THE WEST FRONT OF ROCHESTER CATHEDRAL: THE INTERIOR DESIGN

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In a recent study which was primarily concerned with the basic structural parti and exterior design of the west front of Rochester Cathedral,¹ I gave little attention to the design of the east face of the façade, beyond noting the remains of tiers of arcading adjacent to the juncture of the west wall with the nave arcades.² Yet, the stair-vides and passage-ways within the façade form a system more extensive and complicated than the size of the façade or the nature of the structure might lead one to expect. That, plus several other details of the design of the east face of the west wall, makes it seem desirable to complete the discussion of the west front by an examination of its internal system and interior design.

THE CIRCULATION SYSTEM

The passages in the thickness of the west front are now entered by a sizeable doorway at the foot of the south-west stair-tower facing into the aisle.³ As the north-west stair-tower has been twice rebuilt with a

¹ 'The Significance of the West Front of Rochester Cathedral', Arch. Cant., xcix (1983), 139–58. Two significant typographical errors in that paper should be noted: the photographs above the captions for Plates IA and IB were reversed; on p. 142, "thick-thin-thick-thin-thick-thin, etc.," should read, "thick-thin-thick-twín-thick-thin, etc.,”. And one corrigendum: on p. 150, para. 2, line 12, the phrase “or newel stairs within” should be deleted.
² Ibid., 142.
³ The doorway is about 3 ft. 7 in. wide, 7 ft. 1 in. high, and opens into a small ‘vestibule’ 4 ft. 5 ½ in. wide and 7 ft. 9 in. high.
solid base, it is not certain if there was a corresponding doorway in it: but, as we shall see, the façade is symmetrical in all other respects, so it is likely that originally there was one at the end of each aisle. The surviving doorway enters into an ample stair-vice, 3 ft. 11 in. wide, distinctly larger in scale than the normal stair-vice hidden behind one of the angle buttresses of a so-called sectional façade, and explaining why the corner angle turrets are so prominent at Rochester and are more correctly described as stair-towers. Not surprisingly, the vice rises for the full height of the stair-tower and gives access to the aisle roof. Before that level is reached, however, a wall passage opens to the north, and passes through the wall at the end of the aisle. A small window to the exterior gives it some light; this window is opposite a larger opening (inner jamb, 2 ft. 3¼ in. wide) that looks into the aisle. At the end of the nave arcade this passage-way ends in a complex junction. To the east there is the passage-way that ran through the level of the second stage of the nave elevation; to the west there are the lowest steps of another stair-vice; and to the north, not quite on the same axis, there is another passage-way heading across the west front.

The passage-way leading to the east, over the nave arcades, was clearly built when or shortly after it was decided neither to vault the aisles nor to provide a wooden floor for the roof space behind the

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4 The north stair-tower was taken down in 1763, and was partially rebuilt by 1772, along with the upper part of the aisle-end wall. By 1816, the south stair-tower had been reduced to the first three stages of the present design: the blank one, and the first two arcaded ones. Later, in the restoration begun in 1888 by J.L. Pearson, it was rebuilt to the original height; in the process the entire north stair-tower was rebuilt once again. The upper two stages of the north-central turret had been rebuilt in the fifteenth century as a plain octagonal form with battlements; as part of the restoration, it was rebuilt to match the south-central turret which is the only one that seems to have escaped decapitation. See G.H. Palmer, *The Cathedral Church of Rochester* (1897), 30, 35–6, 45–6; the appearance of the façade before any of these alterations is shown in an engraving of 1719 (p. 26).

There were apparently severe problems with the foundations of the north-west stair-tower which were the cause of its rebuilding in the eighteenth century in a shortened form, and with the elimination of the lower part of the stair-vice. This rebuilding was itself unsatisfactory and unstable; Pearson insisted upon rebuilding it completely: see the documents in the Kent Archives Office: DRc-Emf 65/9 (Proposed Restoration Estimate, July 2, 1888), DRc/Emf 65/16–17 (Revised Estimate for Works at the West Front, October 27, 1890, and sectional tracing), DRc/Emf 65/48 (Resolutions of a Sub-Committee, February 23 [1892], and the architect’s replies), and DRc/Emf 65/47/2 (Proof of a Public Appeal for funds to aid the restoration).

5 A wall passage is also found at the end of the north aisle. There is now no opening from it looking into the aisle, but from inside the passage-way the south jamb of the former opening may be seen. This must mark the line of the nineteenth-century rebuilding. From this level upwards there is a stair-vice in the north-west stair-tower.

