forms. Two of the three penannular brooches are most probably 3rd- or 4th-century types, discarded because the pins had broken. No. 197 appears to be a 1st- or 2nd-century type reused as a finger ring. The brooch classification is partly based on Collingwood's scheme as used in Brailsford (1951), 16-22, but owes a great deal to Donald Mackreth's clear exposition in Roman Brooches.

182* Bronze, one piece brooch and pin, now detached. Plain thin bow, faintly ribbed in centre, broken solid footplate, three coiled spring, internal chord. Most resembles a La Tène brooch. 65 mm long. G17 III, courtyard, 5th-century cultivation.
190 Similar to 182, identical ribbing and comparable spring. 40 mm long. Z9 II, S.W. side of courtyard, medieval plough.
191* Similar to 190, pin missing. 50 mm long. B12 III, courtyard over ditch 8, Roman cultivation.
176 Bronze, incomplete bow brooch, broken foot, spring pin, external chord, held by solid hook, slight ribbing on each side of head. 30 mm long. Colchester derivative, later 1st century A.D., or plain rod-bow (Collingwood G). P12 III, outside courtyard, cultivation.
194 Plain brooch, hinged pin missing, 26 mm long. Colchester derivative. W15 II, west of courtyard, medieval plough.
178 Head only of brooch with hinged pin swinging on rod pushed through head. Arms and bow ribbed. 25 mm long. Probably Polden Hill derivative, late 1st or 2nd century A.D. Bagendon fig. 31/5 has a similar example. L10 III, courtyard, as 182.
187 Head of brooch, spring pin, external chord held to rough hole on head. Pin pushed through spring. 25 mm long. Head complex ribbing as 178, Ss 18 II.
195* Brooch, Corroded spring pin with external chord held by projecting hook. Careful moulding on bow and head. 50 mm long. A16 IV, courtyard, fill of Phase 1 ditch.
179 Worn fragment of winged bow brooch, related to Hod Hill type, Collingwood P, late 1st century A.D. 32 mm long. E12 IV, upper filling of ditch 14, below 5th century cultivation.
192 Thin bow, missing hinged pin. Very debased copy of Aucissa type, mid 1st century A.D., as Frocester 34, 50 mm long. Z11 III, courtyard, roman cultivation over ditch 9.
184* Almost complete elaborate enamelled plate and fantail brooch, spring pin, internal chord inside hollow head, projecting loop on head. Enamel faded but traces of blue or green diamonds on head and mid plate, red dots on lower head and foot. 50 mm long. Probably later than 1st century A.D. SE corner of courtyard, surface find.
189* Complete thistle brooch with probable hinged pin. Bow and foot ribbed, careful marking on head, 57 mm long. Date as 184. Y8 II.
181* Complete, though brooch and pin separate. Spring pin, internal chord held in place by, now missing, piece of thin wire hooked into each side of head. Faint possible moulded leaf spray design on head. Trumpet derivative or Collingwood R. 45 mm long. 2nd century A.D. L15 III, courtyard, small hole in natural gravel.
177 Fragment circular enamelled plate brooch with two protruding lugs, one pierced. Red enamel in squares, arranged concentrically. Flat back. Characteristic type. Length 25 mm × 10 mm. H10 III, courtyard, as 182.
186 Complete diamond shaped plate brooch, once enamelled, hinged pin. 25 mm long. M19 IV.
183 Catch plate only with thickened rib, broken foot. 25 mm long. G17 III, courtyard, as 182.
188 Foot and broken catch plate from either a thistle type or Langton Down type brooch. 25 mm long. Q18 II.
200 Catch plate and part of bow decorated with central line of dots between engraved lines. 41 mm long. P17 III, east of courtyard, disturbed soil under plough.
Type AI penannular brooch with knobbed ends. The hoop squashed so that the ends overlap, probably to make a finger ring. Approx. 20 mm diameter, W10 IV, outside courtyard to SW., disturbed soil.

Type E penannular brooch, no pin. Zoomorphic features not clearly marked. 22 mm diameter. K11 III, courtyard, as 182.

Half a type D6 penannular brooch, 22 mm diameter. X14 II, courtyard, as 194.

**Brooch pins**

175 four coil spring external chord.
180 hinged pin.
185 fragment.
196 as 180.

**COSMETIC AND SURGICAL ARTICLES (201-206)**

The few items reflect the domestic side of life in the villa, although the complete ligula is interesting.

201 Top pair of tweezers, ribbed on head. 15 mm long. K6 III, courtyard, demolition debris.

202 Fragment of handle of nail-cleaner/wick lifter, decorated as Frocester 48. 32 mm long. D16 II.

203* Complete ligula, used for extracting cosmetics from glass phial. The narrow spoon end is broken. Undecorated apart from two ribbed mouldings near spoon end and a constriction near bulbous end. 160 mm long. F20 IV.

204 Fragment of possible toilet implement with loopend and flattened handle. 35 mm long. X15 I, courtyard, modern plough.

205 Fragment of handle, probably as 201. 40 mm long. X16 III, courtyard, dark soil under garden path.

206 Bronze, flat expanded strip with hooklike top, probably one arm of pair of tweezers. 30 mm long. A15 V, courtyard, fill of phase 1 ditch.

**DECORATIVE (207-231)**

This section includes pieces of decorative bronze work from boxes, chests and leather objects; pieces of tubular bronze binding and decorative studs and rivets.

207 Three small fragments, two decorated with embossed dots and swags. Possibly from a leather object placed between two thin bronze sheets plain on one side, decorated the other. H6 IV, courtyard, plasterers' debris, c.280 A.D.

208 Piece of sheet bronze, 2 mm thick, slightly curved, decorated with concentric rings, 20 mm × 20 mm. Possibly part of a foot ring from a bowl or jug. A5 II, medieval plough.

209 Flat, slightly curved bronze piece, 3 × 4 mm in section. Shaped like a mushroom in section. Possibly part of an openwork mount, though with no visible means of attachment. M8 III, over ditch 4, very late occupation debris.

210 Decorative bronze strip, traces of two rivet holes each end. The design, running lengthwise, resembles triangular trees with trunks one above the other, separated by open loops. Jewry Wall, fig. 84/12 has a clearer version. 40 mm long. M8 III, as 209.

211 Thin sheet, line of punched holes top and bottom.

212 Flat, thin strip, perforated top edge.

213 Tiny decorative rivet, minute shank, rosette-like top.

214 as 208.

215 two fragments of sheet bearing traces of raised moulding.

216 three fragments sheet, one plain, one circular with central hole, one with raised leaf moulding.

217 plate, bent at right angle, oblique strokes on inside, tinned on outside.

**Tubular binding**

218-220 three fragments, one with rivet hole.

221 tube, two opposed holes one end.

**Studs**

222 Two fragments sheet bronze, forming top of a stud, ornamented with radial grooved lines from central hole, punched from above. 12 mm diameter. L7 III, occupation debris.

223 Large headed stud with dished centre, concentric grooves around outer edge and centre. 25 mm diameter, 5 mm long central rivet. Not unlike Bagendon fig. 39, 4. B12 III, over ditch 8, Roman cultivation.

224 domed stud.

225 small tack, round head.

226 as 224 with central rivet.

228 fragile stud, hollow centre.

229 tiny rivet.

230 tack, domed head.

231 as 224.
DOMESTIC AND HOUSEHOLD (233-243)
The items here represented are not as interesting as those in the first report and generally in a more corroded state. The exception is 241 which is an unusual object, and if from a mirror handle of some interest.

239* Complete bronze key, ring head with neat collar moulding, hollowed, simple wards. 42 mm long. 016 II, outside courtyard, medieval plough.

241* Fragment of handle from mirror? Triangular shape, elongated. Upper surface bears design of bearded goat's face with horn curving back into loop. Plain underside with stain, possibly marking line of attachment. 42 mm overall, 5 mm thick. B15 V, courtyard, fill of phase 2 ditch.

233 fragment, possibly related to steelyard weight found nearby.

234 semicircle of bronze covered lead, central perforation, probably weight.

235 strip, flattened expanded hook end.

236 part bowl of spoon, tinned.

237 as 236.

238 handle of spoon, as Lydney 19/89.

240 bell-like object, exterior suspension loop.

242 open triangle of square section rod, possible handle base.

243 fragment oval section rod with flattened point, possible awl.

HARNESS/FARMYARD (244-248)

244-246 split rings.

247 rectangular plate, slight semicircular incision around central hole at one end.

248 corner of rectangular buckle.

It is possible that bracelet 161 is a steelyard hook and should be in this group. Two steelyard weights from K0 VI, room 12, under tiled floor, both stone with in one case a bronze loop plus split ring, in the other a broken iron loop, should also belong here. Weights 13 oz and 2lbs 11 oz.

METALWORKING (249-277)

By far the largest group of objects in this report. Most are broken or corroded, and not much can be said about individual pieces. As a group they are more evidence of metalworking at Frocester.

249-261 sheet bronze fragments.

262-266 pierced fragments.

267-270 fragments of mainly round section rods.

272-273 tube fragments.

264-270 fragments of hooks/rivets.

277 two coarse copper fragments.

PINS (278-286)

280* Bronze, broken stem. Poppy-like head with central spike, three mouldings below. 34 mm long. G16 III, courtyard, 5th-century cultivation.

284* Bronze, complete, ribbed oval head with double collar moulding below. 111 mm long. X16 IV, courtyard, fill of phase 1 ditch.

278-285 miscellaneous pin fragments.

RINGS (287-294)

287 Fragment of ring with narrow band and expanded end, 10 mm overall. Could be earring as Frocester 133. D7 III, courtyard, demolition debris.

288 Penannular bronze ring of round section twisted wire similar to two strand bracelet, 28 mm diameter. Dump.

290 Ring, broken at back, with blue or green glass intaglio set in bezel. The engraved design looks a bit like a human figure, reminiscent of Frocester 119, 23 mm diameter. 07 X, ditch 10, latrine, lower silt.

292 Corroded ring with solid projecting square bronze bezel, shoulder mouldings. Not unlike Frocester 118. A8 III.

291 Broken ring with loose intaglio divided into four segments, two missing. 17 mm diameter. M19 V.

293* Split bronze ring, 9 mm diameter, with interlocking blue glass bead. 7 mm diameter. Possible earring. B9 VII, fill of ditch 8.

294* Spiral finger ring, 15 mm diameter. Exactly like Iron Age finger/toe rings. W8 III, courtyard wall, robber trench.

289 two wire fragments. No. 197 looks like a finger ring but was originally a penannular brooch.
FIG. 11 Miscellaneous bronze objects (1/4)
FIG. 12 Bronze brooches and pin (⅓)

1 Short, stout poker with irregular terminal knob. Length 30.2 cm. Y7 IV, clean soil. C4. Possibly a smith's poker. Similar to example from Roman farm at Whitton, S. Glam. (report forthcoming).

2 Small set with strong square-section stem, battering on the top and a narrow cutting edge. Length 8.6 cm. M2 VIII, Room 12, gutter. Smith's sets are strong chisels for cutting hot or cold metal. Cf. Wheeler, 1943, fig. 94/6-7. Cunliffe, fig. 56/36-39. Manning, 1972, figs. 60/2 & 61/16.

3 Small set or punch, broken at one end, cutting edge at the other. Length 9.5 cm. B12 V, ditch 4, upper fill. Spade shoes — These iron bindings for essentially wooden spades are common finds on R.B. sites. They have been discussed by the late Dr. P. Corder and recently by Dr. W.H. Manning.

4 Broken spade-iron. Mouth probably originally straight with rounded corners, worn in use. Blade grooved on inside, arms straight and deeply grooved. Length 21.2 cm. D5 V, garden soil. As Manning type 2A. example from Manning, 1970, fig. 3d, lacks groove inside blade.

5 Spade-iron with round mouth. Blade is deep and grooved on inside, arms are grooved and continue up to grasp top of spade; unusually this portion is grooved too. Length 27.2 cm. O1 V, ditch 10, late C4 fill. As Manning type 1D, but depth of blade and wrap round arms are unusual and do not appear to be paralleled. Examples of usual form in Corder, figs. 2/11 and 3/12.


7 Stake anvil with rectangular section head, slightly splayed by hammering on top. Little of square section stem survives. Length 4.4 cm. G15 II. Used for fine metalworking. Cf. Pitt-Rivers, 1887, 86, Pl. XXVIII/12.

8 (?) As 7 but with square section head narrowing towards top. May be large decorative nail.

9 Small socketed mortice chisel. Length 7.8 cm K7 III, courtyard occupation. Larger socketed mortice chisels are quite common. Cf. Brailsford, fig. 12/G20. Curle, Pl. LI/8-10.

10 Small tanged paring chisel, with flared blade and no stop ridge. Length 16.9 cm. L11, Room 12, Med. Plough. Cf. Manning, 1976, fig. 15/9, a triangular bladed chisel, similarly lacking stop ridge.

AWLS

11 Small awl or punch, with waisting just below head. Length 6.6 cm. D6 III, demolition layer. Cf. O.R.L. B Band VII no. 72, Taf. XI/36.


14 Part of a drill bit, stem broken. Length 6.6 cm. Z6 III, courtyard abandonment layer. Cf. Brailsford, fig. 12/G17, an example of a complete gouge.


16 Hub lining, a fragment, Length 4.17 cm B5 III, courtyard, late occupation. Is probably a hub lining rather than a rim, because of its slightly tapered cross section. Cf. Curle, pl. LXX/9-10. Manning, 1964, fig. 2/5 and 1972, fig. 64/31.

17-18 Horseshoe fragments. Both may be medieval or later.

KNIVES


20 Tanged knife with straight back and curved edge. Tang is thick in cross-section suggesting it may be handle. Length 10.5 cm. B6 IV, late deposit over ditch 7. A common form, cf. Busbe-Fox, Pl. LX/326. Ashby et al. Pl. LXI, fig. 4/4, examples with solid handles ending in loops.

21 Large tanged knife with badly corroded blade. Small square section centrally placed tang. Length 20.4 cm. O1 III, rubbish tip.

22 Tanged knife with broken blade. Length 7.1 cm B0 III, Room 1, late C4/5.


24 Fragment of blade.

25-26 Tanged knives.
Tanged knife, with curved back and tang, and very thin blade. Length 7.6 cm. O1 III. Rubbish tip.

Razor, with bone handle and folding blade. Blade is corroded and its original shape unclear. Handle was lathe turned and the pivot end bound with bronze. Length 4.3 cm F6 VII. Blade is set in a slot in the handle, and originally pivoted on an iron pin, traces of which can be seen. The handle is decorated at this end with three very slight grooves cut into the bone; that these have been taken up by the bronze sheathing from the bone is clear from a section where the bronze is missing. The underside of the handle is grooved to take the edge of the blade when folded away. Cf. Neal, 156/334, fig. 67, handle only. (This object has already appeared in the first report, Gracie, 1970. No. 69 of the bronzes).


Stylus with flared eraser, scribe obscured by corrosion or broken off. Length 10.7 cm. N2 II, Med. plough. Styli are classified by Manning (1976, 34-35) into four basic groups. This stylus belongs to Group I, the simplest form.

Styli of Group I, broken.

Bow brooch with triangular catchplate and plain bow. Spring and pin are missing. Length 7.8 cm. X16 VI, Iron Age ditch, upper fill. A very simple form in which the bow appears to have been deliberately twisted. Iron brooches are generally early in date. Mackreth (1973) considers they were not made much after A.D. 55.

L-shaped staple of a drop hinge. Length 6.3 cm. O8 IV, occupation outside courtyard. Square section portion designed to be driven into door jamb with circular section portion acting as supporting pivot for a U-shaped binding attached to the door. Cf. Manning, 1972, fig. 66/59. Piggott, fig. 5/E12.

Small (?), hinge strap fragment.


