

ART. XXIII.—*An Account of some Excavations made at Walls Castle in 1881.* By W. JACKSON, F.S.A.

Read at that place, August 31st, 1881.

EARLY in the month of August, 1881, our editor and I determined to excavate at Walls Castle, in order to ascertain whether there existed any further proof, if, indeed, further proof were required, of its Roman origin; one or two minor essays had been made previously without any successful result; a deep hole had been dug just in front of the niche, and charcoal, bones, and pottery had been found, but the bones were supposed to be those of domestic animals that had been interred there at no distant period, and the pottery, though undoubtedly old, was in small fragments, and of no determinate character.

At first we were troubled with an excavator who took no interest in the work, but we were soon joined by Mr. Robinson, of Maryport, who secured the assistance of — Turner, who under his auspices had become a trained hand, and no further difficulty occurred in that respect. Mr. Aaron Brown, owner of this interesting property, gave us carte blanche (if only every old ruin belonged to so obliging an owner), and we set to work anew.

It had been ascertained by Canon Knowles and myself (and he unfortunately was unable to join us in our labours), that at any rate a part of the floor of room B was composed of a mass of hard material, the composition of which we determined to investigate thoroughly. It now became apparent that the upper part consisted of large fragments of Roman roofing, tiles bedded in lime with the turned up edges downwards, so as to leave a comparatively smooth surface on which the flooring, whatever that might have been, had been laid; the lime was placed on grout, which
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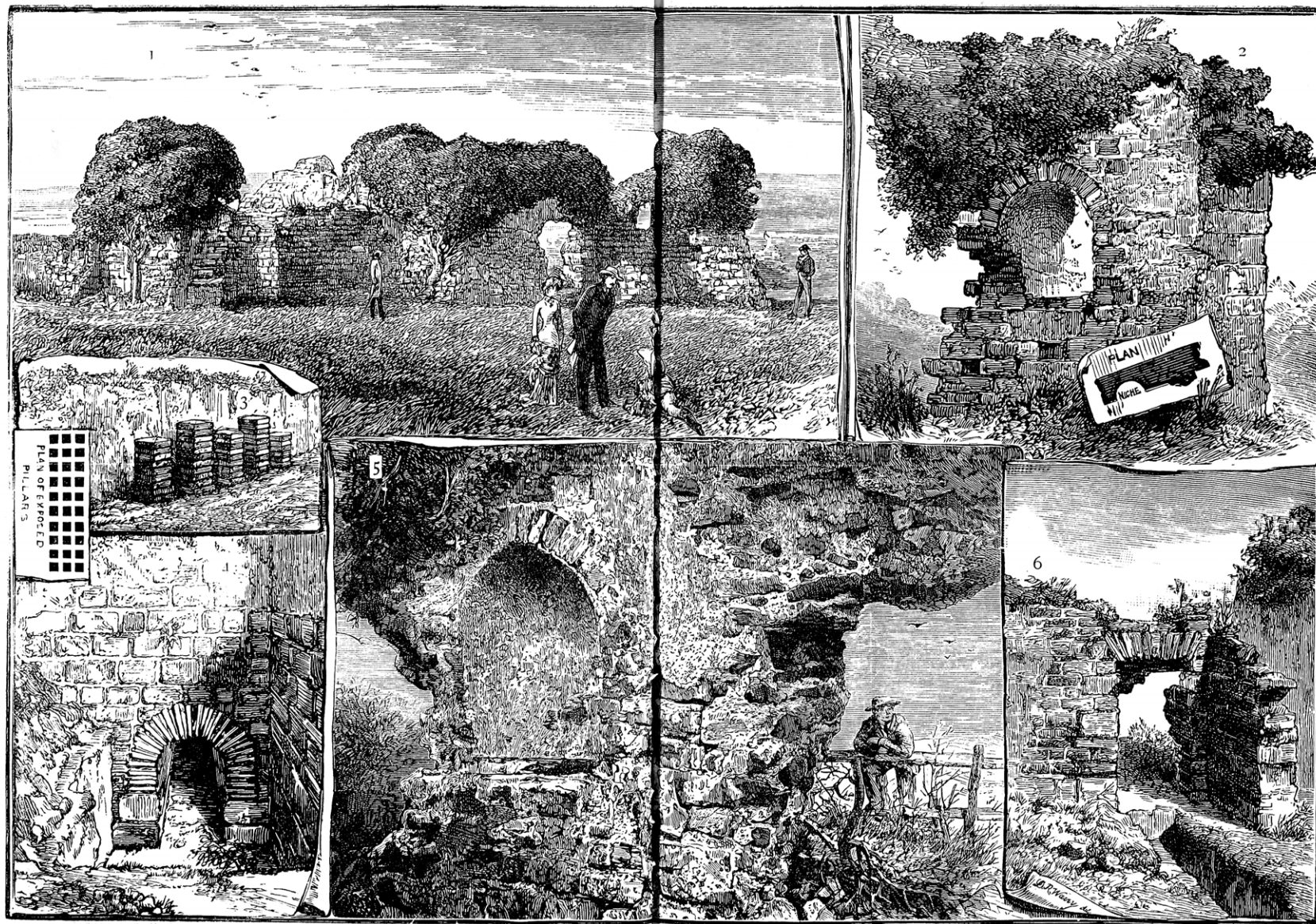


