

### 3. AN INDETERMINATE STRUCTURE AND A HEARTH FOUND OUTSIDE THE ROMAN FORT AT MUMRILLS.

*The Structure.*—In October, 1937, the plough brought to light a patch of cobble-stones, covered by clay, at a point about 160 yards east of the east rampart of the Antonine fort at Mumrills and close to the southern field-boundary, which also marks the southern edge of the easterly extension of the ridge on which the fort stood.<sup>1</sup> A little digging showed that the patch was artificial and similar in composition to the foundation of a Roman building. As it lay

<sup>1</sup> Earlier discoveries to the east of the fort are recorded in *Proceedings*, vol. xlix. pp. 118 ff, and vol. lxiii. p. 501. While the fort was being excavated, a number of exploratory trenches were cut eastwards along the plateau, but these yielded negative results; they were not continued, however, as far as the site of the structure.

only 6 inches below the surface and could be followed up easily, a considerable area was subsequently uncovered by the spade, disclosing traces of a building which had been erected mainly in wood, but partly also in stone. In this work I was occasionally assisted by Mr John Campbell and Mr Alexander Mann. Dr A. O. Curle, C.V.O., visited the site from time to time, when his wide experience as an excavator was of great help. For assistance in various ways I am also indebted to Sir George Macdonald, K.C.B., Mr A. J. H. Edwards, Mr D. Balsillie, Mr T. Douglas Wallace and Mr C. S. T. Calder.

The plan (fig. 1) records the results of the excavation in so far as it was possible to recover definite details. Obviously, it is incomplete.

The most substantial evidence obtained was provided by a series of short clay-and-cobble foundations, six in number, placed lengthwise and extending at short and somewhat irregular intervals in a row north and south, measuring fully 39 feet over all. Inter-connected with the three southerly foundations and stretching 16 feet farther south was a line of post-holes, ten in number, measuring fully 38 feet between the posts at either end.

The foundations are lettered on the plan (fig. 1). But for a little irregularity in *a* and *b*, they were more or less rectangular in shape. They varied in length from 4 feet 6 inches to 3 feet 6 inches, and the breadth ranged between 3 feet 6 inches and 3 feet. As regards *a* and *b*, each was composed of a single layer of stones over which a layer of clay had been spread and beaten in, the resultant mass averaging about 7 inches in depth; but *c*, *d*, *e* and *f* were each composed of two layers, similarly laid and having an average depth of almost 1 foot.

The post-holes varied in width and in depth, the width ranging from 3 feet to 1 foot 9 inches, and the depth from 1 foot 2 inches to 3 feet 3 inches. Nothing remained of the posts themselves, but a little black matter was seen in the bottom of a few of the holes. All had been firmly packed with stones. The third and fourth—counting from the south end of the line—had been of special importance. In each of these cases a large flat stone had been laid in the bottom of the hole before the post was inserted, and clay had been beaten in with the packing-stones. The clay had kept the packing-stones in position after the posts perished so that, although the spaces which the latter had occupied were filled with soil, the size and shape of the posts themselves could be calculated. The third had been round and fully 1 foot in diameter—possibly the stoutest post in the line: the fourth had also been round, but its diameter had been only 7 inches. In some cases, where no clay was used, the packing-stones had subsided, but it was generally possible to gauge the thickness of the posts approximately. The smallest may have been only 4 inches in diameter, but 7 inches would perhaps be a fair average.

The alignment of post-holes and foundations was remarkable. The four southerly posts, which had stood clear of the foundations, had been in fairly good alignment, not only with each other, but also with the western sides of foundations *a*, *b*, *c* and *d*. But, from the fourth post the line deviated slightly eastwards so as to intersect foundations *a*, *b* and *c*. It will be noted that foundations *e* and *f* also deviate towards the east. The manner in which posts and foundations had been distributed was even more noteworthy. Beginning from the south end, and measured from centre to centre, the posts had been spaced as follows: 3 feet 6 inches; 4 feet 6 inches; 4 feet; 3 feet 6 inches; 5 feet 6 inches; 4 feet; 5 feet 6 inches; 2 feet; and, finally, 5 feet 6 inches. It might appear that the three recurring intervals of 5 feet 6 inches had been determined by the pre-existence of foundations *a*, *b* and *c*, but a close examination of the

whole line, in which Dr Curle took part, showed that, to all appearance, the post-holes had been dug and the posts inserted before the foundations were laid. The north ends of foundations *a* and *c* overlay the packing-stones in the adjacent

