

Glastonbury Abbey.

THIRD REPORT ON THE DISCOVERIES MADE DURING THE EXCAVATIONS, 1909-10.

THE MONASTIC BUILDINGS : FIRST EXCAVATION.

BY F. BLIGH BOND, F.R.I.B.A.

THE work of excavation, which had been suspended during the period of the royal visit (May 22nd, 1909), was resumed shortly afterwards, and an attempt was made to locate the foundation of the destroyed eastern part of the south aisle wall of the nave at its junction with the south transept.

The first trench revealed (at A on plan) a small remnant of the south face of the nave wall consisting of Doultling ashlar from which the core had been removed, leaving it in a weak state and falling forward. The masonry was precisely similar to that of the existing wall, and was found to extend to a depth of four feet below the level of the nave floor, below which no facings appeared.

The discovery of some slabs of paving-stone adjoining marked this as being the level of the cloister floor, and further proof was provided as a result of the sinking of several pits alongside the nave wall, at the points corresponding to the general divisions.

These shewed the same continuance of ashlar facing, and the bases of the moulded piers of Abbot Chinnock's early XV Century cloister were some of them discovered in position. At the foot of one of these piers a sufficiency of the original

paving of the cloister floor remained to enable the level to be obtained with accuracy.

The paving in question is not, however, the actual flooring surface, which was undoubtedly of figured encaustic tiles, but represents the flat stone underlay, or support, for the tile floor.

The next point to be ascertained was the true position of the west wall of the transept, which would determine the point of junction with the nave. This was located without difficulty by the discovery of a similar remnant of its masonry at the same level, with the ashlar face perfect for a few feet in height and breadth (B on plan).

From this point a trench was driven eastward in order to test the thickness of the transept wall. It was found that the whole of the back or inner thickness of the wall had been removed, but the nature of the filling encountered shewed that this wall must have had a thickness of about thirteen feet from the level of the cloister floor upwards and probably about another two feet on the foundations.

Pursuing the line of the transept wall southwards a further fragment of the freestone facing was encountered at about 24 feet south of the hypothetical point of junction of nave and transept walls.

This piece was about five feet long, and lying in front, and parallel to it, was a stone water channel with some flat cover stones remaining over it. This channel was at a level immediately under that of the cloister pavement. A third trench (C) was carried in eastward from this point to ascertain the thickness of the wall, and although the full depth could not be obtained without the removal of a tree, a thickness of more than twelve feet was established.

Going still southward, after a gap from which all walling had been rooted out, had been passed, a further section of walling bearing ashlar facing was met with at about 40 feet from the angle of nave and transept, and this presented marks of special interest (D on plan).

Upon its west side was a small chamfered projection, shewing that this was the situation of one of the general divisions of the cloister, since the detail corresponded precisely with the nosings of the piers attached to the face of the aisle wall.

But whereas the latter had a projection of $17\frac{1}{2}$ ins., and a width of 20 ins., this one shewed only $2\frac{1}{2}$ ins. in advance of the face, and was proportionately narrower. The difference is explained by the fact since revealed that the ashlar facing of these portions of the transept wall is in reality only the face of the stone bench-table of 15 in. projection, which ran along the east alley of the cloisters. Now there appears no trace of any such bench against the north wall: consequently the bases of the piers on this side are seen to their full depth; but on the east they are of course buried in the thickness of the bench at their base, and emerge only above it.

On sinking the ground behind D it was found that a thin layer of the old foundation stones of the transept wall remained, over the whole south-western extremity of the transept wall, from C to D. But just beyond D they had been entirely removed, and the southern face of the transept wall could not, for this reason, be seen. Evidence of its position was nevertheless forthcoming, for the clay face of the original building trench was met with at this point. This was encountered at just over 48 feet south of the datum (point of junction).

This clay facing proved to be quite a narrow film of clay interposed between the south face of the transept wall and the north end of a continuation wall which from this point runs southward in line with the other and forms the east wall of the cloisters.

The exact position of the south face of the transept wall has been made additionally clear by the excavation of trenches at two other points (E and F) eastward of D. At both these points the same clay face was revealed, in a true line, east and west.