Small (?), key, stem decorated by twisting. Incomplete.

Length of chain of three S-shaped links. Lengths 4.4 cm, 3.3 cm and 4.1 cm. L7 IV, courtyard surface. Normal Roman chain has figure of eight or oval links.


Hook with attachment hole missing. Length 5.9 cm. X5 III. Cf. Manning, 1966, no. 17.

Hook, with fragment of plate attached. Length 5.2 cm. O7 V, ditch 10, late C4 silt. May be a suspension hook for attaching to a beam, or the heel fragment of a Hipposandal. For the latter cf. Manning, 1972, fig. 63/24-30.


Fragment of small spear-or arrowhead. Length 6.1 cm. M6 III, ditch 4, late C4 Fill.

As 48. Unprovenanced.

Small joiner's dog. Length 4.2 cm. H7 VIII, courtyard, builders' layer, late C3.

As 50. Points broken. B12 IV, ditch 8, upper fill.

Large joiner's dog. Length 10 cm. L10 VI, courtyard, occupation layer.

Large cleat. Length 3.5 cm. M6 III, ditch 4, late C4 fill. This is larger than most cleats from the site. Cf. Piggott, fig. 8/C9.

As 53. E6 IV, in approach road.

Small cleats. Average length 2.1 cm. D8 IX, Grave 4. There were 48 cleats, probably from heel and toes of occupant's boots.

Split spike loop, arms broken. Length 3.6 cm. C8 VI, courtyard, late C3 occupation.

Similar to 56.

Eye, with short spike. Length 4.3 cm. G7 V, garden soil.

Ring headed pin of rectangular section, head formed by rolling stem over. Length 9.1 cm. M5 IX, courtyard. Late C3/early C4 occupation.

As 60, broken. 61-62 from C5 cultivation.


NAILS

These have been discussed most recently by Manning, 1972, 186. He defines 2 groups:

Type I nail with square section stem and flattened head.

Type II nail with rectangular section stem and triangular of the same thickness as the stem.

Type I nails are by far the most common.

Type I nails. Lengths 12.4 cm to 1.8 cm. Nos. 69-78 come from Grave 8 and are probably coffin nails. They show traces of wood graining. Nos. 82-84 have large heads: the first is unprovenanced, the two latter from Med. headland.

As 89. Med. plough.
a. The bells being cast at the Whitechapel foundry. *Photo: Gloucester Citizen*

b. Lowering the tenor bell from the tower. *Photo: Birmingham Post*

**PLATE I  GLOUCESTER CATHEDRAL BELLS**
a. Approach road from NW.

b. Conduit from NW. with washing pool on right

c. Postholes 1 and 2

PLATE II  FROCESTER COURT ROMAN VILLA
PLATE III  Frocester villa: fragment of beaker with wheel-cut figured decoration
FIG. 13 Iron objects (1/3)
FIG. 15 Iron objects (1/3 except 136 & 159: 2/3)
Type II nails. Lengths 8.5 cm & 7 cm. Med. plough and Room 13. robber trench.

Fiddle key nails. Med. plough. The exact function of these horseshoe nails is disputed, whether to prolong the life of the shoe, (Littauer, 1968), or to give traction (Green, 1966), is not clear. It has been argued that they are bad for the horse (Dent, 1967). These are probably medieval.


Nail with large head, square section stem. Length 2.2 cm. Unprovenanced.

As 101 with oval section stem. Length c. 4 cm. L12 V.


Nail with large hollow domed head and square section stem. Length 5.9 cm. D4 III, on approach road.

Nail with thick square head and square section stem. Length 6.2 cm. H16 II.

(? Nail with concave head and square section stem. Length 4.5 cm. M12 IV, courtyard wall robber trench. The head is not complete and was once deeper. It may be part of socket or ferrule.

Ferrule. Length 3.7 cm. X6 IV, courtyard occupation.

Iron collar. Diam. 3.2 cm. E7 IV, turf verge of road.

Part of heavy collar of slight taper cross section. Length 4.9 cm. J18 IV. Cf. no. 16.

Iron rings. Diam. 6 cm & 3.7 cm.

(? Split rings, late C4/C5.

Strong box bindings. (a) Flat plate with protruding nail at one end. (b) Reconstructed flat plate from NF side of box. (Found in situ in very fragmentary state. Drawing based on information supplied by the excavator). (c) Flat strip with projecting large headed nail. Lengths, (a) c. 13.8 cm. (b) c. 12.5 cm. (c) c. 8.9 cm. K0 VII, Room 11, Sunken Chest. Flat plates (a) and (b) form one corner of the box, the relationship of (c) to them is uncertain.

Flat strip binding, nail fragment near corner.

Binding.

Plate with nail hole.

Bent strip.

Bent strip, arms narrowing away from bend. The longer ends in an oval expansion with possible nail hole.

Bar, fragment, one end flattened into figure of eight flange.

Strip, possibly fragment of wheel tire.


Plate with nail hole.

As 123.

Small curved triangular plate, one point slightly bent up and broken off.

Semicircular sheet with hole cut through it.

Irregular fragment with punched hole.

Terminal rings.

Bar with ring at one end, the other flattened and slightly bent.

Hook with stout section stem. Length 6.2 cm. A3 IX, Room 5, robber trench.

As 133. Length 3.2 cm. F11 III, C5 cultivation. (Scale 3/5)

Socket or ferrule. O8 VII.

Small round buckle. Diam. 1.6 cm. G10 II, Med. plough. (Scale 3/4)

As 136. Diam. 1.5 cm. H3 III, Corridor 6, robber trench. (Scale 3/5)

Small (? scraper, G9 III, demolition layer, with C13 material. (Scale 3/5)

Curved fragment decorated with twists. Length 4.9 cm. C2 III, robber trench. May be part of a bracelet.

Flat plate with upstanding collar welded to it. Length 5 cm. D7 IV, courtyard, builders’ debris. Late C3. May be part of a padlock.

Long rod, flattened at one end, with T-shaped terminal at the other. Length 25.6 cm. O10 V, ditch 10, late C4 fill. Probably part of a ladle handle.

Strip folded back on itself and welded together at the end where it appears to form a small loop or hook. Length 16.3 cm. M9 IV, ditch 4, late C4 fill.

(? Punch, Length 14.4 cm. O7 III, outside courtyard, late C4.

Spine or ferrule with flattened socket. Length 15.8 cm. L2 III, Room 12, late C4/C5.

Ring fragment.

Irregularly shaped worked fragment.

(? Dog, pinched up in the middle, turning at right angles at both ends. Incomplete. Length 5.9 cm. B6 V, ditch 7, late fill. Cf. Pitt-Rivers, 1892, Pl. CLXXIV/14. He suggests it might be a form of clamp.
FROCESTER COURT ROMAN VILLA

148 Tapering strip with tongue projecting from narrow end.
149 Strip with square lug projecting from it.
150 T-shaped fragment with semi-circular head.
151 Plate with three rectangular holes cut through it, one open ended.
152 Bent circular section bar with slight square section thickening at one end.
153 Irregularly folded fragment.
154 Strip with distinct notch in one end.
155 Domed disc. Diam. 4.6 cm. H3 III, Corridor 6, robber trench.
156 As 155. Diam. 4.7 cm.
157 Irregular point with flattened butt.
158 V-shaped fragment, possibly part of a spring.
159 Clay drop with small fragment of iron in top, (?) remains of a suspension ring. Length 1.5 cm. H10 III, courtyard, C5 cultivation.
160 Blade and part of the spring of a pair of small shears. Length 16.3 cm. J12 III, courtyard, C5 cultivation. Cf. Manning, 1972, fig. 65/45 and quoted examples.
161 Strip with one end folded at an angle.
162 Bar with pointed ends.
163 Bar fragment with expanded foot.
164 Tapering bar fragment with flattened, slightly splayed tip.

THE GLASS By JENNIFER PRICE. Illustrated Figs. 16-18.

Nearly all the 846 fragments examined date from the late 3rd and 4th centuries A.D., though there are survivals from earlier periods. The 1st century A.D. polychrome mosaic and Pillar Moulded Bowl fragments (nos. 1-2), the pieces of second-third century colourless facet cut hemispherical bowls (nos. 5-7) and colourless bowl with horizontal trails (no. 17) demonstrate the existence of several forms of fine early Roman tableware which have survived either as heirlooms or as rubbish from an earlier site, as does the presence of many pieces of 1st- and 2nd-century containers, mainly square bottles (nos. 47-48). While nearly all the 291 fragments of window glass were of the later 'double glossy' blown type, the two or three pieces of 'matt glossy' cast material also suggest occupation during the earlier Roman period.

The later main assemblage is extremely interesting because of the great variety of vessel forms represented. These are mostly very fragmentary but substantial portions of two drinking vessels have survived (nos. 4 & 11). The engraved beaker (no. 4) is a very important piece, made in the early or mid 4th century and imported from the lower Rhineland. Small fragments from similar vessels have been found at a number of Romano-British sites, but none have come from burials and usually too little has survived to be certain of either the style of the engraving or of the scene represented. This beaker and the segmented bowl (no. 13) are of very good quality glass, whereas much of the remaining tableware and all the household containers are made from the rather bubbly poor quality colourless, pale greenish or yellowish green glass characteristic of the 4th century in the north western provinces. Some of the vessels (e.g. nos. 22-23) were probably not manufactured until late in the period and may have continued in use into the 5th century, but no post-Roman vessel glass has been distinguished.

Very few of the fragments show any evidence of re-use, which is rather unusual on late Romano-British sites and may well indicate that the establishment at Frocester had ready access to supplies of glass from nearby markets, so that there was no need to rework broken vessels to make shallow plates out of base rings, and so on. The glass pins and beads are also typical of the later Roman period though one bead (no. 58) may have been produced at an earlier date, and one (no. 80), may post-date the abandonment of the site.
FIG. 16 Glass vessels
CAST FRAGMENTS

1  FO 111 Robber trench between Rooms 2 and 8. (See Plate V1b). Fragment, geometric mosaic bowl (?), opaque white, brown, yellow, turquoise blue, red. Part of flat side. Fine square-sectioned rods arranged in lozenges and other geometric patterns. Surfaces ground smooth but now very weathered and uneven. Dimensions 19 x 18 mm.

It is not certain whether this comes from a piece of inlay or a vessel. The use of fine polychrome square-sectioned rods is not very common in Roman glass, but is sometimes found in vessels and fragments apparently dating from the first century B.C. - A.D.; there are examples in the Museum Ha'Aretz, Tel Aviv (Israeli, 1964, Pl. III), in the Oppenländer collection (von Saldern, 1975, no. 332), and elsewhere, and there is a piece of mosaic cane in Toledo Museum of Art (Haberly, 1957, fig. 9). Very few pieces of this glass are known in Britain. There is a rim fragment made from mauve, red, white, yellow and turquoise cames from Lakenheath Warren, Suffolk (Glass at the Fitzwilliam Museum, 1978, no. 45), a biconical bead from Colchester made from 'black', white and yellow glass (Guido, 1978, 232, fig. 38, 12), and two polychrome mosaic plano-convex gaming pieces, made in greenish blue, yellow and brown, from a burial deposit at Waulkmill, Tarland, Aberdeenshire, which may date from the fourth century A.D. (Curle, 1931-32, 296, 390-1, fig. 68). However the gaming pieces were probably made from broken fragments, and so are not useful for dating the production of the original vessel or object.

2  G1 III (Not illustrated). Fragment, Pillar Moulded bowl; bluish green. Part of shoulder and side, with evidence for two broad ribs. Wheel polishing marks visible on inside surface. Dimensions 23 x 20 mm.

This is a very common vessel in the first century A.D., in Britain as in most other provinces of the Roman empire (Isings 1957, Form 3). Most examples are found in pre- or early Flavian contexts, though some continued in circulation until the end of the first century (Price, 1978, 71-2, fig. 32). This small fragment may therefore be seen as a rubbish-survival.

FIG. 18 Miscellaneous glass objects

BLOWN FRAGMENTS

Polychrome

3  T 5 III layer 2. Small fragment, bowl(?); colourless, dark blue. Part of very thin, straight-sided body with applied oval blob. Dimensions 18 x 13 mm.

Comparatively few fourth-century vessels with applied coloured blobs have been found in Britain; there is a colourless fragment with dark blue blobs from Carrawburgh, and yellowish green vessels with dark green and dark blue blobs from Corbridge and Portchester (Charlesworth, 1959, 50, fig. 3, 2; Harden, 1975, 371, fig. 198). By contrast, glass vessels decorated in this manner are commonly found in the Rhineland and Gaul, mainly in burials (eg. Fremersdorf, 1962, passim), and it is almost certain that the Romano-British fragments are imported from glasshouses in that area.
Monochrome; wheel cut

Figured decoration

4 Z.97 VI, Z.98 VI, Z.98 VII, Z.99 VI — Ditch I — mid 4th century A.D. Also N.41 IV — Ditch 4 — Roman filling 350-360 A.D. (See Plate II) Fragmentary truncated conical beaker; colourless with slight yellowish green tinge in section. Very fine quality glass, with few bubbles visible. Many pieces of rim and body, base not joining and from a different part of the site, but possibly from the same vessel. Curved rim, edge cracked off and ground smooth; straight sides tapering inwards to small slightly concave base. Three bands of wheel cutting on and below rim; on body, shallow facet- and linear-cut design of four human figures facing left, wearing straight tunics and carrying in each hand three wand-like objects, one with a plumed head, one with a long pointed head and one plain stick. NB. It is clear from the roll-out drawing that the figure third from the left was the last to be executed, as it is smaller than the other three and has been crammed into the available space by shortening the right arm and inserting only two of the three wands in the right hand. Present ht. 77 mm; rim diameter 101 mm; base diameter 32 mm.

Colourless vessels with wheel engraved scenes are quite often found in early to mid fourth century burials in the Rhineland, especially in the district round Köln, which seems very likely to have been the main centre for their manufacture and decoration. There are several different styles of cutting, and a wide variety of subjects; depictions of mythological, biblical, chariot-racing and circus scenes all occur at this time. About forty complete or fragmentary vessels are engraved in more or less the same style as the Frocester Court piece: most of these are either truncated conical beakers or small hemispherical bowls. No other beaker fragments have been published from Romano-British sites, but two bowl fragments are known, one from Chesters (Charlesworth, 1959, 46, fig. 7, 2), and the other from Winterton Roman Villa (Charlesworth, 1976, 249, fig. 134, 23). Several recent publications have discussed this group of late Roman wheel-engraved glass from Köln and elsewhere in the Rhineland (Binsfeld, 1962/63, 98-9, Pls. 10-11; Haberey, 1965, 1-6; Haberey, 1967/68, 31-3, Pls. 6-7; FREMERSDORF, 1968, 174-88, Pls. 234-5, 246-70).

Facet Cutting

5 T.6 IV Ditch 8 — top filling. Fragment, hemispherical bowl; colourless. Part of lower body near base. Two circular facet cuts bordered by wheel cut circles, with four short wheel cuts between. Dimensions 26 x 32 mm; thickness 3-7 mm.

6 E.3 II. Small fragment, hemispherical bowl (?), colourless. Part of body with three circular facet cuts. Dimensions 21 x 17 mm; thickness 2-3 mm.

7 Medieval plough soil. Small fragment, hemispherical bowl (?), colourless. Part of convex curving body with four short vertical wheel cuts. Dimensions 17 x 11 mm; thickness 2 mm.

These three fragments come from second to third century wheel-cut bowls. They were usually hemispherical and occurred in considerable quantities in dated contexts in the north western provinces (Listings, 1957, Form 96), especially in the lower Rhineland in the region near Köln, where they may have been manufactured (Fremersdorf, 1967, Pl. 38 ff.). Fragments are also found at Romano-British sites; examples with designs similar to these pieces have come from Park Street Roman Villa, St Albans (Harden, 1945, 71 and fig. 11), York (Harden 1962, 137 and fig. 88), Ospringe (Whiting et al., 1931, no. 340) and Woodcuts (Pitt Rivers, 1887, 126 and PL XLIV).

