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Clear Cupboard Villa, Farmington

by P. E. Gascoigne
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By P. E. GASCOIGNE

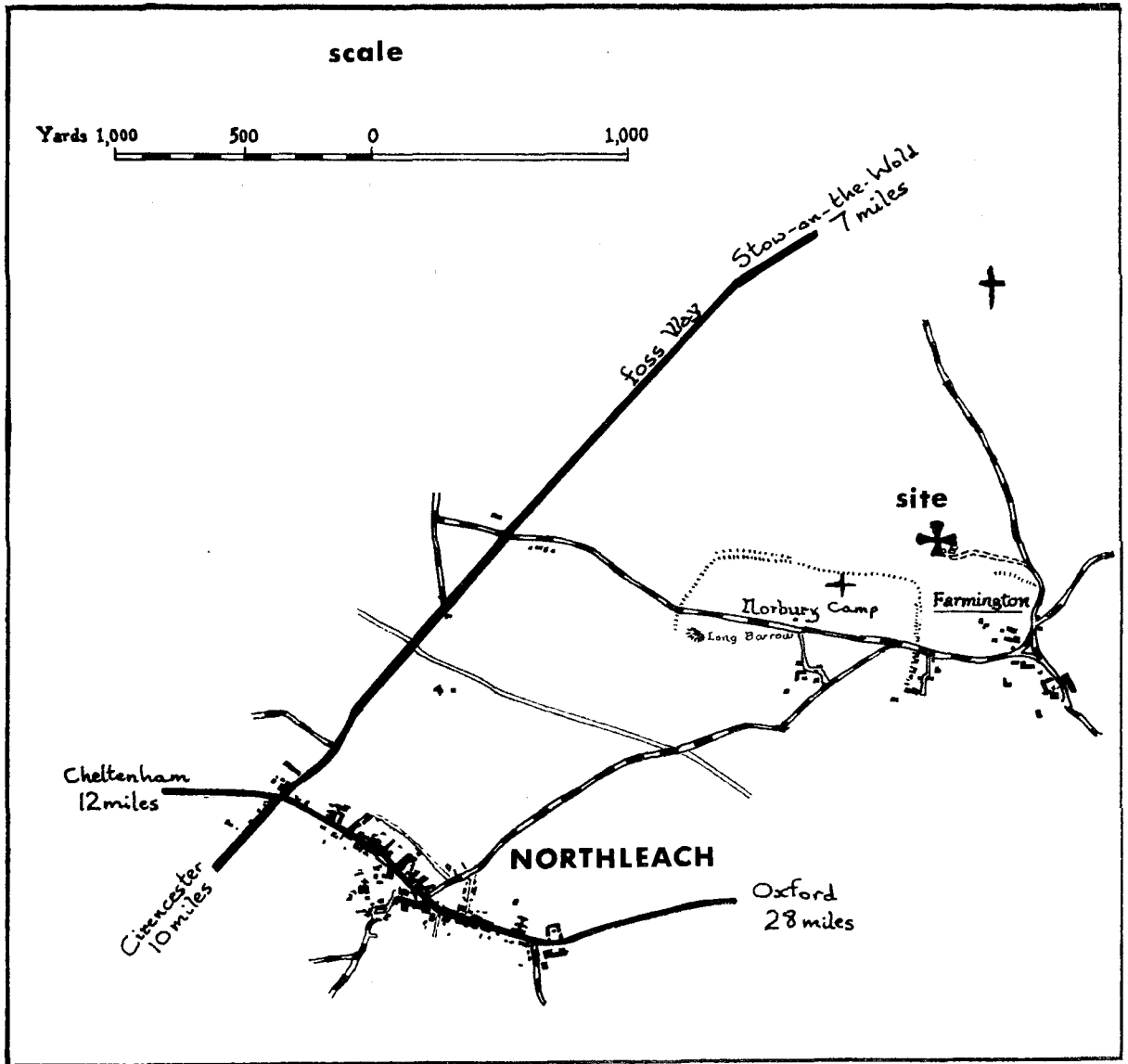
THIS is a first report on the excavation of a 4th century Romano-British villa site at Farmington, Gloucestershire. The excavation to date has been confined to the house proper, with attached barn building. The site had been occupied, on the evidence of the coins, from the first quarter to about the middle of the second half of the 4th century. The site produced no evidence of occupation before or after this period until modern times.

The plan of a fairly simple, compact winged corridor house was recovered. Aspiration to a more sophisticated mode of habitation had been sought, although within a limited purse, by the insertion of a channelled hypocaust and bath suite.

Acknowledgments

Grateful thanks are due to the late Lt.-Col. R. C. Barrow for his permission to excavate and his interest throughout in the work. Thanks are also due to the following: Mrs. H. E. O'Neil, for her unfailing help and encouragement, for the drawing of pottery and reading the report; Professor S. S. Frere for reading and commenting so helpfully on the report; Mr. John Miller, for the drawing of the plan; Mrs. Stroma Lennox, for drawing the finds; Mr. David Beard, for photography and his consistent help with the excavation; Mr. David Burge, for the work on the coins; Miss Dorothy Charlesworth, Mr. R. D. Beckinsale, Mr. John Houlton, Mr. Tim Lees and Mr. R. P. Woods for their specialist reports; Mr. Geoffrey Halliwell, for reading the report at each stage; D. Beach, M. Bryant, R. Butt, G. Daniels, Mr. & Mrs. H. Fraser, Shauna and Symon Fraser, Mr. & Mrs. G. Lennox, Mr. & Mrs. J. Miller, Miss Jane Ridley, Mr. P. Stagg, senior girls of Pate's Grammar School and Mr. R. Lawson and boys of Cheltenham College, all having helped at some time with the excavation; to my wife, last but not least, for her help throughout with the excavation, for the drawing of pottery and for typing this report.

CLEAR CUPBOARD VILLA, FARMINGTON



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Fig. 1. Location map

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The existence of a Romano-British occupation site close to where he lives was first suspected by the writer in the Spring of 1964 (see location map, FIG. 1). At that time deep mechanical cultivation was being attempted on part of a field. This attempted deep cultivation produced a light scatter of coarse Romano-British pottery sherds, roofing slabs, a quantity of walling stone and two fragments of hypocaust flue tile.

The summer months of that year were spent in examining and eliminating all likely ground from which this scatter could have originated, without broaching into growing crops. With the arrival of autumn and harvest it had been decided where a building was most likely to be. Permission from the landowner, Lt.-Col. R. C. Barrow, was given for a trial trench to be cut and so, whilst harvesting of the field was still in progress, there was exposed under a mere six inches of soil the top of a substantially constructed wall.

Documentary Evidence

G. B. Witts¹ in his description of Norbury Camp no. 1 states: 'Towards the west end of the enclosure there is a long barrow, and on the outside stands a round barrow. To the east are the remains of a Roman villa (see Farmington Villa).' He fails to list 'Farmington Villa' either under his section on Villas, or to indicate it on the map accompanying the handbook. However, there is no doubt that Witts was referring to a villa within Norbury Camp (see location map) which the writer re-discovered in July, 1967.²

A Mr. W. G. Hewer of Haselton, Gloucestershire, makes mention in a letter dated 21st September, 1891 of a 'Farmington Roman Villa' indicating a site which neither ties in on the ground with Witts' site nor with the site being discussed.

The old field names of the site are unknown, this portion of Farmington Estate at one time being lost through a wager, and the deeds never recovered.

Topography and Geology of the Site (N.G. Ref: SP133158)

The site occupies the more level ground on the top of a shoulder or spur which rises from the south side of a valley generally orientated east to west. The spur protrudes in a northerly direction across what is now the dry floor of the valley.

¹ *Archaeological Handbook of Gloucestershire*, p. 37.

² *Trans. BGAS*, 87, p. 205.

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The site is at 500 ft. O.D. There is a fall away to the valley floor of about 60 ft. The south side of the valley rises above the site for another 100 ft. This rise of ground is at first quite gentle (PLATE Ia). It was found that buildings on the site had been arranged across the width of the spur to face this rise of ground, giving them a due south aspect. Drainage of both water and frost off the spur is of course good.

The spur, in common with the rest of the valley up to about the 500 ft. contour, is on Inferior Oolite. At about this elevation on both sides of the valley there is a geological change to fuller's earth of variable depth, the levels above this being the Greater Oolite series. A spring line occurs on the valley sides where the Greater Oolite and fuller's earth merge. This happens, as far as the site is concerned, on the rising ground to the front and was utilised for the domestic water supply, discussed below. If it were not for this happy occurrence deep wells would have been needed.

The top of the spur was covered with between nine and twelve inches of soil overlying limestone brash. Quarrying of the limestone within the parish has long been a small local industry, still functioning today. A bed of stone from which the 'present'³ type of roofing slabs was won has been worked within living memory some four miles distant. Tufa is still being laid down where a spring rises in a small wood less than half a mile away from the spur. Gravel for mortar could have come from the Sherborne beds, some three miles distant.

Wood could not have been plentiful, the greater part of the immediate district being a Dry Grass Community.⁴ Only the lower valley slopes and valley bottoms could have carried any quantity of tree cover.⁵ This would have been mostly ash, willow, hazel, birch, thorn/elder thickets and possibly some beech.⁶

THE EXCAVATION

As mentioned above the site was covered with only a few inches

³ 'Presents' are a stratum which do not need weathering before use.

⁴ Suggested absence of tree cover on the 'high wolds' supported by Mrs. H. E. O'Neil in her report on Sales Lot Barrow, *Trans. BGAS*, 1966, p. 11.

⁵ As evidence of local population density in the Roman period accumulates—the writer has found four R.B. occupation sites in the nine years he has lived on the Cotswolds—one wonders if any system of wood conservation was practised locally, e.g. a system of coppicing for ash and hazel? The limited amount of ground which could have carried forest suggests that wood must have been a fairly valuable commodity.

⁶ The charcoal analyses support that all these species apart from beech were present.

of top soil, the walls in places almost outcropping. This part of the field had only been brought into annual ploughing in 1960 but it was estate policy that this regime should continue.⁷ Destruction of the site by cultivation in these last few years had been considerable. The very situation of the site contributed greatly to its rate of destruction by erosion of the soil from the top of the spur down the sides at times of ploughing.