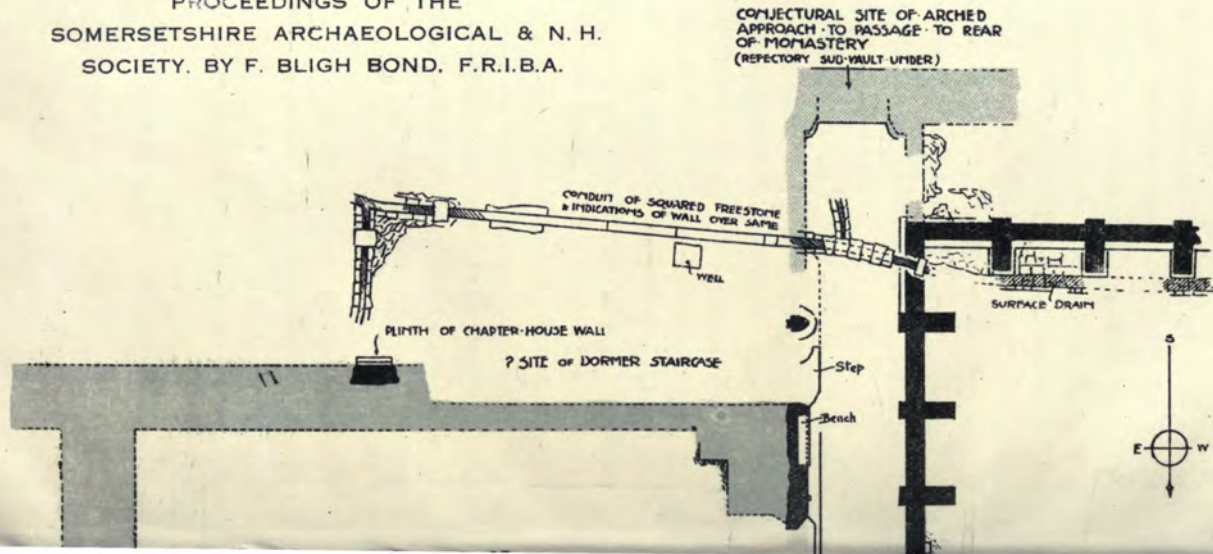
The trench at F was carried across the whole width of the

GLASTONBURY ABBEY.

PLAN OF EXCAVATIONS OF THE MONASTIC BUILDINGS (FIRST SECTION),
INCLUDING EAST PART OF CLOISTER,
AND FOUNDATIONS OF CHAPTER HOUSE.

TO ILLUSTRATE ARTICLE IN VOL. LVI (1910),
PROCEEDINGS OF THE
SOMERSETSHIRE ARCHAEOLOGICAL & N. H.
SOCIETY. BY F. BLIGH BOND, F.R.I.B.A.

REFECTORY SUB-VAULT.
(FOUNDATIONS EXPOSED 1910).



CHOISTER GARTH.