Abraided linear decorration

8 C.5 VII under builder's debris — late 3rd century. Fragment, rim and upper body, cylindrical or hemispherical cup (?); colourless. Curved rim, edge cracked off and ground smooth. Upper body almost straight sided. Horizontal band of abraded lines below rim. Present ht. 17 mm; rim diameter 80 mm.

Also a) D.6 IX (early silt in ditches — early 4th century). Fragment, similar rim (perhaps same vessel).

b) Z.98 V1 (Ditch 1). Fragment, similar rim.

9 K.0 III Rooms 11 and 13 — Robber trench layer II. Fragment, conical beaker; pale bluish green. Slightly curved rim, edge neatly cracked off but not ground smooth; straight side tapering inwards. Faint band of abraded lines on upper body. Present ht. 21 mm; rim D 100 mm.

10 D.2 III Kitchen — on and in re-laid floor (floor relaid c. 340 A.D.) part of deposit of several fragments, some fire damaged. Fragment, conical or deep cylindrical beaker. Pale bluish green, very bubbly glass. Slightly curved rim, edge neatly cracked off but not ground smooth; almost straight side tapering inwards. Two faint bands abraded lines. Present ht. 34 mm; rim D 90 mm.

11 K.4 Room 7, D.2 Kitchen floor. Fragmentary conical beaker. Pale bluish green, bubbly and very thin. Slightly curved rim, edge neatly cracked off and ground smooth; straight sided body tapering inwards to small concave base. Bands of fine abraded lines on upper and lower body. Ht. 110 mm; Rim D. 80 mm; base D 28 mm.

Also a) D.2 (Kitchen floor) — many similar frs., base and body.

b) G.2 II Room 2 (SE corner) — plough disturbance — similar rim fr.

c) D.2 III — similar base fr.

d) F.2 II — similar rim fr., distorted by fire.

e) Z.98 VI (Ditch I) — similar rim, body, base frs.

f) J.0 III — similar base fragment.
Cups and beakers with cracked off rims and abraded decoration are very common in fourth-century contexts in Roman Britain. Conical vessels occur at many villa and town sites and examples very similar to 11 are known from Wint Hill, Banwell, Somerset (Harden, 1960, 52 & fig. 9), Silchester (Boon, 1974, 230, fig. 36), and Shakenoak (Harden, 1973, 103 & fig. 52). There is a wide variety of fragments from Porchester very like the Frocester Court group (Harden, 1975, figs. 197-8).

12 H 99 IV — outside room 10 (occupation layer). Fragment, hemispherical or segmental bowl; pale greenish. Very bubbly. Curved rim, edge cracked off neatly but not smoothed. Faint band of abraded lines below rim. Present ht. 22 mm; rim D 140 mm.
Also
a) Z 98 VI — Ditch I. Rim and body fr., similar bowl. Pale greenish.
b) J 0 III. Rim and body fr., similar bowl. Pale greenish.

13 F 7 IV — Garden soil. G 7 V. Two joining fragments, segmental bowl. Greenish colourless, good quality glass. Plain rim, edge cracked off and smoothed with internal bevel, low convex curving body. Wheel polished band below rim. Present ht. 27 mm; rim D 140 mm.

Bowl fragments similar to 12 occur quite frequently in fourth-century contexts at Romano-British sites, as at Portchester (Harden, 1975, fig. 197), Bradwell Abbey Roman villa, Milton Keynes (Price, 1975, 13, fig. 33), and Shakenoak (Harden, 1973, 102-3, fig. 52). Some of these bowl fragments are decorated with facet cutting as at Portchester (Harden, 1975, 369, fig. 197), or with free-hand engraved hunting scenes, as at Wint Hill, Banwell (Harden, 1960), but most have only abraded lines, or are undecorated, and these are often made from rather bubbly glass. By contrast, 13 comes from a fine quality bowl; care has been taken to finish the rim, and there is clear evidence of polishing in a band below the rim. A very similar fragmentary bowl is known from Shakenoak (Harden, 1973, 102, fig. 210), and as suggested in that report, it is possible that the complete vessel was decorated on the body with cutting or engraving.

14 H 1 Room 3 III — Robber trench. Fragment, cup or bowl; pale bluish green bubbly glass. Out-splayed, horizontal rim, fire rounded edge, upper body apparently tapering inwards. Fine wheel cut line on upper body. Dimensions 7 x 18 mm.

15 K 2 IV — robber trench between Rooms 4 and 12. Fragment, segmental or truncated conical bowl; Colourless. Curving rim, edge cracked off with internal bevel, not smoothed; upper body slightly convex-curved. Broad abraded band below rim, slight evidence for oval indent on body. Present ht. c. 20 mm; rim D c. 180 mm.


Bowls of this type have been recorded at several Romano-British sites, and also occur in fourth-century contexts in northern Gaul and the Rhineland (Ising, 1957, Form 117). No. 15 appears to come from a rather larger bowl than is usual, and it is also noteworthy that the vessel was made in colourless glass, since most examples are greenish as at Shakenoak (Harden, 1973, 103), Huccelete Roman villa (Clifford, 1933, 334, fig. 10), and New Market Hall site, Gloucester (Charlesworth, 1974, 76, fig. 29), or yellowish green, as at Shakenoak (Harden, 1968, 79), and Bradwell Abbey Roman villa (Price, 1975, 12, fig. 33).

Trailing and applied decoration

17 O 9 V. Small body fragment, bowl (?); colourless. Convex curved side with four fine horizontal unmauered trails. Dimensions 18 x 21 mm.

18 Z 4 II — west of house; plough disturbed. Small body fragment, bowl (?); greenish colourless. Part of convex curved side with two unmauered curving trails. Dimensions 11 x 12 mm.

19 Y 0 IV Roman cultivation — coins from Gallienus-Gratian. Body fragments, bowl (?); greenish colourless. Part of convex curved side with two horizontal trails in low relief pinched together to form 'spectacle' trail. Dimensions 28 x 17 mm.

20 Z 3 I V — Lowest occupation layer — on mason's chips; with hoard of radiate coins. Body fragment, bowl or cup; pale greenish bubbly glass. Small part of side with applied tear shaped blob with raised edges. Dimensions 22 x 16 mm.

21 Unstratified. As 20 above. Dimensions 25 x 20 mm.

22 K 8 III. Body fragment, cup or bowl (?); pale greenish. Part of side; applied vertical trail with pinched projections overlaid by fine vertical and horizontal trails. Dimensions 25 x 18 mm.

23 Z 6 II layer II. Body fragment, cup or bowl; pale greenish. Part of side; applied vertical trail with slashed projections terminating against two horizontal trails. Dimensions 30 x 18 mm.
Also
a) G 12 IV (pre-4th century). Small fragment, similar decoration.
b) D 6 II (Abandonment layer, demolition material stamped in). Small fragment, similar decoration; distorted by fire.

It is not possible to reconstruct the form of any of the vessels represented by these small fragments, though in most cases it seems likely that they come from bowls or cups. Only one of the pieces, no. 17, is of good quality colourless glass and probably of second or third century date, the others being pale greenish, rather bubbly glass, and probably from late third or fourth century vessels.

Many different colourless vessel forms were decorated with fine horizontal trails and no. 17 may come from a bowl or
cup similar to one found at Crampand on the Antonine Wall (Maxwell, 1974, 198, fig. 16, 5).

The use of nipped vertical or horizontal trails as a decorative feature is occasionally recorded in early Roman contexts but is more common in the later Roman period and is found on colourless and greenish vessels. Fragments occur at many Romano-British sites, and some complete vessels are known, mainly from burials or pits; for instance, a bluish green jug with nipped trails at the neck was found in the later second century fill of the well in building IV, 8 at Verulamium (Wheeler, 1936, 186, fig. 29, 25), a rather similar jug with a chain handle and vertical pinched ribs on the body was found in digging the foundations of Colchester Hospital (Painter, 1968, 84, no. 111), a colourless flask, perhaps dating from the later second or early third century was found at Haughton Mill, Cambridge in 1870 (Harden, 1938, 12 ff., fig. 5), and a colourless cup came from inhumation burials at Chilgrove, near Chichester, Sussex (Harcourt, 1846, 316, Pl. IX).

A tear shaped blob very similar to 20 and 21 was found at Portchester (Harden, 1976, 373, fig. 198, 19), and another comes from recent excavations at Winchester (unpublished); these may be elaborate end-loops of vertical trails as can be seen on a beaker from the Ray Winfield Smith collection (Smith, 1957, 151, no. 305).

Complex decorative trails (nos. 22-23) occur on a variety of vessels found in the north west provinces in the later fourth century (Fremersdorf, 1962, Pls. 74, 76, 77, 83), and continue in the post-Roman period, for instance on some types of Claw Beakers. A very interesting light green claw beaker with applied foot and slashed and plain vertical and horizontal trails probably dating from the end of the fourth or beginning of the fifth century, has recently been found in Grave 843, Saxon Cemetery 2, at Mucking (Evison, 1974).

UNDECORATED VESSELS

Bowls and Cups

24 B 13 VI — sag fill of ditch; early fourth century. Fragment, hemispherical bowl; colourless. Everted rim, edge fire-rounded, convex upper body. Present ht. 25 mm; rim D 90 mm.

25 B 13 VI — sag fill of ditch; early fourth century. Fragment, cylindrical bowl or cup; colourless. Vertical fire-rounded rim, straight side, expanding outwards slightly. Present ht. 21 mm; rim D 92 mm.

26 K 0 III. Fragment, hemispherical bowl; colourless. Everted rim, edge fire-rounded and thickened, convex curved upper body. Present ht. 27 mm; rim D 130 mm.

27 A 11 I — Rooms 1-5; robber trench. Fragment, cup or bowl; bluish green bubbly glass. Everted rim, edge fire-rounded, cylindrical upper body. Present ht. 13 mm; rim D. 90 mm.

It is not possible to identify with certainty the forms represented by the above rim fragments as too little of each vessel has survived, but it seems very likely from the quality of the glass that all of them were made in the third and fourth centuries A.D.. Comparatively few rims were finished by fire-rounding during this period, though a similar fragment from a colourless bowl is recorded from an unstratified context at Park Street Roman Villa, near St. Albans (Harden, 1945, 71, fig. 11, 5), and pieces from greenish and bluish green bowls were found at Gadebridge Park Roman Villa, Hemel Hempstead (Charlesworth, 1974, 206-7, fig. 92) and at Portchester (Harden, 1975, 369, fig. 197, 7).

28 M 6 V. Fragment, beaker (?); or flask (?); slightly greenish colourless, very bubbly. Small part of lower body curving in to concave base with high central 'kick'; pontil mark. Present ht. 32 mm; base D 42 mm.

29 Z 1 VI — silt; end of Ditch 1. Fragment, small bowl (?); colourless, very good quality. Small part of lower body and tubular pushed-in-base-ring with slightly concave base. Present ht. 7 mm; base D 46 mm.

Also Medieval Plough — similar fr., slightly greenish colourless.

30 H 8 III. Fragment, small bowl (?). Bluish green. Body tapering in to low, outspayed tubular base-ring and concave base. Present ht. 10 mm; base D 50 mm.

31 F 8 IV. Fragment, small bowl (?); greenish colourless, bubbly. Body tapering in to low outspayed tubular base-ring, convex base. Present ht. 9 mm; base D 46 mm.

32 E 2 V — Room 2 — on first floor of Kitchen, D 2 III — on and in re-laid floor (pre-340 A.D.). Fragment, goblet (?) or jug (?); greenish colourless, bubbly. Lower body tapering in to high outspayed tubular base-ring with pointed conical base. Present ht. 20 mm; base D 64 mm.

Also H 2 V — similar fr., pale bluish green. Base D 74 mm.

33 M 1 - M 2 II — plough disturbance above occup. layer with coin of Arcadius. Fragment, goblet (?); pale-greenish colourless, bubbly. Part of lower body and high outspayed tubular base-ring. Present ht. 11 mm; base D 44 mm.

Tubular pushed-in-base-rings of these types are frequently found in the western provinces on late Roman bowls and jugs (Isings, 1937, Forms 99, 104, 108, 115, 120, 121, 124, 125, 129, 131). Fragments are known from many Romano-British sites, but in most cases these are too small to identify the original vessels, though occasionally, as at York (Harden, 1962, 140, Pl. 66), complete vessels have been found in burials.

High tubular base-rings with pointed conical centres are also quite common on fourth century beakers and jugs in the western provinces (Isings, 1937, Forms 109, 111, 120); again, many fragmentary examples are known from Romano-British sites and complete vessels are very rare; an ovoid jug from Colchester has a high base of this type (Thorpe, 1935, 31, Pl. IV, c.) as does a similar jug from Bexhill, near Milton, Kent (Collectanea Antiqua, VI, 263).

Few simple concave bases with a high central 'kick' similar to 28 have been noted in Britain, but this piece seems to resemble the base of a colourless flask or unguent bottle from Köln, there dated to the second century A.D. (Doppelfeld, 1966, Pl. 66).
Jugs & flasks

34 H 0 IV — Room 10; deposit on floor. Two joining fragments, jug (?) or bottle (?) or flasket(?); slightly greenish colourless. Everted fire-rounded rim, funnel mouth, thick trail below rim. Present ht. 11 mm; rim D 30 mm.

Also Medieval plough — similar fr., rim D 60 mm.

35 D 6 III (Figs. 13, 35). Fragment, jug with pouring spout; colourless. Everted rim, edge fire-rounded, funnel mouth oval in plan with slight constriction near one end of the long axis; thick horizontal trail below rim.

36 D 8 IV. Fragment, handle of bottle; colourless. Part of broad straight ribbon handle with multiple reeding. Present length 29 mm.

Also C 6 IV — similar fragment.

37 H 4 - J 4 — Stokehole wall; robber trench. Fragment, jug; bluish green, bubbly. Part of everted rim, fire-rounded edge, funnel mouth with thick horizontal trail below rim; upper attachment of looped handle with two side ridges and slight central ridge. Present ht. approx 22 mm.

38 D 2 III — kitchen; on and in floor re-laid c. A.D. 340. Two joining fragments, handle of jug; greenish, bubbly. Slight evidence for rim, mouth and trail as 37. Present ht. estimated 19 mm.

39 D 2 III — kitchen; on and in floor re-laid c. A.D. 340. Fragment, jug; pale greenish, bubbly. Part of wide upper body, probably globular, with part of lower attachment of handle with ribs in high relief drawn down onto body. Body mould-blown; design of close-set diagonal ridges. Estimated ht. 31 mm.

Also Z 97 V and VI — Ditch I. 3 body frs., similar mould-blown ribs. Colourless.

40 K 97 V — Room 18; robber trench. Fragment jug or bottle; pale greenish, bubbly. Part of curved shoulder with narrow angular ribbon handle attached. Present ht. 41 mm.

41 D 2 II. Fragment, curved handle, jug(?); pale greenish, bubbly. Part of rod handle, D-shaped section near lower attachment, tapering to very small circular section. Present ht. approx. 31 mm.

42 N 98 II — over Ditch 4; ploughed disturbed. Fragment, bottle; yellowish green, strain cracks. Small part of lower neck with slight constriction above sloping shoulder; one small looped ‘dolphin’ handle. Present ht. 26 mm; neck D. 18 mm.

43 K 4 Room 7 — silt in hypocaust. Two joining fragments, two-handled jug; greenish, bubbly, strain cracks. Part of cylindrical neck, strong constriction above straight-sided upper body expanding out. Broad horizontal trail on neck pinched into flat disc, upper parts of two ribbon handles with pinched thumb-rests attached to edge of disc. Present ht. 53 mm; neck D. 22 mm.

