

THE PAVEMENTS OF URICONIUM.¹

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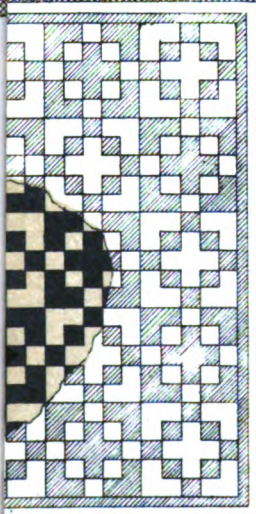
As the site of the fragments of tessellated pavement, discovered at Wroxeter last year, has been filled up, I have thought that a short explanation of their position in relation to the existing ruins may be interesting to those who will to-morrow, for the first time, visit Uriconium. It would of course have added greatly to the completeness of the remains, had it been possible to preserve the pavements where they were found. To have done this effectually would have involved a large outlay, as from the fragments (many of them individually of little interest) being scattered over a considerable area, it would have been necessary to erect a separate building for each, and as the unsettled tenure on which the land was held by the Committee, rendered their permanent preservation somewhat doubtful, it was deemed expedient, as the only certain means of preserving them from destruction, to transfer them to the Museum in this town.

On the general ground plan of the Wroxeter foundations, (See Plate 10), are four long parallel walls (A A A A); one consisting in part of the mass of masonry above ground, locally known as "The Old Wall," and in part merely as a foundation, extending from it in a north-westerly direction about 240 feet, and three others, existing only as foundations, running parallel with it. These appear to have formed the boundaries of a symmetrical building, consisting of a central apartment about 30 feet in width, and two lateral apartments, which, for the sake of distinction, I will call corridors, of about half its width, and accompanying its whole length.

The fragments of tessellated pavements occurred, distributed throughout the north-east half of the corridor furthest from the old wall. I have also been informed, that a small fragment of tessellated work was found at about the centre of the other corridor, but as to the truth of this I cannot

¹ Read at the Shrewsbury Congress, August 10th, 1860.

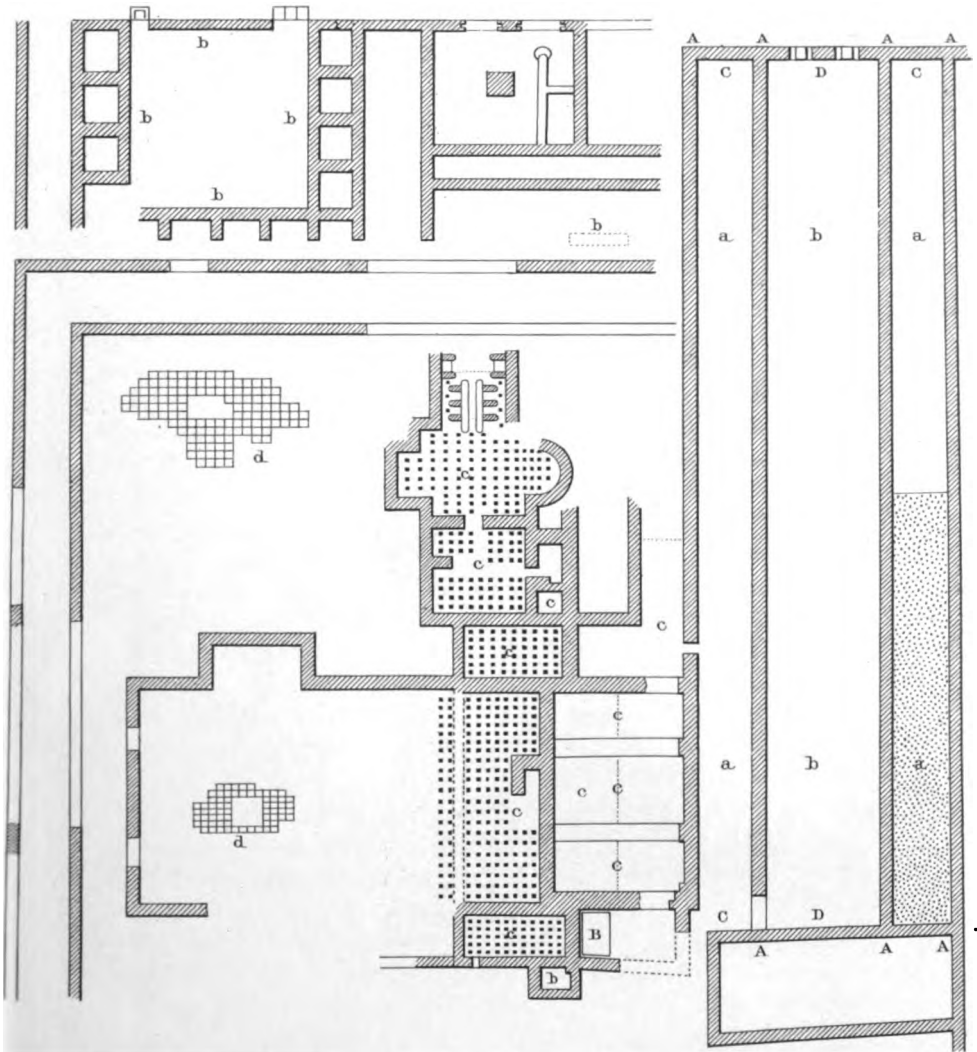
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D

