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ON FOUNDATIONS OF EARLY BUILDINGS, RECENTLY DISCOVERED IN LICHFIELD CATHEDRAL.

BY THE REV. ROBERT WILLIS, M.A., F.R.S., &c., &c.,
Jacksonian Professor in the University of Cambridge.

LICHFIELD Cathedral, although small, has always been considered as one of the English primary examples of mediæval architecture, and did it but possess a good chronicled record, would be one of the most valuable for the history of the development of the styles. A new interest was given to it during the past year by the discovery of foundations of earlier structures within the choir, which, by the kindness of some members of the Chapter, I have had the opportunity of investigating. The object of the present paper is to describe these, and to show their bearing upon the early history of the building, as well as to sketch some hitherto unobserved points of the architectural history of the existing parts.

In the first place it will be best to give a description of the recent discoveries, which are all contained in the choir or eastern limb of the cross. This has eight pier arches on each side, and consequently seven piers and a half pier or respond, extending from the tower piers to the lady chapel, which in this cathedral is of equal height to the vault of the choir. I shall designate the piers in numerical order from west to east.

The cathedral, like many others, had long been found to be extremely cold and uncomfortable during the performance of the services, and this led to the unfortunate arrangements of Wyatt in 1795, now cleared away, which consisted in walling up the pier arches of the choir, and closing the

eastern tower arch with a glass screen, so as to convert the united choir and lady chapel into a long aisleless or apteral chapel, but without success. In 1856 it was resolved to introduce a warming apparatus, which, as a mechanical contrivance, proved perfectly successful. The choir was made thoroughly comfortable. But this apparatus necessitated the construction of a central flue, 4 feet 7 inches wide, beneath the pavement, opposite the fourth and fifth piers, and dividing into two branches between the third and fourth piers, so as to warm the choir.

In digging the trenches for the reception of these flues, various walls were encountered, which had to be cut through, but as at that time the daily services were continued without interruption, the pavement could only be removed and replaced as quickly and with as little disturbance as possible, and it was impossible to make researches to right and left so as to trace the connection or plan of these walls, although several notes were made of the portions observed, as will appear below.

The works of restoration and repair carried on during the last year, under the able direction of Mr. Scott, were of so extensive a nature as to require that the whole of the choir and transepts should be given up to the masons. The service was, therefore, as a preliminary step, removed to the nave, and the three arches which connect the latter with the transept were temporarily closed up.

The opportunity thus offered of a further examination of the walls observed in the choir in 1856, was not neglected. With the hearty concurrence of the Dean and Chapter, a systematic search was made, that has developed the original arrangement of the earlier choirs of the cathedral. As far as possible the walls uncovered were left open for the inspection of visitors, until the progress of the work made it necessary to cover them up. But many of the excavations were necessarily closed as soon as the measurements were taken or the observations made. Careful record was, however, kept of all that had been observed, especially by Dr. Rawson, who, with the assistance of Mr. Hamlet, has from the beginning undertaken a complete and carefully measured survey of the old foundations, the result of which he has most kindly placed at my disposal. Mr. Clark, the clerk of works, has also drawn a plan and taken measures; for the

communication of which and for various particulars relating to these foundations, I have to record my thanks.

By the kind invitation of the Rev. Canon Lonsdale, I visited the cathedral in August last, and occupied myself with as careful an examination of these remains as my short stay would permit, for the purpose of endeavouring to discover their relation to the architectural history of the building. The results I arrived at, I will now endeavour to place before my readers.

DESCRIPTION OF THE FOUNDATIONS.

The plan (fig. 3) shows the whole choir from the tower piers to the lady chapel, and the foundations are carefully laid down, partly from my own sketches and measurements, but principally from the data supplied to me by the kindness of Dr. Rawson, Mr. Hamlet, and Mr. Clark, since my visit. The different parts I have distinguished by peculiar hatchings to correspond with the views that I am about to explain of the connection of these walls. For this explanation, and for the sketch of the architectural history, I am solely responsible.

The earliest of the foundations (A, B, C,) belongs to an apsidal building, the inside of whose western wall coincides with the eastern extremities of the tower piers, with a slight difference of orientation.¹ This building extends eastward to the fifth severey of the choir; the outer boundary of its lateral walls seems to lie in contact with the line of the present bench table of the side aisles, and it terminates at the east in a large apse. The walls rest on the rock, which is about 7 feet below the pavement² of the side aisles, and rises at

¹ This is due to the different orientation of the transepts and the choir. The nave and transepts appear to be at right angles, but the choir inclines considerably northward. The apsidal building coincides in direction with the present choir. The tower piers are in the line of the transepts. The orientation has never been exactly measured. Dr. Plot first directed attention to it, stating that the cathedral declines no less than 27 degrees from the true points, but neglects the different orientation of its nave and choir. He has some curious theories on this matter in his *Natural History of Staffordshire*, p. 368.

² The levels of the different foundations and surfaces in the following description have all been measured from the present pavement of the side aisle of the choir, but as that is liable to be altered from time to time, it may be well to state that this pavement is one foot below the surface of the bench table which lines the walls of the north aisle. In 1780 the pavement of these aisles was five inches lower. This was nearly the level of the original pavement of the presbytery, for it was three inches above two open stone coffins on the south side, which had been covered by a slab in the pavement itself, as mentioned below.

present to within 11 inches of that level. The thickness of the western wall is 5 feet 6 inches, that of the lateral walls 5 feet $8\frac{1}{2}$ inches, and of the apse 5 feet. The portion of apse which was visible at my visit was faced with rough masonry, in courses about 6 inches high, and appeared intended to receive a coat of plaster externally. The internal dimensions of this building are 52 feet 3 inches in width, and 70 feet $1\frac{1}{2}$ inch in length. The radius of the apse, being of course one-half of the width of the building, is 26 feet $1\frac{1}{8}$ inch. The width is too great to have sustained a roof without internal pillars. A few trials were made at my request in search of foundations for these, but the area has been so cut up by graves and flues and by the foundation of Wyatt's organ loft, which occupied the whole of the first severey of the choir, that no satisfactory result could be obtained.³ The semicircular space of the apse especially has been destroyed by the branching flues and graves. This apsidal building was partly observed in 1856, when the chapter-clerk made a sketch of a part of the apse uncovered near the fourth north pier. Dr. Rawson and Mr. Hamlet also examined the south-east and south-west parts of the lateral wall in 1856, and in 1860 the middle of the west wall, the north wall in three places, and as much of the middle of the apse as the hot-air flues had spared. The only portion which remained uncovered at the time of my visit was the south-east part of the apse in connection with the building next to be described.

This was a square-ended apartment, or rather chapel (D, E, F, G,), which projected eastward from the centre of the apse, but with a slightly different orientation, as the plan shows. Its eastern extremity inclined about three degrees southward from the central line of the apsidal building. The chapel was 21 feet in internal width and 38 feet in internal length, measured along the central line.