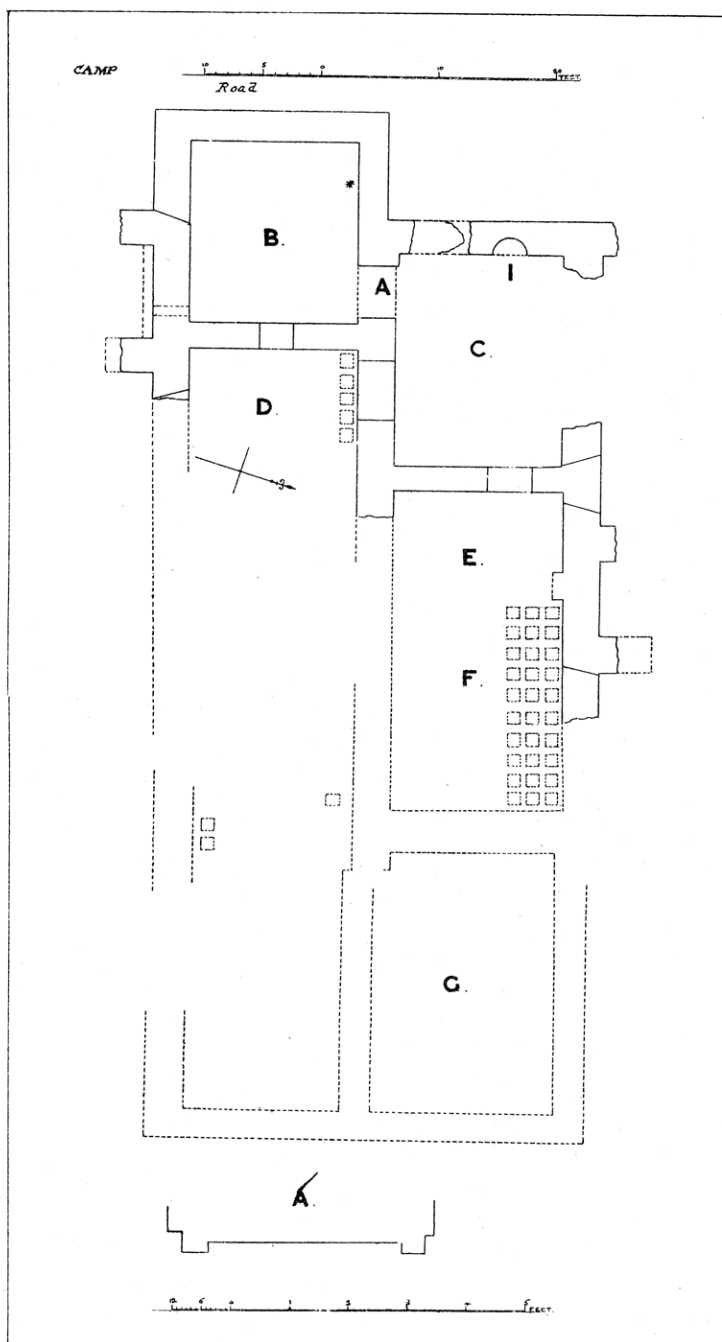
ILLUSTRATION WALLS CASTLE.