In view of this accelerated rate of destruction and in the knowledge that it would continue, a decision was taken with the encouragement of the landowner to excavate the site immediately.

Work was commenced in the autumn of 1964 and continued throughout 1965, 1966 and was completed November, 1967. The site was covered over and little excavation done during the winters of 1964/65 and 65/66.

Although the excavation was to some degree in the nature of a rescue 'dig,' the method of excavation employed was horizontal stripping, initially leaving temporary baulks for access to the working areas and for the removal of spoil. This gave a grid effect in the early stages. The first six inches of soil was removed with spades, excavation below this level being done with trowel and brush. Mechanical equipment was only used to remove the overburden along the length of drain running from the plunge bath and for back filling. There was virtually a total absence of stratification due to the shallow depth of overburden, the short duration of occupation and disturbance by deep ploughing. Only in the western interior of the main building were horizons in the soil profile discernible (FIG. 2).

The work was done without external financial assistance and labour was limited. The finds and the original drawing of the ground plan have been deposited with the City Museum, Gloucester.

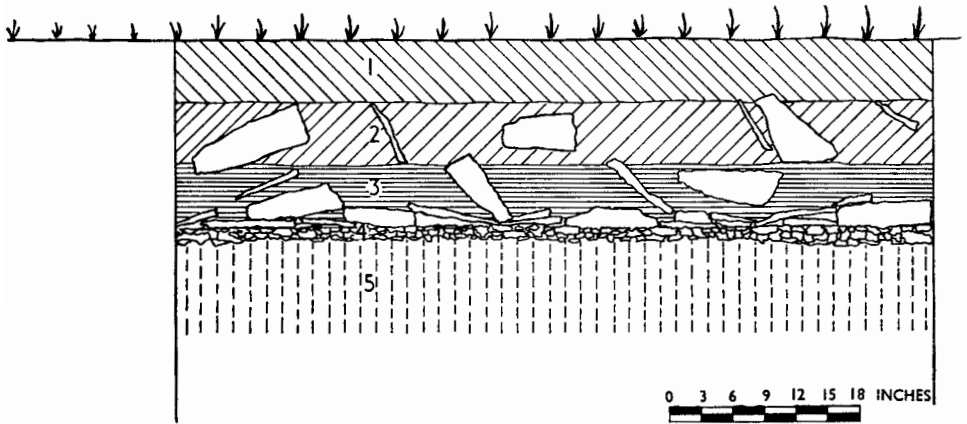
Period I

THE VILLA

The earliest building on the site 92 ft. long and 31 ft. 6 ins. wide, hereafter referred to as the main building, was centrally situated on the spur. The external walls had been built as a whole. Where other constructional stages met with this building the walls were butt jointed against it.

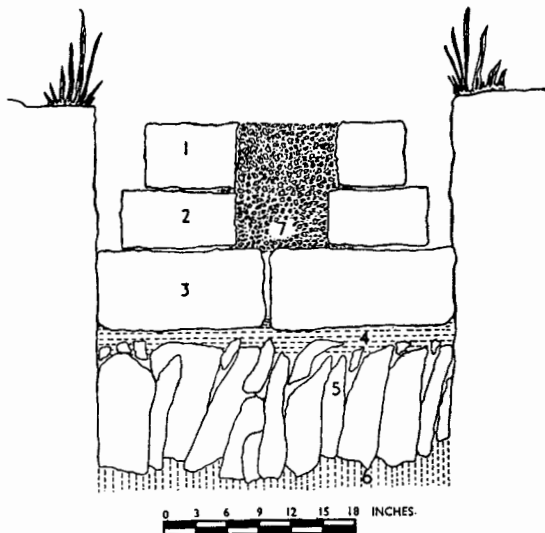
⁷ Prior to this, ploughing seems to have been intermittent and light with horse-drawn ploughs, this corner of the field having been used as a stock or at times rickyard, certainly for most of this century.

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- | | |
|---|---|
| 1. Black humus with small stones. | 3. Darker soil, gravel, small stones, roofing slabs (mostly broken) and walling stones. |
| 2. Dark brown soil with gravel, small stones, some walling stones and fragments of roofing slabs. | 4. Rammed stone floor. |
| | 5. Limestone brash. |

Fig. 2. Cross section, western interior



- | | |
|-----------------------|-------------------------------------|
| 1. Wall width | 5. Random pitched stone. |
| 2. Off-set course. | 6. Limestone bed. |
| 3. Foundation course. | 7. Mortar and small rubble in-fill. |
| 4. Mortar. | |

Fig. 3. Main building, cross section showing construction of exterior walls

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Period II

The villa now comprised the main building with wings and corridor, possibly with a building against the rear wall of the main building. The symmetry of the villa construction up to this period was striking, all walls being straight, all angles right angles, one wing identical with the other and the main doorway sited centrally on the frontage.

Period III

During this period the bath suite was inserted into the main building and the cold plunge, Room XIV, built against the north wall. The west wing, Room VI, was re-built and a partition wall inserted in the corridor to make Room VII. Against the east end of the main building Room IV, the barn area, was added.

Period IV

This was the final phase of development and saw the building of Room V against the west wall of the re-built west wing.

Wall Construction

The external walls of the main building were constructed by cutting a straight sided trench no greater than the width required through the top soil and loose brash to a firm bottom. Into this were placed thinnish stones packed tight together on edge for greater load-bearing strength. A covering of mortar levelled this random pitching to receive the first course of masonry, large roughly dressed slabs. The second course of smaller better dressed stones was set back and the third course stepped back a similar distance to give the width at which the wall was to be carried up (FIG. 3). The wall stones of local Jurassic limestone had their exposed faces squared, the other sides being left irregular and tailed back into the core of the wall. The masonry courses were carefully laid in a good mortar, each course, apart from the first, being about 6 ins. deep. The wall cavity was filled with stone rubble, bonded with mortar.

The external walls of the wings and corridor were of comparable construction, the masonry courses looking very similar, the difference being that they were of lighter build. The foundation trench was shallower, only deep enough to take the pitching which itself was of smaller stones and only the foundation course had been stepped out.

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The thickness of these walls was 1 ft. 8 ins. compared to 2 ft. 1 ins. of the main building.

The walls of the later additions and alterations were inferior, sometimes without a pitched foundation course or stepping, of poorer masonry courses, more stone rubble and less mortar in the wall cavity. There was a tendency for the wall widths to be less except for Room IV, which in all other respects was of shoddy construction, and two of the walls of Room V which the writer considers served an additional purpose.

This lower standard of building combined with an analysis of the mortar helped in deciding the chronological order of the development of the villa.

The internal partitioning masonry walls were of lighter construction without any special foundation course. The width of the bottom course seems to have been carried up. These walls were straight jointed to the external walls.

Roofing

The roofs had been clad with hexagonal stone slabs held in position by square-shanked iron nails. The roof-ridges were covered with tapered ridging stones whose wide end overlapped the narrow end of the neighbouring stone.

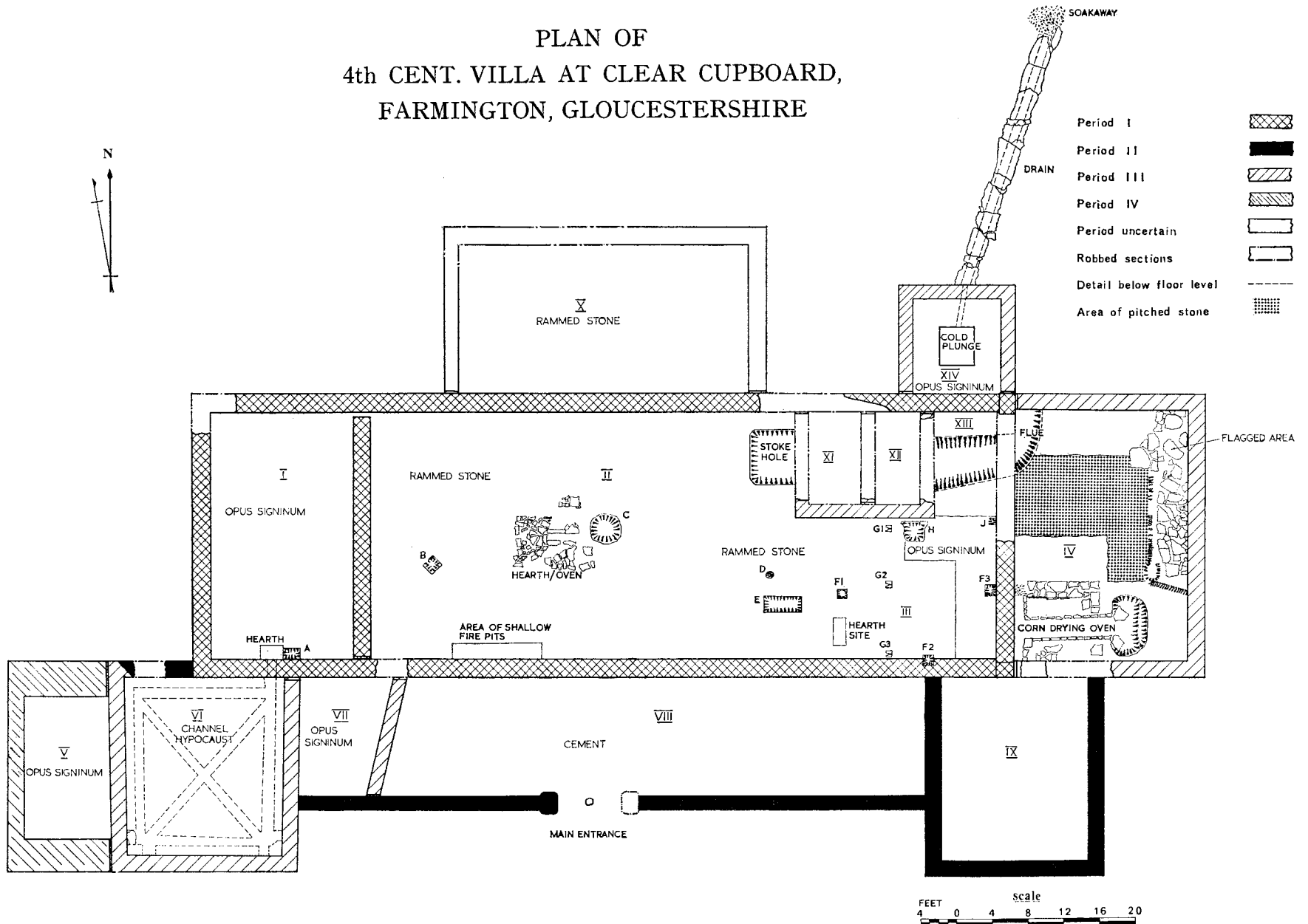
Lighting

A few fragments of window glass found along the front of the main building provided grounds for inferring the provision of glazed windows.