Its walls are 3 feet 11 inches thick, and rise in plain rubble from the rock to a distance of 2 feet 6 inches from

³ At York cathedral the Norman nave was in its central part only about one foot narrower than the present; yet the Norman side aisles were 9 or 10 feet narrower than at present, such was the difference of proportion (see my Arch. History of York Cathedral, pp. 9, 21).

It may be, therefore, that at Lichfield the Norman piers stood upon the same basement wall as the present ones. But the difference of magnitude in the two cathedrals would thus make the Lichfield side aisles only about 7 feet wide. Perhaps wooden piers were employed.

the pavement of the side aisles.⁴ At this level, which seems to have coincided, or nearly so, with the original outside surface of the ground, they receive a base molding, the profile of which is shown in the margin. It is formed of two courses; the lower is 6 inches thick, and the upper 10 inches. The entire profile is of the kind employed at the latter half of the twelfth century and beginning of the thirteenth, as at Kirkstall (1159), Byland (1177), Fountains (1209), and many others, and is very well wrought. The lower chamfer in the above-quoted examples is flat, and not hollowed as at Lichfield. The latter, however, occurs at Boxgrove in the plinth of the piers, and often in Norman pier arches.

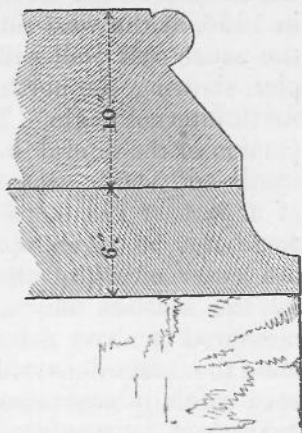


Fig. 4.

One specimen only of the upper stone of the base was found, namely, near the seventh north pier, and close to the west side of the buttress at the north-east corner of the chapel, at E in the plan. This stone was, however, fixed in its place, and was manifestly in its original position. The lower course of the base was found undisturbed along the uncovered part of the south wall between the fourth and fifth pier. The wall remained entire to the height of the upper surface of this lower base course, retaining its inner ashlar course, and the intermediate rubble, to the same level. This chamfered course was also found on the north side, under and beyond the specimen of the upper course above-mentioned, and retained the mitre of the molding which had returned about the buttress.⁵ At the junction of the west end of the south wall with the apse (at G), a half buttress was found, with the chamfered molding mitred round it. The walls of the chapel simply abutted against those of the apse, without bond. It is probable that there were three buttresses and a

⁴ This is also the level of the floor of the sacristy and its adjoining room.

⁵ The surface of these moldings was remarkably fresh, and showed no signs of having been long exposed to the weather, although manifestly external

moldings. The style of the buildings show, however, that the Early English choir must have been undertaken at no distant period from the building of their rectangular chapel, which, if ever finished, must have had but a short existence.

half on each side of the chapel, but the walls could not be uncovered at the points where they must have stood.⁶ These walls were, however, exposed in three several places, namely, the south wall from its junction with the apse to the middle of the next (or fifth pier), the north wall, seen in 1856, at the west side of the north fifth pier, and lastly, the entire east wall with its northern return up to the sixth pier, showing the north buttress, and a small portion of the south internal angle. The examination of the intermediate portion of the lateral walls between the fifth and sixth piers, north and south, was rendered impossible by the presence of a part of the steps and pavement of the altar, which could not be taken up. In 1856, however, it appears that the outer edges of these parts of the walls had been seen by the masons, but not especially examined. The parts measured as above described were amply sufficient to determine the dimensions and orientation of the whole, which have been carefully ascertained under the direction of Dr. Rawson.

It must be mentioned that the foundation of the lower part of the chapel walls at their junction with the great apse, is extended inwards to a total thickness of 6 feet 2 inches. This additional part is carried up to the level of the bottom of the lower molded base course, and forms a kind of step within the chapel, which must have been below the pavement. At the time of my visit it was completely exposed on the south side, from the apse to the centre of the fifth pillar, and it had been traced eight or nine inches further east, as Mr. Clark informed me, by pushing a rod under the pavement, but the new concrete foundation prevented further researches between the fifth and sixth piers as above stated. It has also been seen on the north side, as Dr. Rawson states to me. At the east end, however, between the sixth and seventh piers, both on the north and south sides, there was no such appendage, the foundation beneath the molded base courses being of the same thickness as the base itself, namely, 3 feet 11 inches. No traces of the existence of a crypt were found.

Immediately eastward of the east wall of this chapel, a wall (N), 6 feet 8 inches in thickness, greater and higher than any of those previously described, extends com-

⁶ The eastern buttresses, which probably projected near the angles, must have been cut away by the transverse wall described below.

pletely across the choir, or rather presbytery, from one side aisle wall to the other, passing under the seventh or last piers of the presbytery.⁷ Its upper surface is about 6 inches below the side aisle pavement, and therefore immediately below the old pavement level. The orientation of this wall differs from that of the chapel, and from that of the present presbytery, its direction lying between the two, but nearer to that of the latter.⁸ Also the two piers do not stand symmetrically upon this wall. The north pier has its centre farther by about 21 inches from the eastern margin, than from the western margin of the wall, and the south pier similarly by only about 10 inches.

Another transverse wall (J,J,) was laid open, which extended from the sixth north pier to the opposite south pier. Its upper surface was at the same level as the last, about 6 inches below the side aisle pavement, and consequently 17 inches above the walls of the chapel, which had been manifestly taken down to their present height before this transverse wall was constructed. It was found to extend quite up to the present piers, both north and south, embracing them as shown in the plan, and was thought to pass under them. But it proved impossible to ascertain whether this wall had extended beyond the piers into the side aisles; for upon taking up the pavement for that purpose, it was found that burial vaults had been constructed on both sides in such positions as must have completely obliterated these walls had they ever existed.

⁷ The abutment of this wall against the aisles north and south having been kindly examined at my request by Dr. Rawson and Mr. Clark, it appears that there are no traces of the return of the great wall westward either north or south; neither did it run out into the churchyard. But it was found, that on the south side, the side aisle wall has a broad footing projecting inwards 2 ft. 3 in. from the bench table, and extending from the Norman apse to the cross wall in question, but not passing beyond it on the east side. The inner footing of the most eastern compartment of the side aisle being only 6 inches in advance of the bench table. On the north the footing was 2 feet in advance, and followed the irregular line of the bench table and side aisle wall, but was not examined on the east side of the great cross wall. All these particulars are inserted in Plan No. 3.

⁸ If three lines, respectively parallel to the three above-mentioned east walls, be drawn from one point of the north side aisle wall to meet the opposite side aisle wall, they will intersect that wall in three separate points. The point corresponding to the direction of the east wall of the old chapel will be the most westerly; the next will belong to that of the transverse foundation wall; and the third to that of the existing east end of the presbytery. It results from the accurate measurements of Dr. Rawson and Mr. Hamlet, that the distance of the second point from the first will be about 1 ft. 10 in., and of the third from the second 10 in. The distance of the side aisle walls is 64 ft. 3 in. Thus the angles can be obtained, but as the exact orientation of the present building is not yet correctly determined, those of the foundations cannot yet be stated.