44. K 4 Room 7 — silt in hypocaust. Two joining fragments, two-handled jug; greenish, bubbly with strain cracks. Cylindrical neck, slight evidence for constriction at junction with body (missing). Broad horizontal trail around lower neck pinched into flat disc; small part of one handle survives on underside of disc. Present ht. 58 mm; neck D. 20-24 mm.

45 K 99 V. Two joining fragments, flasket (?) or jug; pale greenish, bubbly. Small part of cylindrical neck with complete disc handle, as 43 and 44 above. Upper and lower surfaces scored with diagonal lines. No evidence for attachment of handles. Present ht. 17 mm; neck D. 18 mm.

A wide variety of late Roman tableware is represented by these fragments. Vessels with funnel mouths and heavy horizontal trails below the rim were in use in the third and fourth centuries A.D. in the western provinces (Isings Forms 102b), 120, 121, 123, 126) in both colourless and bluish green glass. Vessels with rims similar to no. 34 have been found at several Romano-British sites, including Caerwent (Boon, 1974b, 114, fig. 2, 15) and York (Harden, 1962, 140, figs. 89, 90). Jugs with pouring spouts are occasionally found in early Roman contexts, but are much more frequent in the third and fourth centuries (Isings, 1957, Forms 88 and 124); examples are known from Bath (Scarth, 1864, 96, Pl. XLIV), Colchester (Thorpe, 1935, 21, Pl. III a), and Ospringe (Whiting, 1931, 129, Pl. XVII, 154). Angular ribbon handles with multiple reeding are much less commonly made in colourless glass than in bluish green, since this is the usual handle form found on square and cylindrical bottles of the first to third centuries. Such handles do sometimes occur in the later Roman period, as on the two-handled bottle with funnel mouth from Shakenoak (Harden, 1968, 76, fig. 26, 6), and the cylindrical bottle with wheel-cut lines on the body from Corbridge (Charlesworth, 1959, 54, fig. 10, 1). Nos. 37 and 38 come from bluish green late third-fourth century jugs with funnel mouths and loops at the top of the handles, such as are known from Colchester (Thorpe, 1935, 31, Pl. IVc), and Bexhill, Kent (Collectanea Antiqua, VI, 263) and there is a similar dark blue specimen from a stone coffin at York (Harden, 1962, 140 f., Pl. 67, fig. 58). It is possible, though not likely, that no. 39 comes from the same jug as 38: the ovoid jug from Colchester cited above has close-set spiral mould-blown riving on the body, and this decoration occurs on several types of fourth-century jugs and bottles as well as on other vessel forms (Fremersdorf, 1961, Pls. 121-128; Haberey and Roder, 1961, figs. 3-4). Bottles with dolphin handles occur quite frequently in the Rhinelands and northern Gaul in the late Roman period (Isings, 1957, Form 100); many of these vessels are made from colourless glass, though some are made in green or yellowish green glass. Examples in Roman Britain include two pairs from a burial at Lullingstone, Kent (J. Roman Studies XLIX, 1959, 133 and Pl. XVIII), one from York (Harden, 1962, 141, fig. 89), another from Ospringe, Kent (Whiting, 1931, 58-59, Pl. XXXVIII, 448), and fragments from Shakenoak, Oxon. (Harden, 1973, 104, fig. 52). Nos. 43-45 all come from jugs or flasks which commonly have two or four handles attached to the broad flat disc or collar on the neck. These flasks are not uncommon in late Roman contexts in the Rhinelands and northern Gaul.
(Isings, 1957, Form 129), but few have been noted on Romano-British sites; however, there is a somewhat similar vessel in Colchester Museum (Acc. 84.14), and a fragmentary specimen from a late third-fourth century pit at Sandy, Beds. (Johnston, 1974, 46, fig. 10, 1)

MOULD BLOWN; MISCELLANEOUS FRAGMENTS
46 D 2 III — Kitchen; on and in relaid floor (c. A.D. 340). Fragment, bowl(?) or plate(?); greenish colourless. Wide shallow lower body, tapering in towards base (?). Close-set raised spiral ribs terminating at half-round moulding. Dimensions 29 × 40 mm.

This piece does not fit happily into the series of late Roman mould-blown bowls which occur sometimes at sites in the northern western provinces of the Roman empire (Fremersdorf, 1961, Pls. 129-132; Vanderhoeven, 1961, 122-4); there is, however, a rather similar bowl fragment, a stray find, from the Runde Berg bei Urach (Christlein, 1974, 45, Pl. 22, 14). Fragments from two other late Roman mould-blown vessels have been noted above (no. 39), and two are mentioned below under late Roman bottles.

BOTTLES
First-Second century types
47 M 8 III — Occupn. deposit above deliberate Roman fill of ditches; late 4th cent. Fragment, bottle; bluish green. Horizontal rim, edge bent out, and flattened, cylindrical neck. Present ht. 21 mm; rim D. 30 mm.

Also Fragments of rims, necks, handles, bodies, bases from 19 different find spots at the site; NB. where the body form was identifiable the vessels were rectangular in plan.

48 H 2 VI — Robber Trench. Small handle fragment, bottle; pale bluish green. Part of broad flat angular (?) handle, fine vertical reeding, edge of handle scored horizontally ie. at 90° to reeding. Dimensions 39 × 15 mm.

It seems very likely that no. 48 comes from a square or cylindrical bottle similar to those represented by the fragments listed under 47., but the scoring at the edge of the handle makes it quite unique. Square and cylindrical bottles are the vessels most commonly found at Romano-British sites from the first to the third centuries A.D. (Isings, 1957, Forms 50 and 51). It is probable that production of these vessels ceased in the later second century, but many specimens must have survived for a long time after this, and these bottles may have been in use at Frocester Court late in the third or early fourth century. General surveys of these square and cylindrical bottles have been produced quite recently (Charlesworth, 1966; Charlesworth, 1970), and many excavation reports contain accounts of them.

Late Roman types
There are two very small fragments of cylindrical mould-blown bottles with horizontal corrugations at Frocester Court, one from a yellow green and the other from a bluish green vessel. These bottles are sometimes known as Frontinus bottles because various abbreviations of this name have been found in raised letters on the bases of the vessels; they are often found in fourth-century contexts in the Rhinelannd and northern and central Gaul, perhaps being made at a centre or centres near Amiens (Isings, Form 128; Price, 1978, 76, fig. 61). Complete examples are very rare in Britain, but small body and base fragments have been found on a number of late Roman sites, including Shakenoak (Harden, 1968, 78), Caerwent (Boon, 1974B, 112, fig. 1, 6), Park Street Roman Villa, (Harden, 1945, 71, fig. 11, 20) and Silchester (Boon, 1974, 230, fig. 36, 13).

OBJECTS
Pins
49 S 5 IV. Fragment, head and shaft; deep greenish blue. Solid globular head, narrow shaft, circular in section, with anti-clockwise twist. Present length 24 mm; shaft D. 4 mm.

K2 - L2 Key VI — Gully filling under gravel floor and under top layer of stone. Fragment, head and shaft; pale greenish. As 49. Present length 46 mm; shaft D. 3-5 mm.

50 K 0 VIII Room 11 — Filling of iron bound chest. Fragment, head only; yellowish brown. As 49. Maximum D. 13 mm.

52 Z 2 IV. Fragment, shaft only; colourless. As 49. Present length 36 mm; shaft D. 4-5 mm.

Pins of this kind occur occasionally at Romano-British sites, mainly in third - fourth century contexts. Fragments have been found at Andoversford, Glos., (forthcoming, Trans. BGAS), Verulamium (Charlesworth, 1972, 215, fig. 79, 76), Park Street Roman Villa, (Harden, 1945, 72, fig. 11), and Bokerley Dyke (Rahtz, 1961, 96, fig. 13, 10). The use of these objects is obscure, though they may perhaps have been hairpins. A set of seven blue and green pins with similar globular heads and plain shaped shafts were found in 1835 arranged round the skull of a skeleton at Dorchester, Dorset (Collectanea Antiqua, III, 33, Pl. I, X, 3).

Gaming Pieces and counters
53 W 10 II — Medieval plough. Plano-convex disc; deep dark blue, appearing black. Ht. 7 mm; maximum D. 15 mm.

54 W 10 II — Medieval plough. Plano-convex disc; strong bright blue, translucent. Ht. 5 mm; maximum D. 9 mm.
L 14 III — 5th century cultivation. Flat circular disc; pale bluish green. Cut from a piece of late Roman window glass; edges neatly grooved. Diameter 18 mm; thickness 2 mm.

Piano-convex discs are frequently found on Romano-British sites; most of them are made of either white or 'black' glass, but other colours also occur, and in the later Roman period dots of different colours were marvered flush with the convex surface of some pieces which were perhaps used in board games. A set of decorated pieces was found in a fourth-century burial at Lullingstone Roman Villa, Kent (J. Roman Studies, XLIX, 1959, 132-3), and single pieces have been found in other late Roman graves in Britain. However, it is also probable that pieces of this kind were used in accounting. The flat circular disc (no. 55) is likely to have been used for the same purposes, but its chief importance is that it is one of very few fragments from this site which show evidence for the re-use of broken glass for secondary purposes.

Tesserae

Y 4 IV (Not illustrated). Fragment, small cube; opaque dark green. Maximum dimensions 6 x 7 x 7 mm.

D 5 II (Not illustrated). Fragment, small cube; opaque mid blue. Maximum dimensions 10 x 6 x 7 mm.

Glass tesserae were sometimes included in mosaic pavements in Roman Britain in the third and fourth centuries A.D., and it is very likely that these pieces have come from such a mosaic. However, the presence of small cubes of opaque blue glass has also been noted at earlier sites, as at Fishbourne (Harden and Price, 1971, 367, fig. 144, 110), and Caerleon (Boon, 1970, 18, 37-9, fig. 17, 13), where no mosaics containing glass tesserae were found. It is difficult to suggest any other use for these small pieces of glass, but in some instances they may perhaps be connected with the manufacture of small objects, such as beads or gaming pieces.

BEADS (only no. 80 illustrated)

Annular bead; greenish, as Guido, Iron Age/Roman, Group 6, 66, Pl. II, 11; schedule on 140.

9 blue, 1 deep blue, three green, translucent beads, as Guido, Roman — Small segmented beads, 91-2, fig. 37, 1; schedule on 202.

3 dark blue translucent beads, as Guido, Roman — Cylinder beads, 94-5, fig. 37, 4; schedule on 207.

1 'black', 2 opaque green beads, as Guido, Roman — Cylinder beads, 95, fig. 37, 5; schedule on 211.

4 dark blue translucent beads, as Guido, Roman — Small biconical beads, 97, fig. 37, 12-13; schedule on 219.

3 blue translucent beads & 1 fragment, as Guido, Roman — Square sectioned beads, 96, fig. 37, 6-7; schedule on 213.

Opaque green blue bead, as Guido, Roman — Long biconical beads, 98, fig. 37, 14; schedule on 221.

Pear shaped bead, colourless.

2 flattened oval dark blue translucent beads, as Guido, Roman — Undecorated heart or pear shaped beads, 99, fig. 37, 17; schedule on 225.

Cylindrical bead with anti-clockwise spiral twist; dark blue translucent. Length 21 mm, max. D. 6 mm. T 6 II, plough soil. It has been suggested by Mrs Guido (in litt.) that this may be a bead of the post Roman period, perhaps imported from Ireland.


In this second coin list a further 321 coins have been identified, this brings the total up to 686 coins found in the farm and the surrounding area. This number makes the site the most prolific of its type in Gloucestershire and even compares well with the larger areas of small towns excavated further afield at Gatcombe (Somerset) or Wanborough (Wilts). Obviously some form of standardization would be needed before any detailed comparisons could be made (perhaps in terms of coins per cubic metre of soil excavated) but it does seem fair to say that in absolute terms a lot of money seems to have been lost, and therefore presumably, used, in this farm.

Such a statement inevitably leads to the question of why this was so. Many strange and fanciful theories about Roman villas in Gloucestershire have recently been propagated and I have no wish to add to them. At the moment we cannot safely answer the question. We need far more good coin lists from well excavated sites before we can be certain of any theories. It is however possible to suggest that most of the money which came into Britain in the fourth century from mints on the continent did so to be distributed amongst state employees whether military or civilian, if, in fact, one can draw a firm distinction between them. A farm which was able to install mosaics and heated rooms obviously ran at a profit and produced goods which were sold. It is therefore not surprising that some of the money distributed to state servants found its way, presumably through trade, into
well run farms. The whole process can be satisfactorily explained in terms of free enterprise and trade, and there is therefore no sensible need whatever for theories of army billets, civil servants, dispossessed Gaus, or special trading posts near putative tribal boundaries.

The distribution of coins throughout the fourth century follows the general pattern for rural sites all over the province, and is similar to the pattern of coins found already in the building. There are more fourth-century copies in the surrounds than in the building, and also more coins of the last period of occupation (388 to 402). Late silver is again represented and barbarous radiates remain common.

A general summary of the coins, with totals from the previous excavations in brackets, is as follows:

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<td>Antonius Pius</td>
<td>- (1)</td>
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<td>Commodus</td>
<td>1 (1)</td>
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<td>Julia Domna</td>
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<td>2 (7)</td>
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<td>Salonina</td>
<td>- (2)</td>
<td></td>
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<tr>
<td>Claudius II</td>
<td>11 (4)</td>
<td></td>
</tr>
<tr>
<td>Quintillus</td>
<td>- (1)</td>
<td></td>
</tr>
<tr>
<td>Aurelian</td>
<td>2 (-)</td>
<td></td>
</tr>
<tr>
<td>Probus</td>
<td>1 (2)</td>
<td></td>
</tr>
<tr>
<td>Diocletian</td>
<td>- (1)</td>
<td></td>
</tr>
<tr>
<td>Maximian I</td>
<td>1 (-)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth century, 207 (195)</th>
<th>Regular coins</th>
<th>Copies</th>
<th>Total</th>
</tr>
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<tr>
<td>294-317 Folles</td>
<td>10 (6)</td>
<td>- (-)</td>
<td>10 (6)</td>
</tr>
<tr>
<td>317-330 Early Constantine</td>
<td>8 (1)</td>
<td>1 (1)</td>
<td>9 (2)</td>
</tr>
<tr>
<td>330-341 Mid Constantine</td>
<td>37 (56)</td>
<td>19 (9)</td>
<td>56 (65)</td>
</tr>
<tr>
<td>345-348 Two Victories</td>
<td>10 (24)</td>
<td>1 (-)</td>
<td>11 (24)</td>
</tr>
<tr>
<td>350-353 Magnentus</td>
<td>- (3)</td>
<td>2 (1)</td>
<td>2 (4)</td>
</tr>
<tr>
<td>348-350 Early Fel Temp</td>
<td>2 (10)</td>
<td>- (-)</td>
<td>2 (10)</td>
</tr>
<tr>
<td>353-360 Fel Temp Fallen Horseman</td>
<td>3 (6)</td>
<td>26 (8)</td>
<td>29 (14)</td>
</tr>
<tr>
<td>356-378 Silver</td>
<td>1 (2)</td>
<td>- (-)</td>
<td>1 (2)</td>
</tr>
<tr>
<td>364-378 Valentinian</td>
<td>27 (34)</td>
<td>- (-)</td>
<td>27 (34)</td>
</tr>
<tr>
<td>378-388 AE 4</td>
<td>4 (1)</td>
<td>- (-)</td>
<td>4 (1)</td>
</tr>
<tr>
<td>388-402 AE 4</td>
<td>32 (15)</td>
<td>- (-)</td>
<td>32 (15)</td>
</tr>
<tr>
<td>Illegible</td>
<td>24 (18)</td>
<td></td>
<td>24 (18)</td>
</tr>
<tr>
<td>Medieval</td>
<td>3 (-)</td>
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<td></td>
</tr>
</tbody>
</table>

Stratified positions of coins.