Main Building—Room I

Interior measurements 27 ft. 6 ins. — 15 ft. 10 ins. The floor of *opus signinum* was laid over the clean natural limestone brash. Against the south wall lay a hearth 2 ft. 6 ins. by 1 ft. 7 ins. with associated ash-pit 2 ft. 0 ins. by 1 ft. 3 ins. by 10 ins. deep which was found to be full of wood ash when excavated. A channel from the back of the hearth led through the main wall to the hypocaust channels in Room VI (PLATE 1b). Walls of this room had been rendered with painted wall plaster. Quarter-round plaster moulding was found at the junction of wall and floor in the south-west corner of the room.

PLAN OF
4th CENT. VILLA AT CLEAR CUPBOARD,
FARMINGTON, GLOUCESTERSHIRE



Room II

This room had accounted for the remainder of the interior of the main building until at a later date the bath suite was inserted at the east end. The floor, excluding the bulk of the bath suite, was of rammed limestone laid and compacted straight on to a cleaned brash level, giving a reasonable surface. The dominant feature of this room had been a hearth or oven on the long axis of the room and 16 ft. from the dividing wall with Room I. In front of the oven was a shallow ash pit c. 6 ft. 6 ins. in diameter, (C) on plan. Against the south wall was an area of shallow fire pits and close to this wall at the east end of the building was a smaller hearth site. Pits B and E on site plan produced no evidence to suggest their use. Limestone brash in pit B was stained orange-red, not caused by burning. There is some doubt as to whether pit E was actually contemporary with the building, although orientated parallel with the south wall. D on plan is a shallow post-hole, 1 ft. in diameter. Post-hole F1 will be discussed with the bath suite area. Animal bones and pottery sherds were distributed over most of the interior with the scatter very concentrated round the oven area. Immediately to the east of this oven were found antlers of a red deer and the iron knife listed. This undoubtedly had been the kitchen of the villa but perhaps the hearth at the east end should be more correctly ascribed to a workshop. Here were found the mica schist, sharpening stone and worked horn tool (see small finds). There was also a notable scarcity of animal bones and pottery sherds from this area.

Room III

To be discussed below as part of bath suite.

West Wing—Room VI

Originally complimentary to the east wing Room IX, Room VI was later demolished and re-built to dimensions shown on site plan. This re-building had probably been undertaken in order to equip the room with a channelled hypocaust system (PLATE 1b). The subsequent re-build was inferior to the original. We had noted that the verandah was divided unequally by the main doorway to the villa and that the walls of Room VI were of inferior, apparently later, construction, and we therefore sought evidence of an earlier version of the wing. By excavation the foundation trench of the suspected earlier room was found, being of a width of 2 ft. and dug 5 ins. deeper into the limestone brash than the foundations of the re-build.

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All masonry had been removed but there was a 2 in. layer of mortar at the bottom of the trench. These early foundations made a room identical to the east wing Room IX, both in respect of dimensions and positioning against the main building. At the time of excavation this re-build wing had been reduced by cultivation to sub-floor level. No evidence was found to indicate what the flooring had been, although two broken flanged stones were found in the hypocaust channels. The east and west walls of the re-build of Period III closed slightly as they projected towards the wall flues at the south-east and south-west corners, narrowing the room from 18 ft. to 17 ft. 3 ins. The periphery channels had been edged on both sides, i.e., the walls of the room had not been used to form the outside edge of the channels. The interior triangular areas had been built up of nodules of rammed local stone edged with rough dry stones mostly laid flat, though in places thinner pitched stones had been used. Later one of the wall flues in the south-west corner, the flue in the west wall, had been blocked off, no doubt when Room V was built against this wall. The shallow channels of this room were found to be filled principally with decomposed painted wall plaster. No great quantity of charcoal was found, although flecks were found along their entire lengths concentrated towards the heat source.

Room VII

Formed by the insertion of a light, angled, masonry partitioning wall across the verandah, this room had had a good cement floor and the single course of remaining masonry still had painted wall plaster adhering.

It was found by experiment during the course of the excavation that the greater part of this room, when it was open verandah, would have fallen rapidly into shade after mid-day. This may well account for a wall being inserted at such an angle giving a peculiar room shape, on a site where straight walls and right-angles were the norm. By inserting the wall at this angle the bulk of that area which would have fallen rapidly into shade was included in the room and the maximum of sunlit verandah excluded. Further, if the wall had been inserted at right angles it would have created a new area of rapid shading on the verandah.

Corridor—Room VIII

Originally 72 ft. long with an internal breadth of 13 ft. This, together with the east wing and original west wing, had been the

next stage of building immediately after the construction of the main building. The walls were carried up at a width of 1 ft. 7 ins., having dug foundations with pitched stone below the masonry courses. There was a sub-floor of limestone brash over which had been laid cement. The eastern half of the corridor had been extensively destroyed by ploughing, walls at this end being reduced to pitched stone foundation and the floor totally destroyed. Originally the main doorway to the villa had been 4 ft. wide and centrally situated. In the course of later alterations the width of the door-way had been increased to 7 ft. At the western end 2 ft. of the corridor wall had been removed when the size of Room VI had been increased.

East Wing—Room IX

Contemporary with the verandah, having a similar wall construction but walls carried up at a width of 1 ft. 9 ins. to 1 ft. 10 ins. Internal measurements for this room were 20 ft. 3 ins. × 16 ft. 3 ins. When found it had been reduced to foundation level. No evidence survives to indicate the nature of the flooring. It may be that this room was demolished at some time prior to the abandonment of the site.

Bath Suite

Comprised Rooms III, XI, XII, XIII and XIV.

The bath complex, apart from one room containing a sunken cold plunge, had been inserted into the east end of the main building probably at the height of the villa's prosperity about the middle of the 4th century. The workmanship tended to be inferior to that of the earlier period and the masonry walls were of a lighter build.

Rooms XI and XII

These had walls 1 ft. 4 ins. wide and measured internally 10 ft. 3 ins. × 6 ft. 9 ins. and 10 ft. 3 ins. × 5 ft. 0 ins. respectively. Their cross walls probably butted against the north wall of the main building.⁸

Room XIII

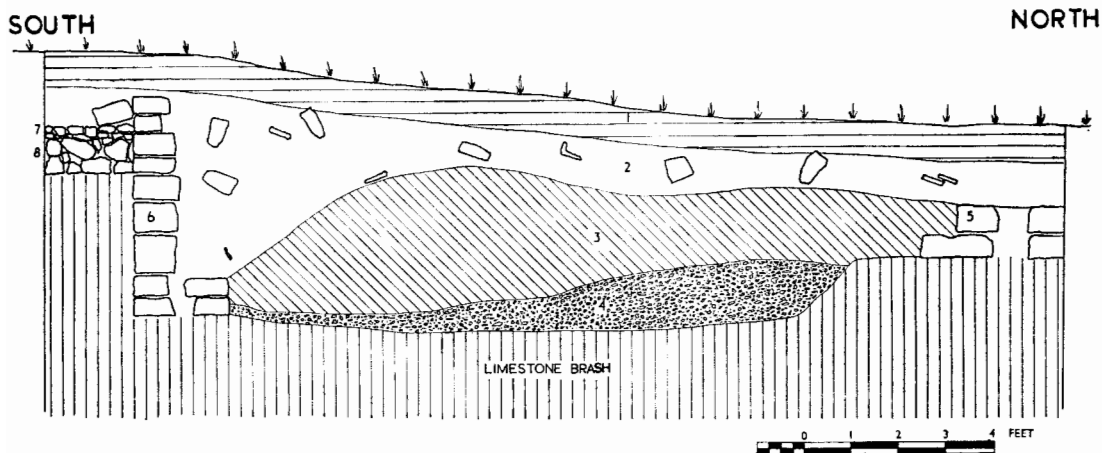
Internal measurement 10 ft. 3 ins. × 6 ft. 9 ins. It appears to have had a wood partitioning wall on its south side, suggested by

⁸ The east wall of Room XII certainly did. The jointing of the other walls is in doubt because of robbing at this point to the north wall of the main building.

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post hole 'J' together with the absence of masonry. There was no indication of the south wall of Room XII continuing on this side.

The stoke-hole had been sited at the west end of the bath suite, the sub-floors of these rooms being on a level with the bottom of the stoke-hole at the west end but rising slightly towards the east end.



1. Black humus with small stones.
2. Dark gravelly soil with stone rubble, scattered fragments of flue tiles and tufa.
3. Light brown, very gravelly with perished wall plaster and cement, fragments of flue tiles and tufa.
4. Similar to 3 but with limestone brash rubble.
5. North wall of main building.
6. South wall of bath suite.
7. Rammed stone floor.
8. Sub floor.

N.B. Note hard shoulder bordering north wall of main building.

Fig. 4. Bath suite, cross section, extreme east end of Room XII

The cavity for the hypocaust had not been dug right up to the north wall (FIG. 4); instead a hard shoulder of brash had been left to support it. This reinforces the evidence of the butt joint, that the hypocaust was an afterthought, and the hard shoulder saved underpinning the original north wall. The robbing of the north wall in Rooms XI and XII had destroyed the hard shoulder in these rooms. On the opposite side, however, the south walls of Rooms XI and XII were built against the face of the excavated cavity.

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All these rooms had been extensively robbed.⁹ However, the quantity of broken box flue tiles (three fragments bearing the maker's stamp, VLA,—see *The Finds, Clay*¹⁰), charcoal particularly near the stoke-hole and at the wall bases, and the layout of these rooms would suggest that Room XI had been the caldarium, XII the tepidarium and XIII the frigidarium.