In the centre of this transverse wall is a circular foundation or platform (κ), 6 feet in diameter, nearly at, or very slightly above, the level of the wall. This platform is formed of an outer ring of wrought ashlar stones, about 9 inches wide on the bed, and the centre filled in with rubble. The transverse wall had been built up to it subsequently to its formation. The eastern side of the transverse wall was increased in breadth against this circle, so as to embrace it in the manner shown in the plan; but on the western side it was irregularly brought up to it, leaving part of the west side of the circle free. At 1 foot 10 inches below the side aisle pavement level, the surface of a cubical block of stone was uncovered, which turned out to be the bowl of an ancient font, inverted and sunk in contact with the circular pier, but not placed in the midline of the building. This font was of the simplest form, a block 4 feet 6 inches square and 2 feet thick, with a hemispherical cavity, 3 feet 3 inches in diameter. It had a small square rebate sunk round the margin of the cavity to receive a cover. It was made of ordinary sandstone of rather fine grit, and had been coloured a strong red, and cracked throughout by means of intense heat. The remains of this basin were examined in September, 1856, and I did not see it. Whether this was so placed as part of the old materials to consolidate the foundations, or as a relic to be preserved, I know not. Its position was exactly under the high altar of the present presbytery.

Another circular foundation (μ) was discovered, to the west of the one last described, and between the two neighbouring piers, namely the north and south fifth. It was 8 feet in diameter, or 2 feet greater than the last. It stood midway between the piers,⁹ and exactly on the line joining their centres. It appears to have been similar to the last in construction and level, but was discovered piecemeal. In 1856 it was first observed by the fact of the central flue, 4 feet 7 inches in diameter, being carried directly through the middle of it, by which it was nearly all destroyed. Part of it on the west had been previously cut away, and a small segment left on the north side was seen in 1860.

Beneath the fifth south pier a large sub-pier or footstall (ρ) was uncovered, the form of which is shown in the plan. This structure, the upper surface of which was within 6

⁹ Its outer edge was 9 ft. from the north pier, and 8 ft. 10 in. from the south pier.

inches of the side aisle pavement, rested partly on the wall of the old chapel, 17 inches below, and partly on a square block of rough stone work (R) built against that wall on the outside and carried up to the same level to supply the necessary extension of support. From this level surface the sub-pier was built in two courses of ashlar masonry from 8 to 9 inches thick with a rubble heart in the centre, as shown in the plan, which was carefully drawn and measured by myself. The outline of its plan was composed of a semicircle 6 feet in diameter which faced the west, and was separated by a rectangular portion from another semicircular portion facing the north, and apparently about 7 feet in diameter. The greater part of its surface was unfortunately hopelessly concealed under the concrete foundation of the new altar steps, and therefore its outline is in those places indicated by dotted lines supplied by conjecture. The south part, uncovered at my request, presents a straight outline with a small semicircular projection southward, and a right angle followed by another projection eastward, of which the northern half is hidden by the steps. The lateral surfaces of this pier are roughly wrought to a vertical form corresponding with the plan, and a part of the upper course has been cut away on the western side, as shown by the dotted lines, to receive the foot of a stone coffin, the head of which was sunk into the subplinth of the next pier to the west. This coffin remains *in situ*, but empty. It has no lid, that having been of course originally supplied by a slab forming part of the old pavement. The upper edge of the coffin was fixed 3 inches below the level of the pavement of 1780. Another stone coffin was similarly placed about a foot to the south of the last. As the covering slabs of these coffins must have been about 3 inches in thickness, it follows that the original pavement of the presbytery was nearly the same as that of 1780.

The next pier to the west of this, being the fourth in order, rested principally on the ancient apse, which as before stated, had been allowed to remain within 11 inches of the side aisle pavement. Beneath this pier was found a footstall (s) of the same character and surface level as that of the pier last described, but only 5 inches thick, on account of the greater height of the apse wall upon which it rested, and also of much smaller dimensions. Its general plan is

that of a square with curved segments projecting from the four cardinal points.

The third pier was found so encumbered with scaffolds and materials as to make examination impossible, but the second pier proved to be supported on a footstall (T) of a circular plan, and of the same level and thickness as the fourth. On digging in front of this pier in search of the foundations of the pillars of the earlier church, we found that the present piers stand, as might be expected, upon a continuous wall. The inner face of this is distant only two feet nine inches from the centre of the pier, although the semi-diameter of the footstall is 4 feet 6 inches; but the wall swells out under the footstall in a curved form so as to support the projecting portion of the latter. In front of this was a rough portion of rubble work (U) 18 inches in advance of the footstall, and 8 inches below it, which might possibly have been a remnant of the foundation of an earlier pier.

On the north side we made trials in front of the first and second piers, and found a similar foundation wall with swelling projections under the piers; but the abundance of sepulchral vaults and receptacles, together with the flues, made any minute research hopeless.

RELATION OF THE FOUNDATIONS TO THE ARCHITECTURAL HISTORY OF THE CATHEDRAL.

Having now described the foundations newly discovered, we will consider their meaning and their bearing upon the architectural history of the cathedral. To understand this it is necessary to explain the styles of the existing portions of the building.

In the plan, fig. 1, the different ages of the parts are indicated by peculiar hatchings. In fig. 2, I have drawn the original termination of the Early English choir as it appears to me to be revealed by the foundations. The cruciform plan of the cathedral is extremely simple. The nave and choir have the same number of pier arches, namely eight. The east wall of the transepts, if the central arch be considered as a double arch space, has also eight arch spaces. Thus the transverse arm of the cross is of the same length as the eastern and western arms respectively. This was not the case, however, when the earlier parts of the church

were built, for as the southern half of the plan shows, the eastern limb of the cross was much shorter, consisting of five pier arches only in length. The total width of the nave is also about equal to half its length.

The architectural style of the three western severys of the choir is Early English, and the sacristy attached to the south is of the same era of building. The south transept is a later specimen of Early English. The north transept still later Early English, approaching Decorated; the vestibule of the chapter house and the chapter house itself all belong to the same work as this north transept. The vestibule was not contemplated when the choir was built, for its walls abut against those of the choir with a straight joint, and the arch of entrance in the side aisle is a manifest intrusion into the space once occupied by a window. Also, it is plain that when the choir was built, eastern side aisles to the transepts were not intended, for the side walls of the choir are continued to the transepts, as the plan shows, and had windows in the part looking into the present transept aisles. Probably when the choir was built Norman transepts were standing and had each an apsidal chapel looking east in the usual manner.

The buildings above mentioned, although showing differences of detail and of construction which prove them to have been erected at considerable intervals, and under different architects, do yet follow the same general design, and were they but dated, would greatly elucidate the chronology of the Early English style. They have suffered changes in windows, &c., but their original design can be made out.

The nave, however, which is the next in order of time, is on a different scheme, and in style is complete Decorated with geometrical tracery.¹ It has a triforium of open tracery like that of Westminster Abbey. The choir and transepts have no triforium.² The clerestory of the nave has trian-

¹ The compartments of the nave (*vide* Britton's pl. ix.) are remarkable for having the spandrel of the pier arches occupied by a large circle with five cusps, across the middle of which the vault shafts pass. The recent restorations have shown that the same kind of ornament existed in the spandrels of the presbytery, and they have been restored accordingly.