where least disturbed, rested on a rough flag. There was a channel of about four inches wide, running between this mass and the northern wall of the room as far as the doorway, which was choked with fragments of tiles of a very peculiar cylindrical form, but wider at one end than the other. We were unable to find a perfect one, but they appeared to have had an internal diameter at the wider end of about five inches, having a length of about a foot, and tapering towards the other extremity, where the breadth might be three inches. The narrower end of one might therefore be inserted in the wider end of the other, and so, with a slight slope, form a continuous piping, which where clay was abundant, would be less expensive than leaden tubing. It would have been very instructive to have seen them in their original position, but when it is stated that within living memory a large tree was cut down, which had grown to maturity in this room, it seems wonderful, not merely that the sub-structure should have preserved any traces of its original arrangement, but that any of the building should have survived. Our attention was next attracted to some tiles placed perpendicularly, or nearly so, in the east corner of the south wall of the same room, and about the level of the floor. Upon excavating here the results were very successful, for these tiles were found to be the voussoirs of an arch, the base stones of which rested on a flag forming the bottom of the opening: there were two stones on each side, rising to a height of about eighteen inches, above which the arch consisted of tiles to its crown, a further height of sixteen inches; the breadth of the opening was two feet nine inches, and lying immediately in front was a large boulder about two feet long, with a maximum breadth of fifteen inches. At the same level as the floor of the arch was an opening of about a foot square, piercing the east wall in the south corner, immediately above which the wall had been somewhat rudely hollowed out beneath the level of the floor subsequent to building.


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It may be stated that here, and generally with regard to the walls wherever they were traced below the surface, the courses were continued downwards from eight to ten in number, and at a depth of about four feet rested, without any set off, on a brown tenacious clay, the same that crops out on the adjacent bank of the Esk, being a member of the upper boulder clay without that admixture of gravel which characterises generally the lower bed.

The next excavation of any importance was made along the northern wall of the so-called room F, and we were gratified to find, what we had always supposed to have once existed, a hypocaust, following the remains of which we came to a cross wall running at right angles southwards, and here we found ten pillars in a line, and further excavation uncovered two other parallel lines, making thirty pillars in all. These have been formed of from ten to twelve tiles, leaving a hollow space of about two feet nine inches deep; most of the pillars have two or more tiles at the base, of a foot to thirteen inches square, and two inches thick, whilst the upper tiles are about ten inches square and one and a half inch thick; these tiles are not unfrequently ruled across from corner to corner on the lower face. A fragment of one bore a most interesting impression; apparently the tile had been lifted from the ground when undergoing the drying process, and being in a somewhat yielding state it had bent slightly, whilst on the lower side the marks of the workman's fingers had become impressed, the lines on the cuticle being distinct and unmistakable. The tiles are very loosely jointed, like the courses of the building; the spaces between those forming the plinths, which rest on the native clay, are about eight and a half inches from east to west, but from eleven to thirteen inches from north to south; in one or two cases the spaces are rudely paved with pebbles. At the south-western end of the excavation some of the grouting remained apparently *in situ*, but without resting on any flagging; which might, however, have



have been removed, for the pillars were less perfect here than elsewhere.

Between the northern row of pillars and the wall of the room abundance of tiles occur, but they have shrunk into a mass so compact and clogged with soot that I was unable, even after much labour, to solve the mystery of their arrangement. These tiles were hard baked, and gave out when struck a metallic ring; they were about three-quarters of an inch in thickness, and ten and a half inches in length, but none were sufficiently perfect to enable me to ascertain their exact breadth; many of them have notches in one corner of two inches in depth and the same in length; my impression is that they were arranged so as to form a close flue. Numerous pieces of iron, much corroded and in many cases hollow at the core, occur here, suggesting that the tiles may have been fixed by fastenings of this material; tiles of similar character, with a round instead of an angular groove, and one with a piece of iron attached thus  occurred not unfrequently.