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second stage openings. The scale of these openings suggests that either a so-called low or a false gallery was originally intended. In each bay, the gallery opening was designed as a pair of arches with a centre shaft and tympanum, one set towards the nave and one towards the aisles. The passage-way, therefore, passed between the double screen of the openings and continued through the piers between the bays. Behind the openings it is covered by small barrel vaults, placed transversely, with pointed or semicircular arches used in the small section of vaulting between each of them (Plate IV).

The stair-vice, which rises opposite the entrance to the arcade passage-way, is much narrower than that in the angle stair-tower, being only 2 ft. 5½ in. wide. As it rises, several doorways, all now blocked, formerly opened off it. First, there is a wide and tall opening facing to the east. This must have led to a clerestory passage-way in the Romanesque nave and has been blocked up as a result of the rebuilding of the clerestory in the fifteenth century. A similar blocked opening, at the same level, is found in the stair-vice at the end of the north arcade as well. In both cases, the entrance appears to have been lighted by a fair-sized window facing north or south on the respective sides. One interesting aspect of these blocked openings is their very ample dimension, implying a tall clerestory. The shape and angle of the openings also suggest each was the entrance to a passage-way that ran across the west front. Thus, there were apparently two superimposed passages across the inside of the west front, one at the level of the gallery and one at the level of the clerestory.

6 A low gallery is one with a short exterior wall with small windows (e.g. Durham Cathedral); a false gallery, one in which the slope of the lean-to aisle roof begins at the ‘floor level’, so there was no exterior wall or windows (e.g. Malmesbury Abbey).

7 It is often difficult to decide if some of the arches are pointed or semicircular in shape. There is no apparent pattern or progression in their appearance. The passages through the piers were blocked up during the restoration work supervised by Sir George Gilbert Scott. At the same time, iron ties were inserted to counteract the weakness of the nave walls (Kent Archives Office, DRe/Emf 65/3, Report of G.G.S., November 24, 1875).

8 That there was a clerestory was noted by W.H. St. John Hope, The Architectural History of the Cathedral Church and Monastery of St. Andrew at Rochester (1900), 27, 86.

9 The entrance to the clerestory passage in the south vice is 4 ft. wide (measuring across the blockage): the small window, two steps higher, is about 1 ft. 5 in. wide. In the north vice, the entrance to the clerestory passage was positioned slightly differently, facing more easterly, so its blockage measures 2 ft. 11 in. wide, and the window is 1 ft. 7 in. That is to say, the wider entrance from the south vice suggests that the clerestory and west front passages met at the vice, while the narrower opening in the north vice implies that one passage opened off the other.
Further up in each stair-vice there is yet another ample opening — also blocked — about 27 or 28 in. wide. The jambs of each of these openings have rounded corners, as are also found at the level of the lower wall passages. In the south stair-vice it faces north, and in the north stair-vice it faces south: in other words, these arches appear to have once led or opened into the nave. As they are higher than the clerestory level, their existence at all is quite a surprise, because they are actually at the level of the roof of the original building, which would have had a much steeper pitch than the present one, a product of the Perpendicular aesthetic. These two openings suggest the possibility that there was either a wooden ceiling at Rochester, or that the nave had been vaulted and these doors gave access to the space between vault and roof. The idea of vaults at Rochester initially seems surprising, but it may be asked if the Perpendicular reconstruction of the clerestory is another bit of negative evidence for them? That is, if the Rochester nave had a tall clerestory with a passage-way, as the blocked openings suggest, and a wooden roof, why was the clerestory rebuilt when the pitch of the roof was lowered? The Perpendicular clerestory windows are not so large that they may be automatically considered a vast improvement in the lighting of the nave over earlier Romanesque ones. But the potential failure of a vault, and a weakened clerestory level, could explain the Per-

In the north turret, the blockage does not extend to the (rounded) jambs of the opening in the walls of the stair-vice. Rather, it occurs further in, revealing the beginning of the passage-way itself, 2 ft. 8 in. wide — wider than the opening in the vice wall.

Vaults could possibly explain why the upper part — the second stage of the Romanesque elevation — inclines outwards; there does not seem to have been any problem with the foundations of the nave arcade, as the piers are still quite vertical. (Hope, op. cit., in note 8, 85, commented, ‘still later the Norman clerestory of the nave, which from the bulging and declination of the existing walls had evidently been for some time in a dangerous state, was taken down...’). If the nave was wooden roofed, the outward inclination of the walls is unexpected.