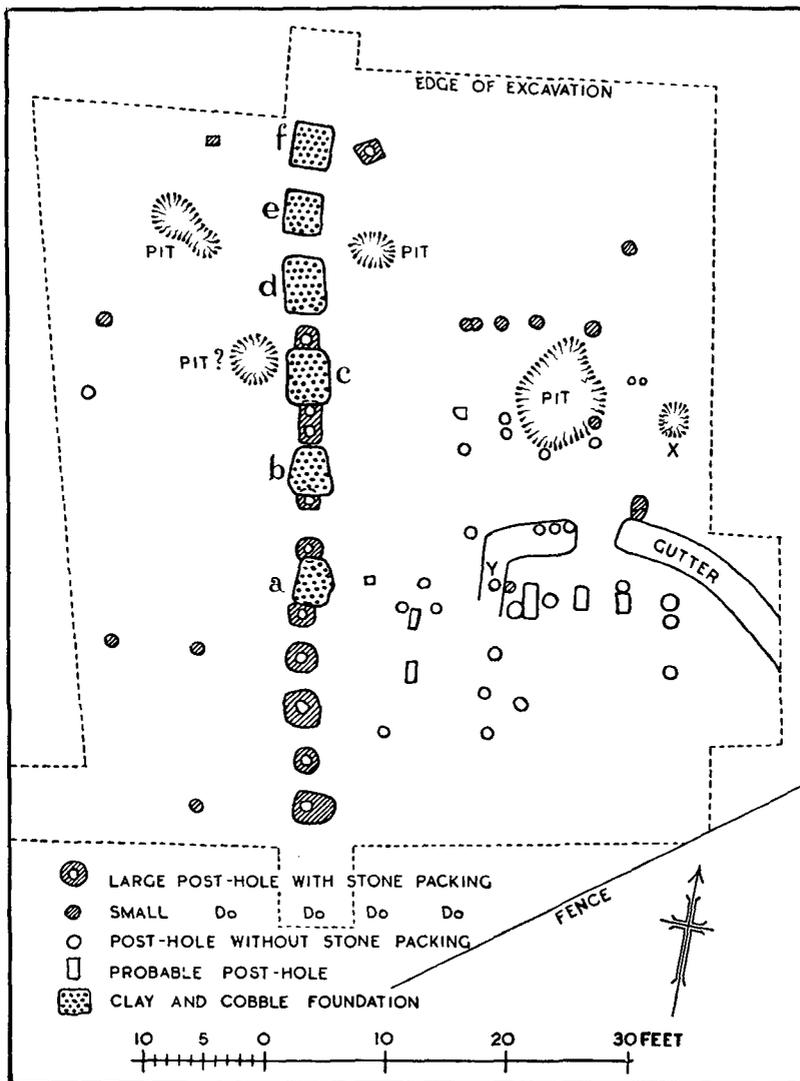


Fig. 1. Plan of Structure found outside the Roman Fort at Mumrills.

post-holes, and the south ends of *a*, *b* and *c* protruded in the same way. It will be observed that the space between the foundations was gradually reduced towards the north, and that between *e* and *f*, where there were no post-holes, the spacing, although shorter, was equal. The over-all measurement for the composite line was about 56 feet.

An area, 30 feet wide, on the east side of the line just described, yielded a

considerable number of smaller post-holes, the depth ranging from as little as 4 inches to 1 foot 6 inches. A number of the posts had been packed with small stones, but the majority merely with the gravelly soil of the site. In a few cases the exact shape of the various posts belonging to the latter class could be determined by the contrast between the light-coloured soil of the site and the darker coloured soil which occupied the position of the decayed wood. One had been of squared timber, measuring 6 inches by 4 inches, while another, shaped as a quadrant, had had a radius of 7 inches, clearly showing that some of the timber used had either been sawn or split by wedges. In addition to the ordinary post-holes, a number of shallow rectangular holes were noted.