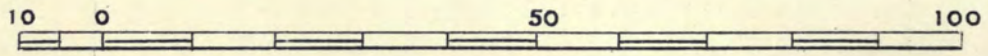
SLYPE

Site of
South Transept

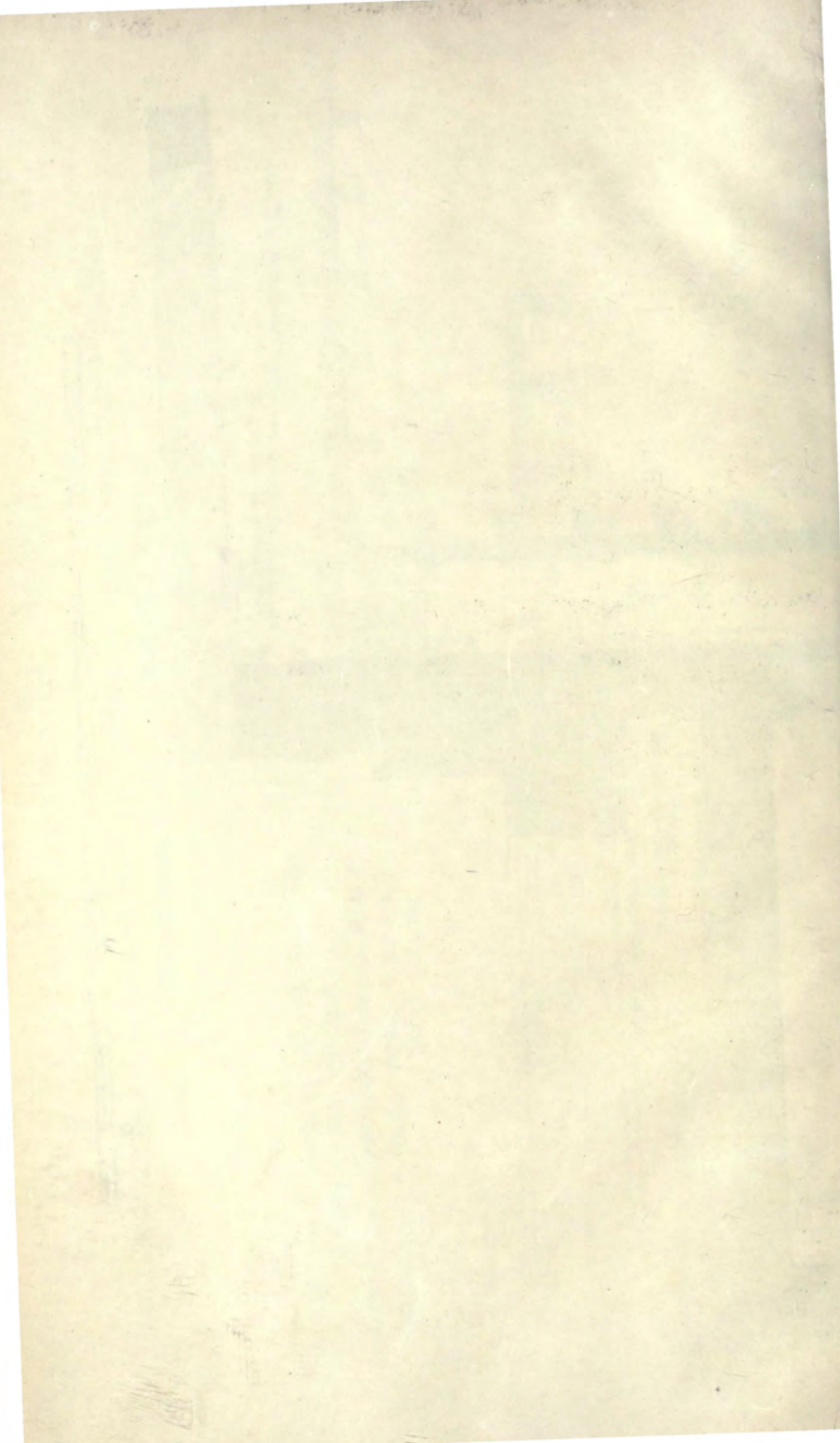
Site of North Alley of Cloister

FOUNDATION OF STEPS
FROM CHURCH DOOR

PRESUMED SITUATION OF
DOOR FROM PLAVE TO CHOISTER



SCALE OF FEET.



footing until the clay was again in evidence at its northern extremity, and it shewed that the south wall of the transept possessed the same or nearly the same thickness as did that on the west. This thickness was abnormal, as compared with that of the rest of the main walls of the Abbey. These are not more than 8ft., whereas the thickness indicated for the transept walls by these excavations was 13ft. on a 15ft. foundation.

A good deal of stone was found in the trench at F. The 15ft. foundation was fairly complete, and above it the 13ft. width was visible, the clay being packed against it, thus overlapping the foundation course by a foot on each side.

The reason for the increased thickness of these walls has yet to be determined. It will perhaps not become clear until the whole area has been excavated. A suggestion first made to me by the Rev. R. A. Cayley seems very worthy of consideration, namely, that the foundations were widened to include the breadth of the monks' night stairs from the dormitory.