The western crossing arch is much broader and shallower — almost four centred — than the eastern one which is similar to the transept arches. Was it built with respect to an earlier nave vault with (ribs of) a different profile than these in the choir? On the west face of the tower there is an opening now just above the apex of the Perpendicular roof. Originally, it was under a roof of steeper pitch; was it meant to give access to the area over the nave vaults — or is it to be taken as an intention to vault the nave of the Gothic rebuilding?

Four bays of sexpartite ribbed vaulting would have fitted the nave very nicely but, admittedly, the alternating ‘sets’ of three and one ribs would not have related to the single wall shaft that formerly rose to at least clerestory sill level in each bay, nor to the return angle, marked by a thin angle roll, at the junction of the nave arcades and the west wall (Plates III, IV).
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Perpendicular rebuilding. Or, was there simply an additional passage-way across the west front at the base of the gable? The interesting feature is that the access doorways are so large and well-built.

Some six or seven steps beyond the nave-facing openings there is, in each stair-vice, a small arched opening to the east, which most probably led out onto the nave roof.

The passage-way continuing from the stair-vents in the direction of the nave — either north or south, as the case may be — involved a shift of axis from that of the passage-way across the aisle ends. Both are of ample width and pass through about 6 ft. of masonry before the broad sill of the present great west window is reached (Plate V). An examination of the masonry shows where the passage stopped originally, after 3 ft. 8 in., before it was extended in the fifteenth century. There is a round jamb on the east side, like those of the junction at the end of the nave, and of the blocked openings in the stair-vice. It is in line with the engaged shaft that is visible from the nave, adjacent to the angle with the nave arcade. This is secure evidence, then, that there was both a zone of arcading and a passage-way across the west front at this (gallery) level. How were these features coordinated?

THE EAST FACE OF THE WEST FRONT (Plate I)

The floor of the passage-way across the west front is at the same level as the floor of the former passage-way through the second (gallery)

12 And were the problems with the aisle walls also due to the vaulting of the nave? If abutment was provided in the aisles — a vault at a level just below the clerestory, half-barrels or something similar — it may have been too much for the aisle walls, especially as they had been rebuilt on the light foundations of the first Romanesque church built by Bishop Gundulf (1077-1108). (Scott assumed that the aisles had been vaulted, and that the vaults were removed in the fifteenth century: Kent Archives Office, DRe/Emf 65/6/1 and 65/7: printed pamphlet, 'The Restoration of Rochester Cathedral', 8 pp, n.d. [1875?], 4).

13 In the south turret there are rebated jambs 1 ft. 11 in. apart and the remains of a hinge. There appears to have been a flat recess in the adjacent wall of the vice as if to allow a door to swing back in to it. Neither of these upper archways are now visible on the exterior of the turrets which rise above the flattened roof level. Nineteenth-century restoration has probably removed all exterior traces of them.

14 The passage across the aisle-end is 32 1/2 in. wide. It narrows to 23 in. just before the space from which the stair-vice rises. Its continuation — of which the west side wall is in the line of the east wall of the outer section — is only 20 in. wide. The passage to the east is 16 1/2 in. wide; the radius of the stair-vice is 28 in. The passage through the fifteenth-century masonry is on a diagonal line to the west, with a greater mass of masonry added on that side than on the east.
(Photo. Reproduced by courtesy of the Trustees of the British Museum).
stage of the nave. It is marked by a broad string-course. Below this level, corresponding to the nave arcade in height, is the tall narrow central portal flanked by two tiers of arcading of which the lower tier has shafts and the upper continuously moulded jambss. The lower tier is short, the upper is taller, which reverses the relationship of the corresponding zones on the exterior (Plate II) where a tall blank dado —containing only the small flanking flat-backed niches—is succeeded by a lower zone of arcading, equal to the arch of the portal in height. The string-course at the top of this band of external arcading marks the approximate level of the floor of the internal passage-way.

Above this level, at either side of the jams of the interior frame of the west window, are the remains of two tiers of arcades (Plates III, IV). The remains of the string-course between them — in the form of an horizontal zigzag — is a little lower than the string at the top of the second stage forming the clerestory sill, so there was not an exact synchronisation of levels. The third tier is also somewhat taller than the third exterior one and the design of its arcading is completely different. Nor is the third level of arcading equal in height to the arches of the second (gallery) stage of the nave. Indeed, it does not fill the available height of the zone on the west wall; its height is more comparable to the sub-arches than to the superordinate arches of the second stage.

