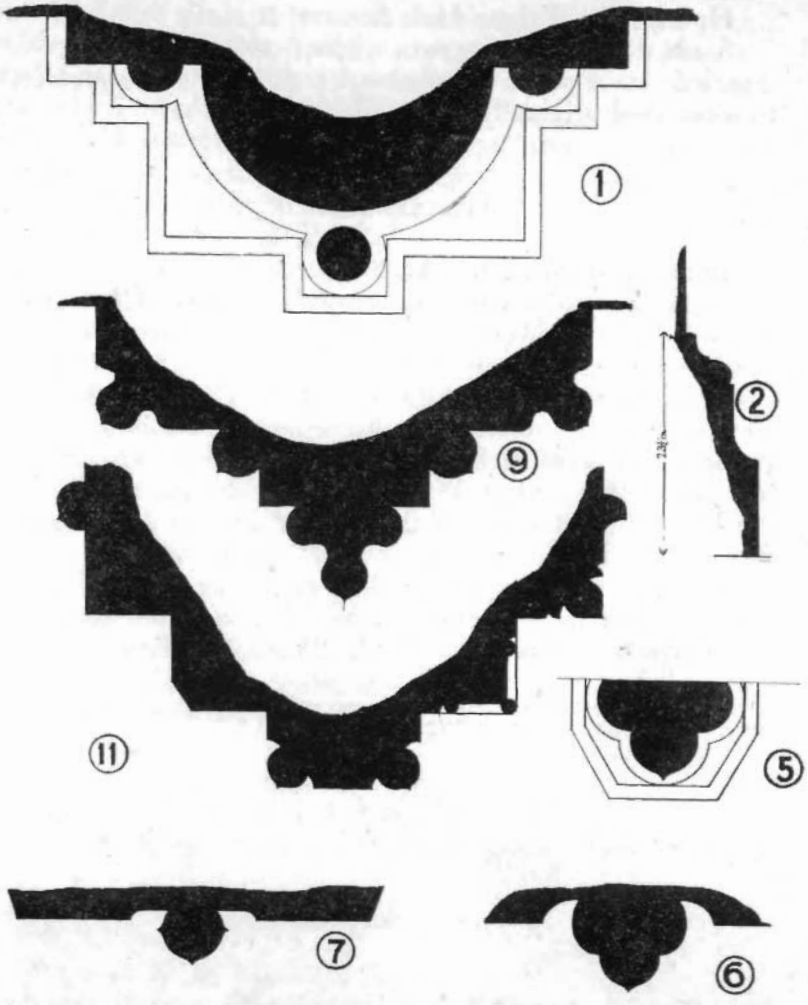


FIG. I. ST. DAVID'S CATHEDRAL. MOULDINGS ($\frac{1}{20}$).

1. Nave, SW. respond. 2. Base of do. 5. Wall-shaft in Nave. 6. Do. in Choir. 7. N. Transept, wall-shaft between windows. 9. Choir, E. respond. 11. Choir, arcades.

# THE CATHEDRAL CHURCH OF ST. DAVID'S.

By E. W. LOVEGROVE, M.A., F.S.A.

There is a common belief that the churches of Wales are small and of little interest, and that their importance in the history of architecture is slight. It is true that most of our larger churches have vanished, or are only represented by shattered fragments, but there are still some three or four of outstanding importance, and the greatest of them all, the Cathedral Church of St. David's, has happily been spared to us.

This was always not only the most important, but also the largest and the most beautiful church in the principality, and although it has suffered much from past neglect, from the destroyer and from the restorer, no other great church in Wales retains so much of its ancient character.

Of the earlier history of the fabric more information than usual is available. Almost all that is known is to be found in 'Annales Cambriae' and is reprinted in 'Anglia Sacra.'[1] The most important notices are as follows, quite literally translated :—

1116. Wilfrid, bishop of Menevia, died, to whom succeeded a certain Norman, by name Bernard.

1131. The dedication of the church of St. David.

1149. Bernard, bishop of Menevia, died in the thirty-third year of his episcopate. To whom David, son of Gerald, succeeded in the bishopric.

1176. David, bishop of Menevia, died. To whom Peter succeeded.

1178. Peter entered upon the episcopate of St. David's.

1180. The church of Menevia is destroyed, and the new work begun.

1199. Peter, bishop of Menevia, died. He began the new work of the church of St. David's.

1220. The new tower of the church of St. David's fell

[1] Wharton, *Anglia Sacra II*, 649.

unexpectedly into ruin immediately after vespers on the Monday before the feast of St. Martin, no one being killed or injured.

1248. There was a great earthquake in Britain and Ireland in which earthquake a great part of the church of St. David's fell.

1275. The shrine of blessed David in the church of Menevia was begun.

We learn, therefore, that

(1) The first Norman bishop built a church here which was consecrated in 1131.

(2) Bishop Peter de Leia began to build his new cathedral in 1180, pulling down the older church.

(3) The new tower fell in 1220.

(4) The church was seriously damaged by an earthquake in 1248.

(5) The new shrine of St. David was begun in 1275.

The church begun in 1180 consisted of an aisled nave of six bays and an aisled choir of four, a central tower and aisleless transepts, projecting two bays beyond the aisles. An eastern chapel was thrown out from the outer bay of the north transept, but there was none in the bay which adjoined the choir aisle. Four doorways gave access to the church, the great west doorway, a second in the south aisle of the nave, in the second bay from the west, now enclosed in a later porch, a third in the corresponding bay in the north aisle, and a fourth in the west wall of the north transept.

The different divisions of the building present curious contrasts in design; nave, transepts and choir being entirely different from one another in character, though, to judge by detail alone, there might be little difference in date between the earliest and latest parts. We shall see, however, that the work extended over more than forty years. Speaking in general terms, the nave shows a design of wide spacing, the main openings round arched, and the whole of the work of the richest and most elaborate character. The transepts are plain, even severe, the main arches pointed, the windows round headed. The choir has narrow spacings, pointed arches, and simple mouldings, except in its eastern wall, but this wall is mainly of the first work. Yet the detail throughout is such as we should assign to the last quarter

of the twelfth century in south-eastern England. It is quite clear, however, that much of the work is of a date later than 1220, when the tower fell, and this later work includes some admirable carving of Transitional type. All ideas of dating the different parts of the church by analogy with similar work elsewhere must therefore be abandoned and the evidence of the fabric alone considered, its masoncraft, its small peculiarities of design, and the private marks of the craftsmen employed upon it. Three dates we have: 1180 for the beginning of the work, 1220 for the fall of the tower, and 1248 for the earthquake. Both these disasters left traces which are still visible.

It is quite clear that the church was begun, in 1180, in the usual way, by setting out and building the outer walls. In this case, however, a beginning was made at the west end of the nave. No doubt the choir of bishop Bernard's church was still standing; indeed, we shall see that there is some reason to suppose that bishop Peter's intention was to retain the main body of the earlier choir, incorporating it in his new and larger church. The western wall was built first, with the responds, and so much of the arch above each as could be erected without centring, and this was followed by the outer walls of the aisles. The responds are heavy half cylinders (fig. 1, 1 and 2), resting on square plinths, and have square abaci and incurved scalloped caps. Detached shafts stand free, about four inches in front of each respond, and similar half shafts, right and left, have been let into the wall, but these, with their projecting caps, are all later insertion, added when the nave arcades were completed, in order to bring the design of the responds into conformity with that of the nave piers. All the bases in this western wall, and in the aisle walls, are of late Norman pattern, none being water holding. A heavy string course (fig. 2, 3) is carried across this western wall and along the aisle walls throughout their full length. The section is similar to that of the corresponding string course in the western (Transitional) bays of the nave of Worcester cathedral.

The masoncraft is of the highest quality, with very fine joints and accurate diagonal tooling. It is evidently the work of highly skilled craftsmen and could not be surpassed for excellence. The same may be said of all the masoncraft of the nave, crossing and transepts; that of the choir,


FIG. 2. (3) STRING-COURSE, NAVE. (4) CONTINUOUS MOULDING USED IN N. DOOR, NAVE; TRIFORIUM, NAVE; DOORS BETWEEN TRANSEPT AND NAVE. ($\frac{1}{4}$ full size).