The position of the dormitory at Glastonbury is not certainly known,¹ but there would be abundant precedent for a situation over against the east wall of the cloister, as at Westminster, in which case this would be the natural place for the night stairs to the church. They would have been entered somewhere about the middle of the south transept wall, thence descending westward alongside it, turning north at the angle of the wall, and running down to the floor somewhere in the neighbourhood of the arch which opened to the south aisle of the nave.

But we may also bear in mind that, following the example of Wells, there may have been a stair turret with a newel stair at this angle (s.w.) of the transept, and it may even have assumed the dimensions of a tower. This would be a Cluniac model. There was, we know, a bell-tower at Glastonbury, in addition to the big central tower. The great clock of Peter

1. It is traditionally on this side. (See note on map in Colonel Long's library, p. 77).

Lightfoot stood against the wall of the south transept. The wall of a bell-tower might appear a suitable location for the clock.

Right in the angle of the cloister, at the junction of aisle and transept walls, a rough stone footing was found lying against the ashlar face (B). Westward of this, a bed of clay was met with, rising a good deal above the level of the cloister floor, and further west again, more rough foundation work, alongside the footing of the aisle wall, and encroaching for some feet upon the cloister alley. At 14ft. 2ins. from the angle of the cloister (face of wall B) westward, there was a square reveal, or straight joint, formed perpendicularly in the freestone face of walling (A).

These were all the traces left of the foundation and supporting walls of the former steps from nave to cloister, but they sufficed to shew that the door was in the angle of the cloister and opened from the nave and not from the transept, *i.e.*, from the north and not from the west.

THE CLOISTER: EAST ALLEY.

The work of excavation was now carried on southward along the face of the east or rear wall of the cloister alley. The freestone facing was found remaining for the greater part of the distance. Behind it the core of the wall had been removed, but the clay face of the original trench proved a clear indication of its thickness, which is 9ft. 3ins. below the bench-table, indicating a thickness of 8ft. for the wall above. The nosings of the piers remaining were sufficient in number to shew that the divisions of this alley of the cloister were generally the same as those of the north side (*i.e.*, 10ft. 2ins. in length), with one notable exception.

This was the seventh bay south, which proved to have a length of 13ft. 3ins. Centrally placed in this bay was a step 9ft. 6ins. long and about a foot in projection, with angular ends,

giving access to a doorway of which the foot of the splayed jamb stones still remained. From its position this seemed undoubtedly the entrance to the chapter-house. Its actual width inside the splays is 6ft. 6ins.

The centre of the door is 81ft. 9ins. south of nave aisle wall face, or 33ft. 3ins. south of the transept wall face as computed.

In the next bay south a substantial piece of the stone seat of the benching was found in position, and in the bay beyond (the ninth), indications of another large opening were found.

The moulded and stopped base of the pier remains perfect at the division of the eighth and ninth bays (which forms the north side of this opening). A rounded step with a projection of nearly 2ft. remains before the aperture adjoining, for a distance of about 7ft., where it breaks off square, and the foundation also disappears, to be renewed a little further on beneath the position proper for the next divisional pier, which is not *in situ*.

In the trench at this point, however, a massive base stone, of the same architectural character as the last-mentioned jamb, but having its mouldings returned on both sides, was found lying over on its face in the trench. Its character proved it to be one of the series of divisional piers, but with this difference: that was worked to occupy the centre of a double doorway. The existence of the step shewed that a wide aperture had occupied the ninth bay, and it was also apparent that this aperture had not been subdivided in its width by the pier in question, since the foundation in the centre of the ninth bay was at too high a level to take it.

But the roughly circular patch of masonry under the next division seemed to have been expressly provided for a feature of this kind, whence it may be concluded that the pier in question occupied the point of division between the ninth and tenth bays, and had an archway on each side of it, that on the left leading up a stair, perhaps to the dormitory of the monks. That on the right probably gave access to rooms on the ground floor—the calefactory or the parlour. The tenth division is

the last on this side, except the balance of wall-space fronting down the south alley.