Courtyard NE of approach road

<table>
<thead>
<tr>
<th>1-2 Under cobbled area</th>
<th>Barbarous radiates, reverse from Pax (1), illegible (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-6 Make-up of cobbled area</td>
<td>Tetricus II RIC 259</td>
</tr>
<tr>
<td></td>
<td>Crispus HK 15</td>
</tr>
<tr>
<td></td>
<td>House of Constantine copy as HK 52</td>
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<tr>
<td></td>
<td>Valens CK 86</td>
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</tbody>
</table>

7-32 Occupation layer

<table>
<thead>
<tr>
<th>Julia Domna as RIC 605</th>
</tr>
</thead>
<tbody>
<tr>
<td>Claudius II RIC 14</td>
</tr>
<tr>
<td>Victorinus RIC 61, 71</td>
</tr>
<tr>
<td>Aurelian RIC 59</td>
</tr>
<tr>
<td>Tetricus II RIC 271</td>
</tr>
</tbody>
</table>
Barbarous radiates, reverse from Virtus (1), illegible (3)
Constantine I RIC 7 Arles 190
Constantine II RIC 7 London 287
Constantius II HK 83, CK 253, copy as CK 25
Constantinopolis copy as HK 52, as HK 356
House of Constantine copy as HK 87, as HK 137, copy as CK 25
Magnentius copy as CK 8
Valentinian I CK 1420
Arcadius as CK 164
House of Theodosius as CK 164
Postumus RIC 318
Constantine II RIC 7 London 216
Urbs Roma RIC 7 Arles 379
Henry III North 986-8

33-36 Demolition debris
37 Mortar mixing pit
38 Post-hole 2
39 Post-hole 3
40-8 Ditch 4

Barbarous radiate, reverse illegible
Theodora as HK 105
Constantius II HK 148
Constans HK 244, 253
House of Constantine copy as HK 87, copy as CK 25
Theodosius I as CK 163
4th C. illegible
Barbarous radiate, reverse from Salus

Courtyard SW of approach road
50 Cremation pit
51-2 Builders debris
53-64 Occupation layer

Crispina RIC (Commodus) 672 b
Tetricus I RIC 132
Barbarous radiate, reverse from Salus
Claudius II RIC 66
Tetricus I RIC 100
Maximin I as RIC 6 London 6 b but PA for PF AVG
Barbarous radiates, reverse from Virtus (1), illegible (2)
Constantinopolis copy as HK 52
House of Constantine copy as CK 25
Valens as CK 301
House of Valentinian as CK 275
House of Theodosius as CK 162
4th C. illegible

65-68 Path by SW wall
69-71 Turf
72-79 Demolition layer

Barbarous radiate reverse from Virtus
Claudius II reverse illegible
Constantius II HK 423
House of Theodosius as CK 162
Constantine I RIC 7 London 236
Constans reverse illegible
House of Constantine copy as CK 25
Claudius II RIC 261
Tetricus I RIC 100
Barbarous radiate reverse illegible
Constantius II RIC 7 Trier 540, HK 145
Delmatius as HK 91
House of Constantine copy as CK 256
Henry III North 986-8

Approach Road
80-95 Road

Postumus RIC 39
Claudius II RIC 18
Carausius RIC 305
Barbarous radiates reverse from Pax (1), illegible (2)
Constantine I RIC 7 Trier 525
FROCESTER COURT ROMAN VILLA

Constantinople copy as HK 52, 59
Constantius II HK 126
House of Constantine as HK 139, copy as CK 25
Magnus Maximus possibly as CK 553
House of Theodosius as CK 162, as 398
4th C. illegible

96-99 Turf verge
Barbarous radiate reverse from Invictus
Constantine I RIC 6 Trier 859
Constantinopolis as HK 52
House of Constantine copy as CK 25
Gratian (silver) as RIC 9 Trier 27

100-03 Demolition debris
Barbarous radiate reverse illegible
Constans HK 159
House of Constantine as CK 25

Garden
104 Mud below soil
105-11 Soil
Constantius I RIC 6 London 14a
Victorinus RIC 71
Tetricus I RIC 132
Constantius II CK 404
Constans HK 133, 135
Theodosius I as CK 163
Completely illegible

Outside NE wall
112 Pre-Roman topsoil
113-17 Conduit trench
Dobunnic Allen type D
Postumus reverse illegible
Barbarous radiate reverse illegible
Constantine I HK 742
Constantius II copy as HK 50
House of Constantine copy as HK 87
Claudius II RIC 261
House of Valentinian as CK 275
Urbs Roma copy as HK 51
House of Valentinian as CK 96, as 275
Tetricus I RIC 7 Trier 435
Victorinus reverse illegible
Valentinian I CK 481

125 Timber slot
126-43 Occupation layer
Constantine I RIC 7 Trier 435
Postumus as RIC 56
Tetricus I RIC 100, copy of 132
Carus RIC 98, 101, 155
Allectus RIC 33
Late third C. overstrike
Barbarous radiate reverse illegible
Crispus RIC 7 Trier 431
Constans as HK 138
Constantinopolis as HK 52
Constantius II copy as CK 25
House of Constantine copies as CK 25 (2), copy as 265,
copy otherwise illegible
House of Valentinian as CK 96

Outside SE fence
144-47 Stone floor over
Iron Age ditch
Tetricus I reverse illegible
Constantine I RIC 6 London 126
Licinius I RIC 7 London 49
House of Constantine copy as HK 49

148-50 Occupation layer
Claudius II RIC 66
Crispus copy as RIC 7 London 185
Valentinian I CK 1017

151 Headland
Henry II North 963
Outside SW wall
152-53 Stone floor
Gallienus RIC 280
Probus RIC 17

154-55 Builders' debris
Barbarous radiates reverses from Salus (1), Pietas (1)

156 Roman cultivation
House of Theodosius otherwise illegible

Robber trench of garden wall
157-63
Constantius II copy as CK 25
Constantinopolis HK 59
Magnentius copy as CK 238
House of Constantine copies as CK 25 (3)
Valens CK 275

5th C. cultivation
164-91
Claudius II RIC 193
Barbarous radiates reverses from Invictus (1), Spes (1),
  reverses illegible (3)
Constans HK 161
Helena copy as HK 112
Constantius II CK 256
House of Constantine copies as CK 25 (3), as 35 (1),
  copies as 262 (2), reverse illegible (1)
Valentinian I as CK 275
House of Valentinian as CK 110
Arcadius CK 566
House of Theodosius as CK 162 (3), as 782, illegible (2)
4th C. otherwise illegible (3)

Medieval plough and modern humus
192-321 Lucilla RIC (M. Aurelius) 1755
Commodus sestertius reverse illegible
Gallienus reverse illegible
Victorinus reverse Spes
Tetricus I RIC 56, 130, copy as 100
Tetricus II RIC 274, reverse from Spes, from Sacrificial Implemenets
Claudius II RIC 274, 261 (2)
Aurelian RIC 53
Carausius reverse illegible
Diocletian RIC 5 Trier 513
Barbarous radiates reverses from Fortuna, Pax (2), Sacrificial Implemenets, Salus (2), Spes, Virtus, illegible (20)
Constantine I RIC 6 Trier 146a, 899; 7 London 154, Trier 97, 435; HK as 48, 60, 352
Helena HK 28
Constantius II HK 49, as 49, 241
Constans HK 133
Constantius II HK 116, 132, 1306
Urbs Roma RIC 7 Lyon 257, HK as 51, 65
Constantinopolis HK as 52 (2), copies as 52 (3)
Hybrid copy obverse as HK 52 / reverse as HK 51
House of Constantine HK 87 (2), 137 (2), 158; CK as 25, copies as 25 (5), 52, 162; otherwise illegible (1)
Valentinian I CK as 501, 1393
Valens CK as 97, 303, 352, 504, 995
Gratian CK 523 a
Valentinian II CK 564, 1095
House of Valentinian as CK 96 (2), 275, 299, reverse illegible
Theodosius I CK as 163, 792, 796
Arcadius CK as 162, 798
House of Theodosius CK as 162 (4), 789, 796, otherwise illegible (4)
3rd-4th C. illegible (13)
Completely illegible (Roman) (2)
Medieval Jetton Barnard (France) 22
THE ANIMAL BONES By BARBARA NODDLE

Despite the large numbers of excavations carried out on Roman villa sites, proper investigation of the animal bones with the presentation of quantified data has rarely been carried out, and where it has been, e.g. Harcourt (1974), the numbers of fragments have been too low to justify firm conclusions. The number of identified bones at Frocester, well in excess of five thousand, therefore offers the opportunity of investigating the agricultural basis of the villa for 5 centuries from the animal husbandry point of view.

The bones have been analysed in 4 periods, 1st century, 2nd and 3rd centuries together, 4th century, and late 4th to 5th century. The resulting data is presented mainly in the form of tables. The species proportions are analysed according to fragment count, the minimum number of individuals and the bone weights for a proportion of the bones. Wherever possible, the individuals were placed in the chronological stages juvenile, immature and mature. These stages approximate to under 18 months, from 18 months to 4 years, and over 4 years old in modern terms which are not likely to apply to this early stock. Complete bones and commonly occurring ends of mature bones and certain teeth were measured, mainly according to the methods of Von Den Driesch (1976). This data is also presented in the form of tables. The details and explanations of this method are set out in various other reports by the author, e.g. Nodde (1978).

The proportions of species are set out in tables 1-3. Tables 1 and 2 are in agreement, but the proportions according to weight differ somewhat, perhaps distorted by large numbers of heavy loose horse teeth. Though beef was always the most important meat from the diet point of view, it rises with the passage of time, and sheep, the most numerous individuals in the 1st century, decline steadily. The meticulous survey of the literature by King (1978) suggests that animal bone numbers follow the same trend throughout Roman Britain. Other animals remain fairly constant. Goat is probably an underestimate because of the difficulty in distinguishing between its bones and those of the sheep. Table 3 indicates the good state of preservation of the bone, since so much of it could be identified. However, vast amounts of bone have not been excavated or survived to be excavated, since an average of only 8 fragments per individual was found, and the complete skeleton has rather more than 100 (excluding ribs which are included with the unidentified proportion in this report).

An analysis of the parts of the anatomy represented by the bones was carried out. This revealed a virtual absence of the smallest bones, suggesting that the material was redeposited before excavation from its first position of disposal. There is also an increase in the numbers of loose teeth with the passage of time, probably the result of later wear and tear upon the upper layers of the deposits. (See Table 4).

Age, size and type of animals

The age at which an animal is slaughtered may give some indication of its economic function; however, a recent analysis of the flock records of Winchester (Lloyd 1978) shows that this may be almost entirely due to disease and poor husbandry. Chronological ages derived from modern livestock are misleading, and therefore stages of maturity are employed (see introduction). This data is derived from dental evidence and ages of bone maturation compiled by Silver (1963). The return from animals at the different stages varies. Juvenile animals produce only a poor carcass and a hide. Immature animals give a better carcass, and possibly have bred once and given a wool clip according to species. Mature animals may have produced offspring, wool, milk or labour according to species, though the pig only gives carcass and progeny.

Table 5 presents this age data; too much reliance should not be placed on the late C4-5 specimens, as so few were available. The proportion of juvenile animals is highest in the 1st century for all species, suggesting that husbandry standards improved with time. Mature percentage rises throughout suggesting increased use of sheep for wool and cattle for traction. Immature animal
numbers remain fairly constant, except for pig. Fewer breeding stock are always needed with this animal owing to the litter size and the possibility of breeding more than once a year.

The size of an animal depends not only upon its genetic potential but also upon its nutrition during the growth period. Bone measurements are presented in tables, listing both the whole bones and those for mature bone ends. Those for cattle are presented in table 6. Despite overlap, there is an upward trend with the passage of time; increase in length indicates the animals became taller, increase in width that they became more massive. An estimate of body weight according to the method of Noddle (1973) is also included. The larger animals reached the size of smaller modern breeds such as the Ayrshire. However this increase in size does not seem to be due to marked genetic change, as the horn core remains the same throughout, and is typically Roman (Armitage and Clutton Brock 1976). A specimen is illustrated in Plate IVb.

Changes among sheep, shown in table 7, are less clear; length alters little but a slight increase in average width does occur. Proportions of the neck of the scapula have been used to try to determine the type of sheep, in general the bone becomes shorter and thicker with improved meat conformation. Here trends are not clear, with good meat types in the 1st century and the most primitive specimens are from the 3rd. Sheep horn cores were only plentiful from the 1st century. Both horned and polled animals were present in all the later periods. Ryder (1964) believes that the Romans introduced long-tailed white polled sheep into Britain, and this data supports his views. The bones from grave 3 comprised the dismembered right forelimb of an immature sheep.

There are too few mature pig bones to provide sufficient measurements for a determination of size trends; all that can be said is that 1st-century specimens are never the largest (Table 8). In fact the isolated very large specimens derive from wild boar, of which it appears that there was one example per chronological group. However there is an increase in robustness amongst the immature bones which might be due to a change in husbandry, confinement rather than pasturage (Hammond Mason and Robertson 1971). Applebaum (1972) believes that many Roman farms were equipped with pig pens.

The two pig skulls, dating from the 1st and 4th centuries, also show changes (Plate V a-b), the 4th-century specimen being more robust and having a greater concavity of the frontal bone, a sign of advanced domestication changes.

There is little to say about the horses; their bone measurements are set out in table 9. These indicate animals of large pony stature, apart from a 2nd-century metacarpal which might well come from a donkey. The odd dog bones are also from animals of fairly small stature. The complete skeletons are described by Harcourt, whose report follows this one. Two specimens of red deer astragalus came from fairly large animals, as is to be expected from the date, the reduction in size of British red deer being post-Roman (Ritchie 1920).

There are few abnormal or pathological bones in this collection; disease rarely shows up on the macroscopic bone. Amongst cattle there was a 4th-century scapula with a fractured spine, and a 3rd-century mandible with an arthritic temporomandibular joint. A 1st-century horn core shows curious wear which might be associated with a yoke. A number of lower 3rd molars lacked the posterior cusp, about one in five, except for the 4th-5th century where there was only one specimen in ten. A 4th-century mandible also lacked the 2nd premolar, a phenomenon which has been discussed by Andrews and Noddle (1974).

Amongst sheep there was a 4th-century tibia which was strongly bowed; this may have been associated with a healed fracture of the metatarsus. There were also four cases of periodontal disease of the mandible, three 1st century and one 4th. This is a very common condition, about 30% of modern animals being affected and none of these four was very severe.
The Dog Skeletons from Frocester Court (By R.A. HARcourt)

All these specimens were of 4th-century date. The measurements used and the skull indeces are discussed in Harcourt (1974).

1) Damaged skull rear portion of cranium and parts of maxilla, also mandible
   An intact pelvis was also found
   Total length mandible 127
   Mandibular tooth row 68
   1st molar length, breadth 20 x 8.4
   pelvis length 137
   The teeth were unusually heavily worn and showed malocclusion; this was particularly marked in the canines, each of which had been grooved by its antagonist.

2) Skull, more or less intact
   Occipital protruberance to alveolar 177
   " " nasion 99
   Nasion to alveolar 87
   Zygomatic width 100
   Palatal length 82
   Palatal breadth between 4th premolar and 1st molar 59
   Maxillary tooth row 59
   Width across canines (outer surface alveolae) 35
   Cephalic index 4/1 x 100 56.5%
   Snout index 3/1 x 100 49.2%
   Snout width index 12/3 x 100 40.2%
   The cephalic index measures the broadness of the skull, snout index the muzzle length and snout width index the muzzle breadth. This skull is the most common Roman type and is about the middle of the size range. It resembles the Asiatic pi-dog and may have carried out the same scavenging function.
   The estimated height judged from a complete skeleton with similar skull proportions is 46-49 cm.