² The entire height of the severys is

divided into two nearly equal parts, of which the lower is given to the pier arches, the upper to the clerestory. The window sills of the latter are high, and there is a passage in front of them immediately above the tablement or string-course, over the pier arches. This passage, the veritable triforium, pierces the great piers of masonry which sustain the vault. The high sills receive the sloping roof of the side aisles, and have three

gular windows like those which light the outer walls of the triforium of Westminster and the clerestory of the north transept of Hereford. The west front and towers were erected subsequently to the body, as the masonry proves, and as indicated by the shading of the plan, Fig. 1.

The state of the eastern arm of the cross was sufficient to show, before the discovery of the foundations, that the original eastern termination of the choir, whatever its plan or extent might have been, had been removed to make way for the beautiful presbytery which now remains, and extends eastward with its vault at the same elevation as that of the choir. The lady chapel is carried still farther in prolongation of the same, but without aisles, and terminates in a polygonal apse; an arrangement unique in England, and in this instance of singular beauty in detail. The style is Decorated in advance of the nave, having in the windows of the lady chapel, which was plainly the first part built,³ more elaborate geometrical tracery than in those of the nave; in the presbytery, the tracery has flowing characteristics.⁴ It was stated at the beginning that the three western severies of the choir with their side aisles are of Early English, the oldest specimens of that style in this

plain low open arches in each severy to air the roof. In the original condition of the Early English building, the clerestory windows were lancets, three in each compartment, and in front of them was a triple arcade, formed of lofty slender shafts, resting on the front of the passage, and sustaining richly-molded arches above; but the sill wall behind was perfectly plain. Subsequently, in the fifteenth century, the two intermediate shafts were removed, leaving only the lateral ones; and the three arches above were thrown into one large arch, the outer half of each lateral arch still remaining with its Early English moldings to tell the tale of its first arrangement. These lateral parts now serve as the haunches of the single Perpendicular arch, the crown of which is made up of new pieces. This forms the escoinson arch of a great Perpendicular window of five lights, which replaces the three lancets of the original. The monials of this window are continued downward in front of the Early English sill wall, cemented on its face, as at Gloucester and elsewhere, and crossing and half obliterating the low arches that still open to the roof.

The above-mentioned lofty shafts of the early clerestory were carried on corbels, of which the lateral ones remain; and I observed that traces of the two middle ones in each compartment can still be seen here and there, where the repairs of the passage have spared them. On the exterior of the clerestory, the masonry shows also the traces of the Early English triplets, and similar marks of the original arrangements may be seen on the outside of the north transept walls. But as they cannot well be explained without drawings, I will dismiss their description for the present, as I am not attempting in this place to write a complete architectural history of the cathedral.

³ The south side aisle wall of the eastern compartment of the presbytery (at Y) differs from that of the other compartments to the west of it, in that its thickness below the window on the outside is 15 in. greater than that of the latter. This and other characters show that the eastern severy of the presbytery was built before the rest, and in connexion with the lady chapel.

⁴ Only two of the original clerestory windows remain. The rest are perverted to Perpendicular.

building. The clerestory, however, above these Early English pier arches is of Decorated work corresponding with the new presbytery, and the fronts of the Early English arches have even been altered into the same style. It follows therefore that the original termination of the choir was pulled down, leaving its three western severys standing, and that when the new building of the presbytery had been brought up to its junction with the old choir the clerestory of the latter was destroyed and rebuilt as at present in the same style as the new presbytery. But the three original pier arches on each side, together with their side aisles and vaults, were retained, and remain to this day. The front half of their pier arches, however, was removed, and moldings given to them corresponding to those of the new presbytery. Their piers also were slightly altered, although partially concealed by the choir stalls. By these arrangements the aspect of the whole interior of the choir and presbytery was made uniform, and the whole clerestory externally is also uniform.

The portion of the old side aisles that were allowed to remain are covered on the south by the sacristy, which is a substantial building of the same age in two stories, and on the north by the chapter-house and vestibule.⁵

But it is worth remarking that the rebuilt clerestory of the western part of the choir betrays by the lighter colour of its stone that it was a work subsequent to the eastern part, as already shown.

We must now endeavour to ascertain from the foundations the extent and arrangement of the original eastern termination of the Early English choir, which was taken down as above stated. The first two western piers of the choir are still Early English. The third piers stand on the line of demarcation between the part retained and the part rebuilt, and consequently carry an Early English arch to the west and a Decorated arch to the east. These two piers have had their eastern halves rebuilt on the Decorated pattern of the remainder of the presbytery. In the side aisles the transverse rib of the last Early English vault still rests upon its Early English pier and respond. Proceeding east-

⁵ The only specimen of the exterior of the old side aisle remaining is the second severy on the north side between the

vestibule of the chapter house and the transept aisle.

ward we find the fourth and following piers on both sides complete Decorated. But it happens that the fourth south pier still retains beneath its plinth a portion of the plinth of an Early English pier *in situ*. It is only the lowest course of the plinth, eight inches in thickness, but is sufficient to show that the Early English work extended thus far at least.⁶ This fragment passes beneath the base of the Decorated pier, but is greater than half the pier, so as to prove that it is not the base of a respond, and therefore that another Early English pier arch rested upon it to the east as well as to the west.

Now the centre of this fourth pier stands seven inches more to the east than that of the Early English base; the latter being at the same distance from the third pier as the other westward piers are from each other. Beneath the fourth pier is a footstall—as already described—and the Early English base coincides with the centre of it, but the Decorated base does not. It thus appears that the footstall belongs to the Early English and not to the Decorated piers; and this is more strongly shown by the succeeding footstall (of the fifth south pier) upon which the Decorated pier stands still more eccentrically.

It must be concluded that these footstalls, together with the two circular ones opposite to the fifth and sixth piers (similar in form to that of the second south pier), belong to one and the same building, and that the transverse eastern wall under the seventh piers is its eastern termination. This must have been the original end of the Early English choir.

The peculiar form of the large footstall (q) of the fifth south pier shows that the pier above was a square mass, with a respond on its western face to receive the last lateral pier arch,⁷ and another on its northern face for a transverse pier arch,⁸ which plainly sprang from the intermediate large

⁶ The fragment was probably covered by some part of the enclosing wall of the choir or sepulchral monument, which made it unnecessary to remove it.

⁷ It is evident, from the plan of this footstall, that the lateral pier arch next to it on each side was of considerably less span than the others. This peculiarity is copied in the presbytery, the eastern pier arches on each side being of less span than the others.