CENTRE - LINE - OF - CORRIDOR

GROUND PLAN OF PART OF THE FOUNDATIONS AT WROXETER
 SHEWING DISPOSITION OF PAVEMENTS.



- a.a.a.a. *Mosaic Pavement*
- b.b.b.b. *Herring-bone Pavement*
- c.c.c.c. *Concrete Pavement*
- d.d.d.d. *Quarry Pavement*

certainly ascertain. As, however, these two corridors have all the appearance of being symmetrical members in this group of buildings, I think it probable that they were both paved throughout with tessellated mosaic. Whether the intervening space was an open yard or covered apartments, appears uncertain, but I fancy it was open.

It was most unfortunate, that circumstances which occurred last spring twelvemonth, necessitated the sudden suspension of explorations on the north side of the old wall, as I have reason to believe that the two corridors, containing the fragments of pavements, have been very imperfectly examined. I may mention that the two pieces marked E and F on plate 9, were exposed just before the excavations were filled up, and have little doubt, if time had allowed, that a sufficiency of materials might have been collected to have enabled a complete plan of the two pavements to be worked out. We must, however, hope, that at some future time an opportunity will occur for a fuller and more satisfactory investigation.

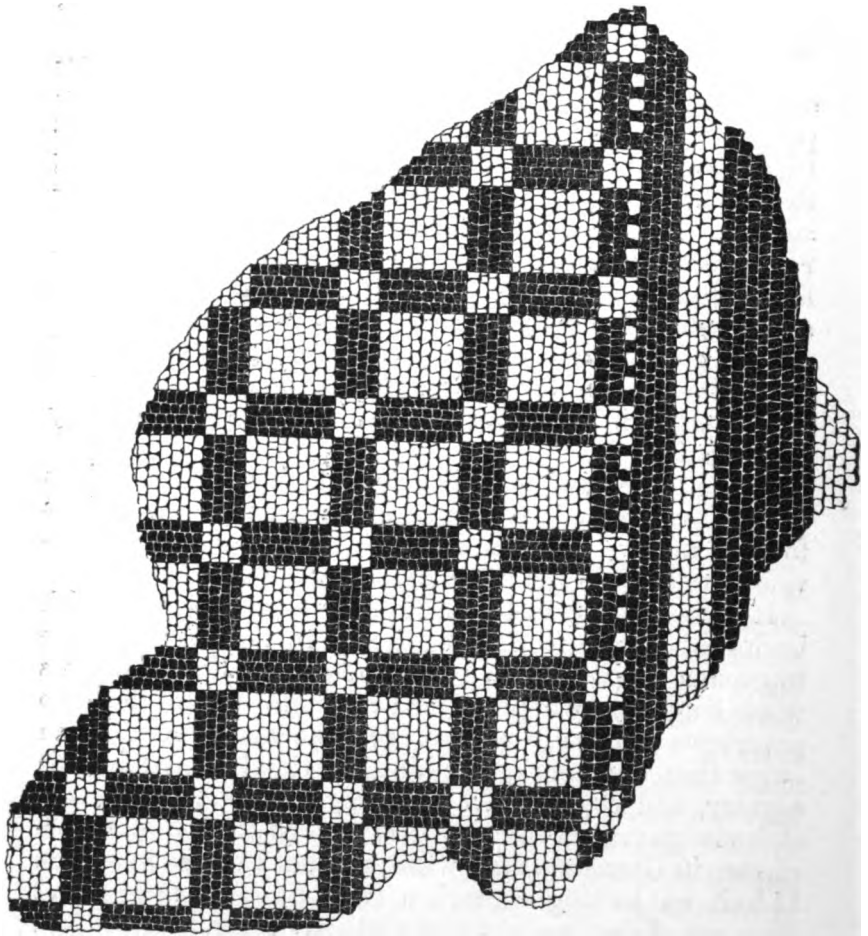
Before the ground was filled in, I took careful drawings of each fragment of pavement; also exact measurements as to their relative position in the building, and have endeavoured to embody the information I collected in plate 9.