Having proved the existence of a hypocaust, and not having much time or money for the purpose of excavating at our disposal, we resolved to confine ourselves for the present to ascertaining something more as to the size of the building, and to exposing the other end of the arch opening in room B. The walls were followed by trenching, and exposed, as indicated by dotted lines; wherever the excavations were extended internally, hypocaustal pillars, or remains of such, were discovered, and the soil at a depth of say three feet blackened with soot, and this latter condition was by no means confined to the interior.

At the south side of the threshold of the doorway between rooms C and D, a line of five pillars was found. The walling here was continuous under the threshold, which it was not at the doorway between B and C, but it may have been removed at some time in the latter case. In a doorway between rooms C and D, the stone threshold,
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which has been broken, rested on very large tiles, one having a length of two feet ten inches; enough of the stone threshold remained on the west side to show a similar grooving to that in the doorway between rooms B and C. In the north-east corner of room F. there is a curious opening, apparently for a flue, passing through the wall of what I now call room G, and then through the wall into a space north of that, which would seem to indicate that the building was continued in that direction. Another opening, and a very peculiar one, passes through the south wall of this Room into a curious square space where some unusually large blocks of sandstone occur; the question suggested itself to me—Could this be the base of a chimney?

In trenching along the southern wall, a fragment or two of glass, and a single piece of molten lead were found, but in digging outside of room E, beneath where a window is marked on the plan, two sorts of glass were unearthed, at a depth of nearly four feet; both are a little opaque on one side, and whether that may be the cause of the peculiarity or not I cannot say, but it was observed that the opaque side was always downwards. The ground at this depth bore no marks of having been disturbed for a lengthened period. Still further to test this discovery, a pit was dug outside of the window in room B, and pieces of glass under similar circumstances were discovered. The one sort was an eighth of an inch thick of a greenish hue, and one piece had a rounded edge showing that it had been cast, the other was only a twelfth of an inch thick—no fragment was more than two inches in length. In any other place the glass was so similar to modern that it would not have attracted observation, but, having regard to all the circumstances, I am convinced that it was Roman, and we now know that glass windows were not uncommon among that people, and in this climate must have been much used. Our next object was to excavate at the outside of the south wall of room B, and the tile voussoirs of
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the arch were speedily exposed, but so much wrenched out of their places by the ivy which has been permitted to grow with great luxuriance round the ruin, that the arch has been in a great measure destroyed. The whole material of the external arch is tile; a large one, forming the base on the eastern side, has an external face of nine inches, and an internal one towards the opening of eighteen inches, with a thickness of two inches. From the same side of the arch to the corner of the buttress is two and a half feet, and from the corner to the south face of the buttress, which on being exposed was found to be perfect, is two feet three inches. The external facing of the whole front from buttress to buttress projects eighteen inches from the wall, say from the level of the floor to the foundation, and is altogether formed of tile, so that at this point, where the arch pierces the wall, the total solid thickness is three feet of stone and 18 inches of tile, or four and a half feet. We concluded that this was the site of the furnace, and the tile facing is certainly calculated to resist extraordinary heat.

I am not aware that the importance of the system of disseminating heat in Roman structures has been sufficiently considered; judging from the blackened nature of the subsoil wherever turned up, inside or immediately outside of the building, the whole site must have been covered with hypocausts, and the holes piercing various walls show that the smoke and heat must have travelled over a considerable distance, and by tortuous ways. I have mentioned in my remarks on room B, a hollowing out of the wall above the square hole described; this may have been to move a damper to exclude smoke and heat from that and other chambers, or to pass down a brush to sweep out the flue, but what strikes me with great force is the powerful draught that must have been required to draw smoke and heat alternately through extensive hypocausts and narrow flues. Could this be done without a chimney? I am almost afraid even to suggest so homely a domestic appendage