⁸ The great size and peculiar form of these footstalls, which appear earlier than the Early English work of the choir,

might lead us to suppose that when the Norman choir was pulled down for the purpose of erecting a wider and more extensive one, the style of the latter, as then designed, was earlier, and that after the foundations and footstalls had been made, a pause in the work, and a change in architectural fashion, led to the adoption of the lighter Early English piers and style in which the superstructure was carried up. Early English piers, however, are often based upon large spreading plinths or footstalls of a simple outline, and so broad as to serve as a

circular footstall (M). A similar arch must have extended from (M) to the fifth north pier. Manifestly the gable of a square-ended choir stood here, and was supported on these two pier arches, as at Romsey, in Hampshire, the cathedrals of Hereford, Winchester and Glasgow, and St. Saviour's, Southwark. Eastward of this gable, the side aisles were manifestly continued across in the manner of the churches just quoted; the smaller diameter (six feet) of the circular footstall between the sixth piers showing that it was intended for a smaller pier or shaft than that of the gable, and therefore adapted to the vault of a subordinate building. The eastern aisles in all churches of this plan, whether with one, two, or three pier arches in the eastern gable, were commonly doubled, or even tripled, for the purpose of providing chapels. In the present case four chapels were, of course, placed in the most easterly of these aisles, and had their altars against the eastern wall (N), while the aisle next to the eastern gable of the choir formed, in conjunction with the side aisles, a procession path, giving access to these chapels. Small side aisle piers, similar to that on the circular foundation, must have stood on the sites of the present north and south sixth piers, but their footstalls appear to have been destroyed when the Decorated piers were built, being too small to sustain them.⁹

bench table or seat. In the nave of Salisbury, the plinth is continued along the entire range of the piers, excepting only at the severely opposite the lateral doors, where it breaks octagonally round the piers. Wells, the earlier Yorkshire abbeys, and even Westminster and Exeter, contain examples. The rough condition of the present upper surface of the footstalls at Lichfield indicates that the upper or covering course of masonry has been removed, probably when the Decorated alterations were made, and the general level of the pavement raised to their upper surface. In the Early English choir, the first pavement probably rested immediately upon the top of the earlier foundations of the apse, &c., which would naturally be taken down to such a level as to support it. The great footstalls would thus have risen above the pavement. Their present surface is immediately below the old pavement of 1780, and that of the apse wall is 6 inches lower.

⁹ When the gable of a church has two pier arches, with aisles and chapels behind, there will be necessarily no central chapel, unless its altar be placed against the central respond of the eastern wall, which is scarcely probable. Of the examples quoted above, Glasgow cathedral is exactly the same in the arrangement of the eastern aisles as the old choir of Lichfield. St. Saviour's, Southwark, has three transverse aisles instead of two, but is also in other respects the same. The pier arches of its gable are now closed up by the high reredos. At Hereford, these transverse aisles are extended like a low transept, so as to furnish six compartments, of which the two central are laid together and elongated eastward into a large Lady chapel. But these eastern aisles have been subjected to considerable alterations and additions since their first erection.

At Romsey, the transverse aisle is single, and its outer compartments are apsidal chapels. Its two central ones

From the explanation given above of the original termination of the Early English choir, it follows that the high altar of that building must have stood a little to the west of the fifth piers.

The transverse wall (J, J) which extends from the north to the south sixth piers, and embraces the small circular foundation, is immediately beneath the site of the high stone reredos of the Decorated or existing presbytery, and was manifestly built for the purpose of a foundation to it.¹ Many Norman fragments of capitals, shafts, &c., were worked up in this wall. Some of them have been taken up in the course of the present works, and carefully preserved. They probably formed part of the decoration of the Norman chapel, and being found in digging the trench for the basement wall of the reredos, were worked up into it, as well as the old font, which was deposited immediately beneath the high altar of the presbytery. The wide apsidal building I suppose to have been the choir, or rather presbytery,² of a Norman church, having pier arches and aisles continued round the apse as a procession path, for its width forbids the possibility of roofing it without piers. The wall has no architectural detail by which to fix its date. The rectangular chapel is plainly subsequent, and its plinth molding places it in the second half of the twelfth or beginning of the thirteenth centuries. There is no trace of any doorway or arch of communication from the apse to the chapel, but that arises

appear to have led, as at Hereford, into a single eastern chapel, of subsequent addition. Finally, at Winchester, the two pier arches of the eastern gable belong to a building in the Decorated style, erected long subsequent to the Early English eastern aisles, which were built by De Lucy in continuation of the Norman church. I have described this construction at length in the *Architectural History of Winchester Cathedral*, published in the *Transactions of the Meeting of the Institute at Winchester*, in 1845.

¹ This reredos was miserably defaced by the rebels in 1643, but was not removed, so that its site is perfectly well known. Bishop Hacket, in restoring the cathedral after the restoration of King Charles, set up "a rich altar piece of Grecian architecture" in front of it. But when, in 1795, Wyatt was com-

missioned to lay open the Lady chapel to the presbytery, so as to provide for the accommodation of a large congregation, the destruction of the reredos became inevitable. The mutilated remains of the old structure were found behind the Grecian screen, and when taken down, Wyatt patched up the fragments, and appropriated part to his new altar piece, and part to the organ screen, as Shaw and Britton have recorded. (Shaw's *Staffordshire*, p. 260; and Britton's *Lichfield*, p. 32.) Browne Willis's plan shows the position of the screen, which was the boundary between the cathedral choir and the "Lady choir" beyond.

² In the Norman Church, and probably in the Early English one, the choir stalls proper, would, in accordance with all precedent, have been placed either under the tower or partly even in the nave.

from the walls having been cut down to a level below the original pavement.

The increased thickness (H, 1) of the inner lateral foundations of the chapel walls at their junction with the apse may possibly have belonged to the foundation of a narrower eastern chapel, coeval with the apsidal building, and removed to make way for the larger chapel, as it is not probable that a circular procession path would have been formed without one chapel at least in its circuit.³ It is even possible that two lateral radiating chapels may have existed, for their foundations would, from their oblique directions, have intersected the ground so awkwardly as to have compelled their destruction, by the excavation of graves and the formation of the foundation of the remaining buildings.

The various walls shown in the plan are at different levels below the pavement, as already stated. These may be accounted for by the circumstances under which the several buildings to which they belonged were removed. Thus the apsidal building was taken down to a level immediately beneath that of the tile pavement of the Early English choir, about ten inches below the present side aisle floor.

The chapel to the east of it was taken down one foot lower than the apse, because the removal of the sloping upper course of its basement molding uncovered the broader surface of the lower basement course, which was to be partly employed as the supporting wall for the Early English corner piers of the eastern gable, and for the piers of the eastern aisles.

The footstalls of the Early English piers rose above their pavement; but when the Decorated presbytery was built, the level of its pavement, the same as of the pavement of 1786, was raised so as to rest upon and conceal these footstalls; and accordingly the eastern wall (N) of the presbytery was allowed to remain six inches higher than that of the apse, and the foundation (J, J) of the reredos was made of a corresponding altitude and level with the top of the circular footstall (K) which it surrounds. The present pavement of the side aisles is five inches higher than the old level of the Decorated.

