# Tewkesbury Abbey nave: cleaning and recording 1996

*by Richard K Morris & David Kendrick*

*The erection of a scaffold for the cleaning of the painted decoration of the nave vault at Tewkesbury Abbey in May to July 1996 provided a rare opportunity to inspect the upper areas of the nave fabric at close range. Recording took place of the vault bosses, of extensive masons' marks on the vault ribs, of reused fabric in the clerestory, and of the great west window replaced in the later 17th century. As a result, it has been possible to suggest a revised hypothesis for the form of the Romanesque nave vault and for the way the vault and clerestory were reconstructed in the 14th century; and also to reconstruct aspects of the lost medieval west window. The discoveries included two fine Romanesque carved capitals, and two medieval wall-paintings in the upper areas of the nave, all previously unnoticed. In addition, Ruth Davis' cleaning and conservation of the vault provided new insights into the details and techniques of the Victorian restoration.*

The parish church of St Mary, Tewkesbury (Glos), is an outstanding example of two periods of English medieval art and architecture, the Romanesque and the Decorated. It incorporates the very substantial remains of a major Romanesque abbey church, founded in 1087 and complete internally by the mid 1120s (Thurlby 1985, 36). Considerable modernization of the fabric was carried out between *c*1320 and *c*1340, relating particularly to vaults and windows (Morris 1974). The monastery was dissolved in 1539, with the loss of almost all its conventual buildings, but the whole of the abbey church except for the eastern Lady Chapel was acquired by the parish and has been in use by them ever since. In 1991, at the suggestion of the Gloucester Diocesan Advisory Committee, the PCC formalised the appointment of an archaeological consultant (one of the authors).

The Romanesque nave was completed in the first quarter of the 12th century, without clerestory windows because a stone or wooden tunnel vault sprang from the top of the triforium passage. In the second quarter of the 14th century, the clerestory windows were inserted,

*Fig 1   Tewkesbury Abbey: nave, west bays, looking west (Photo: University of Warwick, History of Art Photograph Collection)*

together with the present lierne rib vault, which completely replaced its Romanesque predecessor (Fig 1 illustrates the Romanesque elevation and later additions in the west bays of the nave). At the same time, whatever window arrangement existed in the Romanesque west front was replaced by a single, large, bar-tracery window. The latter was badly damaged in a storm in the later 17th century and replaced in 1686 with the existing tracery of remarkably convincing Gothic character for its period (Fig 1). The two east bays of the nave vault were redecorated in 1877 during restoration of the abbey under the supervision of George Gilbert Scott, and the remaining bays from 1878 by Thomas Gambier Parry (Cave 1929, 73–75).

No record exists of a major scaffold in the nave since the Victorian period, so the opportunity for observation and recording presented by the scaffolding for cleaning the nave vault in 1996 was exceptional. Unusually for an English great church of Norman origins, the abbey has no interior clerestory passages to facilitate inspection of problematic features in the upper parts of the nave, such as the curious vertical breaks in the splays of the clerestory windows (Figs 1, 3). From May to mid July 1996, the whole length of the underside of the nave vault was scaffolded down to the level of the vault springers, for Ruth Davis and her team to clean and conserve the vault surfaces and polychrome decoration. The interior of the west window was also scaffolded in several lifts for cleaning and repair.

It is a matter of regret that no formal provision was made in advance for archaeological recording. However, thanks particularly to numerous individuals who gave freely of their time at short notice, it is likely that nothing significant has been overlooked except for a thorough survey of the medieval polychromy (Davis 1996, 3.2a). In



*Fig 2  Tewkesbury Abbey: schematic plan for recording the nave vault, the west end at the top, the junction with the crossing at the bottom; N= north, S=south (Illustration: R K Morris)*

the event the PCC received a very good archaeological return for minimal outlay, though this lack of advance planning should not be condoned for future works. The archaeological consultant arranged for the RCHME to take photographs to

augment their collection, and he also devised a masterplan of the vault for the conservators and recorders, so that each boss and rib has a unique reference (Fig 2). David Kendrick undertook to oversee the time-consuming task of recording the masons' marks and collating the data.

The principles underlying the masterplan (Fig 2) are recommended to anyone who has to plot a complex rib pattern repeating over several bays. Each bay was numbered in sequence east to west, and the number was marked in chalk on the clerestory masonry to guide those working on the scaffold who could easily lose their bearings in the long narrow space. The vault was also divided longitudinally into halves, north and south, and then a series of numbers and characters were superimposed on the plan to identify coordinates (bosses or springers). Thus we can speak of 'springer S[south] 5' 'boss 10' and 'rib 10–PS'. The stones making up each length of rib between coordinates were numbered from the crown of the vault downwards in the case of diagonal and transverse ribs, and from east to west for horizontal ridge ribs (eg diagonal rib S5–OS has seven stones, numbered 1 to 7, 1 being closest to boss OS, etc). This scheme differs from that devised by Cave for studying the roof bosses only (Cave 1929, 73).