Included in the rubble infill of these rooms were painted wall plaster, fragments of *opus signinum* and tufa, some of the tufa being of a voussoir shape suggesting barrel vaulting, or at least arching. In the north-east corner of Room XIII a considerable quantity of *opus signinum* was still adhering to the second masonry course of the wall of the main building, supported in position by the offset of the foundation course of this wall, which may well have been the vestigial remains of the flooring.

Room III

This room is included in the bath suite complex, having a 4 ft. 3 ins. cement surround on the north and east sides, no doubt for the access of bathers from corridor or wing to the bath suite, screened from the interior of the main building along the line of post-holes G1, G2 and G3. These post-holes were about 8 ins. square, each contained two thinnish stones shaped in such a fashion as to socket the pointed butts of supports for a light wood screen or partition.

A further feature of this room was a fairly shallow clean excavation (H) into the limestone brash, the possible purpose of which is discussed below under Reconstruction.

The remaining features were post-holes F2 and F3,¹¹ each centred 7 ft. 6 ins. precisely from the south-east corner of the room. The possible purpose for these post-holes is discussed below, under Reconstruction.

Cold Plunge—Room XIV

Completing the bath suite, a small room measuring 10 ft. 6 ins. × 9 ft. 9 ins. internally with walls 1 ft. 7 ins. wide had been added to the

⁹ The freshness of the debris suggested deliberate demolition rather than slow decay, as at Llantwit Major (Bath block, *Arch. Camb.*, Vol. CII).

¹⁰ Two other known tile stamps of this manufacture are a broken fragment from Compton Grove villa (Mrs. E. M. Clifford, 1931), now in the Cheltenham Museum, and a complete example from Sales Lot Long Barrow, (Mrs. H. E. O'Neil, 1963) *JRS LIV* (1964) 183, No. 28.

¹¹ Also post-hole F1 in Room II is felt to belong to this series.

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north wall of the main building. This room had been floored with *opus signinum* and the walls rendered with painted plaster. Centrally situated in the floor was a sunken cold plunge measuring 3 ft. 9 ins. × 4 ft. 3 ins. and 2 ft. 5 ins. deep. Steps, which had been robbed, had originally led down from the south side (PLATE IIa). The sides of the bath were lined with a red water-proofing cement. The cold plunge had been floored with patterned red tiles, fragments of which were found in situ at the edges.¹²

Provision had been made for overflow from the cold plunge but the main outlet (PLATE IIb) had been a cemented conduit of 3 ins. bore, emptying through the north wall into a drain. This buried drain had been dug out on to the shoulder of the spur for a distance of 29 ft., there terminating in a soak-away. The drain appeared to have remained undisturbed since its construction and was found to be completely silted up along its length. The sides were formed by large upright stones and roofed with large, rough, irregularly shaped flattish stones, the joints being sealed with roofing slab fragments.

Barn Area—Room IV

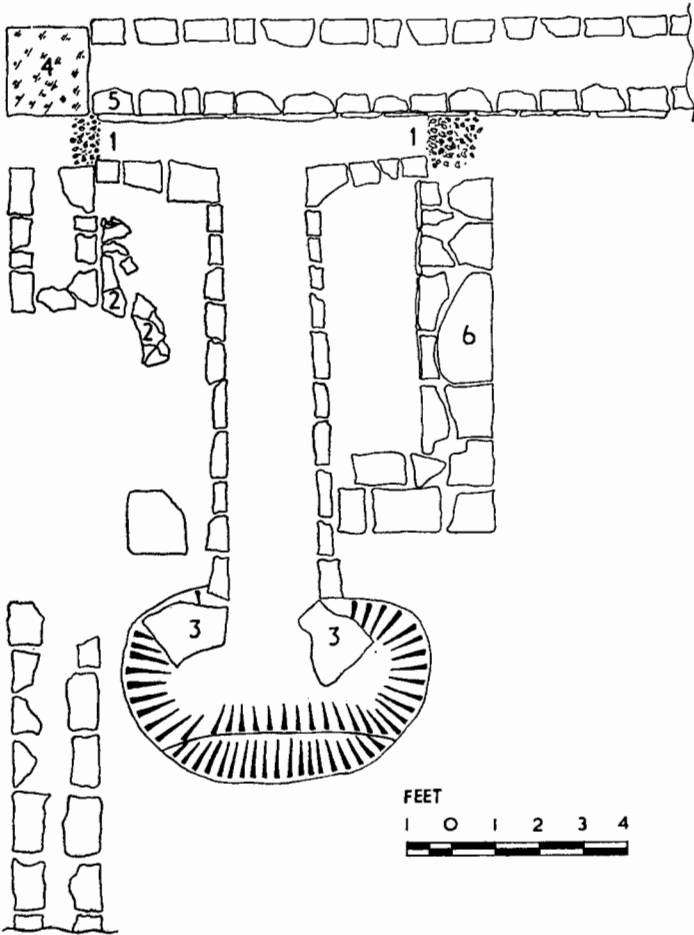
The internal measurements were 19 ft. 3 ins. × 27 ft. 4 ins. The walls had been built without depth of foundation or pitching. Large irregular stones were laid on the brash and then rubble masonry courses carried up at a width of 1 ft. 8 ins. to 1 ft. 9 ins. with a rubble and mortar infill. Much of this masonry appears to have been previously used showing signs of burning on inner edges of individual stones.

This had obviously been a work area containing at its south end a good example of a 'T' shaped corn-drying oven (FIG. 5). Recovered from the main flue of this oven were a number of large thin flat stone slabs, two with 1 ins. dia. holes, which had been deposited there by a partial collapse of masonry on the north side of the flue. These were carefully re-assembled to make four complete slabs of a width sufficient to span the main flue and if laid end to end could have covered its length.

The centre of the building was dominated by an area of raised stone pitching. Ploughing had penetrated to here,¹³ causing considerable disturbance. The pitching, however, proved to be a

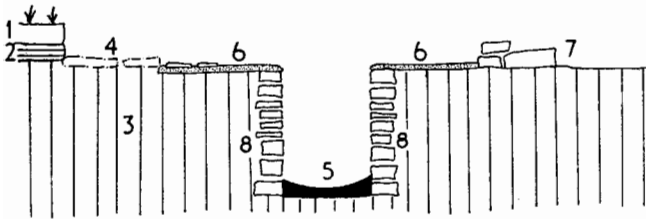
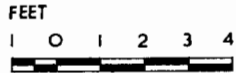
¹² Again the freshness of the infilled debris was quite striking. It is felt that the robbing of the tiles from the floor of the cold plunge must have taken place about the time of abandonment. This small sunken cold plunge would quite soon have accumulated an obscuring cover of debris in the bottom, masking the presence of tiles.

¹³ Room IX to the south being completely destroyed (see above).



PLAN

1. Limestone brash at end of T-flues.
2. Fragments of burnt stone slabs (roof slabs), sub-floor of dryer.
3. Stones with traces of slots.
4. Corner stone of main building.
5. Walling stone with pivot hole.
6. Parapet wall of dryer.
7. Stoke hole dug into brash.
8. Limestone brash step.



SECTION

- | | |
|--|---|
| 1. Black humus. | 5. Charcoal deposit. |
| 2. Light brown soil with gravel. | 6. Sub-floor with burnt stone slab fragments. |
| 3. Limestone brash. | 7. Parapet wall of dryer. |
| 4. Line of outside wall—robbed or ploughed away. | 8. Retaining walls of main flue. |

Fig. 5. Barn building, corn drying oven



a.



b.

PLATE I. a. Site as seen from north side of valley
b. Room I, Hearth with ash pit



a.



b.

PLATE II. a. Room XIV, South side of cold plunge showing where steps had been
b. Room XIV, Cold plunge, outlet and overflow

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formidable obstacle for the plough so the room layout was not completely lost at the time of excavation. The exact boundaries of the pitched area were impossible to ascertain, nor could it be seen whether the pitched stones had carried any form of surfacing. Running along the east side of the building for about two-thirds of the length had been a flagged passage. A number of these flags had been displaced by the plough so giving on the plan the impression that this flagging may have continued along the north side. This was not the case; this side appears to have had a weak cement floor. The flue from the adjacent bath suite had turned through the north wall to the north-east corner (see site plan) becoming progressively shallower as it reached this outside north wall. On and around the wall at this point there was a fairly heavy charcoal deposit.

Annexes—Room V

This was a late addition to the villa, having two peculiarly thick walls, or at least wide foundations of stone pitching. Here again the plough had reduced this room down to foundation level, the walls at this level being of a thickness of 3 ft. 6 ins. for the south wall and 4 ft. 0 ins. for the north wall, connected by a wall 1 ft. 9 ins. wide. The only explanation suggested for these two wide wall foundations was that the inferior rebuilding of Room VI had eventually proved to be unstable.

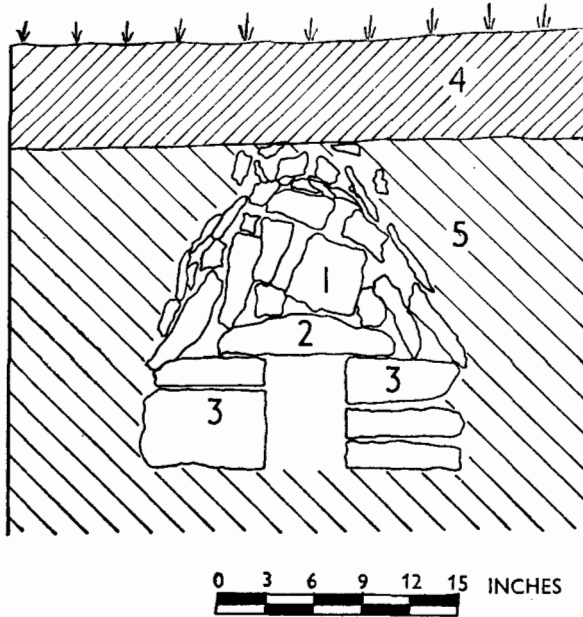
Room X

Internal measurements 32 ft. 3 ins. × 14 ft. 6 ins. This building had been butted to the main building. The thickness of the three walls were: east wall 2 ft. 1 in., north wall 1 ft. 11 ins., west wall 1 ft. 7 ins. This building would appear to have had a rather chequered history. At one stage it had been increased in breadth and at another stage the light west wall had been inserted. The interior surface was simply clean rammed brash, completely void of finds. No evidence was obtained to indicate its use although the interior was not fully excavated.