It represents the eastern half of the north corridor, which having a concrete foundation, similar to that on which the fragments of pavements rested, extending throughout its whole length, there appears good reason to suppose that two pavements originally existed at Uriconium, very much larger than anything of the kind previously found in this country, and considerably exceeding in size the large and elaborate pavement discovered several years ago at Woodchester, in Gloucestershire, which was but 141 feet in length. Indeed, on looking through a large series of records and drawings of continental tessellated pavements, I cannot find that any of them equalled in size those at Uriconium.

The fully coloured portions of plate 9 represent the pieces of pavement found perfect during the excavations, and the parts tinted of a lighter shade, such as are necessarily implied by existing remains. The annexed wood-cut (p. 102) represents the remaining portion of panel E, drawn to the scale of an inch to a foot.

Very fortunately these fragments, although small in rela-

tion to the space originally covered, were so situated as to enable the plan of the pavement to be made out with but little doubt or difficulty. You will see by my drawing (pl. 9)



that it consisted of a series of oblong panels of simple patterns, composed of dark grey and cream-coloured tesserae, and, as in most Roman pavements, was surrounded, next the wall, with a broad field of uniform colour, in this instance of a greenish grey tint. Narrow bands, about five inches wide, branching from this, divided the pattern into panels of about 8 feet by 11 feet.

The end panel marked A, being complete from side to side, gave a key to the width of the panels across the pavement, and as small portions of the dividing dark bands were perfect next to the four adjacent panels of pavement marked D, E, F, G, I have been able to decide with exactness as to the recurring intervals of the panels in the corridor lengthwise.

There being nothing to show how the spaces intervening between the panels B H and C F were filled in, I have left them vacant; but as the space they occupy exactly corresponds with the size of the existing panels, I have felt justified in supposing that the whole length of pavement was made up of compartments of nearly equal size, and have, therefore, inserted the partitional bands in my drawing.

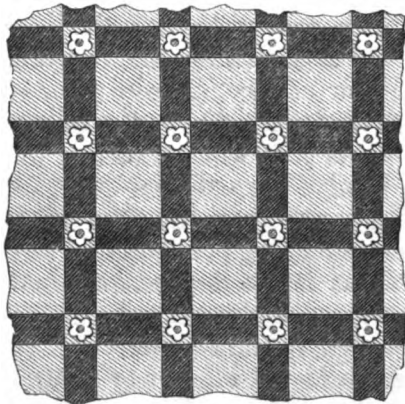
I think, from the nature of the pattern, and the space occupied by it, that the panel A at each end of pavement was square, and all the others of about the average size shown on the drawing. They may have varied a few inches in width to adapt them to the several patterns with which they were filled. This I found to be the case in taking the measurements; but on the whole, for Roman work, they appear to have been planned with considerable accuracy and uniformity. The exact formation of the centre of panel A is a little obscure, and I have had some difficulty in deciding whether or not the fret border along the two sides of panel B ran into the plain ground beyond the line of the panels; but I think it did as shown on the drawing, and probably defined the position of two opposite door entrances in the corridor. There is also no clue to the filling in of the three small compartments into which panel H was divided, so I have left them blank. Beyond these points, I have carefully avoided inserting anything in the plan that is not distinctly implied by some remaining portions, and have no hesitation in considering it, as far as it goes, an exact restoration of the pavement as it originally existed.