3) Skull fragments, mandibles and some limb bones
   Greatest length mandible 162
   Mandibular tooth row 82
   1st molar length and breadth 24 x 10
   Radius length 179 midshaft width 15
   Ulna length 208
   Like the first specimen, the canines of this animal showed heavy grooving. The estimated height is about 56 cm. This is about the size of a labrador, and is the upper end of the Roman range. A suggested function is that of guard dog.
TABLE 1  
Proportions of Species: Numbers Identified Fragments

<table>
<thead>
<tr>
<th>Date</th>
<th>Total</th>
<th>Cattle</th>
<th>Sheep</th>
<th>Goat</th>
<th>Pig</th>
<th>Horse</th>
<th>Dog*</th>
<th>Red Deer</th>
<th>Roe Deer</th>
<th>Cat</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st century</td>
<td>1100</td>
<td>266</td>
<td>532</td>
<td>2</td>
<td>234</td>
<td>39</td>
<td>8</td>
<td>17</td>
<td>1</td>
<td>1</td>
<td>&lt;1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24%</td>
<td>48%</td>
<td>&lt;1%</td>
<td>21%</td>
<td>4%</td>
<td>&lt;1%</td>
<td>1.5%</td>
<td>&lt;1%</td>
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<td>—</td>
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<tr>
<td>2nd &amp; 3rd centuries</td>
<td>1738</td>
<td>730</td>
<td>607</td>
<td>9</td>
<td>173</td>
<td>116</td>
<td>70</td>
<td>2.3</td>
<td>5</td>
<td>3</td>
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<td></td>
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<td>42%</td>
<td>35%</td>
<td>&lt;1%</td>
<td>10%</td>
<td>7%</td>
<td>4%</td>
<td>1.3%</td>
<td>&lt;1%</td>
<td></td>
<td>Vole 1</td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hare 1</td>
</tr>
<tr>
<td>4th century</td>
<td>2208</td>
<td>1087</td>
<td>689</td>
<td>29</td>
<td>297</td>
<td>158</td>
<td>37</td>
<td>15</td>
<td>4</td>
<td>4</td>
<td>Fox 1</td>
</tr>
<tr>
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<td>49%</td>
<td>31%</td>
<td>1%</td>
<td>13%</td>
<td>7%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td></td>
<td>Vole 2</td>
</tr>
<tr>
<td>Late 4th century &amp; 5th century</td>
<td>733</td>
<td>426</td>
<td>99</td>
<td>19</td>
<td>166</td>
<td>67</td>
<td>7</td>
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<td>1</td>
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<tr>
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<td></td>
<td>58%</td>
<td>14%</td>
<td>3%</td>
<td>14%</td>
<td>9%</td>
<td>1%</td>
<td>1%</td>
<td>&lt;1%</td>
<td></td>
<td>—</td>
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</tbody>
</table>

Total 5767
* Complete burials excluded
+ A number of frog bones also present

TABLE 2  
Proportion of Species: Minimum Numbers Individuals

<table>
<thead>
<tr>
<th>Date</th>
<th>Total</th>
<th>Cattle</th>
<th>Sheep</th>
<th>Goat</th>
<th>Pig</th>
<th>Horse</th>
<th>Dog</th>
<th>Red Deer</th>
<th>Roe Deer</th>
<th>Cat</th>
<th>Others</th>
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</thead>
<tbody>
<tr>
<td>1st century</td>
<td>109</td>
<td>13</td>
<td>53</td>
<td>2</td>
<td>26</td>
<td>6</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>1</td>
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<tr>
<td></td>
<td></td>
<td>12%</td>
<td>49%</td>
<td>1.8%</td>
<td>24%</td>
<td>6%</td>
<td>4%</td>
<td>3%</td>
<td>1%</td>
<td></td>
<td>—</td>
</tr>
<tr>
<td>2nd &amp; 3rd centuries</td>
<td>252</td>
<td>68</td>
<td>74</td>
<td>5</td>
<td>38</td>
<td>30</td>
<td>22</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>Fox 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>27%</td>
<td>29%</td>
<td>2%</td>
<td>15%</td>
<td>12%</td>
<td>9%</td>
<td>3%</td>
<td>1%</td>
<td></td>
<td>Vole 1</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hare 1</td>
</tr>
<tr>
<td>4th century</td>
<td>261</td>
<td>84</td>
<td>76</td>
<td>7</td>
<td>47</td>
<td>22</td>
<td>15</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>Fox 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>320%</td>
<td>27%</td>
<td>3%</td>
<td>18%</td>
<td>8%</td>
<td>6%</td>
<td>3%</td>
<td>1%</td>
<td></td>
<td>Vole 1</td>
</tr>
<tr>
<td>Late 4th century &amp; 5th century</td>
<td>104</td>
<td>39</td>
<td>36</td>
<td>4</td>
<td>19</td>
<td>9</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1%</td>
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<tr>
<td></td>
<td></td>
<td>38%</td>
<td>25%</td>
<td>4%</td>
<td>10%</td>
<td>9%</td>
<td>3%</td>
<td>2%</td>
<td>1%</td>
<td></td>
<td>—</td>
</tr>
</tbody>
</table>

Total 706
Average number of fragments/individual = 8


**FROCESTER COURT ROMAN VILLA**

**TABLE 3**

*Proportion of Species Bone Weight*

This calculation was only carried out on the 1976 & 1977 excavated material. The proportions are expressed as %.

<table>
<thead>
<tr>
<th>Date</th>
<th>Cattle</th>
<th>Sheep</th>
<th>Pig</th>
<th>Other</th>
<th>Not Identified</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st century</td>
<td>55</td>
<td>10</td>
<td>11</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>2nd &amp; 3rd centuries</td>
<td>60</td>
<td>15</td>
<td>10</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>4th century</td>
<td>80</td>
<td>4</td>
<td>3</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

**TABLE 4**

*Anatomical analysis bone fragments (common species only) expressed as %.*

<table>
<thead>
<tr>
<th></th>
<th>1st Century</th>
<th>2nd &amp; 3rd Centuries</th>
<th>4th Century</th>
<th>Late 4th Century &amp; 5th Century</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cattle</td>
<td>Sheep</td>
<td>Pig</td>
<td>Cattle</td>
</tr>
<tr>
<td>Mandible</td>
<td>9</td>
<td>16</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Vertebrae</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Upper fore limb</td>
<td>18</td>
<td>14</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>Upper hind limb</td>
<td>9</td>
<td>11</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Carpals &amp; Tarsals</td>
<td>8</td>
<td>3</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Metapodials</td>
<td>11</td>
<td>7</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Phalanges</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Loose teeth</td>
<td>19</td>
<td>28</td>
<td>26</td>
<td>27</td>
</tr>
</tbody>
</table>
### TABLE 5

**Minimum Numbers Individuals: Age Range (common species only)**

<table>
<thead>
<tr>
<th>Date</th>
<th>Cattle</th>
<th>Sheep</th>
<th>Pig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>1st century</td>
<td>J 38</td>
<td>J 35</td>
<td>J 40</td>
</tr>
<tr>
<td></td>
<td>I 24</td>
<td>I 25</td>
<td>I 28</td>
</tr>
<tr>
<td></td>
<td>M 38</td>
<td>M 40</td>
<td>M 32</td>
</tr>
<tr>
<td>2nd &amp; 3rd centuries</td>
<td>J 19</td>
<td>J 24</td>
<td>J 19</td>
</tr>
<tr>
<td></td>
<td>I 27</td>
<td>I 26</td>
<td>I 58</td>
</tr>
<tr>
<td></td>
<td>M 54</td>
<td>M 50</td>
<td>M 23</td>
</tr>
<tr>
<td>4th century</td>
<td>J 16</td>
<td>J 22</td>
<td>J 11</td>
</tr>
<tr>
<td></td>
<td>I 23</td>
<td>I 29</td>
<td>I 47</td>
</tr>
<tr>
<td></td>
<td>M 61</td>
<td>M 49</td>
<td>M 42</td>
</tr>
<tr>
<td>Late 4th century &amp; 5th century</td>
<td>J 13</td>
<td>J 6</td>
<td>J 23</td>
</tr>
<tr>
<td></td>
<td>I 19</td>
<td>I 25</td>
<td>I 31</td>
</tr>
<tr>
<td></td>
<td>M 68</td>
<td>M 69</td>
<td>M 46</td>
</tr>
</tbody>
</table>

J – Juvenile  
I – Immature  
M – Mature

**ANIMAL BONE MEASUREMENTS**

Note all measurements are given in mm.  
The figure in brackets refers to the number of times a measurement recurs.  
* indicates that the bones measured might not have been fully grown.

### TABLE 6

*Cattle Bone Measurements*

**Lower 3rd Molar — Length**

| C1   | 34, 36, 37, 40 |
| C2-3 | 35(2), 36(8), 37(4), 38(5), 39, 40(3), 41(2) |
| C4   | 33(2), 34(3), 35(2), 36(3), 37(6), 38(3), 40 |
| C4-5 | 30, 33, 34, 35, 36, 37(2), 39 |

**Humerus**

<table>
<thead>
<tr>
<th>Whole bone</th>
<th>Length</th>
<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4</td>
<td>265</td>
<td>81.5</td>
<td>82.5</td>
<td>51.5</td>
</tr>
</tbody>
</table>

Width distal condyles

| C1   | 63, 66, 67(2), 69, 71 |
| C2-3 | 64, 66, 71(2), 74, 77, 82 |
| C4   | 66(2), 82, 85 |
| C45  | 70 |
### Radius

<table>
<thead>
<tr>
<th>Whole bone</th>
<th>Length</th>
<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2-3</td>
<td>235</td>
<td>68</td>
<td>-</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>270</td>
<td>-</td>
<td>70</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>285</td>
<td>82</td>
<td>74</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>295</td>
<td>86</td>
<td>76</td>
<td>46</td>
</tr>
<tr>
<td>C4</td>
<td>260</td>
<td>71</td>
<td>61</td>
<td>35</td>
</tr>
<tr>
<td>C4-5</td>
<td>274</td>
<td>82</td>
<td>75</td>
<td>47</td>
</tr>
</tbody>
</table>

Proximal width*

<table>
<thead>
<tr>
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<th>Length</th>
<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>66, 72, 73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62-3</td>
<td>67, 68, 70, 71, 72, 86(2), 93</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C4</td>
<td>71(2), 72(2), 75, 76, 78, 85</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C4-5</td>
<td>82</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Distal width

<table>
<thead>
<tr>
<th>Whole bone</th>
<th>Length</th>
<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>62, 63, 69, 71(2), 72(2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2-3</td>
<td>65, 68, 70(2), 74, 76, 80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C4</td>
<td>58, 61, 64, 72(2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C4-5</td>
<td>75</td>
<td></td>
<td></td>
<td></td>
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</table>

### Metacarpal

<table>
<thead>
<tr>
<th>Whole bone</th>
<th>Length</th>
<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>168</td>
<td>57</td>
<td>53</td>
<td>34</td>
</tr>
<tr>
<td>C2-3</td>
<td>172</td>
<td>52</td>
<td>48</td>
<td>30</td>
</tr>
<tr>
<td>C2-3</td>
<td>180</td>
<td>55</td>
<td>55</td>
<td>34</td>
</tr>
<tr>
<td>C4</td>
<td>184</td>
<td>57</td>
<td>55</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>182</td>
<td>55</td>
<td>55</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>192</td>
<td>59</td>
<td>64</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>200</td>
<td>-</td>
<td>59</td>
<td>35</td>
</tr>
<tr>
<td>C4-5</td>
<td>182</td>
<td>60</td>
<td>53</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>192</td>
<td>62</td>
<td>64</td>
<td>36</td>
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Proximal width*

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<th>Length</th>
<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>49, 50, 57</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2-3</td>
<td>52, 54, 57, 60(3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C4</td>
<td>45, 47, 48(2), 49(2), 50, 51, 52, 56(3), 58, 59, 60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C4-5</td>
<td>52, 60, 62(2), 79</td>
<td></td>
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</tbody>
</table>

Distal width

<table>
<thead>
<tr>
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<th>Length</th>
<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2-3</td>
<td>47, 48, 53, 55(2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C4</td>
<td>47, 48(3), 49, 53, 55, 57, 58, 59(2), 64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C4-5</td>
<td>53, 61, 64</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Tibia

<table>
<thead>
<tr>
<th>Whole bone</th>
<th>Length</th>
<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4</td>
<td>370</td>
<td>167</td>
<td>67</td>
<td>-</td>
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</tbody>
</table>

Distal width

<table>
<thead>
<tr>
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<th>Length</th>
<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>52, 55, 59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2-3</td>
<td>53(2), 54(2), 55(2), 56(2), 58(2), 59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C4</td>
<td>46, 49, 53, 55(2), 57, 62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C4-5</td>
<td>54, 60</td>
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</table>

1st phalanx — Length

<table>
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<tr>
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<th>Length</th>
<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>51, 52, 53, 54(2), 55, 56, 58(2), 60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2-3</td>
<td>51, 52(2), 55(4), 56, 57(3), 58(3), 59, 60(3), 62(3), 63(2), 64(2)</td>
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<td></td>
</tr>
</tbody>
</table>
### Metatarsal

<table>
<thead>
<tr>
<th>Whole bone</th>
<th>Length</th>
<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>172</td>
<td>-</td>
<td>48</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>200</td>
<td>43</td>
<td>48</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>200</td>
<td>38</td>
<td>44</td>
<td>24</td>
</tr>
<tr>
<td>C4</td>
<td>203</td>
<td>52</td>
<td>59</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>206</td>
<td>51</td>
<td>56</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>210</td>
<td>44</td>
<td>49</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>217</td>
<td>44</td>
<td>55</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>215</td>
<td>48</td>
<td>53</td>
<td>29</td>
</tr>
</tbody>
</table>

### Proximal width

| C1         | 37, 38(2), 39, 42(2), 43(3), 45, 49 |
| C2-3       | 40, 41, 42, 43, 44, 48, 49, 52, 53 |
| C4         | 37, 40, 43(2), 44(2), 45(2), 46, 47, 51, 52, 55 |
| C4-5       | 43(4), 47, 48, 51, 52 |

### Distal width

| C1         | 42, 44, 46, 48(2), 49 |
| C2-3       | 45, 48 |
| C4         | 44, 45, 46, 49, 51(2), 53, 54, 57, 59 |
| C4-5       | 50, 53, 54, 56, 64 |

### Horn Core

<table>
<thead>
<tr>
<th>Length</th>
<th>Basal Circumference</th>
</tr>
</thead>
<tbody>
<tr>
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<td>127</td>
</tr>
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<td></td>
<td>80</td>
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<tr>
<td></td>
<td>195</td>
</tr>
<tr>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

### Body weight

Estimated from astragalus dimensions (Noddle 1973) Kg.

| C1     | 157, 160, 178, 187, 213 |
| C2-3   | 160, 172, 174, 177, 196, 202, 203, 215, 218(2), 235, 244, 270(2) |
| C4-5   | 199, 210, 234, 250, 258 |

**TABLE 7**

*Sheep Bone Measurements*

### Lower 3rd Molar — Length

| C1     | 18, 19, 20(6), 21(4), 22(3), 32 |
| C2-3   | 19, 20(6), 21(5), 22(7), 23(3), 24(2), 25(3) |
| C4     | 19(3), 20(5), 21(3), 22(10), 24(3), 25(3) |
**Humerus** — Width distal condyles
*Whole bone C4 — Length 140, Proximal width 35, Distal width 26*