We have no history to guide us in forming opinions save

³ The swell of the transverse foundation of the reredos, between the sixth

piers, has been conjectured to indicate the apse of this narrower building.

the most meagre indications. The last Saxon church was built or dedicated by Bishop Hedda, A.D. 700, and it is not probable that any of these old walls belong to his work. Bishop Robert de Lymesey, in 1088, is said to have employed 500 marcs of silver, which he stripped from a beam of the rich church of Coventry, in great buildings at Lichfield, and Roger de Clinton (1128-48) is said to have exalted the church as well in building as in honour, from which ambiguous phrase he is supposed to have built the Norman cathedral. Two royal licences to dig Hopwas stone for the "new fabric of the church of Lichfield," in 1235 and 1238, serve to show that some work was going on in the Early English period, but give no assistance for fixing the respective dates of the evidently Early English choir and transepts. The choir, however, is so early in its details that it must have been commenced near the beginning of the century.

In 1243, King Henry III. issued a commission to Walter Grey, Archbishop of York, to expedite the works at St. George's Chapel, Windsor, in which he orders a lofty wooden roof, *like the roof of the new work at Lichfield*, to appear like stone work with good ceiling (celatura?) and painting (Claus. 27 Hen. III. ap. Lysons Brit. Berks. p. 423).

The transepts of Lichfield have now stone vaults considerably later than the walls, and therefore may have had a wooden vault at first. The date would suit the transepts better than the choir, and it may be remarked that the early abacus of the vault shaft (at least in the south transept) is surmounted by a second abacus in the Perpendicular style, which shows the later construction of the springing stones of the present stone vault.

The upper story of the sacristy, which belongs to the period of the choir, seems to have had a wooden-ribbed vault in imitation of stone, for the springing stones of ribs are wanting. The vault, whatever it was, has disappeared.

No historical document exists that can apply to the building of the nave, but Bishop Walter de Langton (1296—1321) is distinctly recorded as having commenced the Lady chapel, and left money to complete it after his death; and also to have made the great "feretrum" or shrine of St. Chad, at an expense of two thousand pounds. He was

buried in the Lady chapel; but his successor, Roger des Norburgh (1322—1359) removed him to a magnificent sepulchre at the south horn of the high altar, namely, between the fifth and sixth piers, on the spot afterwards occupied by the tomb of Bishop Hacket. This removal shows that the presbytery was completed in the time of Bishop Norburgh.

We are thus, at least, supplied with the period at which the works were going on, by which the low aisles and chapels that terminated the Early English choir were replaced by the lofty structure that now exists, commenced by Langton, at its east end. The making of the shrine of St. Chad by the builder of the Lady chapel seems to supply the motive for the new building, for this shrine is recorded to have stood in the Lady choir behind the high altar. The Lady chapel was therefore built, and the shrine provided, that St. Chad might be elevated in the manner of St. Edward the Confessor, St. Thomas à'Becket, St. Cuthbert, St. Alban, St. Etheldreda, and other great saints. St. Chad and the Virgin, the joint patrons of the cathedral, were thus associated under the same roof, and, in accordance with the usual practice, as shown in the examples quoted above,⁴ St. Chad's shrine must have been placed beyond the high altar on a lofty pedestal, with a small altar dedicated to him fixed against the west end of it. Now the high altar was placed against the reredos, which is known to have extended between the north and south sixth piers; and in Brown Willis' plan, the term *Lady choir* is applied to the whole space from the reredos to the end of the Lady chapel, and the entrance to it was by doors in lateral screens, fixed across the side aisles in continuation of the reredos. A sufficient

⁴ These arrangements are described in "The Rites of Durham," 1593, p. 3, published by the Surtees Society, 1842; in the various histories of Canterbury cathedral, especially in my Architectural History of it, p. 100, in which the altar of the west end is described; and in the description of the other churches named. The shrine and pedestal of Edward the Confessor at Westminster still exist. The pedestal of St. Cantilupe's shrine is still preserved at Hereford cathedral, but stands now in the north transept, and the pedestal of St. Chad's shrine is evidently meant in the passage of Stuke-

ley's notes, in which he says that "in St. Peter's chapel . . . is the noted St. Chad's tomb, though defaced, removed from the Lady choir to be put here since the Reformation" (*vide* Shaw, 252). Stukeley also mentions that "over across the middle of the Lady choir was a rood-loft, finely carved and gilded, and St. Chad's shrine, but destroyed in time of war." This roodloft may have served to separate the Lady chapel proper from the western part in which St. Chad's feretrum stood, and which would have been called St. Chad's *feretory*.

space would be left between the reredos and the altar of St. Chad, for the performance of mass and the passage of the processions. This altar must therefore have stood midway between the north and south seventh piers, and the *feretrum*, or shrine, on its pedestal in contact with the altar, extended eastward into the space opposite the two last and easternmost narrow pier arches which terminate the range.

The eastern compartment of the side aisle, on each side of St. Chad, was, of course, appropriated to the purpose of a chapel, but the dedication of their altars is forgotten.

The gradual progress of Lichfield Cathedral from the original Norman church to its present structure as thus developed, proceeds with singular parallelism to that of York.

The Norman cathedral of York was built about 1080, and that of Lichfield at an uncertain date. Between 1154—1181 Archbishop Roger substituted for the original chancel at York, a long, square-ended choir, with the aisle carried behind the end. At Lichfield during the same period the large chapel was built at the end of the Norman apse; and about the beginning of the thirteenth century the whole Norman eastern termination was, as at York, replaced by a long, square-ended choir with the low aisles behind.

Next, at York the Norman transepts were rebuilt in Early English; the south transept, 1230—1241; followed by the north transept, 1241—1260.

Also at Lichfield the Norman transepts were rebuilt in Early English, beginning with the south and ending with the north. The Early English work of this cathedral is shown by the licences to dig stone to have been in progress in 1235 and 1238.

York nave and Lichfield were next rebuilt in Early Decorated, the first in 1291—1324.

Lastly, at Lichfield the elongation of the eastern part was begun at the extreme east beyond the existing choir by the Lady chapel in late Decorated under Bishop Langton 1296—1321, and followed by taking down the choir, and continuing the same work on its site westward. The works at York followed in the same order, but forty or fifty years later, by first erecting the presbytery outside the existing choir, and then taking down the latter and continuing the work of the presbytery to form the new choir. The plans

of the two cathedrals rival each other in the simplicity of their proportions.