The whole width of the east cloister has now been laid open for almost its entire length. The outer wall foundations are practically perfect, on plan, and thus give the form and dimensions quite definitely. The width of the east alley from the face of the bench to that of the stone footings opposite, is 11ft. 9ins. Allowing an additional 15ins. for the width of the bench-table itself, we get 13ft. as the actual width. It yet remains to be seen whether the north alley had a similar width, but the spacing of the bays of the east alley would appear to make that on the north rather wider, and the south alley certainly narrower.

The total length of the east cloister from wall to wall works out at a little over 131ft., as follows:—

Width of north cloister, say -	-	13ft. 3ins.
Half width of outer wall : north	-	1ft.
Nine bays at 10ft. 2ins.	-	91ft. 6ins.
One ditto at 13ft. 3ins.	-	13ft. 3ins.
Half thickness of outer wall : south		1ft.
Width of south cloister alley	-	11ft. 3ins.

This corresponds very nearly with the measurement (by scale) of the cloister as shewn in the plan given by Warner (Pl. XX), but he makes his cloister too long in the other direction (east and west).

Of the other old plans extant, that of Dr. Stukeley is the earliest, but it is quite too indefinite and sketchy to be worthy of attention. Then there is the plan published by Collinson in 1789, largely on the lines of Stukeley's and in many respects hopelessly inaccurate, but still a little more definite. This makes the cloisters about 122ft. by 118ft. (by scale), but shews only seven divisions to the enclosure on N. and S. sides, and six on E. and W.

Lastly, there is the more careful plan compiled by John Britton, and given in his "Architectural Antiquities." But

his lack of genuine data is betrayed in his diagram of the cloister, which scales only 116ft. by 112ft.

We have therefore nothing reliable as a test, except the results of excavations.

FLOOR OF CLOISTER.

Architectural Detail.

The platform of the cloister alley was marked by a hard level deposit of rather dusty light brown mortar. In two places a thin layer of stone took its place at the same level. Alongside the bench wall there was a rubble stone footing of about 18ins. width closely underlying the floor level. Remains of square stone water channels were found in the positions marked on plan. The cover-stones of these were at the same level. No encaustic tiles were found in position, but the débris from the excavation were full of fragments of them. It would appear that they must have been taken up before the final destruction of the buildings.

On the floor level as indicated by the mortar bed, was a narrow layer of dirt, such as might have accumulated through neglect, and over this came the final tale of ruin in the shape of broken remnants of window glass, once richly painted, but now disintegrated, and for the most part too far decomposed to transmit light.

Above and around these fragments, a little more earth, and then the dust and chaos of the last collapse, from which a wealth of architectural fragments has been recovered.

Many of these throw light upon the design of the XV Century cloisters, and with the data now recovered of the plan and of the internal elevation (which latter is preserved on the aisle wall), it may yet be within the bounds of possibility to recall the general aspect of these fine buildings. For handsome they were without doubt. In character not unlike those of

Wells, yet vaulted with greater richness and profusion of panel-work: their windows finely traceried and filled with glass of great magnificence, the walls opposite decorated with a sunk panel-work agreeing in character with the vaulted roof.

Special Features.

I. The Slype.—Just beyond the south-western angle of the transept, and in the fourth bay south of the east alley, was a gap in the masonry of the bench-table. This corresponded in position with that usually occupied by the slype or passage east lying between cloister and Chapter House. It is worthy of note that Warner, whose plan is in many respects a good one, shews in this place a passage about 12ft. wide (by his scale) which he labels *N.*—A Cloister.

South of this comes the wall of the Chapter House. Now the foundation of the wall in question has been opened up, and it is 8ft. wide or thereabouts (measured by the width of its trench), and its northern face lies 9ft. south of the foundation of the transept wall. Allowing a foot more on both sides for the set-back of the walls on their footings, we get a width of 11ft. for the slype, and I think this may be taken as the minimum width.

II. Between the buttresses of the sixth bay of the cloister there was revealed the foundation of an additional building projecting 6ft. beyond the external face of the enclosing wall, and 2ft. beyond the line of the buttress footings. This was of freestone a little over a foot in thickness, whereas at the same level the rest of the walling was of lias stone and 2ft. thick.