As there was a wall passage at this level and the one above it, one may ask how the arcading was managed? Some kind of vault must have been placed at this lower level in order to support the passage above. As the single surviving shaft (Plates III, IV, V) at the north and south ends is positioned so as to suggest they were originally jamb-shafts, rather than half-shafts engaged to a wall, it may be proposed that there was an open arcade in front of the lower passage. In form, it may have been a continuous colonnade or pairs of openings alternating with a wider pier in order to better sustain vaulting.\textsuperscript{15}

As the bays of arcading on the exterior (Plate II) are much shorter — it is the zone that has the horizontal lintels and small carved tympana — and begin at a slightly higher level than the interior ones, it is doubtful if there were any windows at this level, unless they simply interrupted the arcading.\textsuperscript{16} If the arcading was continuous and

\textsuperscript{15} Hope, \textit{op. cit.}, in note 8, 30, stated that ‘there remain on each side, in the second stage, the springers of an arcade of seven Norman arches alternately blind and open, that once crossed the front at triforium level’.

\textsuperscript{16} The surviving exterior arcading at this level is, on each side, designed as a distinct three-bay unit: two engaged shafts between shafted jambss — in each course, the nook-shaft and the jamb are carved from one stone. These three-bay units, therefore,
Rochester Cathedral: Exterior. View of west Front
uniform in design, any openings could only have been smaller than those opening from the wall passage at the end of the aisles to the exterior.

The fourth tier of arcading on the interior would appear to be at a somewhat higher level, but of about the same height as the fourth one of the exterior. The string-course under this level is somewhat lower than that at the top of the second (gallery) stage of the nave, which presumably marked the sill or floor of the Romanesque clerestory passage. The shafts (Plates III, IV) which now appear to be angle shafts were more probably half-shafts engaged against the wall, as the masonry to their outer sides seems to be a later infill, or thickening of the wall, belonging to the fifteenth century. Since the surviving bays are blind, it becomes a matter of pure speculation as to whether any of them were pierced. A west window must have been at this level. If there was a round window, as sometimes has been suggested — as the model and source for those at the small Kentish churches of Patrixbourne and Barfreston, the opening in the east side of the wall passage on the interior most likely had straight jambs.

make it possible to consider that a different rhythm or pattern was placed in the centre. The sides towards the Perpendicular central window are obviously restored; yet, the string-courses above and below, the lintel course, and the diaper pattern, all give the appearance of once having continued at the same levels: it looks as if the restorers faithfully copied the work as left when the arcading was cut through to put in the great window, and did not tidy up the vertical edge to make a neat ending.

17 The heavy outer shafts, on each side, appear to bond in with the back wall of the ‘niche’, but the thin shafts at the inner sides do not appear to bond, and also lack bases. They have probably been reset, and the arch adjusted in diameter.

18 Palmer, op. cit., in note 4, 45: ‘possibly wheel-shaped’. Hope, op. cit., in note 8, 30: ‘two lofty blind arches that seem to have flanked a large circular or other window, or pair of windows’. J.P. McAleer, ‘The Romanesque Church Façade in Britain’, Ph.D. thesis, University of London, 1963 (published: [Outstanding Theses from the Courtauld Institute of Art] Garland Publishing Inc., 1984), 308: ‘Wheel windows are a motif of the east façades of the small Kentish churches at Barfreston and Patrixbourne. As the sculptural decorations of these churches are stylistically very close to the archivolts of the portal at Rochester (G. Zarnecki, Later English Romanesque Sculpture, 1140–1210 [1953], 39–40, Pls. 87–90), they may be reflections of a similar feature that once decorated the façade of the Cathedral’; I believe Professor George Zarnecki suggested this possibility to me.

19 A parallel for this restored form, on a small scale, is found in any one of the clerestory windows at Southwell Minster, where the circular openings are ‘framed’ by a regular, straight-jambed arch in the inner wall, towards the nave. On a much larger scale, a parallel is offered by the huge round window of the façade of Cistercian Byland Abbey: see P. Fergusson, Architecture of Solitude: Cistercian Abbeys in twelfth-century England (1984), Pls. 84, 85, 105.
Rochester Cathedral: Interior, east Side of west Front, Remains of third and fourth Levels of Arcading at the South.
SUMMARY

Regardless of the actual details proposed for the restoration of the arcading inside and out, there are certain features that should be emphasized.