In point of design, as far as fine detail is concerned, the pavements were decidedly inferior to many that have been found in this country. Those at Cirencester and Woodchester, for example, are not only finer in mechanical execution, but are admirable as works of high and refined art; containing beautiful busts, figures, and animal representations, rendered with an amount of detail and expression truly surprising, when the nature of the material is considered. In

the pavements of Uriconium, the designer appears to have been satisfied in producing a bold arrangement of simple geometrical forms. Considerable variety has, however, been attained ; no two of the panels being exactly similar, and doubtless these two long pavements, although wanting in high artistic excellence, must have had a very noble appearance in their original entirety.

With respect to the division of the pavement into equal panels, it has struck me that these may have been proportioned in relation to some other members of the building. Possibly the sides of the corridor next the central apartment may have been a kind of open arcade, the piers of which corresponded with the partitional bands of the design.

I would here notice the close similarity that exists between several of the patterns forming the filling-in of the compartments, and those that occur in the pavements of some of our early mediæval buildings. Such as the centre of B, also E and D, are precisely identical, differing only in the Roman work being executed in tesserae, and the mediæval in encaustic tiles. The subjoined cut represents part of a mediæval pavement from Beaulieu abbey, Hampshire. You will at once recognize its close similarity with the pattern forming panel E (enlarged in the wood-engraving, p. 102). When it is



considered in what much greater abundance Roman remains must have existed five or six centuries ago than at the present time, it is not at all improbable that our early mediæval architects may have taken many suggestions from them. Amongst other similar examples of the influence

exercised by an extinct style of architecture, on the ornamental details of that which superseded it, I would note the Moresque character of the mediæval mosaics of Sicily. It will be remembered the Moors occupied Sicily for some time during the ninth century, and, through the architectural remains they left behind them, may have influenced the character of the succeeding Gothic art. Again, the Gothic mediæval pavement remains of the Italian peninsula are many of them little more than reproductions of the designs of the classical Roman examples that preceded *them*,—the geometrical forms, instead of being composed of little tesserae, were made of whole pieces of stone and marble; and now our modern manufacturers, instead of being merely *influenced* in the character of their designs by their ancient predecessors, are actually reproducing in the fictile materials of our country, nearly every description of pavement or mosaic that has been made before them, including the fine tessellated work of classical Rome, the geometrical enamels of the Moors, the mediæval mosaics of the Italian Gothic buildings, and the encaustic tile-pavements produced in our own country and northern Europe during the middle ages.

With regard to the tessellation of the Roman mosaics,—that is, their composition of little bits of stone of forms not essentially related to the pattern,—the number of fine joints doubtless produced a soft and harmonious effect which it is impossible to attain in any other way; but it has often occurred to me, whether the enormous extra amount of labour involved in their execution was at all commensurate with the result. In the execution of the finer designs, such as guilloches, frets, and pictorial representations, this fine division of materials was essential; but it certainly seems absurd to go to the trouble of breaking up large pieces of stone for the purpose of reforming them into such simple geometrical figures as the square and triangle.

I would here notice a prominent example of this Roman rage for tessellation that occurs in the buildings more recently exposed at Wroxeter, where the bottom of a bath (B, plate 10) has been formed, at an immense expenditure of labour, of an uniform field of cream coloured tesserae, without the slightest attempt at the introduction of a pattern. I think the mediæval Italians made a decided advance on their clas-

sical predecessors in forming their mosaics out of larger pieces, where the designs were of such a nature as to enable the individual form to be represented by a single stone.

Modern manufacturers pursue a middle course, combining the processes followed by the classical and mediæval Italians. In the simple geometrical designs each form is represented by a single tile; and in elaborate patterns, such as intricate frets and guilloches, small tesserae are used similar in size to those forming the tessellated pavements of the Romans, but formed of earthenware instead of stone and marble.

In addition to the two long pavements I have described, smaller tessellated floors have, from time to time, been brought to light in the neighbourhood of Wroxeter; and probably, from their size and character, belonged to villas and private houses. As far as can be judged from the drawings that have been preserved of them, they appear to have been rather more elaborate in execution than the long pavements recently discovered; but are simpler and much inferior in design to the pavements of Cirencester, Woodchester, and most of those I have seen on the Continent.