<table>
<thead>
<tr>
<th></th>
<th>Length</th>
<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>128</td>
<td>26</td>
<td>24</td>
<td>13</td>
</tr>
<tr>
<td>C4</td>
<td>142</td>
<td>28</td>
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</tr>
<tr>
<td></td>
<td>158</td>
<td>28</td>
<td>26</td>
<td>17</td>
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Proximal width*

<table>
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<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>20</td>
<td>23, 25</td>
<td>26(3), 27</td>
<td>28</td>
</tr>
<tr>
<td>C2-3</td>
<td>25, 26</td>
<td>28, 29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C4</td>
<td>28</td>
<td>2(2), 29</td>
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**Radius**

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<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>125</td>
<td>20</td>
<td>25</td>
<td>13</td>
</tr>
<tr>
<td>C2-3</td>
<td>122</td>
<td>-</td>
<td>18</td>
<td>10.5</td>
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<td>114</td>
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Proximal width*

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<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>18</td>
<td>19(4), 20(4)</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>C2-3</td>
<td>17, 20(4)</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C4</td>
<td>20</td>
<td>21, 23(3)</td>
<td></td>
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</tbody>
</table>

**Metacarpal**

<table>
<thead>
<tr>
<th>Whole bone</th>
<th>Length</th>
<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
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<td>205</td>
<td>-</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td></td>
<td>205</td>
<td>37</td>
<td>23</td>
<td></td>
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</tbody>
</table>

Distal width

<table>
<thead>
<tr>
<th></th>
<th>Length</th>
<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>21</td>
<td>22(2), 24(3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2-3</td>
<td>20, 21(2)</td>
<td>22(2), 23(3)</td>
<td>24(2), 25(2)</td>
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</tr>
<tr>
<td>C4</td>
<td>23</td>
<td>24(4), 25, 26</td>
<td>27</td>
<td></td>
</tr>
</tbody>
</table>

**Tibia**

<table>
<thead>
<tr>
<th>Whole bone</th>
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<th>Distal width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4</td>
<td>121</td>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>122</td>
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<td>18</td>
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<td>136</td>
<td>20</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>145</td>
<td>20</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>140</td>
<td>9*</td>
<td>24</td>
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</table>

**Femoral**

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>C2-3</td>
<td>121</td>
<td>16</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
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<td>122</td>
<td>16</td>
<td>18</td>
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<td></td>
<td>136</td>
<td>20</td>
<td>24</td>
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<td>145</td>
<td>20</td>
<td>23</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>140</td>
<td>9*</td>
<td>24</td>
<td>12</td>
</tr>
</tbody>
</table>

**Astragalus** — Maximum Length

<table>
<thead>
<tr>
<th></th>
<th>Length</th>
<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>23</td>
<td>24(2), 26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2-3</td>
<td>24(2)</td>
<td>26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C4</td>
<td>24</td>
<td>25(4), 26</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**1st phalanx** — Length

<table>
<thead>
<tr>
<th></th>
<th>Length</th>
<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>29, 30, 31, 32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2-3</td>
<td>30, 31, 32(2), 33, 34, 35(4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C4</td>
<td>34(3), 35(2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C4-5</td>
<td>34</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Scapula** — Proportions of neck (ratio glenoid — base of spine/minimum neck width)

<table>
<thead>
<tr>
<th></th>
<th>Proportions of neck</th>
<th>(ratio glenoid — base of spine/minimum neck width)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>0.88, 1.0(2), 1.63, 1.04, 1.06, 1.08, 1.09</td>
<td></td>
</tr>
<tr>
<td>C2-3</td>
<td>0.89, 1.0(2), 1.22, 1.23</td>
<td></td>
</tr>
<tr>
<td>C4</td>
<td>0.96, 1.0, 1.17</td>
<td></td>
</tr>
</tbody>
</table>
TABLE 8

Pig bone measurements

<table>
<thead>
<tr>
<th>Bone</th>
<th>Length/Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower 3rd Molar—— Length</td>
<td>C1 29, 32(3), 33(2), 34, 36</td>
</tr>
<tr>
<td></td>
<td>C2-3 28, 30, 32(2), 34, 36, 37</td>
</tr>
<tr>
<td></td>
<td>C4 32, 33, 34, 38(2)</td>
</tr>
<tr>
<td>C4-5</td>
<td>43</td>
</tr>
<tr>
<td>Scapula — Minimum neck width*</td>
<td>C1 20, 21(2), 23(3), 24</td>
</tr>
<tr>
<td></td>
<td>C2-3 19, 21, 22</td>
</tr>
<tr>
<td></td>
<td>C4 18, 22, 24</td>
</tr>
<tr>
<td>Radius — Proximal width*</td>
<td>C1 28</td>
</tr>
<tr>
<td></td>
<td>C2-3 21, 22, 26(2)</td>
</tr>
<tr>
<td></td>
<td>C4 29</td>
</tr>
<tr>
<td>Metacarpal — Length</td>
<td>C1 67(2)</td>
</tr>
<tr>
<td></td>
<td>C2-3 69, 72</td>
</tr>
<tr>
<td></td>
<td>C4 90</td>
</tr>
<tr>
<td></td>
<td>C4-5 80</td>
</tr>
<tr>
<td>Tibia — Distal width</td>
<td>C1 28(2)</td>
</tr>
<tr>
<td></td>
<td>C2-3 20, 29</td>
</tr>
<tr>
<td></td>
<td>C4 29</td>
</tr>
<tr>
<td>Astragalus — Length*</td>
<td>C1 33, 38</td>
</tr>
<tr>
<td></td>
<td>C4 39, 48</td>
</tr>
<tr>
<td>1st phalanx — Length</td>
<td>C1 33(2), 34</td>
</tr>
<tr>
<td></td>
<td>C2-3 34(2), 37(2)</td>
</tr>
</tbody>
</table>

(Figures underlined probably derive from wild boar)

TABLE 9

Measurements of bones of horse, dog and deer

a) Horse

<table>
<thead>
<tr>
<th>Bone</th>
<th>Date</th>
<th>Length</th>
<th>Proximal width</th>
<th>Distal width</th>
<th>Midshaft width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humerus</td>
<td>C1</td>
<td>280</td>
<td>90</td>
<td>75</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>C3</td>
<td>350</td>
<td>-</td>
<td>72</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td></td>
<td>313</td>
<td>69</td>
<td>63</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>C4</td>
<td>303</td>
<td>73</td>
<td>62</td>
<td>-</td>
</tr>
<tr>
<td>Radius</td>
<td>C1</td>
<td>390</td>
<td>74</td>
<td>69</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>C3</td>
<td>350</td>
<td>-</td>
<td>72</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td></td>
<td>313</td>
<td>69</td>
<td>63</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>C4</td>
<td>303</td>
<td>73</td>
<td>62</td>
<td>-</td>
</tr>
<tr>
<td>Metacarpal</td>
<td>C2</td>
<td>210</td>
<td>48</td>
<td>45</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>220</td>
<td>52</td>
<td>47</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>C3</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C4</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C5</td>
<td>55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tibia</td>
<td>C1</td>
<td>304</td>
<td>80</td>
<td>54</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>C4</td>
<td>316</td>
<td>-</td>
<td>67</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>57</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>Metatarsal</td>
<td>C1</td>
<td>243</td>
<td>43</td>
<td>41</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>C2</td>
<td>130</td>
<td>41</td>
<td>38</td>
<td>25? donkey</td>
</tr>
<tr>
<td></td>
<td>C3</td>
<td>46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st phalanx</td>
<td>C1</td>
<td>78</td>
<td>53</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C3</td>
<td>76</td>
<td>50</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

b) Dog Bone lengths. Only the century is given in brackets.
Upper carnassial tooth 21(2), 17, 18, 22(4)
Lower " 19, 23(2), 19, 21(3)

The following bones come from a single 3rd-century specimen.
Humerus 155, Radius 98, Femur 118, Tibia 110

c) Red Deer

Maximum length astragalus 56(2), 54(3)
The analysis shows progressive interest in birds as food from 1st to 4th centuries, with increase in both domestic and wild species. The domestic fowl remains are somewhat mixed, as is usual at Roman sites, with bones of a bantam and a medium-sized fowl, but the remaining bulk of fowl bones are of a usual small variety. Goose bones are rare, as is also usual, while domestic duck seems to be only sparingly present. Dove bones are difficult to assign into species but domestic birds cannot be ruled out. Stock dove may also be present, a wild species which nests in rocks, ruins and old trees.

Quite a number of small birds, thrush, blackbird, lark and robin would certainly have been eaten, and possibly the rook or crow and jackdaw. Quail and curlew are well-known game birds but mallard and teal would be valuable food too. Quail is a summer visitor to Britain, but curlew was probably taken in winter, when it frequents shores or mud banks of lakes and rivers.

Finally there are two interesting predators and scavengers which may have been destroyed to protect poultry chicks. These are the red kite and common buzzard, both of which probably nested in a nearby forest. Buzzard is of common occurrence at Roman sites, the kite less so. Agriculture, with crops, farm rubbish heaps and young poultry would attract the predators, also rooks, crows and jackdaws. Quail like to nest in corn fields while skylark likes open meadow or pasture. In short the bird life at Frocester Court was typical of a small Roman agricultural settlement as far as such a small series of bones can show.

<table>
<thead>
<tr>
<th>Century</th>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Fragments</th>
<th>Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>A</td>
<td>J</td>
</tr>
<tr>
<td>1st</td>
<td>Quail</td>
<td>Coturnix coturnix</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fowl</td>
<td>Gallus gallus</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rook or Crow</td>
<td>Corvus sp.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Totals</strong></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2nd</td>
<td>Rook or Crow</td>
<td>Corvus sp.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Totals</strong></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3rd</td>
<td>Duck, cf. domestic</td>
<td>Anas platyrhynchos</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teal</td>
<td>Anas crecca</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Red kite</td>
<td>Milvus milvus</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fowl</td>
<td>Gallus gallus</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Curlew</td>
<td>Numenius arquata</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skylark</td>
<td>Alauda arvensis</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mistle thrush</td>
<td>Turdus viscivorus</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Totals</strong></td>
<td></td>
<td>19</td>
<td>5</td>
</tr>
<tr>
<td>4th</td>
<td>Mallard</td>
<td>Anas platyrhynchos</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Duck, cf. domestic</td>
<td>Anas platyrhynchos</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teal</td>
<td>Anas crecca</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Goose, cf. domestic</td>
<td>Anser anser</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Common buzzard</td>
<td>Buteo buteo</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fowl</td>
<td>Gallus gallus</td>
<td>65</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Curlew</td>
<td>Numenius arquata</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dove sp.</td>
<td>Columba sp.</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Skylark</td>
<td>Alauda arvensis</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rook or Crow</td>
<td>Corvus sp.</td>
<td>7</td>
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</table>
### Analysis of Bird Bones

<table>
<thead>
<tr>
<th>Century</th>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Fragments</th>
<th>Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>A</td>
<td>J</td>
</tr>
<tr>
<td></td>
<td>Jackdaw</td>
<td><em>Corvus monedula</em></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Song thrush or Redwing</td>
<td><em>Turdus sp.</em></td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>cf. blackbird</td>
<td><em>Turdus merula</em></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Blackbird</td>
<td><em>Erithacus rubecula</em></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Robin</td>
<td></td>
<td><strong>Totals</strong></td>
<td>99</td>
</tr>
<tr>
<td></td>
<td>Total fragments and individuals</td>
<td></td>
<td><strong>122</strong></td>
<td>9</td>
</tr>
</tbody>
</table>

Note: A = adult    J = juvenile

All relevant material relating to both the First and Second Reports, including samples of construction materials, has been deposited at Gloucester City Museum.

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*June 1979*
a. Tanning pit showing plank impressions, nails and tunnel

b. Bovine horn core from the 4th century

PLATE IV  FROCESTER COURT ROMAN VILLA
a. Pig skull from the 1st century, female. The profile is straight, indicating a primitive domestic form

b. Pig skull from the 4th century. The profile is a little more concave than (a), and is therefore less primitive

PLATE V  FROCESTER COURT ROMAN VILLA
a. Frocester villa: beam-slot of 5th-century timber building

b. Frocester villa: fragment of polychrome mosaic bowl

c. Signet-ring from Cirencester

PLATE VI
Observations in Dyer Street and Market Place, Cirencester, in 1849, 1878 and 1974/5

By R.J. ZEEPVAT

Work began on a scheme to replace much of the main sewerage system in Cirencester in the summer of 1973. The first phase was completed in early summer 1974, including Victoria Road and Watermoor Road southwards towards Siddington. A second phase began in September 1974, to replace the section of sewer in Dyer Street and along the north side of the Market Place. Whilst some observations took place on the first phase, the second phase was considered to be of greater archaeological importance, as it passed through the centre of Cirencester, an area about which little is known, and in which excavation is never likely to be possible, barring major re-development of the town centre.

This report, therefore, is an attempt to piece together observations carried out by the author on behalf of Cirencester Excavation Committee between September 1974 and January 1975, in conjunction with information from two earlier public work schemes in the area. The first of these, in 1849, consisted of 'drainage works' in Dyer Street, from which were recovered the 'Hunting Dogs' and 'Four Seasons' mosaic pavements, now in the Corinium Museum.\(^1\) The second scheme was the installation of the main sewerage system in 1878-80, the replacement scheme for which is discussed in this report.

Some comment should be made about the format of this report. The buildings and features recorded during the work are described according to the insula in which they are situated, very nearly in the order in which they appeared on site. To avoid confusion, not every wall or feature is given a precise position with respect to modern buildings, as these become apparent from the plan (FIG. 1), although depths, widths, etc., of walls and floors are given wherever possible.

Thomas Bravender

For much of the archaeological information on Dyer Street and the Market Place we are indebted to Thomas Bravender, who was both agent to the Abbey Estate and Surveyor/Engineer to the Town Council at the time of the 1878 sewerage scheme. Bravender, who subsequently became a member of the Bristol and Gloucestershire Archaeological Society, recorded such features as were brought to his notice on two plans — one of Dyer Street, the other of New Road and Corin Street (Victoria Road and The Avenue) — which are now deposited in the Bingham Library, Cirencester. In addition, he wrote an article\(^2\) on the finds from the work, which, being all dug by hand, were more numerous than those from the present observation. These were subsequently deposited in the Corinium Museum, together with a brief catalogue.

The original plans were tracings of the 1875 Ordnance Survey 1:500 town plans on fine linen, and were annotated, presumably by Bravender himself, in longhand in red ink. The information


Cirencester.
Observations in Dyer Street and the Market Place,
1849, 1878, & 1974/5.

FIG 1.
from this source is surprisingly more precise than that contained in the article, which treats the finds very subjectively and in general terms. Where comments are given below in inverted commas on features, they are invariably those written by Bravender on his plans.

Observations

Work began in early September 1974 at a manhole on the existing system in the centre of the Dyer Street/Victoria Road junction. It passed almost immediately into a Roman street aligned NW/SE. This street proved to be that between Insulae XVI and XVII, and consisted of a series of street surfaces c.2 m. thick, resting on natural brown clay, and covered with c.0.5 m. of post-Roman road surface. The trench at this point was about 3 m. deep. Although the eastern edge appeared to have been removed by the insertion of the manhole and the sewer which continued up the Waterloo, the western edge was fixed, and the street appears to have been about 12 m. wide at this point. It is worth noting that this street can now be placed with certainty on the town plan, but in a slightly different position from that previously suggested, some 10 m. west, forming a staggered junction at the Fosse Way crossroad (at the end of Lewis Lane) with its southern continuation.

From the position of this street, the following 85 m. of trench cut into black soil, which appeared featureless, with the exception of some silty patches near the above road, and an increasing amount of rubble and mortar debris as the trench approached the centre of Insula XVII.