1. There were four staircase systems in the façade structure.
   (a) The purpose of the vices in the stair-towers was to give access to: (1) those in the centre; (2) a passage across the west front; and (3) the aisle roofs;
   (b) The purpose of the central pair was to give access to: (1) a second passage across the west front; (2) the clerestory; (3) the area above a ceiling or vaults; and (4) the exterior of the nave roof.

2. There were two passage-ways in the west wall, at gallery and clerestory levels, relating to passages at these levels down the length of the nave.
   (a) The lower level may have been an open arcade;
   (b) The upper level may have been a blind arcade.

3. In addition, there was a third passage-way, possibly at the base of the gable.
   (a) A crossing at this level would have allowed access from one side of the exterior of the roof to the other, eliminating the necessity of descending to floor-level and climbing up again;
   (b) If there was a wooden ceiling (or vaults), access to the roof space would also have been gained for inspection, maintenance, and fire prevention.

The design of the east side of the west wall was not exactly coordinated with the nave elevation, in regard to its levels and the scale and size of its arches. Nor were the designs of exterior and interior synchronised, just as the arcading across the exterior of the west front was not in absolutely uniform bands. (On the exterior, discontinuities occurred between the levels of arcading on the stair-towers and the nave-end; at the same time, the aisle-ends provided additional emphatic breaks and contrasts.) This lack of coordination — between in and out, and between elevation and west wall — seems rather typical of English Romanesque façades.

CONCLUSIONS

Whether or not the west front of Rochester Cathedral was unique in regard to its four stair systems, as well as its two levels of wall passages — and a third level of crossing higher up, is not now easy to
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judge. There are few surviving façades of similar type and date with which to compare it. The somewhat earlier façade of the priory church at Lindisfarne,20 c. 1135–40, which had ample stair-towers like those at Rochester, had only a single passage across the west front. As there was no clerestory passage at Lindisfarne, this is not surprising. The west front wall passage did, however, open to the nave through an arcade of five bays. The later façade of Malmesbury Abbey, c. 1160–80, which may represent an extension or development of ideas present at Rochester — because of the stair-towers flanking it, had stair-voes at the end of the nave arcades, which began at the gallery level. The gallery was reached from the angle stair-towers. Only a portion of the twelfth-century façade now survives, but there are the remains of a blocked descending passage, heading north out of the south stair-vice, which would have given access to a passage across the west front. The stair-vice continues up to an ascending passage leading to the clerestory level and now emerges on to the area restored c. 1900. Although partially rebuilt in the Gothic period, the north jamb provides no evidence of a passage across the west front at this level. Above this point, the stair-vice is blocked up.21

Both the sectional façades of Norwich and Hereford Cathedrals had four stair-voes. At Norwich, c. 1145, the stairs begin in the angle buttresses and exit at the gallery level; they continue up and formerly gave access to the gallery eaves. The stairs at the end of the nave arcades are then entered from the gallery level: doorways that still give access to a narrow walkway across the west front at this level are essentially Romanesque, with some reconstruction of their west jambs and all of their spanning arches in the later fifteenth-century remodelling of the west front. As the walkway had and has the form of a broad sill above the inner embrasure of the west portal, it is unlikely that there could have been a passage at clerestory level, and, indeed, despite a fair amount of modern restoration, there is no sign of blocked doorways at that level in the vices. Both stair-turrets have been totally rebuilt from about this level upwards. However, the small doorways exiting eastwards on to the nave eaves probably reflect original features.22 The façade of Hereford, c. 1150, is known

21 My thanks are due to the Rev. J.C. Peter Barton, M.A., for responding to my inquiries, and for permitting me to inspect the remains of the west front, and to Mr George Rose, for giving generously of his time and knowledge.
22 For Norwich, see the c. 1794 section of the nave and west front by John A. Repton (Society of Antiquaries of London), published in facsimile, (Ed.) S.R. Pierce.
Rochester Cathedral: Interior, east Side of west Front, Remains of third Level of Arcading and Wall Passage at the South.
only from eighteenth-century engravings: they all show slit windows in all four of the buttresses, starting lowest down in the north-centre one.23 There are no plans or sections of the façade from the period before its collapse (1786), so it can not be known if the stair-vices started in the central buttresses as well as, or instead of, the angle ones, or if there were any west front passages.