Water Supply

To the south of the site in the adjoining field which is permanent old pasture, a farm track runs at the foot of the rising ground. A section of this track just south-west of the villa was always damp and has always, for as long as anyone can remember, been troublesome. Various drainage attempts have been made but the track

remains wet at this point, and an elongated area of the rising ground at right-angles to the track is boggy. It was suspected that there was a connection between this drainage problem and the villa's water supply so a trench was cut across the rising ground above the disturbed boggy area. What then came to light was a remarkable catchment system. A trench had been dug down through the 7 ins. or so of top soil, down another 1 ft. 9 ins. into the impervious fuller's earth. The bottom of this trench was lined with rough stone to make



- | | |
|------------------------|-----------|
| 1. Hived rough stones. | 4. Humus. |
| 2. Cover stone. | 5. Clay. |
| 3. Channel sides. | |

Fig. 6. Cross section of water supply catch drain

a channel, the channel was capped, then stone rubble hived over, fairly large stones towards the centre, thin stones on the outside, up to the pervious soil level (FIG. 6). By probing with an iron bar this drain was followed up the slope. It was found that the system cut off

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water movement.¹⁴ Tapping the spring-line, the drain channelled the water in ever increasing yield across and down the face of the slope with a twofold result, first, in providing a constant supply of good clean water and secondly, in keeping the front of the site dry. Although no dateable material was recovered from the 'drain' it is felt that it is most unlikely that a later drainage system produced this happy result by coincidence.

RECONSTRUCTION

Roofing

At a very early stage in the excavation we asked ourselves the question "How was the main building spanned to carry a roof?" Later with the finding of the large hearth, the stoke-hole of the bath-suite and the bath-suite itself, the question arose "Was the building indeed ever roofed over entirely?" The evidence obtained in answer to these questions was of two sorts.

Negative evidence: Despite a meticulous search for internal cross walls only one was found, this forming the east wall of Room I, so obviously out of character with the rest of the building, being of weakly bonded rough rubble masonry, constructed without foundations and the wall cavity infill of dry stone rubble. It was certainly not a load bearing wall. No series of post-holes for aisles were found, indeed, there were not two post holes which could be paired for this purpose. Having said this it was not overlooked that beam pillars with their butts on the floor surface or raised on stone piers could have been used. However, neither impressions nor stone-work were found suggesting either. There was no evidence of drainage channels within the building or drainage ports through the external walls, although the floor had a slight slope from west to east.

Positive evidence: The external walls of the main building were the outstandingly strongest and most carefully constructed on the site. Room I had a good cement floor with a neat hearth against the south wall, and the walls had been plastered. This room must have been roofed yet the internal partitioning wall (east wall) was not of a load bearing construction.¹⁵ Without exception each fragment of

¹⁴ Water which had percolated down through the Greater Oolite cap moved across the fuller's earth and would have naturally formed a spring-line.

¹⁵ It is interesting to note that this room width approximates to one 'bay' or linear perch and that the whole of the interior of the main building allowing for a requisite number of divided walls or roof beams each of a width of the partitioning wall of Room I would give a building of five bays (*Country Cottages*, Marshall Sissons, pp. 12 and 13; see also p. 14 for similarity of the original interior of the main building with the "narrow cottage" described there).

ridging stone recovered was found scattered more or less along the central east to west axis of the building. The interior of the building (apart from a noticeable scarcity from the bath suite areas) was carpeted with a jumble of roofing slabs, most of them broken but a number still with their nails in position. This tile scatter extended over Room I where the cement floor still had a good surface. An abundance of roofing slab nails was found on or above the occupational level.

So we must conclude that this building had been roofed and its breadth of 27 ft. 6 ins. internal measurement had in all probability been spanned unsupported. Possibly the only timber which could be readily found to give sufficient length would have been ash (*Fraxinus excelsior*)¹⁶ (see Appendix III—charcoal analysis).

The quantity of roofing slabs found all over the site would suggest that the buildings had been roofed with unfrosted stone slabs, tegulae and imbrices being absent.

Height of building

For the villa's stone slab roofs to have been effective the angle of pitch would have had to be a minimum of 45° by present day building practice.¹⁷ Allowing 6 ft. of height from floor level to the roof eaves of the south open front of the verandah this would give a height to the roof apex of the main building of about 30 ft. However, it is unlikely that the south side of the building would have had an unbroken sweep of roof. Rather, the verandah and main building would be roofed independently, with some few feet of wall intervening between the two roofs, to accommodate a series of unglazed clerestory openings to allow smoke out and light in. This then would give a height of *c.* 36 ft. from floor to roof apex in the interior of the main building.

Possibly the two wings had their roof ridge lines below and at right angles to the roof of the main building whilst Room X and the barn area, Room IV (not necessarily completely roofed) would have lean-to roofs against the main building.

No evidence was found to suggest an upper floor anywhere within the main building but it may well have been that Room I had had an upper room.

¹⁶ This species would be perfectly suitable as long as the roof was maintained. However, failure to do so would quickly result in the building becoming ruinous.

¹⁷ Although Martin S. Briggs in *The English Farmhouse*, p. 123, states that the normal pitch for this type of roof is 55°.

The Bath Suite

The bath suite had been sited at the furthest possible distance from the domestic water supply discussed above, without actually being detached. Excavation failed to produce a well. Admittedly it is not unusual to find a bath suite not associated with a near supply of water, two recent examples being Feltwell Roman Villa and Netherwyld Farm. Perhaps a more important consideration here was the drainage of water away from the plunge bath using the fall of the spur for the digging of the drain at a point where the surface was unimpeded by buildings.

A further point which must be considered is the admittance of light into the bath suite. It is true good lighting was not essential. On the other hand Rooms XII and XIII must have been in near total darkness. Room XI could have had some light admitted on its north side but it is very difficult to see what lighting arrangements could have been provided for Rooms XII and XIII.

The above two points in conjunction with the row of partitioning post-holes, G₁, G₂ and G₃,¹⁸ the shape of the cemented area and the fact that the rest of the floor of Room III was the same rammed stone surface as the whole of Room II would suggest that a roof opening or light well had been provided. Post-holes F₂, F₃ and possibly F₁ supported either cross members for this roof opening or took the sag off the outside bearers of lean-to roofing. The shallow pit H in Room III may have been for additional roof support inserted at the time of this alteration. By such an arrangement and with either lunettes or glazed windows in the south walls of Rooms XII and XIII a sufficiency of light could then have been admitted to these rooms. At the same time as allowing light this arrangement must have admitted rain and snow in season. Hence, it must be considered that a tank had been situated below the roof opening to catch precipitation which would then have been available for filling the cold plunge in Room XIV. This would make sense of the shape of the cemented area in Room III and why the light partitioning of this room had been sited so far west.

Heating

Another aspect of the building that strikes the mind is that of the heating arrangements. If a sharp division existed between

¹⁸ This partition should be considered more as weather protection for the interior of the main building rather than a screen sited well forward of the cemented area of Room III.

“man” and “master” the heating arrangements for the “master” and his family can only be described as meagre, discounting the bath suite. The verandah with its south aspect, protected by protruding wings, must have undoubtedly been a pleasant area during the better days of the year either for taking leisure or for such work tasks as spinning. The hard materials of the villa construction would give good storage and radiation of heat, making it possible to sit there till quite late into the evenings of warmish days.

In the depth of winter the hearth in Room I, even allowing that a partitioning of the room has escaped notice, could not have provided a great deal of heat and the warmth from the channels in Room VI could only have just taken the chill off the room.

The snugly warm area of the villa in winter must have been around the hearth/oven complex in the large and what at that time of the year must have been the rather dark interior of Room II.

Perhaps here lies a clue as to ownership, viz. tenant or bailiff, without too sharp a division with servants; the general tone of the villa does not suggest an owner who wintered in a town-house in Cirencester and was only in residence during seasons of more intense agricultural activity.

CONCLUSION

In Period II the villa would have presented a symmetrical facade later lost by additions and alterations.

The evidence recovered points overwhelmingly to solely 4th century occupation, the growth of the villa's prosperity mirroring the increasing general prosperity of the Province up to the middle of the century. Final abandonment appears to have been orderly, possibly due in some way to the troubles of 367-369.

Evidence of any association with agriculture only appears at a late stage of the villa's occupation.

Room X—Eventually of a width of 14 ft. 6 ins. could be identified with the housing of cattle but other usage could be argued.

Room IV—Provides more certain evidence with a ‘T’ shaped corn drying oven, possibly a threshing floor and a flagged passage to a rickyard, the possibility of corn in ricks being suggested by the stone for holding thatching (see The Finds—Stone, S17). If grain was