FIG. 3. A—R NAVE-SERIES. α—κ CHOIR-SERIES.

though still good, is hardly equal to it in quality. The marks (fig. 3) of five men, A, B, C, D and E, appear on the western wall, and C's mark may be seen on one of the few remaining buttresses of this date, supporting the wall of the north aisle. Both aisles, but especially that on the south, were greatly altered in the fourteenth century.

In the western wall the original work remains internally up to the level of the sills of the lowest range of windows, but above that all is modern. Enough remains of the west wall of the aisles to show that the present circular windows reproduce in their outline those of the church of 1180, but everything else is modern, from a design of Sir Gilbert Scott, which is said to have been based upon an eighteenth-century drawing of the front as it then existed. The old front, being in ruinous condition, was rebuilt about 1800 from a design by Nash, but was again rebuilt in its present form when the church was restored by Scott.

The aisle walls were originally lower than they are at present and had high pitched roofs, whose trace may be seen upon the walls separating them from the transepts (plate I, 1). It was originally intended to cover them with stone vaults, and wall ribs were provided, as may be seen in the eastern walls, but the plan seems to have been abandoned before the arches of the nave arcades were turned, as there is no provision for them above the caps. The piers themselves, however, have attached triple shafts towards the aisles, corresponding to triple vaulting shafts (fig. 1, 5) in the aisle walls, so that the plan of giving the aisles stone vaults was not abandoned until the piers had been built. When the aisle walls were raised in the fourteenth century, the vaulting shafts were lengthened, the older caps being re-used at the higher level.

The northern doorway (plate II, 1) remains in something like its original state, but the arch has been reset in rather clumsy fashion, no doubt during the fourteenth-century alterations, the old materials being used generally, with a few new stones copied from them. The two outer orders have attached shafts in the jambs, and zig-zag designs of late character in the arches. The inner order is of the common Worcestershire type, a convex sunk roll passing round the jambs and arch

without a break. Examples may be seen commonly in Worcestershire and the neighbouring counties, as in Worcester cathedral, Bredon, Ripple and Eckington churches, and at St. Mary's, Shrewsbury. The south doorway was rebuilt in the fourteenth century, but the Norman plinths remain, much mutilated.

The nave aisles do not open into the transepts in the usual way but are closed in towards the east by solid walls (plate 1, 1), pierced by doorways, that on the south round headed, of two orders, the inner exactly similar to that of the north doorway of the nave, with the plain sunk roll, the outer having nook shafts with incurved scalloped caps. The doorway in the north aisle has a trefoil head set within the inner order, but with this exception is exactly similar to the other.

Here we must take note of certain peculiarities of detail which occur in this earliest work of the cathedral.

(1) The 'Worcestershire' sunk roll (fig. 2, 4), passing completely round openings, without any break at the springing of the arch. It is usually stopped upon a semi-circle on each face of the jamb.

(2) Shafts whose section is a keel moulding, having its edge pinched into a sharp arris. This is the usual pattern for single shafts, as in the doorways at the east end of the nave aisles and in the central member of the triple vaulting shafts (fig. 1, 5 and 6). This type of shaft was used until the fall of the tower in 1220, but not afterwards.

(3) All the caps are of the same type, with incurved scallops and square abaci. Caps of this pattern were used until 1220, but not afterwards, though a few of the older caps were re-used in new positions.

(4) The bases are not water holding, but of an earlier type.

(5) All the facing of plain surfaces shows fine diagonal tooling, worked with extreme accuracy.

With the exception of (1), for which there was no place, all these peculiarities are to be found in the east wall of the choir. Further, the marks upon this wall are those of A, B, C and F, four men who were employed upon the earliest work. As the walls between the nave aisles and the transepts show the marks not only of A and B, but also of K, L, N and O, four men who worked upon the nave

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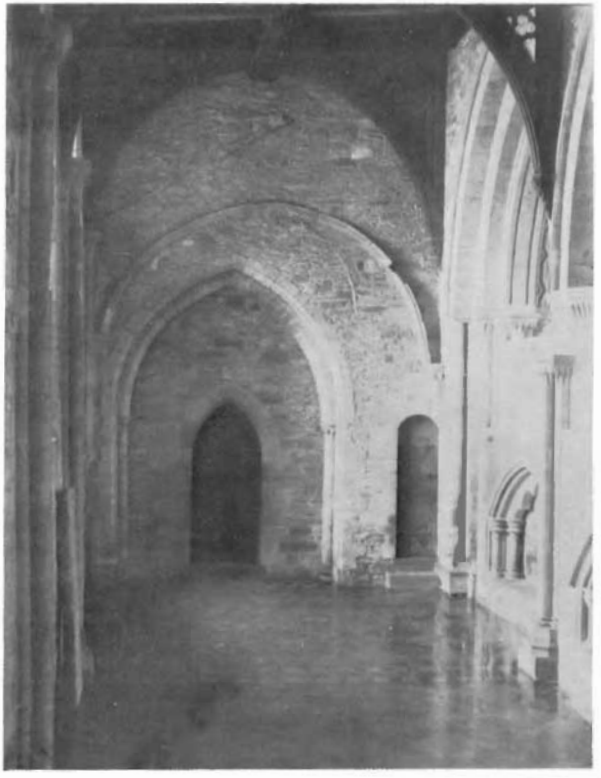


ST. DAVID'S CATHEDRAL.

1. NAVE, S. AISLE, LOOKING E.

2. CHOIR, N. AISLE, LOOKING E.

ST. DAVID'S

I. NAVE, N. DOORWAY.

PLATE II.



CATHEDRAL.

2. EASTERN CROSS AISLE, N. END.

*To face page 261.*

piers, it seems clear that the east wall of the choir is of the first period.

Now we shall see, when we examine the nave arcades, that the master builder of the time, though an admirable craftsman, was quite incapable of setting out his work with any approach to accuracy. Yet the outer walls of the whole church are quite correctly placed. The conclusion seems to be that nave, transepts and choir were set out, so far as their outer walls were concerned, at the beginning; that the western wall of the nave was then undertaken, followed by the aisle walls. Next, a beginning was made at the east end of the choir, followed by the outer walls of the choir aisles. When this work in the eastern part of the church had been completed, the building of the nave piers was begun, and operations were confined to the western area until the nave was ready for use.

There is much evidence to suggest that bishop Bernard's choir remained standing until the nave had been completed. In the first place, the outer walls of the choir aisles were erected many years before the existing arcades were built, and they were designed to correspond to a system of arches entirely different from those of which these arcades are composed. The south wall of the south choir aisle was entirely rebuilt in the fourteenth century on a line about a foot further out than the original position, which, however, may easily be seen, as it is indicated by the bases of the older angle shafts at each end which the fourteenth-century builders did not take the trouble to remove. The eastern walls of both aisles, however, remain, and the greater part of the northern wall of the north aisle, and it is possible to reconstruct the whole design. The traces on the eastern walls show the wall rib of a round arched vault (plate 1, 2), whose springing is on a level with the caps of the curious triple shafts attached to the choir piers on the sides facing the aisles. Triple vaulting shafts (fig. 1, 6) set back in a hollow in the wall, but otherwise similar to those in the nave aisles, correspond to the piers. Their bases, however, show some advance upon those in the nave aisles, as they approach more nearly to the water holding type, though less developed than those of the nave arcades.

The two western bays of this north choir aisle retain the

original twelfth-century wall, probably built before 1185, to its full height. As the great building on the eastern side of the north transept either had been begun or was in contemplation at the time when the aisle walls were remodelled in the fourteenth century, it would have been useless to insert windows in these two bays, and the wall was therefore left untouched. The original windows were blocked and new courses added to the top of the wall to raise it to the required height. The outline of these two windows is plainly visible and a great part of the wall ribs of the contemplated vault still remains *in situ*, agreeing in level and in section with that in the east wall.