After the completion of Lichfield Cathedral, various changes were made in succeeding centuries, principally affecting the tracery of the windows and the interior of the transepts. Perpendicular tracery was substituted for the original in many parts as well in the transepts as in the clerestory of the choir and in the Lady chapel. Some of these changes are due to the general repair in 1661, under Bishop Hacket, after the Restoration, when the church had been reduced to an incredibly ruinous and battered condition, as well from the siege as from the subsequent brutal destructiveness of the Puritans. But many of these changes are manifestly earlier, perhaps effected under Bishops Heyworth or Blythe in 1420 and 1503. The engravings of Hollar presented by Ashmole to Fuller's Church History enable us to point out some of these, as the book was published in 1655, and therefore must represent the cathedral as it stood before the repairs of Bishop Hacket, who came to the see in 1661, were commenced. Allowance being made for bad drawing, it is evident that these views represent the large perpendicular windows that now occupy the clerestory and gable of the south transept. The north transept is hidden, but its perpendicular work is of such a character that it must also have been prior to the Rebellion. On the other hand, the windows of the Lady chapel must have been all like the present eastern ones when those drawings were made; and consequently I infer that the perpendicular tracery which occupies some of these windows, was inserted after the siege, as well as the perpendicular tracery which now fills the greater part of the clerestory windows of the choir. One of the alterations in the church consisted in substituting a low pitched leaden roof for the original sloped roof of the side aisles of the nave. This new roof was so arranged as to meet the shafts of the triforium at about a third of their height, leaving the upper part of the triforial openings with their tracery exposed from without. These openings were glazed, and thus converted into windows. This singular contrivance, which Hollar's engraving shows to have existed before the Rebellion, is now removed, and the original pitch of the roof restored, perhaps by Wyatt. The glass grooves may still be seen in the shafts of the triforium as well as

traces of the attachment of the framing to the walls of the interior of the triforium gallery, which show indeed that this low roof had been twice constructed, and at two different pitches, so that the changes must have been of some antiquity. Hollar's drawing also gives the tracery of the great west window, which is totally different from the present one represented in Britton's view, of which Dr. Plot says, in 1686, that the "*Tracery* in the stonework, as well as the *glazing*, the gift of his present most Sacred Majesty King James the Second, is a curious piece of Art."

I cannot conclude this memoir without bearing testimony to the admirable restorations now in course of completion by the Chapter, under the direction of Mr. Scott, by which the unfortunate changes and alterations made by Wyatt in 1795 have been wholly obliterated, and the choir and presbytery carefully and conscientiously restored to their original aspect with all possible liberality.

EXPLANATION OF THE ENGRAVINGS.

Fig. I.—Historical block plan of the existing cathedral, to explain the portions erected at different times, as well as the original arrangement of the shrine and altars at the east end.

- 1, 2, . . . 7.—Piers of the choir and presbytery numbered in order on the north and south sides, to correspond with the description in the text.
- 8.—The high altar, placed in this position when the present presbytery was built, c. 1300. It remained in this place, together with the reredos, extending from 6 to 6, until removed by Wyatt.
- 9.—The presumed site of the shrine of St. Chad, with the altar at its west end.
- 10, 11.—Side chapels with altars, the dedications of which are uncertain; one of them was probably St. Peter's chapel, but chapels of St. Nicolas and St. Andrew are mentioned.
- 12.—The altar of the Lady choir.

The choir proper remained in the position shown in the plan, extending from the eastern tower piers to the dotted line between the third piers, until Wyatt's arrangement occupied the whole western severely of the choir with a large organ loft, and the stalls were then shifted eastward, so as to extend to the fourth piers.

Under the direction of Mr. Scott, the organ is placed in the south chapel of the north transept at 13. The stalls will be restored to their ancient position, and an open screen, as at Ely, erected between the eastern tower piers.

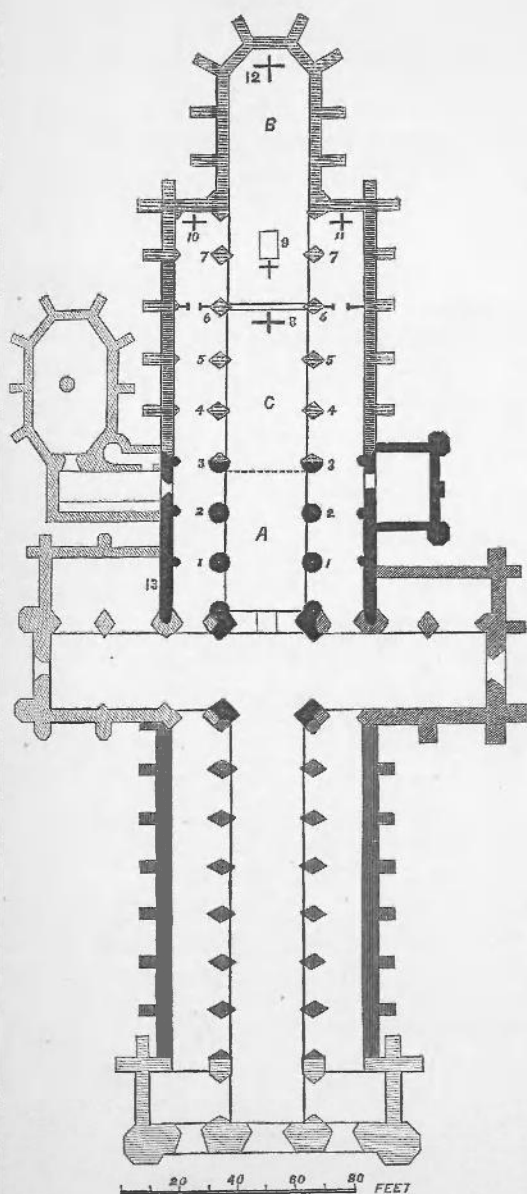


Fig. 1. Historical Plan of Lichfield Cathedral.

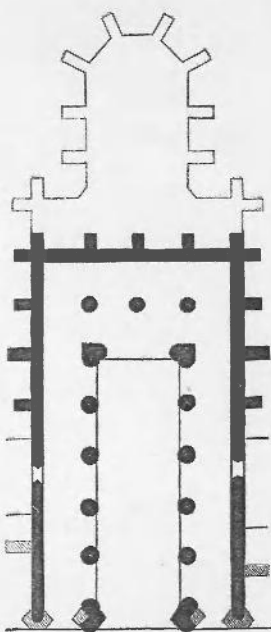
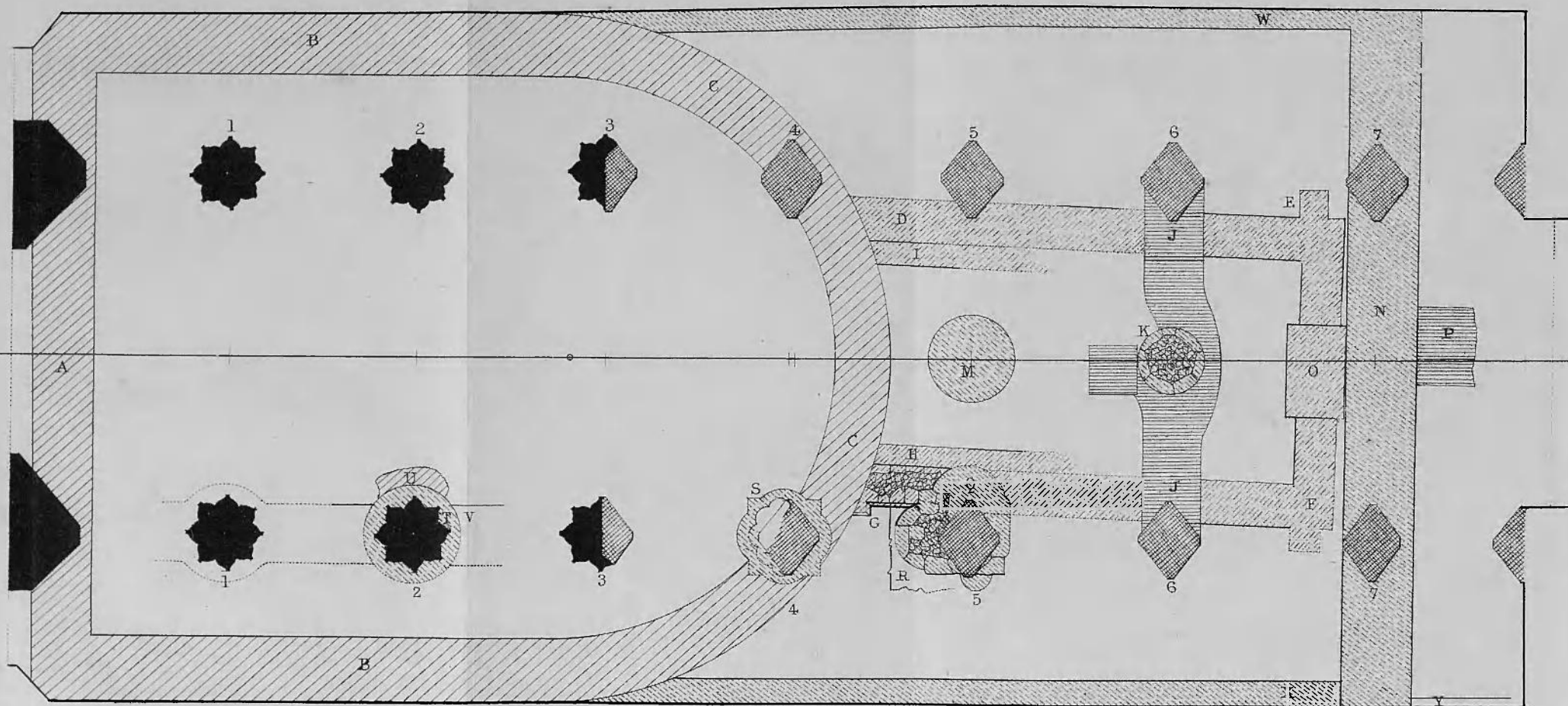