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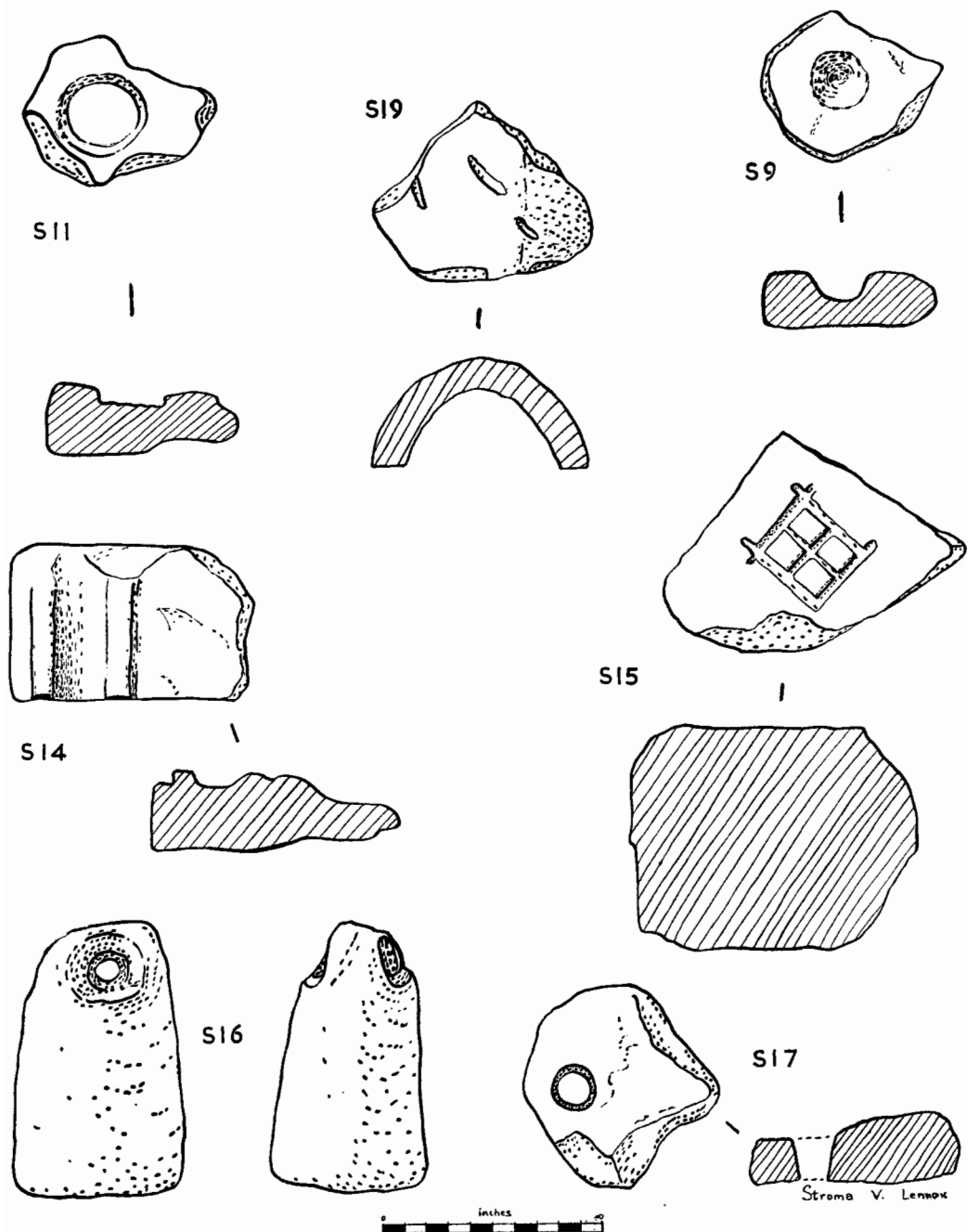


Fig. 7. Stone objects ($\frac{1}{8}$)

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stored it is felt that this was never in great quantity as the immediate area is naturally more suited to stock farming than cereal growing.

Despite the long history of quarrying in the immediate vicinity one hesitates to suggest that the villa may have had some dependence upon quarrying.

Clear Cupboard villa excavation has only partly fulfilled the terms of reference for future R.B. villa excavations as recommended by Dr Philip Corder in his summary of the Conference on R.B. Villas organised by the C.B.A. in 1955.¹⁹ The site is only a link in a sequence of occupation overlapping what had gone before and itself being overlapped by what has followed.

Today in farming the growing of cereals is more remunerative than stock farming. Deep ploughing, the enlarging of fields, together with new building, fortunately restricted in this area at the present time, is each year steadily eating into the evidence.

In view of this it is hoped, as time allows and opportunity presents itself, to make more comprehensive the knowledge of R.B. settlement at Farmington.

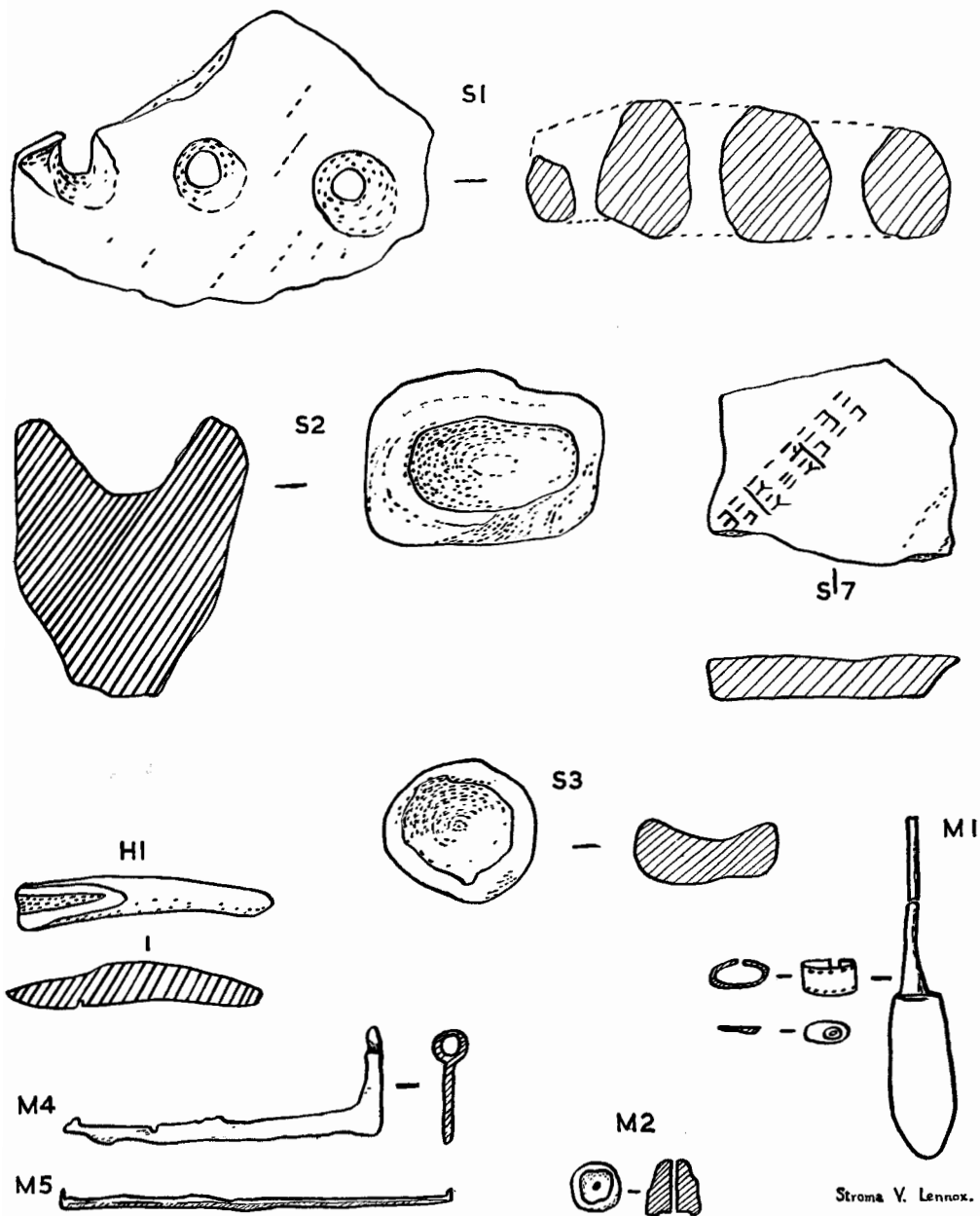
THE FINDS

STONE OBJECTS (Figs. 7 & 8).

- S.1 ? Air vent. Found in bath suite infill. Local oolite.
S.2, S.3, S.12 Cressets. Local oolite.
S.4 Hone. Graywacke, probably from the Lake District or Wales. A detailed report by R. D. Beckinsale is deposited with the finds.
S.5 Hone, mica schist, broken one end.
S.6 ? Door post socket, heavily burnt.
S.7 ? Roofing slab fragment, burnt, with scratch marks. When shown to Prof. Sir Ian Richmond he commented: "a doodle of no apparent significance."
S.8 Fragment of stone moulding. Local oolite.
S.9, S.13 Door post socket. Local oolite. Rotary worn.
S.10, S.11 ? Door post socket. Local oolite. No rotary wear.
S.14 Masonry. Local oolite, heavily burnt, incorporated in masonry course of north wall.
S.15 Masonry block. Local oolite with incised pattern on one face.
S.16 ? Weight. ? Counter-weight. Local oolite. Weighs 26 lb.

¹⁹ *Archaeological Newsletter*, Vol. 6, No. 2, 1955.

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Stroma V. Lennox.

Fig. 8. Stone and metal objects (‡)

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- S.17 Thatch-weight. Local oolite.
 S.18 Tapered block with a square-cut groove on two sides. Local oolite.
 S.19 Ridging stone fragment. Local oolite. A total of fourteen fragments was found. Originally, these stones appear to have been 21" long, wide end 10", narrow end c. 8".

CLAY OBJECTS

- C.1 Spindle whorl.
 C.2, C.3, C.4 Fragment of hypocaust box flue tile with impressed tiler's stamp, VLA. Illustrated by Mrs. H. E. O'Neil in *Trans. BGAS*, 85, p. 25.

METAL OBJECTS (Fig. 8).

- M.1 Tanged blade with bronze strapping on haft at base of blade. Strapping having finely embossed margins and fastened around haft with a single rivet. Some wood fibre of handle remaining under the strapping. A detailed report by R. D. Beckinsale is deposited with the finds.
 M.2 ? Lead weight. ? Plummet.
 M.3 Bronze needle.
 M.4 Bolt of a barrel padlock, cf. W. J. Wedlake, *Camerton* (1958), p. 261, No. 4.
 M.5 Unidentified skewer-like object, cf. *ibid.* p. 272, No. 18.

Nails

A total of 527 nails were found. The hammer head, rectangular shank nails recovered almost entirely from an area between the oven/hearth and south wall of the main building. Otherwise they were found more or less uniformly over the site with the exception of the interior of the heated rooms of the bath suite where there was a complete absence of nails.