Now it is clear that the choir piers (plate III, 1 and 2), which cannot be dated much earlier than 1215, were begun with the intention of making them correspond in height to the aisle vaulting shafts. They have an attached triple shaft on each pier, corresponding to that in the aisle wall opposite, and these shafts have caps at the level of those of the wall shafts. But the design was changed and the choir piers were carried up some two feet higher, leaving the attached shafts without any object to fulfil. This will be considered later when the choir arcades are described. At present the point to be noticed is, that the choir aisles, of date *c.* 1185, are at least thirty years older than the arcades, and it is hardly probable that they would have been completed as they were, at that early date, had there not been a choir to which they could have been at any rate temporarily attached.

Further, the only visible traces of detail which can be assigned to bishop Bernard's church are to be seen in the walls of the tower above the arches. If, as I think, it was the removal of the choir of 1131 that caused the fall of the tower in 1220 by taking away its eastern abutment—and it was its eastern side that collapsed—then the materials obtained by the demolition of the older choir would have been ready to hand for the work of restoration where we now see them.

To sum up: The choir aisles differed from those of the nave only by the omission of the heavy string course below the windows and in small modifications of detail indicating a slightly later date. The walls were raised to their full height without a break, and they were designed to suit a

choir arcade of round headed arches resting on piers some two feet lower than those now existing. The intention was to cover them with a ribbed vault of semicircular section as the semi-octagonal abaci of the vaulting shafts show. When the existing choir piers were built some thirty years later, this design had not been abandoned, but it was entirely changed before the piers were completed, probably because for some reason the idea of vaulting was given up.

Returning now to the nave, which was the next work undertaken, we find that a beginning was made by closing in the east ends of the aisles by heavy walls pierced by doorways (plate I, 1). It is probable that the weakness of the foundations had already shown itself by the giving way of the western wall, which at this time must have been standing to a height of at least twenty-five feet. As the western piers of the tower were now begun, it is possible that the usual arches leading into the transepts from the nave aisles were here replaced by these walls in order to give extra support to the projected tower. Had this not been done the tower could not possibly have survived until the present day. The doorways by which the walls are pierced have already been described.

I have suggested that the choir aisles were completed before the main works of the nave were begun. The evidence is slight, as the choir aisles were unroofed after the Reformation by bishop Barlow (1536–1547), who sold the lead. As they stood roofless for more than three hundred years they are somewhat weather worn, and no masons' marks nor tooling are now visible. The bases of the shafts, however, are of a less advanced character than those of the central part of the nave.

When the work of building the nave arcades was begun, the position was this. The west wall, to a height of some twenty-five feet, with its responds, and some six or seven courses of the arches resting upon them had already been erected, together with the whole of the outer walls of the aisles, the walls closing them in towards the east, and the lower courses of the western tower piers. With the beginning of the new work a number of new craftsmen were employed.

So far, only six marks, A–F, have been found, and it is probable that the number of skilled craftsmen employed was small, as the greater part of the work already completed

was of coursed rubble, of which the whole of the side walls of the aisles of nave and choir were constructed. The six men, however, who have left their marks upon such work as had been carried out in ashlar—the west wall of the nave, the east wall of the choir and the buttresses of the nave aisles—were first-class craftsmen, and their work is of admirable quality.

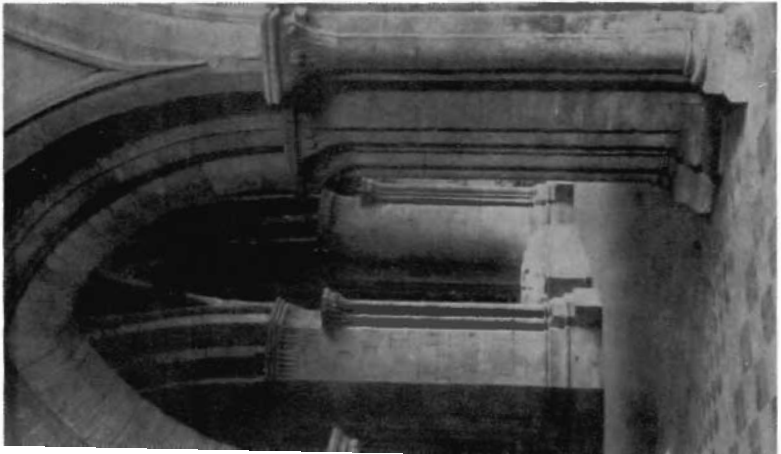
In the nave arcades (plate IV), however, the whole series, G–R, makes its appearance. This new work is of the highest quality both in artistic power and fine craftsmanship (plates V, 1 and 2; VI, 3). The originality of the design is such that it is difficult to suggest a source from which the master builder may have obtained ideas. The triforium openings dimly suggest Wells, and there is a certain flavour of French ideas in the carving of one or two of the caps. Other caps point to some connexion with the Vale of Gloucester, but this appears more clearly in the later work of the transepts.

The nave is of six bays of a round arched design. It is of two stories only, as the triforium arches, and the windows of the clerestory, are set back within tall round-headed recesses, which rise from the triforium string to the roof level. They are strongly marked by a deep band of ornament at the angle, which passes up the jambs and round the arch without a break. There are two of these arches above each arch of the arcade, and in the thickness of the wall is a tall passage, nearly eleven feet in height, whose floor is at the level of the triforium string, and which is covered in at the spring of the arches of the clerestory windows. The upper part of the nave is thus of the lightest construction, the outer wall being less than two feet thick for the first eleven feet of its height. The triforium arcade consists of a thin screen, set well back from the face of the wall and pierced by two narrow pointed openings in each recess. In the spandrel between each pair is a circle of sunk ornament, showing alternately interlacing beaded semicircles and dog tooth.

It has been confidently asserted by every one who has described the cathedral, that sexpartite vaulting was intended. This statement is based on the fact that shafts, standing on the triforium sill, are carried up between the arched recesses, and that these alternate, those above the

ST. DAVID'S CATHEDRAL.

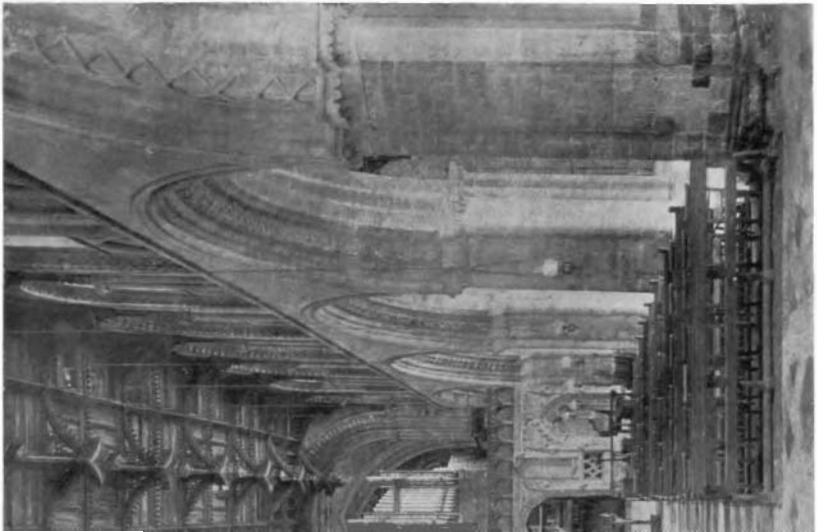
I. CHOIR, S. ARCADE, TWO E. BAYS. 2.



S. ARCADE, TWO W. BAYS AND ARCH FROM TRANSEPT.

ST. DAVID'S CATHEDRAL.

*To face page 265.*



NAVE, LOOKING E.

pier being triple, and the intermediate shafts single. Further, the upper face of the wall shows what are apparently the wall ribs of vaulting cells. At first sight, the theory seems plausible, but the nave is thirty feet wide in the clear, so that the crown of the vault, even if its main ribs were semicircular, must have risen to a height of at least fifteen feet above the caps of the shafts. The wall ribs give a height of a little over nine feet above the same level, so that the crown of the vault above the centre of the nave would have been nearly six feet above the apex of the wall ribs. The sole support of this vault would have been an outer wall under two feet in thickness, and similar narrow stretches of wall between the recesses, and the thrust of the vault would have been most effective a little above the top of the tall triforium passage. The master builder who designed the nave was, as we shall see, a bad engineer, but it is hard to believe that he should have designed a vault such as this, which could not have stood for a moment, for the clerestory wall shows no buttresses of any kind. Further, at this date, the idea of vaulting the aisles had already been abandoned.