The area to the east of foundation *f* was almost completely devoid of post-holes, and to the east of the most southerly post-hole, in the row of ten, matters were much worse, the site here having been so much disturbed by cultivation that, not only was there a complete absence of post-holes, but modern pottery was found below the floor-level of the building. Accordingly, it was only from a complicated series of post-holes, extending eastwards from foundation *a*, that any indication as to the width of the structure could be obtained. This line was 30 feet long. As nothing in the nature of a post-hole was found in a search through a distance of 10 feet farther east, and, as the measurement of 30 feet agreed with another taken parallel to it, a little farther north, it was assumed that the eastern limit had been reached.

Parts of an oddly shaped gutter—as a few inches of water-borne silt which lay in the bottom of the western portion proved it to be—lay within the building in a manner obviously unfitting it to be of material service. It had no stone kerbing, being merely hollowed out of the natural soil to a depth ranging from 6 inches to 10 inches, the average width being about 2 feet 6 inches. Its two inner ends had been rounded off, leaving an undisturbed space, fully 3 feet wide, as a passage. It was found impossible to trace its course at either of its outer ends—at the eastern, because of recent disturbance of the soil, and, at the western, because of disturbance which (there is reason to suppose) had occurred when the building was erected. A small post-hole, marked *y* on the plan, was noted in the forced infilling of the gutter before the function of the latter was understood. Presumably, therefore, the gutter was earlier than the building. But, how much earlier? The small post-holes in the western half of what has been termed a complicated series of post-holes extending eastwards from foundation *a*, were distinctive as a class when compared with the much larger post-holes in the eastern half of the same line. These larger and deeper post-holes were all situated within the oddly diverging arms of the gutter, and when the general alignment of the holes is considered, a not unreasonable conjecture is that an earlier and smaller hut had been incorporated in the larger building. Possibly, as the plan suggests, there may have been a double row of small posts in the western half of the line. The three rectangular holes which lie with their long axes precisely athwart the line just suggested, may have been connected with a doorway. An undressed piece of sandstone, having a broad arrow-mark with a round hole at the point of the mark, lay at the north end of the central rectangular hole.

On the west side of the foundations a greater depth of surface soil made the recovery of post-holes a matter of uncertainty, and as only a few definite examples were found, the search was abandoned. A broad trench, cut westwards from the most southerly post-hole for a distance of 35 feet, revealed only a single post-hole. It is thus quite doubtful whether the building extended farther west or not.

A few pits, ranging from 1 foot 9 inches to fully 2 feet in depth, were discovered, but these contained nothing of importance. The circular pit near foundation *c* may have been either a pit or a post-hole, and the pit marked *x* on the plan is in the same ambiguous position. The floor was composed mainly of the compacted natural subsoil, which is of sand or gravel. In the region to the east of the third and fourth post-holes in the row of ten, it appeared to have been "made up" and a thin coating of gravel spread as a surface. Farther east, within the supposed early hut, was a patch of compacted clay, with which was mixed a considerable quantity of coal dust.<sup>1</sup> The latter element, however, did not appear to have been burned.

The pottery found consisted for the most part of comparatively modern earthenware, the field having been dressed with city refuse by a previous tenant. However, a few pieces of coarse-grained native ware were recovered from the gutter. Dr Curle and Mr Edwards compare these with some sherds from Traprain Law. A flat stone disc, about  $\frac{1}{4}$  inch thick, with a diameter of  $2\frac{1}{2}$  inches and having a small hole drilled through the centre, was turned up while the excavation was being filled in. No Roman pottery was found. But, amongst the packing-stones and in the clay foundations numerous fragments of dressed sandstone bearing unmistakable marks of Roman workmanship were mixed up indiscriminately with natural waterworn stones. The upper half of a Roman votive altar<sup>2</sup> was found lying face downwards in the most southerly post-hole—the first in the row of ten. Close beside it was a fragment of a sculptured stone with two protuberances on one face. A fragment of the drum of an engaged half column, 12 inches in diameter, was recovered from foundation *a*. On one surface is a wedge-shaped dowel-hole near the centre, measuring 3 inches long, 1 inch wide, and 2 inches deep. Another fragment of a column drum, but with a smaller radius,  $3\frac{1}{2}$  inches, and without a dowel-hole, was found in the third post-hole. Between the eighth and ninth was a longish stone, much burnt, which had at one time done service either as a hypocaust pillar or in the cheek of a furnace. There were many other small bits of sandstone, smashed beyond recognition. A few, bearing impressions of fossilised plants, were also noted. Mr D. Balsillie, of the Royal Scottish Museum, who kindly examined these, points out that the local rocks belong to the "coal measures."