A.	<i>Round headed nails with square shanks</i>					
	Length:	1.2—2.0 ins.	...	...	...	118
		2.0—3.0	,,	...	...	238
		3.0—3.8	,,	...	...	15
B.	<i>Hammer head nails with rectangular shanks</i>					
	Length:	1.2—2.0 ins.	...	...	...	28
		2.0—2.8	,,	...	...	11
C.	<i>Horse-shoe nails</i>					
	Length: Average	1.7 ins.	...	...	...	7
D.	<i>Sandal studs</i>					
	Length: Average	0.5 ins.	...	...	...	7
E.	Incomplete or too corroded for classification					103

WORKED ANTLER TINE (Fig. 8)

- H.1 Tool. Broad end chamfered by cutting tool, cutting planes distinct on both sides. Inner curve of tine with deep incision. Outer curve above chamfer polished with usage. Possibly chamfer permitted tine to be spliced to a haft and the incision held binding to close haft to tine on outer curve.

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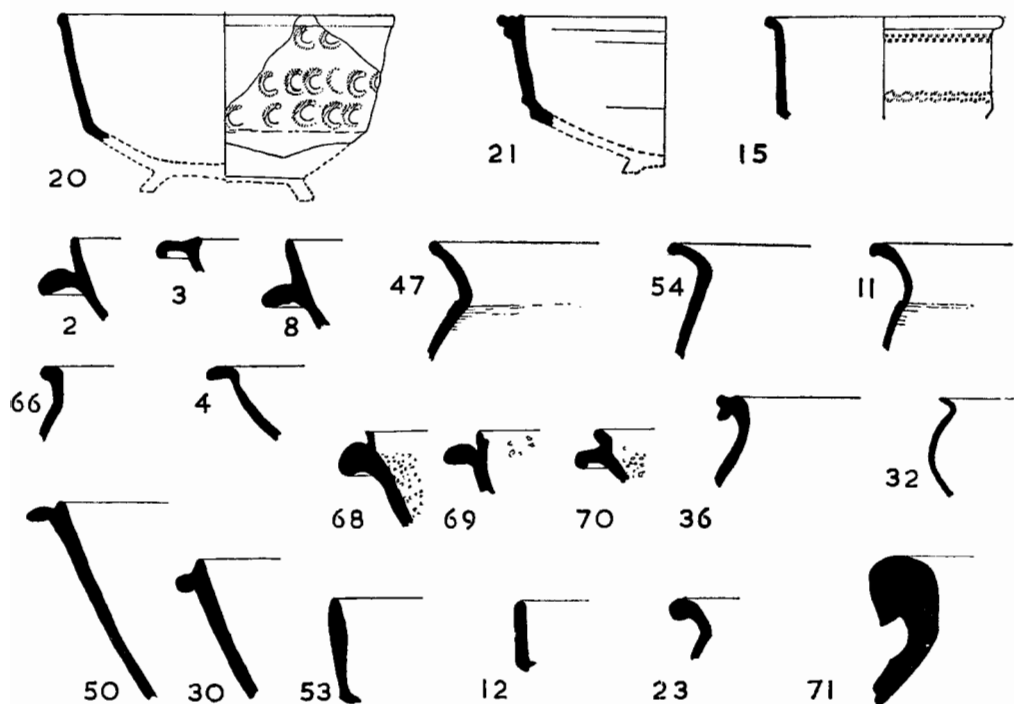


Fig. 9. Pottery (†)

THE POTTERY

Sherds marked *Ill.* are shown in Fig. 9.

Samian

1. Dish, 4 sherds, 1 vessel, form Drag. 31, 2nd century.

Orange paste with red colour coat

2. Flanged bowl, 9" dia., Oxfordshire kilns, 4th century, cf. Wheeler *Segontium*, p. 77, No. 39. *Ill.*
 3. Rim, 8" dia., 4th century or later, cf. *Arch. J.* 119-1962, p. 144, No. 211. *Ill.*
 4. Shallow flanged bowl, 6" dia. *Ill.*
 5 & 6. Bead rimmed vessels, 4 sherds, 2 different pots.

Brick red paste with red colour coat

7. Mortarium, 5 sherds, 1 vessel.

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Orange paste with brown-colour coat

8. Flanged bowl, 8" dia., 1 sherd. *Ill.*
9. Mortarium, 1 large sherd, without rim.
10. Base, 1 sherd.

Orange-gray paste, brown colour coat

11. Jar, 6" dia., 2 sherds. *Ill.*
12. Shallow dish, 9" dia., 2 sherds. *Ill.*
13 & 14. Rims, sherds of two different vessels.

Grey paste with light orange surface colouring—probably oxidised

15. Shallow bowl, 5" dia., 6 sherds, 1 vessel. *Ill.*
16—19. Sherds of at least four other vessels, one with everted rim.

Grey paste with orange surface colouring

20. Bowl, 7" dia., rosette stamped, much worn, 1 vessel, 4th century. *Ill.*

Orange paint on white ware

21. Bowl, 7" dia., three sherds, one vessel, Oxfordshire kilns, probably first half of 4th century, cf. Wheeler *Segontium*, p. 77, No. 34. *Ill.*

Hard sandy grey fabric

22. Jar, 5 sherds with white slip on rim and neck, 1 vessel, possibly Farnham ware.
23. Jar, 7" dia., 2 sherds with white slip on rim and neck, 1 vessel, possibly Farnham ware. *Ill.*
24—29. Sherds of at least 6 other vessels, 2 having flanged rims, 1 sherd of colander.

Hard grey paste, darker grey burnishing on outside

30. Flanged rim, 7" dia., 3rd or 4th century. *Ill.*
31. Jar, everted rim.
32. Small bowl, 4" dia., probably 2nd century. *Ill.*
33—35. Sherds of 3 other pots, one straight-necked jar, 1 flanged vessel, 1 shallow dish.

Coarse sandy-grey fabric

36. Rim, 6" dia., 1 sherd. *Ill.*
37—39. Sherds of at least 3 other vessels.

Coarse grey paste with black burnishing

40. Neck of jug of New Forest type, cf. H. Sumner, *Excavations in New Forest Roman Pottery Sites*, p. 98, No. 7.
41 & 42. Sherds of at least 2 other vessels.

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Hard light-grey fabric

43—46. Sherds of at least 4 vessels, 1 narrow necked vessel, 1 pie-dish, 2 cavetto rims of different pots.

Very coarse grey fabric

47. Cooking pot, 7" dia., 1 sherd with white slip on outside of vessel and inside edge of rim, possibly Farnham ware but weathered and discoloured by fire; for shape cf. Gillam,²⁰ No. 147 dated A.D. 290-370. *Ill.*

48 & 49. Sherds of at least 2 other vessels with white slip, one a pie-dish.

Coarse buff paste, burnished black surfaces

50. Flanged rimmed vessel, 11" dia., probably Black-burnished ware; for shape cf. Gillam, No. 229, dated A.D. 350-400. *Ill.*

51 & 52. Sherds of at least 2 pie-dishes.

53. Pie-dish, 9" dia., 3 sherds, Black-burnished ware, cf. Gillam,²¹ No. 330, dated A.D. 330-370. *Ill.*

54. Jar, 6" dia., not quite exactly paralleled by Gillam, No. 147, dated A.D. 290-370. *Ill.*

55. Flanged rim, 3rd or 4th century.

56—60. Sherds of at least 5 other vessels, including 1 pie-dish and 1 cooking pot with lattice decoration.

Grey-paste, black burnished

61—63. Sherds of 3 different jars.

Calcite-gritted ware, coarse buff-black paste

64 & 65. Sherds of at least 2 cooking pots, 1 rim of type associated at Verulamium with plentiful mid-4th century coins.

Calcite-gritted ware, orange-brown paste

66. Rim, 5" dia., *Ill.*

67. Sherds of at least 1 other vessel.

Oxfordshire Kilns

68. Mortarium, 11" dia., probably 4th century, cf. *Arch.J.* 119, 1962, p. 149, No. 249. *Ill.*

69. Mortarium, 6" dia., late 3rd or 4th century. *Ill.*

70. Mortarium, 6" dia., 1 sherd, probably 4th century. *Ill.*

Porridgy grey-buff paste

71. Storage jar, ? 12" dia., number of sherds. Rim *Ill.*

²⁰ *Arch. Ael.* 4, xxxv (1957).

²¹ Not closely datable: this type runs through several centuries almost unaltered.

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Hard gritty buff fabric

72. Mortarium, very large, 1 rim sherd, probably late 1st century, from Verulamium region.

Grateful thanks are due to Professor S. S. Frere and Miss M. Wilson for helping to date the pottery.

Although each sherd at the time of recovery was marked, after washing, to denote (a) on which area of the site it was found and (b) at what level, this proved subsequently to be of little value due to the reason already stated, see *The Excavation*, p. 4. However, the pottery in the main corroborates the coin evidence for dating the site. The few earlier sherds, some of which may represent survivals, are in any case not surprising with one other *known* R.B. site only a few hundred yards away.

The pottery is classified according to fabric, that is not to say, however, that these variations of fabric denote in each case a different centre of manufacture.

Apart from those listed, small sherds of a further six different fabrics were recovered, making a total of about 78 vessels.

APPENDIX I

COINS by D. W. Burge

The total number of coins recovered from this villa is very small, consisting of eleven regular coins and twelve copies. The official coins cover a very short period, (A.D. 320-50), the copies probably being produced from shortly after the circulation of their prototypes, up to the end of the century. Coins of the Houses of Valentinian and Theodosius are absent, as are coins prior to A.D. 320.

One of the copies is worthy of mention here, being an imitation of the well-known 'Salus' type of Magnentius. Copies of this type are rare compared with those of the 'Two Victories' and 'Felicitas' types. This piece would have been produced shortly after the circulation of the regular coin, as, although the head is of rather crude style, the legends and mint-mark are copied correctly, and the flan is only slightly smaller than that of the regular coin.

The coin evidence, though scanty, would seem to point to a late foundation for the villa, probably during the first half of the fourth century, with a period of greatest prosperity about the middle of the century.²²

Coin List

References used in the list:

RIC = *Roman Imperial Coinage* by Mattingly and Sydenham.

H.-K. = *Late Roman Bronze Coinage* by Carson, Hill and Kent, Part I.

C.-K. = The same, Part II.

Constantine I (A.D. 308-37)

1 As H.-K. 106. 4 AE. Posthumous issue, 337-41.

Helena (First wife of Constantius I)

2 As H.-K. 104. 4 AE. 337-41.

²² For the most part the coins were found in disturbed soil or at a depth where intrusion was possible.