This nave is probably the earliest example of the combination of clerestory and triforium into a single stage, though a foreshadowing of the same idea may be seen at Ouistreham (Calvados). It was developed later at Pershore and in Southwell choir, and finally became almost universal. There are several instances, however, of earlier date, of the combination of the main arcade and the triforium into a single story—Oxford cathedral (choir *c.* 1160) and Glastonbury are cases in point. This seems also to have been the original design in the choir of Tewkesbury.

The general effect of this nave is quite unlike that of any other large building of the twelfth century in Great Britain, and probably in Western Europe. It differs especially in aim from the Romanesque churches of France, where height was always desired. Such churches as Conques (Aveyron), St. Sernin-de-Toulouse, Santiago de Compostela, or St. Aignan (Cher) have the proportions of Westminster. In Normandy, although the height is less marked, it is still considerable, and in England the only Gothic naves that surpass Norman Ely in actual height are those of York and Westminster. Here at St. David's the idea of the master builder was to

produce an effect of space and lightness. A comparison with Ely is instructive. At Ely, the proportion of height to clear width in the nave is about 2·8, at St. David's it is 1·3. But if we consider the bay design, the proportion of height to width in the face of each bay of the nave is about five at Ely and exactly two at St. David's, for in our church, although the height is less than half that of Ely, the arches are actually about 3 ft. 6 in. wider, the width of each bay from centre to centre of the piers being about 17 ft. at Ely, and 20 ft. 6 in. at St. David's.

The setting out of the nave arcades was extremely faulty. The floor of the nave slopes rapidly downwards from east to west, the fall being nearly 3 ft., and in order to keep the triforium sill level the piers increase in height westwards. The work was begun at the east end and carried westwards. The master builder, therefore, had three calculations to make in order to bring the new piers up to existing responds correctly: (1) direction; (2) height; (3) spacing. In all three he failed. (1) On each side of the nave the line of the arcades has been changed slightly in order to bring it up to the respond. This error was corrected on both sides in the triforium; (2) the eastern piers on both sides were built 18 in. too low, a mistake impossible to correct without rebuilding the eastern arches, if, as seems probable, they had already been turned; (3) the eastern arch was about 8 in. too wide—an error also impossible to correct without rebuilding in a round arched arcade, if the crowns were to be kept level. The result of these mistakes is to be seen in the extraordinary misshapen arches at the west end of the nave. Here, the cap of the respond is 18 in. above the level of those of the piers of the arcade, the span from centre to centre of the piers is about 17 ft. instead of 20 ft. 6 in., and some seven courses of the western haunch of the arch had already been built, and had been set out for a round arch of about 20 ft. span (centre to centre). The difficulty was further increased by the fact that the west wall had by this time settled somewhat, and now leaned outwards. The solution adopted was to bridge the gap between the highest course of the western arch and the cap of the first pier by a misshapen pointed arch,

[1] Scott: *Mediæval Architecture*, I, 117.

whose crown, however, is on the same level as that of the other arches of the arcade, though of course not in the central line of the bay. The settlement in the western wall had, of course, brought the horizontal courses of the masonry above the respond to a slightly sloping line. This was corrected by inserting a wedge-shaped course above the arch, thus showing that the settlement took place before it had been built. There is no sign of any later distortion; nor of any reconstruction.

It may be suggested that the western bay was designed from the first to be narrower than the others in order to give better abutment to the arcade. There are many instances of this, as at Rye, and in our own cathedral of St. Asaph. But in this case the western haunch of each arch had already been begun, with a full radius, and in any case the mistakes in direction and level are obvious.

The six craftsmen who were employed upon the earliest parts of the building have also left their marks upon the nave piers, so that it is probable that the whole of the work had been carried out without interruption, and fairly rapidly This may also be inferred from the fact that the broad line of decorative mouldings beneath the east windows of the choir is similar in motive to the corresponding ornamentation in the nave. In addition to the six older marks, however, ten new ones now appear. The series extends throughout the arcades, and in the eastern and western portions of the triforium. This, the next work undertaken, was begun at both ends simultaneously. The bad alignment of the arcades was here corrected, the line of the upper part of the nave being perfectly straight. The work begun at each end met in the fifth bay from the west, where the levels do not agree, the eastern part being 2 in. lower than the western. In the eastern lancet of the west half of this bay, the sill is brought down at right angles in the middle of the opening to make the necessary adjustment.

In the central part of the nave no marks are visible in the triforium. As a general rule, masons' marks appear frequently, or not at all, or at least very sparingly indeed. Probably this points to the coming of a new master builder, as this absence of marks can only be due to some new regulation. Now the parts of the cathedral in which masons' marks do not occur are: the central parts of the nave clerestory and

triforium, the transepts, and the lower parts of the tower piers which survived the fall of the tower; that is, the whole of the work from this point until shortly before 1220, when the choir arcades were begun. Naturally the central part of the triforium shows no change in design from its eastern and western ends, but the transepts are built in a style entirely different, which has strong affinities with that of certain churches in the Vale of Gloucester.

When the nave was at last completed, the building of the transepts was begun. The work is remarkable for its extreme plainness, but such detail as it shows is of fine quality and the craftsmanship is excellent. The east wall of each transept has three pointed arches, of which the innermost opens into the choir aisle, the second is decorative only. In the north transept the outer arch opened into a chapel which projected eastwards, as is proved by the fact that it is moulded upon both faces. This chapel no longer exists, as it was removed in the course of the fourteenth-century additions to the cathedral, and replaced by the great building, three stories in height, which now occupies the site. This building is so much larger than the chapel which it succeeded, that its southern wall is only some two feet distant from that of the choir aisle, and it was for this reason that the two western bays of that aisle were not then remodelled. In the south transept the corresponding arch does not differ from that adjoining it, and there is, therefore, no reason to suppose that a chapel ever existed here. In modern times, however, a small vestry has been built, projecting eastwards, and the old arch, which originally covered a recess for an altar, now opens into it. A later example of this curious design may be seen at Ruthin church, Denbighshire. This was originally a long, aisleless building with a central tower, but no transepts. The tower, however, was supported by four well-moulded arches, of which the eastern and western opened into the choir and nave respectively, but those on the north and south were closed in by walls on the outer face of the arches. Probably both at St. David's and Ruthin further additions were contemplated when funds should permit. The church at Ruthin was begun about 1310.

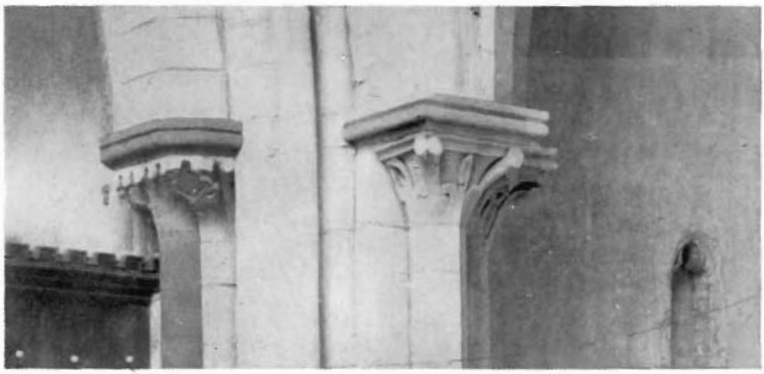
There was some interruption in the work between the central and outer arches in each transept, as there is a

ST. DAVID'S CATHEDRAL.

1. NAVE, N. ARCADE, 2ND PIER.

2. NAVE, S. ARCADE, 1ST PIER.

ST. DAVID'S CATHEDRAL.