dage in connection with a Roman villa, but perhaps that may not be more repugnant to the feelings of an antiquary of the present day, than the idea of glass windows in such a structure would have been to his grandfather of last century, and I venture again to name that curious portion of the building to which I have before adverted. I have mentioned a large boulder as being placed just inside the prefurnium in exactly the same position as a similar one at Brading villa, pictured in the "Illustrated London News" of September 3rd of last year. Such an obstacle would prevent the influx of fuel into the passages, and at the same time rather assist the draught. I suppose that wood was the fuel used, pieces of charcoal being abundant, but not a trace of coal; indeed the distance from the mines would almost prevent its use, but it was commonly burnt at Moresby, the next known station northwards. Outside of the supposed rooms E and F, and in the space between the windows, excavations were made, but without any determinate result. The buttress nearest the hypocaust terminated in four faced courses, probably the upper ones had been removed; and indeed it is singular that so much masonry remains beneath the surface, because in that position the damp has materially weakened the mortar. Just outside the point named, and a foot or more beneath the surface, there was a considerable gathering of small boulders, or cobbles, certainly not an accidental gathering, but such as might have been intended for the rough foundation of a road.

Several holes were made in and near room C to ascertain whether the wall with the niche was continued northward, but though grout, tiles and pottery were abundant, nothing special was discovered. Small fragments of pottery were found everywhere; one sort of a reddish hue which might be Samian, and the other a smoked ware, but none with any pattern more ornate than a plain lozenge or fret. Fragments of vessels of a coarser clay, and a few
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pieces of slate with nail-holes occur. No tesserae, much less tessellated pavements, rewarded our exertions; it may be that the floors were merely flagged or made of plain tiles.

There is a singular hole in the wall at the supposed level of the floor between rooms C and E, it is partly based with tile in the interior, and facing room C is cut in two stones thus—. Nails occur in the west wall of room D, south of the door opening into room B, and also in the south wall of the same chamber, which are I think coeval with the building.

A perusal of Gell's "Pompeiana" has suggested to me the probability of this building having been the thermæ of the camp, or town as the settlement, no doubt, ultimately became. If it were so, the space marked B might contain the cistern, and be separated by a mere curtain, from the Tepidarium D, or the division walls between the supposed rooms D, E and F, might not be continued above the floor. I perceive the difficulty arising from the position of some of the doorways, especially the one marked A, but in dealing with a building altogether unique, and with a subject so obscure as Roman thermal arrangements, some vagueness, and even licence, in conjecture may be pardonable.

Two superficial excavations were made in the neighbouring camp, one exposing a portion of pavement formed of small cobbles, both with fragments of tiles. Another was made in a field about two hundred yards from the ruin, and tiles, fragments of coarse pottery, perhaps portions of amphoræ, and a minute piece of a glass vessel were found.

For the amended and extended plan I am mainly indebted to Canon Knowles. May I venture to express a hope that all visitors to this interesting ruin will be careful not to climb over or damage the hedges, and will apply at the house for permission, which Mr. Brown kindly gives, to inspect it.

PLAN.

P L A N .

A is the doorway between rooms B and C, section of which is given at foot, and it is noteworthy that this, and the other door openings must have been considerably under five feet.

D, E, F, and G may or may not be separate rooms; they are all distinguished by traces of cross walls, which might not rise above the floor. The diagonal lines through the walls mark the sides of windows; in none of the five cases are both sides traceable.

The dotted lines through the south side of room B mark the flue; the tile facing of the prefurnium is indicated by another dotted line. In all other cases the dotted lines mark basements of walls exposed by the excavations.

The asterisk shows the approximate position in the wall of certain small limestone cobbles, which through exposure have become almost as porous as pumice stone, and which were originally thought to be grout.

The block from which the sheet of illustrations is taken was most kindly lent to the Society by the proprietors of "The Graphic."

- No. 1. General view of the ruin from the east.
,, 2 & 5. Niche in western wall of Room D.
,, 3. Remains of some of the pillars of the hypocaust, as exposed in room F, with plan of the whole.
,, 4. Interior of prefurnium arch.
,, 6. Doorway A, between rooms B and C, but the arch is rather too much depressed.
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