## The clerestory

The account of the main discoveries and their interpretation should begin chronologically with the north and south clerestory walls, which retain substantial Romanesque fabric, some of it reused. Readers should refer to Figure 2 for the bay numbers and other references.

It was noted that pieces of porous tufa stone were reused only in the window apertures of the three eastern bays; in the splays in Bay 2 and in the heads in Bay 3 (Figs 3, 4). The fact that the heads in Bays 1 and 2 (only)
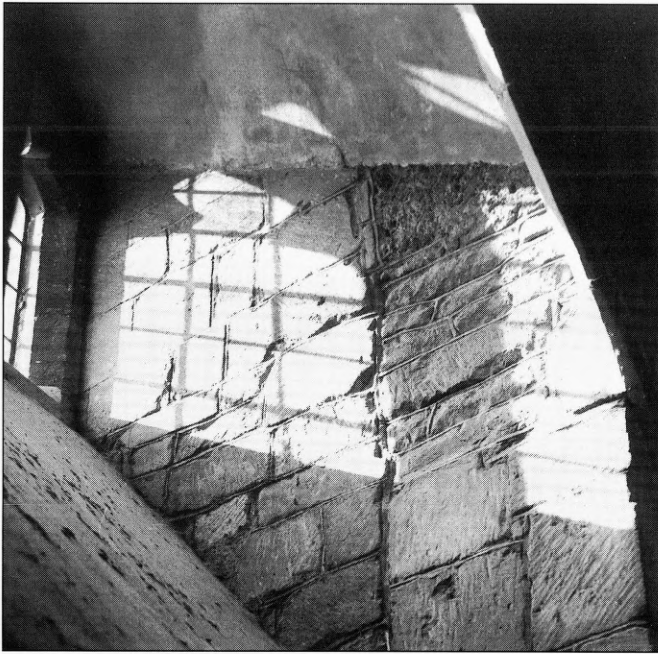
*Fig 3   Nave clerestory window, Bay 2 south, west reveal; tufa block at top right (Photo: R K Morris)*

have been plastered in the 1870s (Fig 3) may suggest that they are substantially of tufa as well, covered over because of their roughness; in what is a church built predominantly of fine oolitic limestone. Tufa is almost invariably used exclusively for vaults in medieval churches in the lower Severn valley and elsewhere, on account of its light weight. All the 14th-century window apertures are substantially faced with reused Romanesque fabric, but tufa occurs only in the eastern bays, therefore we suggest that there was formerly a Romanesque stone tunnel vault of tufa over Bays 1 and 2 (or possibly 1–3); namely the part of the nave included in the monks' church. The remaining bays, used by the medieval parishioners, probably had a coved ceiling or wooden tunnel vault, as there is no trace of tufa reused in Bays 4 to 8. If this hypothesis is correct, it implies that the 14th-century reconstruction was proceeding in phases, with Bays 1 to 3 probably as the first phase (see further below).

Two Romanesque capitals and six pieces of related abaci, previously not known to be in the clerestory, were discovered reused in the reveals framing the clerestory windows of Bays 4, 5, 6 and 8. They were recorded and left *in situ*. The finest pieces are the two foliate capitals, probably dating from around 1120 like the carved capitals already studied in the triforium (Thurlby 1980), though a more systematic search for parallels beyond Tewkesbury would be useful. They are reused sideways in the east reveal of Bay 5 north and the west reveal of Bay 6 north (Fig 5). The former was sufficiently accessible to show that it came from a half-shaft, and that it was the same size (660mm wide, 255mm high) as the former capitals at the top of the surviving Romanesque half-shafts beyond the western responds of the nave arcades (Fig 1, directly to the left of the banner). The abaci pieces varied in height between 83mm and 127mm, and some were of a width which suggested that they could belong with the capitals. The only decorated abacus was the one in the west reveal of Bay 4 south, with a single row of scalloped ornament on the face.