1. N. TRANSEPT, MIDDLE RESPOND, E. WALL.

2. N. TRANSEPT, S. RESPOND, E. WALL AND ARCH TO CHOIR.

3. NAVE, S. ARCADE, 1ST PIER.

break in the coursing and the outer arch shows a small, but important variation in detail from that next to it. The outer order of the arch, a keeled roll between two deep hollows of peculiar section, is continuous, passing up the jambs and round the arch without a break. The section is shown in fig. 4. It will be noticed that the hollow meets the wall surface in a convex curve instead of the usual sharp edge, a very uncommon feature. Now the eastern responds of the choir are of similar design (fig. 1, 9). The outer order was intended to be continuous and it has the same peculiar section; it is now cut off short by a later abacus or impost moulding. These responds also show an example of decorative tooling in a projecting square-edged angle.

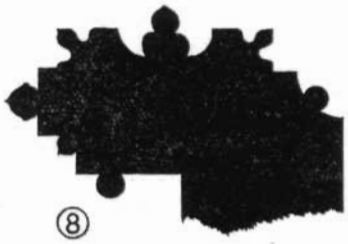


FIG. 4. N. TRANSEPT. PLAN OF S. RESPOND OF ARCH TO E. CHAPEL ($\frac{1}{40}$).

Each stone has vertical tooling on one face, on the other it is diagonal. The stones above and below have the same treatment reversed, so that, on each face, the tooling is alternately vertical and diagonal. The same decorative tooling is also to be found in the piers supporting the arches on the east side of the transept.

It is clear, then, that work was begun again on the east wall of the choir as soon as the transept was completed. That the responds are of later date than the transept is shown by the fact that they show a complete series of masons' marks, of which the transept is almost entirely destitute, and that they agree in detail with the outer arches of the transept, beyond the break in the coursing which has already been mentioned. The responds are inserted in chases in the older eastern wall, with which their coursing does not agree.

These arches in the transepts (plates VII, 1 and VI, 1 and 2) are of fine design and excellent workmanship. They present a number of details quite different in character from anything in the nave. The larger shafts in the recesses of the piers carry two sharp arrises, or narrow fillets—in fact, the section is almost that of half a square, whose sides are not straight lines, but rather flat wave mouldings. The smaller shafts have the single arris, as in the nave. Shafts of this peculiar section may be seen at Slimbridge, Gloucestershire, where the caps are without a ring, as is the case in these transepts at St. David's.

The wall of each transept above the arches is entirely blank, except for three short vaulting shafts which rise from corbels at a level slightly above the crowns of the arches. It was apparently intended to vault each transept in four bays, but as usual in the cathedral, no attempt was ever made to carry out the project. They have now been used, however, to carry the wooden vault which Scott erected.

The western wall has a very lofty, wide and shallow arcade of round-headed arches. In the north transept (plate VII, 2), one bay, and in the south transept, two, were pierced for tall and wide windows. Above are again short vaulting shafts, whose spacing has no relation to the arcade below, although apparently they are contemporary with it. Below the windows in the south transept is a low doorway. Both transept ends were entirely rebuilt in Perpendicular times with the exception of the angle buttresses, and it is impossible to make any conjecture about the original design.

As the description shows, the transepts are bare in the extreme. The detail is peculiar, and entirely different from that of the nave or later choir. It has very striking points of resemblance to the corresponding detail of Slimbridge church, in the Vale of Gloucester, and it is probable that both are the work of the same hands. The absence of masons' marks, unfortunately, leaves us without definite evidence on the point.

The peculiar detail of the transept appears again in the older portion of the two eastern tower piers, as well as in the eastern responds of the choir arcades, as has already been noted. As no masons' marks appear on the older parts

of the tower piers, but are to be found on the responds, it may be taken that the tower piers are contemporary with the transept, and the responds somewhat later.

One or two small pieces of evidence derived from masons' marks may here be given, as they confirm the suggestions already made as to the general progress of the work.

It has been stated that, generally speaking, the central bays of the nave clerestory, and the transepts are without masons' marks, and that the series begins again with the building of the eastern responds of the choir. There is one exception, four marks appear on the doorway in the western wall of the north transept. Two of these, B and G, belong to the nave series, the other two, α and ϰ, to that of the choir (fig. 3). The detail is quite distinctively that found throughout the transepts. Probably, therefore, the work was begun before the nave clerestory was quite completed, and the appearance of two craftsmen who worked in the choir suggests that the work had lasted for a considerable time. The marks which appear on the eastern responds of the choir are A and L, both of the nave series. The number of marks, however, is too small to allow of any suggestion which would carry weight, and the evidence can only be put forward in confirmation of theories based upon more solid grounds.

Up to this point there can be little doubt that the work was carried on in the order indicated: west front; nave aisles; foundations of all outer walls; east front to the height of the string above the present arcades; choir aisles; west tower piers (in part); nave arcades; west tower arch; nave triforium and clerestory; transepts, with the eastern chapel now destroyed; eastern tower piers; eastern responds of choir. The progress of the later work is less certain, and the theory put forward must be regarded as conjectural. In all probability, however, the next work undertaken was the building of the tower, which we know had been completed before 1220, as it is then described as 'the new tower.'

The theory I have formed is entirely conjectural, but it seems to me to be the only explanation of the very complicated evidence which now remains, evidence the more difficult to interpret owing to the work of restoration

carried out by Sir Gilbert Scott, which entailed the rebuilding of the greater part of the walls of the choir clerestory.

I suggest, then, that the tower was completed not long before 1220, and that the nave, the western tower arch and the transepts were then little different from what they are to-day. To the east, however, bishop Bernard's choir stood, giving the necessary support on that side to the new tower. Around it were the aisle walls, of which parts still remain, and the lower part of the existing east wall with its three lancets, in which the present responds had lately been inserted. These show that it had already been decided to raise the choir piers to their present height, two feet greater than that originally contemplated.

As the style of the new work of the choir is entirely different from that of these responds, there must have been a short interval before building began again. Just before 1220 came a period of quiet and prosperity throughout Wales, and it is probable that this marks the resumption of the work. As Dr. J. E. Lloyd tells us, 'the year 1218 closed in profounder peace between English and Welsh than had been seen for many a long year.'[1]

Perhaps it was in 1219, then, that work (plates VIII, IX and X) was begun again. A new master builder had prepared a new design, though the height of the piers fixed by the eastern responds (fig. 1, 9) was retained. The mouldings, however, were not to be continuous, and those of the responds were cut off in clumsy fashion by a new moulding in line with the abacus of the engaged shafts (plate X). The work began at the east end, and bishop Bernard's choir was pulled down bit by bit as the new building was carried westwards. A new set of craftsmen, only one or two of whom had been employed on the earlier works, began to build in a new style. The piers were alternately round and octagonal, and had on their north and south faces, triple vaulting shafts of a new pattern, without arris or fillet. The arches (fig. 1, 11) were finely designed, of three orders, with flat zig-zag decoration towards the choir. At last the western part of the old choir, where it met the new tower, was pulled down, and it was the removal of this abutment, which left the tower without support on its eastern side, that caused its fall.

[1] *History of Wales*, p. 654.

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ST. DAVID'S CATHEDRAL.

1. S. TRANSEPT. E. ARCADE.

2. N. TRANSEPT. W. WALL.

ST. DAVID'S CATHEDRAL. CHOIR, LOOKING E.

*To face page 275.*

The traces of the catastrophe are still visible. The upper wall of the transept shows the line of the fracture about five or six feet from the angle, and the eastern and western tower piers retain the older work on their eastern and outer sides. No sign of any break can be seen in the choir arcades on either side, so that it is probable that they were unfinished at the time of the disaster, but that the parts already completed were entirely uninjured. It is, I think, possible to conjecture what happened with some probability. Apparently the north and south tower arches gave way, pushing the upper part of each pier eastwards, and then falling straight down, and carrying with them the whole of the north and south walls above, and bringing the east wall with them. As the north and south walls would fall first they would drag the east wall in the same direction towards the crossing, westwards, as its supports had been forced away eastwards.

Scott tells us in his report that the western piers had been refaced on their eastern side after the disaster, so that the damage caused was mainly within the crossing itself. The arches leading from the transepts to the choir aisles were uninjured, and the angle shafts at the west end of the choir, where the arcades meet the eastern tower piers, are of the older pattern.