A number of freestone fragments were found at this point, among them being parts of a traceried screen, with XV Century detail rather similar to the window tracery, but of less thickness and without any mark of glass plane. Parts of a heavily moulded arch were also found. Right behind this projection, and under the cloister floor, the ground was found

to be very soft. An excavation made alongside the bench-table of opposite wall revealed a deep pit like a well full of soft black clay. On removal of this the pit rapidly filled with water, and I could not pump it dry. But the level was reduced sufficiently to shew that a rough arch or cavity had been left in the masonry of the back wall through which the water found its way. The well is partly enclosed by rough walling under the floor.

Close to the north corner of the projecting building a stone water-channel runs out into the cloister garth. The presence of this feature and the proximity of the well seemed to suggest a lavatory, but the position in the cloister is not the most likely one for this, the probability being that it would be situated near the south-west angle of the cloister, at present unexcavated.

I would suggest that this projection may have been the site either of a porch,¹ or of a small office—perhaps for the Chapter clerk.

III. At the point at which the south alley returned, there remain the footings of a heavy stone wall dividing off the east from the south cloister. The excavation has now been carried a short distance further west, and has also been extended southward, where the southern boundary of the cloister has been clearly located.

The footings of the massive wall dividing the cloister from the buildings to the south have been exposed, and the wall drops on the south side to a greater depth, enclosing a range of cellars.

These have been to a great extent opened up and will be dealt with in my next year's report, as they are too large a subject for treatment this year. It may, however, be said that the first or east section of the cellar measures about 14ft. 6ins. by 33ft. 6ins. within the walls, its east wall being in line

1. Compare with a similar feature in this position in the Wells cloisters.

with the east wall of the cloister, with which it makes a very obtuse angle. The remainder is the sub-vault of the Fraternity, and would measure about 110ft. by 33ft. 6ins.

It appears most probable that over this first section of the cellar lay the passage to the further parts of the monastery, and that as the cellar was vaulted at a level some feet higher than the cloister floor, there would have been a flight of steps at the point of entry. There is some slight evidence of a deeply recessed arch at this point in the presence of two prominences of rough semi-elliptical form on the underground footing of the south wall of the cloister at its south-east angle.

THE CHAPTER HOUSE.

It has always been supposed that the Chapter House was a building of rectangular form. Its dimensions are given by William Wyrcestre as follows :—

“Longitudo de le Chapter hous continet 25 virgas

“Latitudo ejus continet xj virgas.”

This makes it 75ft. by 33ft.

Warner, Collinson and Britton all shew it as a rectangular building opening direct from the cloister without any lobby or ante-chamber, and the dimensions they give according to scale on their plans are all inconsistent with Wyrcestre's statement, which is the only definite one we have to appeal to. Thus Warner makes it about 64ft. by 28ft. ; Collinson, 60ft. by 30ft. ; and Britton, 66ft. by 33ft.

These authors could scarcely have had any visible data to go by, as the building is last heard of as standing in the days of Queen Elizabeth, and was gone before Hollar's day, since his view and little plan of the ruins shew no trace of it, and he does not mention it in his accompanying list.

Now the evidence of the excavations is interesting. In the first place they establish William Wyrcestre's statement of the width. The clear width between the trenches north and south

is 32ft., and allowing for an increase of one foot in width in set-offs above the footings, we have the exact dimension he gives.

But the verification of length is by no means so simple a matter. In a trench centrally situated, cut longitudinally east and west, the clay face of an old footing wall was met with at a distance of 66ft. 6ins. from the face of the cloister wall. Deducting the presumed thickness of the latter and with a reasonable allowance for set-off at the other end, there would remain about 59ft. for the internal length. A trench dug along the line of the north wall of the Chapter House shewed a roughly continuous line for the interior face to a distance of 68ft. 3ins. east of cloister wall (face of stone bench). Here a footing jutted forward with a 2ft. projection, and upon it were the remains of ashlar work, as it were the base of a square pier, 3ft. 7ins. wide.