In connexion with the bath at Wroxeter, just referred to, there is an example of the application of mosaic work of a rather unusual kind in Roman buildings, the walls above the height of the water having been lined with it. A very small fragment of a simple guilloche border is now all that remains, and from its unusual position is perhaps one of the most interesting relics of Uriconium.

The foundations on which tessellated pavements were laid were of two distinct kinds,—one formed in connexion with the hypocausts, where it consisted of a thick and uniform layer of coarse concrete resting on the large tiles that formed the tops of the flue-pillars, and termed by classical writers the "*suspensura*." The other formed for the pavements of apartments such as those now under consideration, where they rested on the solid ground without the intervening subterranean air-flues, and termed the "*rudratio*" by Vitruvius.

This appears to have been an elaborate and rather careful construction, and agrees in its formation in nearly all Roman remains that have been described. At Wroxeter it consisted of four distinct layers of materials, forming in the aggregate a substratum nearly three feet thick. Its prin-

cipal bulk consisted of a bed, two feet thick, of lumps of red sandstone, the surface of which was leveled by a layer of a kind of mortar rather soft and fine in texture, of about eight inches in thickness. It appears to have served merely to fill up the irregular cavities of the stone. The bed resting on this, and forming the immediate foundation of the mosaic, was a level layer of singular hardness, about two inches and a half thick, composed of a mixture of lime and coarsely powdered burnt earth, or brick rubbish;¹ and from its uniform thickness and even surface, appears to have been very carefully prepared for receiving the tesserae.

The fourth layer, in which the tesserae were immediately bedded, consisted of quite white and very hard cement, which was also used for filling in the joints.

This construction appears to have been a well recognised process by the Roman writers, and in its entirety is called by Vitruvius, the *runderatio*; the constituent strata being termed the *stratumen rudus* and *nucleus*, which evidently correspond respectively with the three principal layers occurring at Wroxeter.

Professor Buckman, in his work on the Cirencester remains, also describes the foundation of the Roman pavements there of precisely similar construction, excepting only that the lower layer or stratumen consisted of rammed gravel, in lieu of the sandstone used at Uriconium. In each case the materials forming the bulk of the foundation would be such as could be most easily obtained close at hand, and would vary with the locality.

The materials with which the tesserae were composed, were, firstly, a light cream-coloured limestone, of very compact texture, and was, I think, from its apparent identity with that known in Italy as Polombino, in the formation of the tessellated mosaics of Rome and the mediæval Italian mosaics, imported. This, of course, formed the light, or pattern portions, of the pavement, and was also the material from which the cream-coloured tesserae pavement (B, plate 10), forming the bottom

¹ Cements of this composition are frequently met with in Roman buildings, and possess extraordinary durability; an instance of which may be observed in the Roman part of Pevensey castle, in Sussex, where much of the stone is decayed, leaving the burnt earth-mortar, with which they were cemented together, in prominent ridges. It was also used at Uriconium as a floor-surface, especially in the hypocausts, where it is seen nearly a foot thick, resting on the large slabs forming the tops of the tile pillars.

of the bath now exposed at Wrōxeter, was made. The dark parts of the long pavement were composed of two kinds of stone; that used in connection with the cream-coloured tesserae in the panelled patterns is of a dark bluish colour, much resembling marble in texture, and, as it was evidently used very sparingly, I am inclined to think it was imported from abroad with the cream-coloured stone, or, perhaps, was one of the finer stones of the lias formation of our own country, brought from a distance.

The broad dark band forming the outside of the pavement, was made of a greenish stone of open texture, which I believe occurs at the foot of the Wrekin. It was incapable of such fine working as the other material, and probably would not wear so well; so I am inclined to think its employment in the pavement at all, was merely on account of economy, to save the more costly stone before described. Here and there you find a little fragment of it in the body of the patterns, and was probably employed in subsequent repairs, when the better stone was not procurable. In addition to these three natural stones, we find red terra cotta introduced in the formation of the guilloche border surrounding panel H, also in the guilloche border occurring on the wall of the bath (B, plate 10) before mentioned.