In order to make the position clear, a description of one of the eastern tower piers is necessary; both were treated in precisely the same way at the restoration of 1220. It should be mentioned that the work of the restoration shows detail of a different character from that of the older portions, and that in one place at least, an older base can be traced, running into the wall, where later masonry has been laid upon it.

Fig. 5 shows the section of the south-east pier. The western and northern faces are entirely new—that is, later than the fall of the tower. Near the SW. angle is a well-marked break in the masonry which can be traced to a height of ten or twelve feet. Beyond it the older work appears, and can be traced to a point in the SE. angle, where there is again a break. The respond is of the later period, but just beyond it an older shaft may be seen, in the NE. angle, and it is just beyond the point corresponding to the western of these joints in the north-east pier

that the older base is covered by later masonry. From this point on, the masonry is of the later period.

It is therefore clear that the serious damage occurred on the two sides of each pier that faced the crossing. The new masonry of the respond is evidently a mere facing, as the older work appears on each side of it.

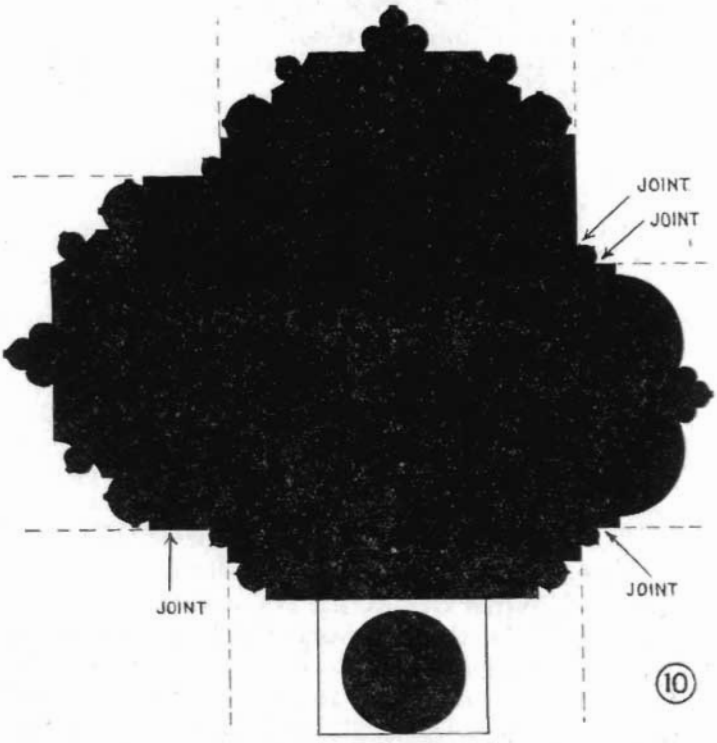



FIG. 5. CROSSING. PLAN OF SE. PIER ($\frac{1}{40}$).

The work of rebuilding began at once, but the choir arcade was carried on at the same time. The masons' marks show that no new craftsmen were brought in for the actual work of the building, but a new carver appears. He carved the caps of the new tower arches, of the new responds of the arcades (fig. 6), and of the two western vaulting shafts on each side. It seems probable, therefore, that the two eastern arches on each side of the choir—

perhaps three—had been turned, and the wall carried up to the height of the string, when the choir fell. As no damage whatever was done to the work actually in progress, there is no sign of any break in the walling. The tower simply fell into the crossing, and into the gaps between the old work and the new arcades.

One or two details of evidence seem to support this theory. The hoodmould over the choir arches dies into

FIG. 6. ST. DAVID'S CHOIR, NW. RESPOND.

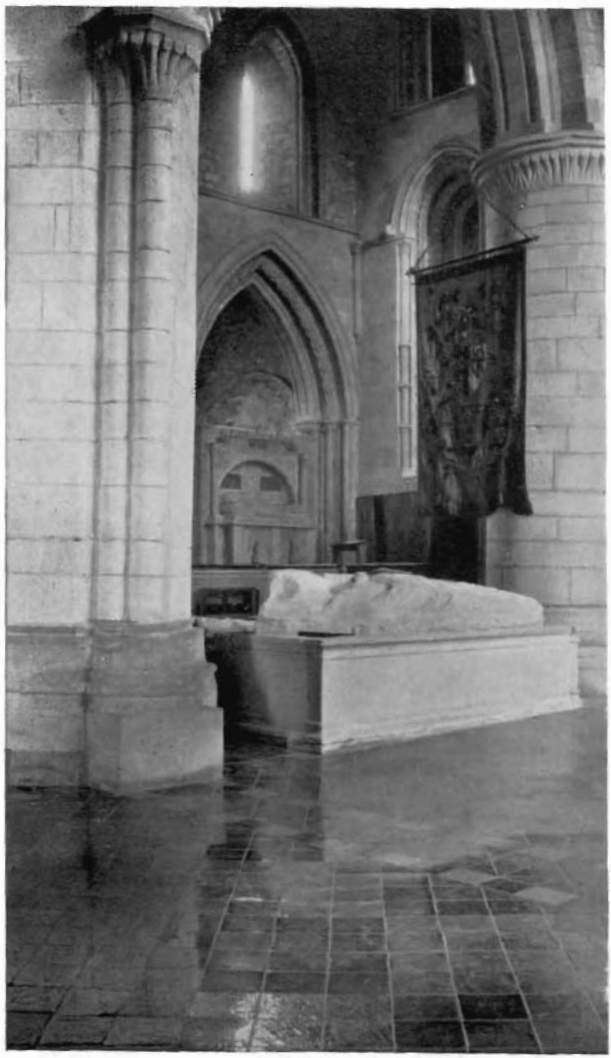
the vaulting shafts above each of the free piers, the lowest course being cut from the same block of stone as that of the adjacent portion of the shaft. At the west end, the older vaulting shaft remains in the angle (plate IX), and the hoodmould is cut off in an awkward fashion where it first touches it. No doubt the builders of the arch were bringing it up to meet the older part of the pier which was still standing. Again, in the two eastern bays, the ashlar of the spandrels of the arches stops short about a foot below the string and the wall above is of rubble. No doubt this marks the line to which the wall had been raised when the work was

stopped for the rebuilding of the tower. When the arcade was carried on to meet the rebuilt tower piers, ashlar was used up to the string, but the work being now confined to the new western bays, the two last courses below the string in the eastern bays were not added until the building of the clerestory, which is of coursed rubble, was begun at the west end to safeguard the new tower, and was carried eastwards to the point at which the work of the two eastern bays had been suddenly suspended.

This explanation takes no account of the very curious vaulting shafts attached to the choir piers on the side facing the aisle. These end in a cap with a heavy abacus about two feet below the cap of the pier. Nothing could ever have stood upon these caps, as that of the pier, two feet above, overhangs them. There is no sign of any break in the masonry of the pier, which has evidently been built in its present form without any pause in the work. It has often been suggested that the change in design which has here taken place was the result of the fall of the tower; this would naturally be the first explanation that would occur to the mind of any one. I do not think, however, that there is any connexion at all between the two events, for I think that all the choir piers were standing in 1220 exactly as we see them to-day, and that the change in design was made sometime earlier. There seems to have been at least four distinct schemes for the building of the choir: (1) that of the builders of the aisle walls. This provided for a round-arched arcade with piers of the same height as the vaulting shafts, as is now seen clearly at the east end of each aisle; (2) that of the builders of the transept, who provided responds at the east end of the height of the existing piers; (3) that of the master builder, who began the work now existing, at some time just before 1220; (4) that of the same master builder, who, when the work had been begun, and the short piers had been partly built, realised the obvious fact that the proportions of the choir he had designed would be thoroughly unsatisfactory. Not wishing to rebuild the piers, and being at a loss for some plan for making use of the vaulting shafts, he simple finished them with caps at the height he had intended, and raised the piers to the level determined by the responds of scheme no. 2. He then cut off the outer mouldings of these

*To face page 276.*

ST. DAVID'S CATHEDRAL. CHOIR, LOOKING NW.