Beyond this were ragged remnants of stone foundation covering a wide and at present indefinite area, and at 77ft. 8ins. appeared some slight indication of a cross wall, 8ft. thick, the clay face reappearing behind this at approximately 85ft. 8ins. from the cloister.

Again deducting from the 77ft. 8ins. the thickness of the cloister wall, we should have between 69 and 70ft. as the internal length of the building, supposing this cross wall to have been the eastern end of the Chapter House. But this does not satisfy William Wyrcestre's measurement. Moreover, the north wall of the building appears to run on still further, as the clay face has been found to turn to the eastward. So it may be that we have still some distance to go before arriving at the real east wall of the Chapter House.

And as to the evidences of cross walls encountered, there are various possible explanations. We know, for example, that the Chapter House was built in the XIV Century, or rather that it was rebuilt, since it is inconceivable that the abbey could have existed till then without one. We have

then the following works of which we may expect to find traces :—

- (i) The first Chapter House¹ (XII or XIII Century).
- (ii) The western half of a XIV Century Chapter House, built by Abbot Monington (1342-74).
- (iii) The eastern half of the same, built by Abbot Chinnock (1374-1420). This abbot also built the cloisters.
- (iv) A lobby or antechamber. No account of such a building has come down to us, but this is no proof whatever that it did not exist. On the contrary, the fact that the rebuilding was shared between two abbots may be held to imply an actual structural division. It is quite clear also that if, as seems probable, the dormitory overran the eastern side of the cloister there must have been such an approach, because no Chapter House of properly dignified proportions could be constructed beneath a dormitory.

It is far more likely that following the precedent of other large Benedictine and Cistercian houses, there was an antechamber here of the full depth of the buildings over, and the actual Chapter House will be found to the eastward of this.

For the present, therefore, I incline to the belief that the remains of cross walls discovered are those of

- (a) The partition wall between the vestibule and the later Chapter House.
- (b) The end wall of the earlier Chapter House.

The position of the side walls of an older and smaller building was also revealed by the excavations. They lie parallel with the others and contiguous, being just within them. There is also some trace of another, and I should say earlier, vestibule of smaller dimensions, the foundation of which lies 18ft. east of the cloister wall (clear measurement). But no stone remains in any of the older trenches, so far as they have yet been un-

1. That is, after the great fire of A.D. 1184. There may, of course, be yet earlier foundations, but these are not likely to be on the same ground.

covered, and the ground has been subjected to so much disturbance that only the slightest traces are left of the wall last mentioned.

Scarcely any architectural fragments were found in these trenches. The most remarkable have been the remains of a gloved hand of a life-sized figure. The glove, or gauntlet, is studded on the back with lozenge-shaped bosses or plates, and the hand is perforated for a staff or spear-shaft. The whole was gilded over.

There were a few fragments of flooring tile, but nothing to be compared in number with those yielded by the cloister which were remarkable both for number and variety.

These must form the subject of a special communication.

To conclude this year's report I would mention that a trial shaft was sunk into the ground of the cloister garth just outside the fourth bay, and opposite the slype. This was taken to a depth of 8ft. below the general grass level, at which point the virgin clay was encountered. Just at the bottom of the shaft a red terra-cotta paving slab, $11\frac{1}{2}$ ins. by $10\frac{1}{2}$ ins. by $1\frac{3}{4}$ ins. thick, was found imbedded in the thick black clay, and close by it two small fragments of ware, having a crystalline glaze of brilliant blue-green tint, and perfect surface and translucency were found.

These articles were submitted to the British Museum authorities, who pronounced the tile to be of undoubtedly Roman date, and the glazed pottery they thought to be Egyptian or Syrian in origin.

The fact that a single small shaft brought to light such antiquities as these certainly suggests that a general excavation of this area might be of great archæological interest and importance. But until funds are forthcoming for the purpose it will be impossible to give the matter attention.

GLASTONBURY ABBEY.

FURTHER NOTE ON THE EDGAR CHAPEL.

In the communication made last year upon this subject in the Society's *Proceedings*, certain facts were stated in favour of the theory of an apsidal termination to the chapel, of a symmetric three-sided form (presumably the work of the last Abbot).