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Theodora (Second wife of Constantius I)

3 H.-K. 120. 4 AE. 337-41.

Crispus (Caesar 317-26)

4 RIC VII Trier 440. 3 AE. 320-24.

Constantinopolis

5 H.-K. 383. 3 AE. 330-35.

6, 7 As last but small (12 mm. dia.) copies.

Helmetted Heads.

8 Bust to l. 3 AE. Possibly as 5.

9 Bust to r. 4 AE. Barbarous copy.

House of Constantine

10 As H.-K. 48. 3 AE. 330-35.

Constans (337-50)

11 As H.-K. 101. 3 AE. 337-41.

12 C.-K. 33. 3 AE. 346-50.

13 C.-K. 29. 2 AE. 346-50.

Constans or Constantius II

14 As H.-K. 158. 3 AE. 341-46.

15—19 Barbarous copies of 'Fel Temp Reparatio' fallen horseman type. All obverses show diademed heads or busts to r. Four are very small (8-12 mm.), the fifth is larger (15 mm.), with an attempt at obverse legend: . . . VTAV . . . (*sic*), and is overstruck on a regular coin, part of the obverse legend being legible: . . . ANS . . .

Magnentius (350-53)

20 C.-K. 19. 1 AE. Centenionalis. (Small flan. Barbarous copy).

Illegible

21—23 All of small size (7-11 mm.), and probably 'fallen horseman' type. One bears traces of diademed bust to r.

APPENDIX II

ROMAN GLASS by Dorothy Charlesworth

- B1/S9.A 3 fragments of window glass, 2 different sheets, 1 piece slightly over 1 mm. 2 pieces slightly less than 1 mm., poor quality bubbly, greenish glass.
- B1/S9.B Fragments of vessel, poor quality greenish glass 1 mm. thick, one fragment has cut line, another a trail apparently festooned round the vessel. It must be a bowl or beaker.
- B1/10 At least one of these fragments belongs to the same vessel as B1/S9.B—the piece with a trail.
Fragment of thin, colourless folded beaker, possibly a survival, from 3rd/early 4th century.
Fragment of greenish, poor quality, fluted glass.
One rather thicker blue green fragment, probably a survival from 1st-2nd century.

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Apart from two exceptions noted above all the fragments are of metal typical of the 2nd half of the 4th century. Unfortunately the majority are small and featureless and even the three with decoration, probably all from the same vessel, do not allow the shape of the vessel to be determined.

Only one piece, the thickish blue green piece, stands out from the rest of the group as of much earlier date.

APPENDIX III

CHARCOAL ANALYSIS by R. P. Woods

Samples from hearth in Room I and hearth/oven, Room II:—

This material falls into two distinct types, 1. Ring-porous wood. Since there are no large rays visible, Oak, Elm and Sweet Chestnut are eliminated, leaving Ash (*Fraxinus spp.*) which the writer has identified. 2. Diffuse porous woods. These larger lumps are more difficult since the material would require colloidal sectioning. Again the absence of ray structure eliminates timbers such as Beech, Alder, Hazel—the latter two being frequently found on old sites. Here it is felt that this is probably Willow or possibly Birch.

Samples from stoke-hole of Bath Suite, and Corn Dryer, Room IV:—

This material divided itself into four main groups which consisted of Ash (*Fraxinus excelsior*), Birch (*Betula spp.*), Hazel (*Coroynus avellana*). The next group was almost impossible to accurately identify but in general they conformed to Rosaceae timbers which consist of extremely small diffuse pored wood. It is possible that most of this material was Hawthorn (*Crateagus spp.*), possibly Elder (*Sambucus*) or other mixed Brushwood types of material.

Note: There is some indication in the above analysis that the wood burnt on the hearth in Rooms I and II differed from that burnt in the stoke-hole and corn-dryer, suggesting not only complete utilisation of stem and tree crown but also small wood understorey. There is a hint here of small wood and branches bundled in faggots for quick intense heat.

Separate consideration of the charcoal from hearths and furnaces of other R.B. Sites is needed to support this observation. P.E.G.

APPENDIX IV

BONES by John Houlton

Positive identification of domestic animal bones:—

Pig: Left and right ulnae.
Fifth or sixth cervical vertebra.
Incisor tooth.
Part of a mandible.

The two ulnae are obviously of different sizes so there were at least two pigs remains.

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Sheep: Right tibia.

Fragment of a mandible.

Incomplete left innominate bone.

All could have come from the same carcass.

Cow: Right humerus.

A lumbar vertebra.

Part of a mandible and several loose teeth.

A left tarsal bone.

Two fragments of a skull.

Again these could have all come from one carcass.

APPENDIX V

MORTAR AND PLASTER by T. Lees

Five samples of mortar, one of wall plaster and one of a floor (*opus signinum*) were presented by the excavators. Comparisons between the mortars were required and the maximum amount of information was obviously desirable. We considered that this would be best obtained by carefully separating the samples into their component parts and analysing the "aggregate" and the "matrix" separately. An arbitrary division of aggregate and matrix was chosen as that retained on and that passing a sieve with 100 holes to the square inch. (The holes are 0.006 inch square.)

The size distribution of the aggregates was measured by sieving and visual or microscopic examinations for the presence of added materials was made before crushing to a fine powder ready for chemical analysis.

The crushed aggregate and the "matrix" sub samples were separately analysed for those constituents experience shows most likely to be present in limestone and the analysis of each sample as a whole calculated from these analyses and the proportions of "matrix" and aggregate.

The analytical methods used were those normally employed in the analysis of calcareous materials.

RESULTS

1. *The Size Distribution* of the aggregates gave no useful information and the results are not given.

2. *Visual Appearance.* The mortar samples were all very similar and showed no signs of Pozzolanic additions. The wall plaster contained red particles, probably broken quarry tile or pottery, spread throughout the whole sample. Its function could have been decorative rather than pozzolanic.

The floor was of very good quality concrete and was very hard. A cross section showed that the top half inch or so consisted largely of red particles as is typical of *opus signinum* flooring.

3. *Chemical Analysis.* The chemical analysis of the mortars is shown in Table I, and of the other two samples in Table II. The ratios of some of the oxides have been calculated as this is probably a better guide than the quantity of each oxide. Thus errors due to erosion of matrix or losses due to non-representative sampling are minimised.

TABLE I

	Barn Building			Original West Wing			North Annexe			Main Building			Bath		
	+ 100	- 100	Total	+ 100	- 100	Total	+ 100	- 100	Total	+ 100	- 100	Total	+ 100	- 100	Total
Proportions % ...	74	26		64	36		54	46		81	19		65	35	
Acid Insoluble ...	8.9	44.4	17.9	5.1	23.5	11.6	6.8	25.5	15.3	4.7	20.0	7.7	9.3	35.0	18.3
Iron Oxide Fe ₂ O ₃ ...	1.3	3.5	1.9	1.2	2.8	1.7	1.2	2.4	1.7	1.3	2.7	1.5	1.9	2.6	2.2
R ₂ O ₃ (Note 1) ...	1.9	6.2	2.9	1.7	4.8	3.0	1.7	4.3	3.0	1.7	6.2	2.5	2.0	5.2	3.1
Lime CaO ...	50.0	27.1	43.9	51.6	39.7	47.4	51.0	39.1	45.5	52.4	41.9	51.5	49.8	33.8	44.2
Magnesia MgO ...	0.5	0.6	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.3	0.4	0.3	0.5	0.4	0.5
Carbon Dioxide CO ₂ ...	38.5	20.9	34.0	40.7	31.0	37.3	40.3	30.1	35.6	41.4	31.5	40.0	38.9	26.3	34.6
<i>Ratios</i>															
CaO/Fe ₂ O ₃ ...	38	8	24	44	14	27	42	16	26	41	16	33	26	13	12
CaO/R ₂ O ₃ ...	26	4	15	30	8	16	30	9	15	31	7	21	25	7	14
CaO/Insol. ...	6	0.6	2.5	10	1.7	4	7	1.5	3	11	2	7	5.5	1	2.5
Insol/Fe ₂ O ₃ ...	7	12	10	4	8	7	6	11	9	4	7	5	5	13	9
Insol/R ₂ O ₃ ...	5	7	6	3	5	4	4	6	5	3	3	3	5	7	6

TRANSACTIONS FOR THE YEAR 1969

Note 1. R₂O₃ is a term used to indicate that group of oxides including alumina, iron, silica and titania commonly determined together.

2. Sulphate and chloride were also determined. No more than traces were found.

CLEAR CUPBOARD VILLA, FARMINGTON

CONCLUSIONS

The following comments may be made with the provision that in a conflict between archaeological and chemical evidence, the former is to be preferred.

1. Attached Barn Building, North Annexe and Bath samples are similar for total, aggregate and "matrix".

2. The main building and original west wing samples are similar for the aggregate and "matrix". That the analyses of the totals do not agree so well suggests loss of matrix, either through erosion or non representative sampling.

3. The wall plaster and floor samples are difficult to compare because of the presence of the additional aggregate and because of the greater difficulty in making a clean size separation. Consideration of the "matrix" only suggest they both may belong to the main building/west wing group.

TABLE II

	Wall Plaster			Opus Signinum		
	+ 100	- 100	Total	+ 100	- 100	Total
Proportions, % ...	56	44		70	30	
Acid Insoluble	29.6	24.0	27.2	12.0	15.7	13.1
Iron Oxide Fe ₂ O ₃ ...	1.9	2.6	2.1	1.0	1.5	1.2
R ₂ O ₃	3.8	5.1	4.2	2.4	4.8	3.2
Lime CaO	37.0	39.5	38.0	46.3	43.2	45.5
Magnesia MgO	0.4	0.3	0.4	0.4	0.5	0.4
Carbon Dioxide CO ₂ ...	28.6	30.7	29.6	37.3	35.6	36.8
<i>Ratios</i>						
CaO/Fe ₂ O ₃	20	15	18	46	28	38
CaO/R ₂ O ₃	10	8	9	19	9	14
CaO/Insol.	1.2	1.6	1.4	3.9	2.8	3.5
Insol/Fe ₂ O ₃	16	9	13	12	10	11
Insol/R ₂ O ₃	8	5	6	5	3	4