ST. DAVID'S CATHEDRAL, S. CHOIR-AISLE, LOOKING NE.

responds, which, in their original design should have been continuous, by carrying the abacus of their central shaft straight across the respond from side to side. It was an easy, if clumsy, way of getting out of a difficulty.

The work of the clerestory was then carried through from west to east, as has been stated. There were the usual preparations for vaulting in the western bays, but these were quickly abandoned. The clerestory seems to have suffered great damage in the earthquake of 1248, but it was entirely rebuilt by Scott, and the account he gives in his report of the work done is not very clear. At some time or other, after the vaulting scheme had been abandoned, trefoil-headed niches were inserted in the wall at points which would have been covered by the vaulting cells. This may have been done after 1248, when the clerestory walls had suffered serious injury. The whole of the walling of the clerestory is of rubble, as are also the two courses below the string in the two eastern bays.

The east end of the church (plate VIII) has two tiers of lights. Below are three lofty lancets, that in the centre taller and wider than the other two. The decoration of the jambs and arches is of the most elaborate kind. There is a narrow outer order of plain moulding, carried by jamb shafts, and shafts set in front of the mass of wall between the windows, and within are two strongly marked bands of deeply cut zig-zag. Round the window opening itself is worked a narrow roll moulding, which is carried across the sill, up the jambs, and round the arch without a break. This is a feature not uncommon in the south-west, and may be seen in the west front of Llandaff, in the tower of Cheltenham parish church and elsewhere. These lancets have been blocked since the early years of the sixteenth century.

The upper tier of lights consists of four lancets of equal height and width, but they are modern. Before the restoration, their place was filled by a broad low window of seven lights, of early sixteenth-century date. Scott found this in a hopeless state of disintegration, the mullions and tracery only held together by the glass. As it was necessary to renew the stonework, he removed the window and found the bases of the original lancets embedded in the sill. As the window would in any case be new, he decided to

reproduce the earlier design, using the original bases. He was certainly justified in so doing, as the general outline is very satisfactory.

This east end is a curious medley of the work of two different periods. As has already been pointed out, the lower part of the wall is of early date, and this early work extends upwards at least to the level of the string above the lancets. The responds of the transept period are inserted in this wall, which is of ashlar throughout, and very finely built. But the whole has suffered very serious injury, evidently in 1248, and much work of that date has been inserted. As the detail of the new work is of pure early English character, and a lighter coloured yellowish stone was used at this restoration, it is quite easy to distinguish the new work from the old. The bands of zig-zag were badly damaged, and much new work has been inserted, but this has been carefully copied from the older portions. The upper part of the jamb shafts of the outer lancets are old, as are their scalloped caps, but the lower parts and the shafts between the lancets are new, and are banded in short lengths, as in some churches in Somerset and Dorset. The whole of the upper tier of windows was evidently rebuilt, as the existing bases show.

In the external face of the east wall, below the sill of the central lancet, is a deep recess. The jamb and pointed arch have worked upon the angle a heavy roll moulding which has bases but no caps. At the back of this recess a square slab of a yellowish coloured stone is inserted, which is of the full thickness of the wall, and through it a circular opening, filled with tracery in the form of a cross, has been cut. The object of this opening must have been to allow persons standing outside the church to see the shrine within.

At the back of the recess, above and at the sides of the perforated central slab, other smaller slabs of the same yellowish stone have been inserted, on which crosses are carved in low relief. The whole belongs to the first period of the work.

The new tower arches (plate IX) are pointed and spring from caps some three feet lower than those of the older semicircular western arch, but rise to the same height. All four are of three square edged orders,

but in the three later arches the two inner orders have their angles softened by a narrow hollow chamfer or a thin roll moulding. The caps show the work of a new carver of real merit. The designs are based upon the water leaf in some cases, and in others, on the older incurved scallop, with carving in low relief on the flat surface where the scallop is cut off. The caps which show the work of the new craftsman are those of the new piers, that is, the two eastern, and the eastern faces of the two western piers, also, the two inserted responds of the choir arcades and the vaulting shafts above the two western pairs of choir piers. The work is of a very high order, but is at least thirty years later in date than anything of the kind in an important English church. This seems to me to point to a complete break with English craftsmanship which must have taken place about the end of the twelfth century. No doubt archaic craftsmanship may be found in many an English village church, but the general advance in style is nearly contemporaneous in all the greater English churches. At St. David's, however, the craftsmanship is at least equal in technical skill to anything which the greater English churches of the time—1220—can show, yet in outline and in detail the design is based upon ideas which had been abandoned thirty years earlier on the other side of the border. After the earthquake in 1248, however, the work at St. David's conforms to the type prevailing in England at the time.

The tower, as rebuilt, extended to one stage above the string over the four arches of the crossing, rising to a height of a few feet only above the ridges of the outer roofs. There is no reason at all for supposing that it was ever raised to a greater height than this until the time of bishop Gower in the fourteenth century. Piracy was fashionable at the time, and the tower, had it been more lofty, would have been seen from the sea. When it was raised to its present height it became clearly visible from Cardigan Bay on the north and St. Bride's Bay on the south.

A moment's thought will show that the fall of this low tower could have done little harm to any part of the building more than a few feet from its base. Add to this the fact that the masonry of which it was composed was of the highest excellence, and that there had been no

failure in the foundations. These considerations seem to me to leave no explanation possible for its collapse other than the theory here suggested, that bishop Bernard's choir had formed its eastern abutment—that, when the choir was half completed that abutment was taken away—leaving, of course, rough walling just where the new responds may now be seen between two older shafts—and that the mortar of the northern and southern tower arches had not set quite firmly, with the result that they gave way. Had this been the case, the tower would have fallen exactly as we know it did fall, mainly into the crossing, doing little or no damage outside its own area, and the same body of craftsmen that was at work on the almost finished choir would have completed their work there, and at the same time rebuilt the tower. Also, we should look in vain for any sign of a vertical break in the choir walls, as is actually the case to-day.

One more suggestion of evidence may be noted. The only remaining fragments that can be identified as having belonged to bishop Bernard's church are built up in the tower wall above the western arch. This suggests that in 1220 the older choir had been so recently destroyed that its materials were still at hand for the use of the builders who were at work on the restoration.

Apart from the repairs in the choir, nothing in the cathedral can be assigned to the second quarter of the thirteenth century, except a very beautiful double piscina in the chapel east of the north transept, now used as a vestry and chapter house. This is now built into the fourteenth-century wall, and may have been taken from the older and smaller chapel that stood on the site until the time of bishop Gower. There is an excellent illustration of it in Jones and Freeman, p. 97.

The next date of importance in the architectural history of the cathedral is 1275, when, we are told, 'the shrine of blessed David in the church of Menevia was begun'; for the building of this shrine, which still exists, was part of a scheme which involved large extensions towards the east.

The opening which has been described, beneath the central lancet in the east wall, shows clearly that the shrine originally stood in the east bay of the choir, the high altar

being probably placed against a screen standing between the last pair of free piers. At this time the church ended in a straight wall across choir and aisles. In the choir were the two tiers of lancets already described, and the end wall of each aisle had the round headed windows whose outlines may still be traced. Pilgrims, who were very numerous, could see the shrine from outside the church, by looking through the circular opening in the recess.

For some reason or other it was decided to extend the church eastwards, and to make provision for a lady chapel. As the sills of the eastern lancets are very low, the bottom of the actual opening being only some seven feet from the pavement of the choir, no extension could have been made there without blocking the lower tier of windows, and this the builders wished to avoid. They therefore conceived the extraordinary plan of carrying the aisles eastwards, closed in on both sides, to a distance of nineteen feet. Here they were joined by a cross passage parallel with the east wall of the choir. Beyond this, the aisles were carried a couple of feet further to form recesses for altars. The east windows of the choir were of course undisturbed, but they now opened into an enclosed courtyard which was not easily cleaned, for all refuse had to be carried across the church to a doorway provided in the north aisle. Many complaints are on record of the filthy state of the courtyard, which is hardly surprising in a spot so rainy and windy as St. David's.