From this meagre evidence, it may be possible at least to claim that the ample stair-towers and the arcaded gallery and clerestory level passage-ways were unusual features.24 This somewhat elaborate and spacious system might raise the question as to whether the west front was used in some special way for liturgical purposes during important services and occasions.25

Norwich Cathedral at the End of the eighteenth Century (1965), Pl. 5, and the east face and plan in J. Britton, History and Antiquities of Norwich (1816) or Cathedral Antiquities, ii: Salisbury, Norwich and Oxford (1836), Pls. III. V. Britton's Pl. III does show exits onto the nave eaves from the arcaded turrets, so it seems most probable they existed prior to any of the nineteenth-century repairs and restorations of the west front. I am also indebted to Keith R. Darby, Deputy Cathedral Architect, for his replies to my letters, and for arranging my visit to the stair-vices of the west end. 23 For example, the engraving by W. Merrick and J. Harris from Browne Willis, A Survey of the Cathedrals (1727), opposite p. 501; also G.G. Scott, ‘Hereford Cathedral’, Arch. Journ., xxxiv (1877), restoration drawing opposite p. 329.

24 Two levels of west front passages are encountered in façades with twin west towers as at Durham Cathedral, Castle Acre Priory (where there were also stair-vices leading from the gallery to the clerestory level at the ends of the nave arcades), Southwell Minster, and Worksop Priory (where the upper passage is interrupted by the west window in a manner later paralleled in the Gothic façade of York Minster). There were also at least two vaulted passages across the west front of St. Botolph's, Colchester, a twin-towered screen façade. The lower one was arcade, with three tiny windows to the west; the upper one passed in front of a circular window: both may have reflected or paralleled the corresponding levels at Rochester.

25 Perhaps in a manner anticipating later developments and practices at Salisbury and Wells Cathedrals, as outlined by P.Z. Blum, ‘Liturgical Influences on the Design of the West Front at Wells and Salisbury’, a paper presented at the 18th International Congress on Medieval Studies, Kalamazoo, Michigan, in 1983 (see also, idem, ‘The Salisbury Chapter House and its Old Testament Cycle. An archaeological and iconographical Study’, Ph.D. thesis, Yale University [New Haven, 1978], n. 19 on pp. 332-4.) and recently published in Gesta, xxvii (1986), 145–50, and at Holyrood Abbey, as suggested in R.C.A.H.M. (Scotland), The City of Edinburgh (1951), 132. Salisbury, in particular, bears some formal resemblance to Rochester due to the flanking stair-towers of its façade. They give access to an arcaded wall passage immediately above the west portal that formerly opened to the exterior by nine evenly-spaced pointed quatrefoils. The lower passage at Rochester might have formed a Romanesque equivalent of this one at Salisbury. The stair-towers at Salisbury continue up to give access to a passage across the sill of the west windows and, through passages in the screen walls connecting stair-towers and nave end, to the clerestory and to the roof space above the vaults.
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APPENDIX

The location of features such as window- and door-openings within the stair-towers and turrets can be made by reference to the steps.

South stair-tower:
- 12/13: window (to S)
- 29/30: window (to W)
- 39: window (to E)
- 43: landing; descent of 3 steps to passage across aisles and west front
- 49: window (to W)
- 52/53: window (to S)
- 57: terminal landing and door to aisle roof

South stair-turret (winds clockwise):
- 5: window (to W)
- 19/20: window (to W)
- 22/25: blocked opening (facing NE): clerestory-level passages
- 28: blocked window (to SE)
- 29: vice narrows to 2 ft. 1–2 in.
- 36/37: window (to W)
- 40/41: blocked opening (facing N) with rounded jambs (to roof structure?)
- 44/47: small blocked opening (facing E; to roof gutters?) and adjacent ‘recess’
- 55: top step

North Stair-turret (winds counterclockwise):
- 5: window (to W)
- 19: window (to W)
- 23/25: blocked opening (clerestory level)
- 27: blocked window (to NE)
- 28: vice narrows to 1 ft. 11 in.
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34/35: window (to W)
38/41: blocked opening (facing S) with rounded jambs
43/45: blocked opening (to E): turret rebuilt from about right jamb of this opening
47: window (to N)
55/57: door to roof (facing S)
65: vice ends