Perhaps enough has been said to indicate the character of the building. What of its date? The occurrence of modern pottery below floor-level, as well as the absence of post-holes in the area at the south-east corner of the site, might be explained as being the result of a gradual denudation of the edge of the ridge by ploughing and harrowing, before a boundary fence was erected, and, on a plan dated 1816, preserved in the Callendar Estate Office, no boundary is shown. Since a fence has been put up, soil and modern pottery from farther north appear to have been carried towards the edge of the field. But a piece

<sup>1</sup> This mixture of clay and coal, although occurring in the floor of the hut, was in all probability a natural deposit. A circular pocket, 3 feet wide and 3 feet deep, full of coarse gravel mingled with coal dross was also discovered on the site. Its dimensions, combined with the contrast between its contents and their surroundings, suggested that it might once have held a post. More careful examination compelled the rejection of the idea. It seems desirable to put this on record, since it is not always realized that similar features, of purely natural origin, may be encountered in sandy moraines. A striking example came under my own observation recently in a sand-pit at Belmont, Falkirk, where I noted quite a number of such pockets, including one which was no less than 7 feet beneath the surface and was covered by 3 or 4 feet of bedded sand.

<sup>2</sup> For a description see *supra*, p. 246.

of this modern ware, found *in situ*, 5 inches below floor-level in the post-hole or pit marked *x*, is more difficult to account for. Another piece, unfortunately disturbed, came to light when foundation *e* was being examined in order to find out whether or not a post-hole lurked beneath. Had it not been for these small pieces of modern ware, a Roman origin for the building might have been fairly confidently claimed. It is unlikely that Roman altars were lying around available to break up as packing for the posts as late as the nineteenth century, which date Mr Curle tentatively suggests for the minute piece of modern earthenware found in foundation *e*. But as—so far as the writer's knowledge goes—there is no comparable structure in connection with other Roman forts, it may be wise, for the present at least, to suspend judgment.

It seems improbable that the remains indicate a wooden building succeeded by one of stone. The alignment and distribution of the line of ten posts suggests that, from the most southerly of them, as far as and including foundation *c*, the building was the result of a preconceived plan. The similarity in the nature of the fragments found in post-holes and foundations, although perhaps not conclusive, goes to support this view. It is just possible, however, that foundations *d*, *e* and *f*, with the necessary woodwork on either side, were added later as an extension.

*The Hearth*—To the ploughshare also may be attributed the discovery of a large flat stone, evidently connected with a hearth, at a point roughly 35 yards west-north-west from the building. This stone measures 2 feet 7 inches in length, 2 feet in breadth, and 7½ inches in thickness. When found, it was lying slightly tilted, one corner of its upper side being barely 6 inches below field surface. It was resting on a few smaller stones, two of which were Roman building-stones, but only one stone—one of the latter pair—appeared to be *in situ*. This lay on the edge of a small hollow scooped out of the natural soil, which, in addition to the small stones already mentioned, contained a mixture of soil and soot, about 10 inches in depth, measured in the centre of the hollow. That intense heat had been generated was evident, for the natural soil in the bottom of the hollow, as well as the under side of the large flat stone, were burnt brick-red. A piece of scoria, which Dr Curle thinks may have come from the tuyère of a bellows, was found among the sooty soil. While the upper side of the large stone was chisel-dressed in the ordinary way, the tool marking on the under side formed a kilted pattern. A square hole, about 1 inch each way, had been cut near one of the edges—evidently for a metal clasp. All the chiselling had been done before the stone was subjected to fire, indicating that its use in the hearth was secondary.

The relics found during the excavation have been presented to the Museum by Mr Charles W. Forbes of Callendar.

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