To give access to these extensions, arches were cut through the east walls of the choir aisles in the usual mediaeval fashion. Holes were cut through the wall and the arch voussoirs inserted one by one. The windows were carefully blocked, and then the portions of the old wall within the arch were removed. No part of the wall above or beside the archway was in the least disturbed, and we therefore may still see the trace of the old window opening above the later arch, and the line of the old lean-to roof (plate I, 2).

The aisles opened into the cross passage through double arches (plate II, 2), well moulded, with a central column which has detached shafts on the four cardinal faces. Both caps and bases are well moulded, as are also the arches themselves. Above the caps are springers for a vault which,

naturally, was never constructed. A second set of springers higher up tells of an early sixteenth-century project for a vault, which again came to nothing.

Provision was made for the building of a lady chapel, to project eastwards from the cross passage, by the building of a double arch of entrance. These are not central, but adjoin the projecting part of the south aisle. No reason can be assigned for this irregularity, unless it be that space for an altar was to be found in the cross passage. Irregularities of this kind, however, are almost a characteristic of the cathedral. To this day the nave altar is placed at one side of the choir screen, which serves as its reredos, and this has been its position since the fourteenth century.

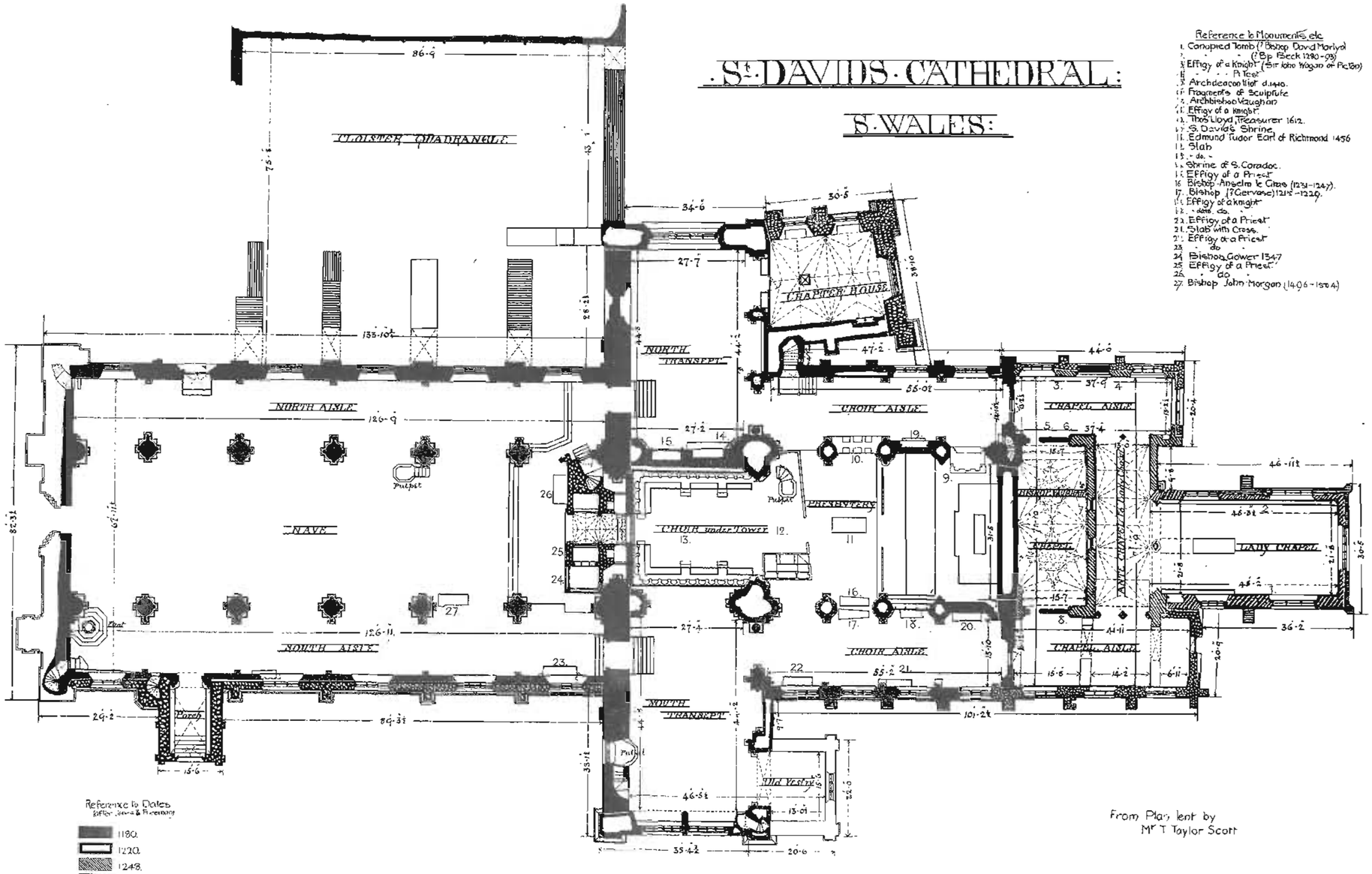
The lady chapel itself was not built until the time of bishop Martyn, according to Jones and Freeman, but these authors point out the fact that there is evidence that suggests that either the present building replaces an earlier and smaller chapel, or, what seems to be more likely, a beginning was made of the existing building which was completed at some later time.

The actual shrine, built in 1275, stands within the second arch, counting from the west, on the north side of the choir, and occupies the whole width from pier to pier (plate IX). On the side facing the choir is a stone table, whose front consists of a wall in which are three deep arched recesses, cut square into the wall, the edges slightly chamfered. In the spandrels are four quatrefoil openings, of which the two outer are simply recesses, but in the other two there is a small opening in the back of the upper lobe of the quatrefoil leading to receptacles which were probably provided for the offerings of pilgrims. At the back of the table above rises a wall on whose face is a blind arcade of three moulded arches resting on detached shafts. In later times, probably the fifteenth century, the wall above these arches has been altered and ill-fitting crocketed canopies added. The whole now finishes in a straight line above these canopies, but this is not the original termination of which no trace now remains.

No doubt the actual shrine, of wood or metal, stood upon the table in front of the wall at its back. The two pierced quatrefoils, with the recesses behind them, would then be directly beneath the relics of the saint, and those of St. Justinian, who was buried with him. A second shrine,

# S^t. DAVIDS CATHEDRAL:

## S. WALES:




From Plan lent by
Mr T Taylor Scott

Ground Plan

that of St. Caradoc, evidently of the same date, stands in a recess in the wall which fills in the lower part of the northern tower arch, and forms a backing for the stalls on the north side of the choir. It consists of a stone table with two arched recesses, and quatrefoil openings between them, all similar to the corresponding parts of St. David's shrine, though arranged in a different fashion.

As the main purpose of this paper is to put forward a theory which concerns the progress of the works at the cathedral during the century that followed the beginning of the new building by bishop Peter de Leia, in 1180, the important modifications of the structure, and the additions to it, made by bishop Martyn and his successors are outside its limits, and they are of sufficient importance to call for detailed study. Some parts of the later work are hardly worthy of this very noble church, but on the other hand there is much that in no way falls below the standard set by the earlier craftsmen.

NOTE.—Since this paper was written, I have found further evidence in support of the theory here put forward, that the craftsmen who were brought to St. David's by bishop Peter in 1180 came from the neighbourhood of Worcester.

Several masons' marks that occur in the nave at St. David's also appear in the western bays of Worcester cathedral and in the slype adjoining. The marked similarity of certain parts of Wroxeter church, Salop, to the twelfth-century work at St. David's is also worth noting. This is not surprising as Peter de Leia had been prior of Wenlock before his consecration as bishop of St. David's.

N.B.—The large plan of the cathedral, by Mr. Taylor Scott, reproduced, by permission of the *Builder*, to illustrate this paper, is not hatched in accordance with the theories here set forth.

The negatives from which the illustrations in Plates II, 2; VI, 3; VIII and IX are taken, I owe to the courtesy of Mr. Mendus of St. David's.