Fig 2. Original Termination of the Presbytery.

- Choir (A) . . . c. 1200
- S. Transept . . c. 1220
- N. Transept and Chapter House c. 1240 }
- Nave c. 1250
- West Front. . . c. 1275
- Lady Chapel (B) c. 1300 }
- Presbytery (C). c. 1325 }

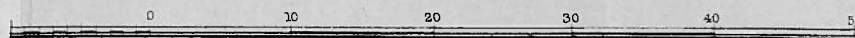
PLAN OF THE RECENTLY EXPLORED FOUNDATIONS, LICHFIELD CATHEDRAL.

Fig 3.



R Willis del.

SCALE OF FEET.



Kell Bro. Lith. Castle St. Holborn.

Fig. II.—Original plan of the Early English choir and presbytery as shown by the foundations and explained in the text. The choir stalls probably extended under the tower, as at Winchester and other examples of early cathedrals.

Fig. III.—Plan of the foundations explored in the past year.—The outer boundary line of this plan is the front of the bench table which lines the walls of the choir and presbytery on the north and south sides. The plan of each Early English pier is that of the lowest course of its plinth as it now rests upon the pavement. In the Decorated piers, however, this plinth is for simplicity represented as a simple lozenge, but is in reality formed of a group of octagonal plinths, sixteen in number, packed together in the usual manner, and all abutting downwards upon the pavement, in a space that differs very little from the straight-sided lozenge and equals it in breadth and length.

Half of each eastern tower pier is shown, and from these the piers are numbered in order eastward, as in the text and the previous plans. Nos. 1, 2, and half of 3, are Early English, and the eastern half of 3, with Nos. 4, 5, 6, 7, and a respond, are Decorated.

A, B, C.—The foundations of the apsidal building.—The thickness of the western wall, A, is 5 ft. 6 in.; of the lateral walls, B B, 5 ft. 8½ in.; and of the apse, C, 5 ft. The inside dimensions are, breadth, 52 ft. 3 in.; length, from west to east, 70 ft. 1½ in.

D, E, F, G.—The foundations of the chapel, subsequently added to the apsidal building.—Interior dimensions, 21 ft. broad, and 38 ft. long, thickness of wall below molded base, 3 ft. 11 in.

H, I.—Additional foundation at the western ends of the walls, 2 ft. 3 in. thick, reducing the interior width to 16 ft. 6 in. These parts are possibly the foundations of an earlier eastern chapel. The parts G H, and from E to F was thoroughly examined; D I, sufficiently to trace the dimensions.

The portions of which the existence was determined are ruled in continuous lines. Those which, as far as could be ascertained, have not been explored, are dotted.

J J.—The wall immediately under the site of the reredos, and evidently built to serve for its foundation.

K.—The circular foundation or footstall, 6 ft. in diameter, of one of the piers of the transverse aisles of the Early English choir.

L.—The position of the ancient font basin, which was found buried in the soil.

M.—The larger circular foundation, 8 ft. in diameter, belonging to the central pier of the eastern gable.

N.—The transverse wall, 6 ft. 8 in. thick, which terminated the Early English eastern chapels.

O.—A large rough stone, resting on the middle of the eastern foundation of the chapel. It is placed exactly in the central line of this chapel, and coincides with it in direction. As the orientation of the chapel is considerably different from that of the Early English and Decorated choirs, the stone lies about a foot to the south of their central line, as the plan shows, and therefore seems to have belonged to the chapel, and not to the later buildings. Yet as the chamfered base molding of the chapel stops against the north and south ends of the stone, it seems that the stone must have been laid over the

- foundation wall after it was pulled down. I had not the opportunity of examining it sufficiently to conjecture its purpose.
- P.—A portion of masonry resting on the clay.—This lies immediately under the site which I have assigned to the pedestal of St. Chad's shrine, as shown in the plan, Fig. I., and was probably laid down as part of a foundation for it, as the pedestal must have stood partly over the cross wall, and partly to the east of it.
- Q.—The large footstall under the fifth south Decorated pier.—This belonged to the great corner pier of the Early English choir, and rests partly upon the wall of the eastern chapel, D, E, F, G, and partly upon a mass of rubble work, R, built up from the rock to the level of the upper surface of the molded base of the chapel, for the purpose of supplying the necessary support.
- S.—The Early English footstall under the fourth Decorated pier, retaining part of the first course of its Early English base left white in the plan.
- T.—The circular Early English footstall under the second pier, which is entirely Early English.
- U.—A mass of rubble foundation, which may have belonged to one of the Norman piers.
- V.—The continuous wall beneath the Early English piers, of which I was only able to examine the inner face in front of the second south pier, and the first and second north piers. It was found to swell outwards beneath these piers so as to furnish a sufficient thickness to support them, in the manner shown by the dotted lines opposite the first south pier. The form of this wall on the face turned to the side aisles was not examined.
- W.—Within the north side aisle wall of the presbytery, the footing was examined and found to project 2 ft. inwards, as shown in the plan. It was also found to project 2 ft. 2 in. inwards on the south side at X, but at Y, on the east side of the cross wall N, it was only 6 in. in advance.