Insula XVII, Building 1 ‘The Dyer Street House’

The first structure it was expected to encounter was designated Building XVII, 1, (Fig. 2). A substantial proportion of this building, evidently a very rich town-house, was unearthed in 1849 ‘during the progress of making a sewer on the north side of Dyer Street’, including the ‘Hunting Dogs’ and ‘Four Seasons’ mosaics already mentioned, plus several plain tesselated pavements and those walls marked A - J on Fig. 2. Previously, in 1783, during the excavation for a cellar beneath what is now no. 50 Dyer Street, the mosaic known as the ‘Marine Pavement’ (no. 4) was discovered. In 1820, during a similar operation beneath the house opposite, no. 33, a pavement depicting Orpheus (no. 3) was exposed. As these pavements have been discussed at length elsewhere, further comment is unnecessary, except to point out that mosaics nos. 1-4 must almost certainly be assigned to Building XVII, 1.

Since 1849, at least one other mosaic has been uncovered, and should be associated with this building. In August 1972, observations during the construction of a supermarket on the site of the former Congregational Church revealed a fragmentary mosaic (no. 5), in the south-east corner of the site, fronting onto Dyer Street. With this evidence to hand, it was expected that the sewer trench would cut across walls E, B and D, passing diagonally through the room which had contained mosaic no. 2. However, the whole of this section of the trench, c.20 m. in length, cut through a mass of loose rubble, earth, clay and mortar fragments, suggesting that during the removal of the mosaics found in 1849 the building itself was damaged if not destroyed.

One item of interest recovered from this section was a column base of local limestone (Fig. 3). Although mutilated, this must have been originally a complete section of column, as both top and base were flat. It is very similar in size and design to another example in the garden of no. 33, Dyer Street, which was apparently recovered from the vicinity of the Building XVII, 1, in either 1849 or 1878. It also bears a marked resemblance to the example of a composite column base which formed

3. Antiquaries Journal, LIII, Part II, 1973, p. 193 fig. 1
5. Antiquaries Journal, LIII, Part II, 1973, p. 201 and 218; pl. XXXIII, b. See also A.D. McWhirr’s study of private houses in ‘Cirencester (Corinium); a civitas capital’ in The Roman West Country, 1976, pp. 81-98.
6. The 1974 find also remains at no. 33, Dyer Street.
one of the hypocaust pillars beneath mosaic no. 1.7

The first undisturbed feature encountered in the building (feature A) was located c. 3 m. north-west of the wall B, at a distance of c. 4 m. from the northern street frontage. This consisted of a mass of pink opus signinum in which were embedded a number of tegulae, mostly laid flat, although apparently mixed in at random with the binding mortar. The surviving part of this mass was 1.5 m. in depth and 1 m. wide, although the presence of the sewer trench and an adjacent parallel storm-water drain suggests that this presents only part of a much larger section of floor. As to its function, the 1849 plan records a 'pavement' to the north-west of mosaic no. 1, and a flue in wall B between the two pavements; the opus signinum may therefore represent the remains of a hypocaust beneath this pavement. From the 1878 trench, Bravender records in this area two 'strong stone walls between which and three feet below the surface is a common tessalated pavement, not figured'.

Presumably this was the same pavement, and it is unfortunate that no trace of it was found during the 1974-5 work.

The only other additions to this building consisted of four walls. One of these, N, aligned

7. Buckman & Newmarch, op. cit., pl. VIII.
north-west/south-east, 7 m. along the trench, standing c. 1 m. in height, 0.5 m. wide, and 1 m. below ground level, appeared to be a north-eastward continuation of the south-west wall of the room containing the 'Seasons' pavement. A second wall, M, also 0.5 m. wide, 1 m. high and 1 m. below the ground level ran parallel to this one just over 1.5 m. to the north-east. Two further walls, K and L, were encountered subsequently to the south-west of the former, aligned south-west/north-east, each one being about 0.5 m. wide, standing to 1.75 m. only 0.75 m. below ground level. Both were very well-mortared, and, being only just over 1 m. apart, presumably joined the first wall described at 10.8 and 12.6 m. respectively from the west corner of the 'Seasons' room, though both junctions would have been north-east of the trench. A very badly damaged mortar floor was noted to the south-east of the southern of these walls, at about 1.2 m. below ground level.

The trench then passed into a mixture of black earth and rubble for up to 11 m. before uncovering a wall running north-west/south-east. This wall consisted of 8 or 9 courses of fairly well cut limestone, well mortared, about 0.5 m. wide, about 1.2 m. below ground level.

No floors were noted in association with this wall, and on its west side the trench passed into clean brown clay, showing no signs of disturbance, over which was a thin layer — no more than 50 cms. — of black earth and rubble, overlain by 75 cms. of modern road surfaces.

This 'clean' stratification continued in the sides of the trench for up to 35 m. Increasing amounts of road silt were then encountered, building up to a depth of about 2 m. immediately before the north-east/south-west road was located. The only object of interest from this section came from the fill of the 1878 trench. This consisted of a block of limestone forming a rectangle c. 78 cm. × 56 cm. × 20 cm. deep, one corner of which was broken off. Into one face of this was cut a bowl-like depression 30 cm. in diameter and 7 cm. deep, with a channel, semi-circular in section, also 7 cm. deep and 10 cm. wide, leading off it diagonally across the face of the block. A similar depression and trough were noted on the broken section, the troughs apparently forming a junction in the centre of one side of the block. The date and function of such an object remains a mystery.  

At a point c. 8 m. from the south corner of Cirencester Garage, and 6 m. from the west corner of no. 15, Dyer Street, the eastern edge of Street XVII/XVIII was encountered. The upper street levels were only 0.5 m. below ground level, and there appeared to be at least 12-15 surfaces in the 2 m. deep accumulation of road layers. The trench passed through 17 m. length of road surfaces at this point, and bearing in mind that a junction was expected in the locality, and that the position of the north-east/south-west street had already been fixed in 1962 by excavation on the nearby Police Station site, the trench must have cut diagonally through the centre of the junction, giving the width of the north-west/south-east street as 8.5 m. and the north-east/south-west street as 12 m. as shown on the plan. North-west of the junction, the trench passed again into silt in Insula XXIII.

**Insula XXIII**

The first building in this insula, XXIII, 3 was encountered only 5 m. from the street junction. It was represented by four walls, which were notable for their very strong, well-mortared construction and their thickness, which was 1.2 to 1.3 m. All four were over 1.5 m. below ground level, but survived in section to a depth of nearly 2 m. No offsets were noted on any of the walls. The first was aligned north-east/south-west, running towards the north-west/south-east street. Its relationship to the street could not be determined, being well away from the trench, but unless it cut into the street it cannot have been much more than a large buttress. It was joined at right angles by the second wall, aligned north-west/south-east which was exposed by trench collapse for a length of nearly 5 m. where it formed a junction with the third wall, cutting north-east/south-west back across the line of the trench.

8. The circumstances of discovery prevented the object being retained, but a photographic record was made.
South of these three walls there were no surfaces noted, the fill being silt and loose rubble, though this may be due to collapse in the 1878 trench and subsequent rubble filling. However, north of the third wall, at a depth of 2.2 m. the trench passed through a deep pink/grey/black ash-like layer, which contained at least two tile hypocaust pillars, each 40 cms. high, composed of both tegulae and hypocaust tiles. Material from one of these pillars was recovered. Five metres north-west of the previous wall, the fourth wall of this building marked the north-west side of this hypocaust. At this point, Bravender records 'Two strong walls 5 ft. thick and 6 ft. below surface. Between the walls a common tesselated pavement not figured.' Presumably the pavement — of which there was no trace — had overlain this pillared hypocaust, which had become blocked with ash from heavy use or poor maintenance and had been missed by Bravender.

To the north-west of Building XXIII, 3, the trench passed once again into a 2 m. deep layer of rubble and black earth, c. 1.5 m. below ground level, which extended for up to 11 m. along the trench. The only feature (XXIII, A) of note in this space, which presumably lay between two buildings, was a culvert, running parallel with and 2.5 m. from the last mentioned wall, at a depth of 2 m. The culvert was constructed of drystone walls, c. 0.4 m. in height and 0.3 m. apart, with slab roof and floor. Because of its depth and alignment it is presumed to be Roman — possibly a sewer.

It was reported to be clear for at least 5 m. north-east from the point where it was cut by the trench, after which it was presumably cut by modern foundations.

Beyond the layer of rubble, the next building, XXIII, 4, was encountered. This was first represented by a north-east/south-west wall, 1.2 m. below ground level, consisting of 9 or 10 well-mortared courses, about 1.4 m. in depth, 50 cms. wide. About 3 m. north-west of this was a similar wall aligned north-west/south-east. Between these walls, at a depth of 1.6 m. below ground level, was a whitish mortar floor, with rubble make-up layer beneath. Only the one surface was visible. Just south of the trench, the second of these walls was seen to make a junction with a north-east/south-west wall, also c. 0.5 m. wide, 1.5 m. below ground level, surviving to a height of 1.2 m. which was subsequently cut by the trench. In this corner was seen the remains of a further mortar floor, c. 1.7 m. below ground level, with an earlier floor and make-up layer sealed beneath it and some 3 m. along the trench a fourth wall was encountered. This was aligned north-east/south-west. c. 1.7 m. below ground level, and was 50 cms. wide and survived to c. 1 m. in height. Between this and the previous wall was a third mortar floor, about 1.8 m. below ground level. Between the higher layers of this and the last building and the modern road surfaces was a layer of black soil about 0.5 m. thick, the modern surfaces being c. 1 m. in thickness.

Beyond Building XXIII, 4, the trench passed first through a layer of building debris — probably a destruction layer associated with that building — then into a layer of black earth 2 m. deep which extended for 60 m. into the Market Place. The only feature of note in this section (XXIII, B) was a well, 9 m. from the south corner, and 10 m. from the west corner of no. 37, Market Place. This well was stone lined, 1.5 m. in internal diameter. Up to 3 m. below ground level it was filled with rubbish — the top, c. 0.75 m. below ground level, was covered by slabs, and the depth was unobtainable owing to the presence of the rubbish. Unfortunately no positive dating evidence was obtainable, as the rubbish fill consisted largely of stone rubble.

The black earth previously encountered began to show signs of disturbance towards the west corner of Messrs. Boulton's, in the form of an increasing amount of building rubble. During the installation of a sewer connection at this point, a plain pavement (XXIII, C) of large white tesserae, set in white mortar on a rubble foundation was uncovered at a depth of 2 m. The full extent of the pavement was impossible to ascertain, as extensive disturbance near the modern buildings and wall robbing — probably post-Roman — had removed any associated walls.

Just north-west of this pavement, a series of walls were encountered (XXIII, D) running parallel with the trench for up to 10 m. at a depth of c. 1 m. surviving to a height of about 9 or
10 courses (about 1 m.). From a plan of the town dated 1795,\(^{10}\) it appears that these represented the north-east walls of a block of buildings situated at the east end of the Market Place until 1825-30. The construction of these buildings had, because of their depth, removed any Roman layers which may have existed on this section. Opposite the east corner of these buildings, a second well (XXIII, E) was found, presumably the one noted by Bravender as a 'perfect Roman well, the bottom of which is 15 ft. below the surface. The lower 7 ft. is in good condition and covered with a stone, and about 5 ft. of water in it'. Certainly, this well, unlike that described above, had been disturbed previously, and conformed with the dimensions given.

This second well was probably, if Roman, part of Building XXIII, 5, the last building encountered in this insula. Unfortunately, this structure is represented only by the pavement and well described above and a wall, 15 m. north-west of the well, aligned north-east/south-west. This wall, which had been badly damaged by robbing, was c. 0.5 m. wide, but had been removed to a depth of 2 m. below ground level and only survived to 0.4 m. in height.

North of Building XXIII, 5, was a series of packed gravel and stone surfaces, at a depth of c. 1.8 m. extending for 15 m. north-westwards in the trench. This section may be taken to be an oblique cut across the street separating Insulae XXIII and XXVI, a street which has hitherto been only conjectural in its placing on the town plan. It does not appear to have been heavily used, as it is represented at this point by only 1.3 m. depth of surfaces, all fairly lightly constructed, in contrast with the other streets described in this report.

**Insula XXVI**

Passing through the north side of this street, the trench then entered Insula XXVI for a length of c. 25 m. Much of the stratification in this area consisted of a great depth of road silt — some 2 m. minimum over the whole area. Only one structure was encountered, XXVI, 2, which was represented by a junction of two walls 6 m. south-east of the south-east corner of the church porch. Both walls were very fragmentary, and were 2 m. below ground level, 0.5 m. wide, and surviving to a height of 1.2 m. No associated floor surfaces were noted, nor any walls connected with these, but the surrounding area was much disturbed by the 1878 sewer trench and earlier pits, presumably medieval.

Much of the Roman levels in Insulae XXVI and XXVII were disturbed by a series of cellars (XXVI, A) encountered in the sewer trench running westwards from the church porch almost to the end of West Market Place. These formed part of the parallel rows of shops and houses situated at the western end of the Market Place until their demolition in 1825-30.\(^{11}\)

One of the most striking features uncovered during this work was a section through Ermin Street, which crossed the Market Place in a south-easterly direction c. 16 m. from XXVI, 2. Although both eastern and western sides of the street had been removed by the insertion of cellars, the position of the street is already well-known, and can now be fixed on the plan with more accuracy.

In section, Ermin Street was represented by at least a 3 m. depth of accumulated road surfaces, extending almost from ground level (covered only by 0.2 m. of modern surfaces) to within 1.5 m. of the trench floor, which by this point had cut well into natural gravel.

**Insula XXVII**

Passing from Ermin Street into Insula XXVII, the next building, XXVII, 1, was encountered c. 5.5 m. west of the presumed western edge of the street. This building was badly damaged by the foundations and cellars already mentioned and was represented only by two massive wall footings

10. Copied with permission from an original in the Gloucestershire Record Office, Gloucester.
joining at right angles 8 m. south-east of the south-east corner of no. 3, Market Place. These footings consisted of rubble set in orange mortar, and were about 1 m. wide, 1.5 m. in depth, and 2 m. below ground level. Any associated floor surfaces as with the walls, appear to have been removed by the post-Roman foundations.

Beyond this building the trench, now over 5 m. deep, passed into apparently undisturbed black soil, which underlay the modern road surfaces to a depth of 3.2 m. below ground level, below which was about 0.8 m. of natural brown clay sealing the natural gravel. No further walls or features were noted in this final stretch of trench, which ended at an existing manhole at the extreme western end of the Market Place.

Conclusion
From these observations it becomes apparent that much new information has been gained, as well as some degree of clarification of our existing knowledge of Corinium. Firstly, in terms of the latter, we have been able to place accurately the features noted somewhat vaguely in the 1878 trenches, and to comment on their nature more precisely, as well as adding some associated features which escaped Bravender’s notice. With respect to new information, four new buildings have been noted, and, probably more important, several streets in the northern part of Corinium have been placed with some accuracy. It should be noted here that, prior to these observations, streets XVI/XVII, and XVII/XVIII were shown as direct continuations of their counterparts south of the Fosse Way, but can now be seen to be both c. 10 m. west of their conjectured position. Likewise, street XXIII/XXVI, which was previously not located elsewhere, has been established on a line south of that suggested for it.

Even the long stretches of trench that have proved barren of features have been fruitful in terms of information, if only in a negative sense, as they demonstrate that in Insulae XVII and XXIII the extent of development was not so great as to cover the entire insula. It has long been the writer’s belief that observations on any urban site, however fruitless they may seem at times, will always justify the time spent in terms of new information, especially in a case such as this, where controlled excavation on any scale is a possibility so remote as to be hardly worth contemplating.

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