This form, though somewhat unusual in England, is occasionally met with in work of the period. A notable example is that of the similarly placed chapel at the east end of St. George's Chapel, Windsor.

The theory put forward as to the apse of the Edgar Chapel has not as yet been traversed by any contrary argument, but there has been a certain hesitation in accepting it on the part of individual antiquaries. The subject of the chapel has not yet been officially noticed by the Society of Antiquaries, but in due time, no doubt, it will command their attention. At present, owing to the unwillingness of some antiquaries to endorse the 'apse' theory, the repair of the original footing exposed on the south side has been left in abeyance by the desire of the Trustees.

During the past year, however, certain evidence of a highly important nature has come to light, and when this has received public attention, it will probably be found to lift the whole matter entirely out of the region of controversy, by proving that there must have been an original eastward termination of precisely the dimensions arrived at on already existing data.

Having been afforded by Colonel William Long, of Clevedon, an opportunity of examining his collection of old prints and manuscript papers referring to the county of Somerset, I discovered amongst them an old MS. map of Glastonbury and its environs, evidently prepared for a sale of moor lands recently enclosed, and dating presumably from the latter part

of the XVIII Century, since the 'Pump Room' is marked upon it: but there is no statement of the actual date. The following enclosures are coloured, viz.: Heath Moor, Hulk Moor, Martins Moor, Kennard Moor: and the record of these sales should fix it approximately.

The plan of the town is well detailed for the size—about 400ft. to the inch—and it includes a plan in outline of the Abbey Church, shewing the lines of the missing transepts, and also the plan of the Edgar Chapel, with what, allowing for a slight roughness of draughtsmanship, can only be regarded as a broken apsidal end, since it shews two slightly converging lines with a gap in the centre at the extreme east. Beneath the map is a schedule of the different parts of the Abbey, as follows:—

- (1). The Chapele of King, 87 foot by 49 foot Edgar's Chapel.¹
- (2). The Choir 147 foot by $76\frac{1}{4}$ foot.
- (3). Chapels (*i.e.* Transepts).
- (4). Body of the Church, 225 foot by 34 foot.
- (5). Chapele dedicated to Our Saviour and ye Virgin,
59 $\frac{1}{2}$ foot by $23\frac{3}{4}$ foot.
- (6). The Cloisters.
- (7). Dormitories.

etc., etc.

The total length given for the Edgar Chapel may be assumed to be an external measurement, since the width given (49ft.) is certainly such. The latter is inclusive also of the small additional building, perhaps a sacristy, whose footing trenches were revealed by excavation on the south side, and have now had their position permanently recorded by a concrete filling.

1. Readers will note that this is the first independent record which has been found, giving the precise location, with the name of this chapel. Leland gave the name, but only a vague general location; Elizabeth's commissioner gave the dimension, and implicitly the location, but miscalled it "The Chapter House;" whilst Warner gave the true location, and shewed a plan with an apse, but gave no dedication to King Edgar.

Assuming then that the length of 87ft. here given for the Edgar Chapel is an exterior measurement, I find that this is absolutely in accord with the figures I have already given, and tallies precisely with the general computation of length of the Abbey given by Hearne, namely, 580ft.

For a detailed calculation of the real length, and that of its principal parts, I may refer my readers to the table given on page 49 of my *Architectural Handbook of Glastonbury Abbey*, (1910 edition). It will there be seen that I had already computed that the interior length of the Edgar Chapel was 83ft. 6ins. With 87ft. as the external dimension, we have a residuum of 3ft. 6ins. for the thickness of the missing east wall of the apse, and this is exactly what would be expected, seeing that the footings already discovered of the side walls are approximately of the same dimension.

I should like to express my great sense of indebtedness to Colonel Long, for having given me the means of proving the truth of the contention I made last year, by affording evidence which cannot fail to be convincing to any antiquary of unprejudiced mind. At least it may now be felt that any objection hereafter expressed to the hypothesis of a three-sided apse can have no weight unless fortified by positive arguments to the contrary.