It is rather an interesting fact, these remains of pavements afford confirmatory evidence of the supposed destruction of the building by fire. Several of the fragments in the Shrewsbury Museum are very much discoloured, the light cream-coloured tesserae being turned of a greyish hue, a tint that would be produced on any yellow stone by a low degree of heat. Nearly all the fragments of pavements are more or less discoloured, (especially panel E), the grey tints graduating in patches, from its darkest shade to the natural colour of the stone, in such a manner as to render it certain that they would not be produced by selection in the arrangement of the tesserae; and I think there is little doubt, that they are the effect of the burning timbers of the building that fell upon the floors on the destruction of the city. Here and there, also, we find corresponding patches of the pavement, where the concrete foundation is entirely decomposed, and has the character of slacked lime. I am more inclined to think, that this was also the result of the partial application of heat, than that it was due to mere exposure to the wea-

ther, as a large portion of the foundation remains in its original state.

It is worthy of note, that the pavement of cream-coloured tesserae forming the bottom of the bath, which would probably have been covered and protected by water at the time of the conflagration, shows no symptoms of the grey discolouration observed in the pavements, but is singularly clear and uniform in colour, when compared with them.

The tessellated pavements I have described, it will at once be recognised, occupied but a very small proportion of the area of the buildings; and from the immense labour and costliness of their formation, it is evident must have always been considered rather as a luxury than essential to the Roman houses and public buildings. We shall, therefore, expect to find other and less elaborate kinds of pavements in the parts of the buildings that were of secondary importance.

At Wroxeter, in addition to the tessellated work, there were three different kinds of pavements, the positions of which I have endeavoured to indicate by distinctive marks on the general ground plan (plate 10). The letters *a a a* indicate all the tessellated work that either exists, or is supposed to have existed. *b b*, the disposition of the well-known herring-bone work, which is uniform in character in almost all Roman remains, consisting of small tiles, or rather bricks, about 6 inches long, 3 inches wide, and an inch-and-a-half thick, laid edgeways, and arranged, as its distinctive name indicates, in zigzag layers. It appears at Wroxeter to have, for the most part, occupied unroofed spaces and open court-yards.

Another kind of tile pavement consisted of large quarries, or slabs of earthenware, about 9 inches square, similar to those of which the pillars of the hypocausts were constructed, and occurs in the parts indicated by *c c c* on the plan. Whether these were covered apartments or open spaces I am not prepared to say.

The floors marked *d d*, plate 10, resting on the flues of the hypocausts that were not tessellated, were composed of a very hard concrete, formed of lime and burnt clay, rubbed down to a smooth face, and closely resembling the "Lime-ash" floors used for barns and cottages in Devon and Somersetshire, made of the refuse of the lime-kilns, moistened and well rammed down. This refuse consists of nearly equal

parts of lime and the burnt earth (adhering to the stone), mixed with a little coal-ash, and would, therefore, be almost identical in composition with the artificial concrete used by the Romans.

In speaking of the foundations of the tessellated pavements, I have already referred to the extraordinary hardness and durability of these compositions of burnt earth and lime. Some of the lime-ash floors I have seen in Devonshire are as hard as any stone, and of so close a texture as to receive, by wear and washing, quite a smooth and polished surface. As artificial concretes of this character can be made in almost any neighbourhood readily supplied with lime, and form pavements so much cheaper than any kind of brick or tile, I think our modern architects and builders would do well to turn their attention to them as a paving material for the poorer classes of cottages.

LANARKSHIRE ANTIQUITIES.

(Continued from p. 21.)

PLATE 11, fig. 1, represents a specimen of the earliest and most rude type of bronze javelin-head, found on the farm of Hangingshaw, in the parish of Culter. It has a tang for insertion in a cleft shaft to which it was riveted. It has been broken, and in its present state measures only five inches and one-eighth.

Figs. 2, 3, and 4, are examples of bronze spear-heads. Fig. 2 was found in the parish of Lanark. Fig. 3, of somewhat later date, was found, with other objects represented in the next plate, under a cairn in the parish of Crawford. The workmanship is good, and it measures eight inches and a quarter in length, and has a loop on each side, at the base of the blade. Similar weapons have been figured in the *Journal*; one in the *Journal* for Dec. 1860,¹ found in the

¹ Plate 26, p. 322.