The source of these pieces cannot be determined with certainty, but the existence of only two capitals could indicate that they served as the springing for a transverse arch between Bays 2 and 3 (or 3 and 4), to divide the eastern nave vault from the parish nave ceiling. If so, the capitals probably sat on half-shafts springing from the top of the nave arcade capitals, the evidence for which has been obliterated by the insertion of the 14th-century nave vault springers at this point. The foliate capitals would probably have been at the same level as those of the extant Romanesque half-shafts beyond the western responds of the nave arcades (Fig 1). They cannot derive from the surviving half-shafts because the capital blocks of the latter still survive
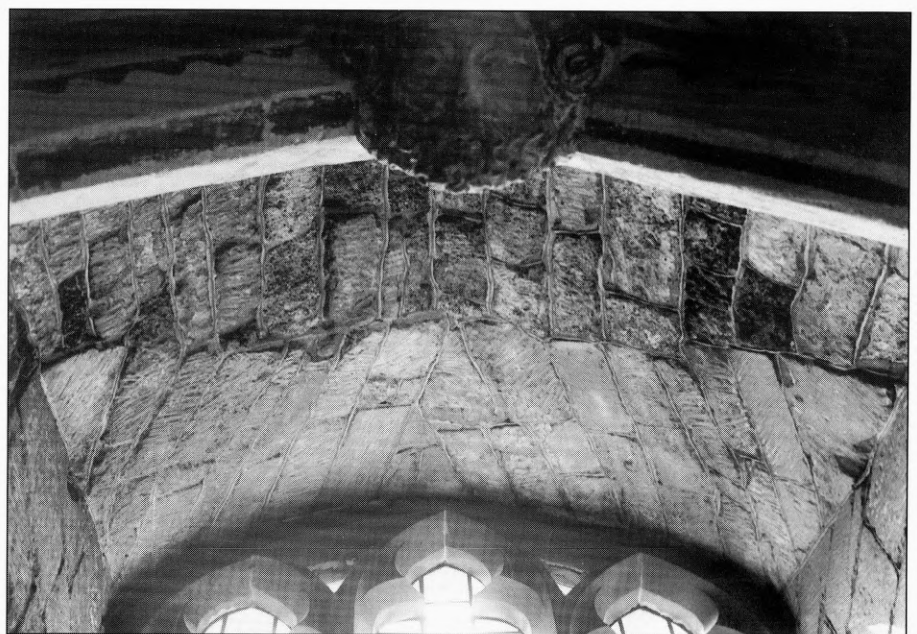


*Fig 4   Nave clerestory window head, Bay 3 south; numerous tufa blocks in top half of photo (Photo: R K Morris)*

in the wall, even though their projecting surfaces have been cut back.

A transverse arch remains the most likely provenance for these capitals, though the tidiness of the argument is slightly upset by the fact that both capitals are reused on the same (north) side of the nave. Other evidence suggests that materials were reused on the same side as their original location, perhaps implying that there were two separate scaffolds in the 14th-century reconstruction, one on each side of the clerestory. For example, pink fire-damaged stones appear reused only in the south clerestory. This side of the church adjoined the conventual buildings, which are known to have suffered serious fires during the middle ages; several are recorded in the abbey's medieval history. An alternative provenance for the reused Romanesque pieces would be the apertures of the original west front, removed to make way for the new 14th-century west window. Some of the abaci might come from this source anyway, because there appear to be more pieces than would fit the two reused capitals.

We were able to establish that the vertical breaks in the masonry of almost all of the splays of the clerestory windows, so visible from the ground (Fig 1), result from the method adopted to insert these apertures in the 14th century. We are grateful to Malcolm Thurlby for discussion of this matter on site, though he has published a variant explanation to what follows (Thurlby & Chwojko 1997, 54–55), with which we disagree. We propose that in each bay, the window splays and head were formed by cutting first into the inner half only of the Romanesque wall. This would have the advantage of ensuring that each window opening was centred on each bay, which could not be achieved easily if masons worked from the exterior half of the wall. At this stage the wall-rib of the

14th-century vault was also inserted, bay by bay. Then, a small positioning hole was knocked through to the outside, and the remainder of the aperture was constructed in the outer half of the wall. Finally the simple window tracery was inserted. Thus the break in most splays and heads marks the joint between the two main phases of this operation in each aperture (Figs 3–4).

## The vault

The most notable feature of the 14th-century vault is the presence of large numbers of masons' marks and assembly marks, incised on the rib-stones. They belong almost entirely to the period of the vault's construction. A few graffiti relating to the Victorian restoration were also noted, such as the date '1879' painted on the rere-arch of the north window embrasure in Bay 4. Comparable collections of masons' marks on mid 14th-century vault ribs have been recorded in recent years for Exeter Cathedral nave (archive with John Allan, Royal Albert Memorial Museum, Exeter) and the undercrofts of the upper ward of Windsor Castle (archive with English Heritage Central Archaeology Service, Portsmouth). It is planned to



*Fig 5    Nave clerestory window, Bay 5 north, reused Romanesque capital in east reveal (Photo: R K Morris)*

compare these records more thoroughly in due course, and in the meantime some observations and preliminary assessments are given here.

Most of the Tewkesbury marks are shallowly incised and their forms fairly standard (cf. Davis 1954; Alexander 1998), but several deeply carved lombardic letters occur in Bays 1 and 2, especially 'h' repeated several times. There was a tendency on the part of all those who saw this finely cut letter to interpret it as the initial of the master mason in charge. However, Jennifer Alexander's recent research suggests that letters are more
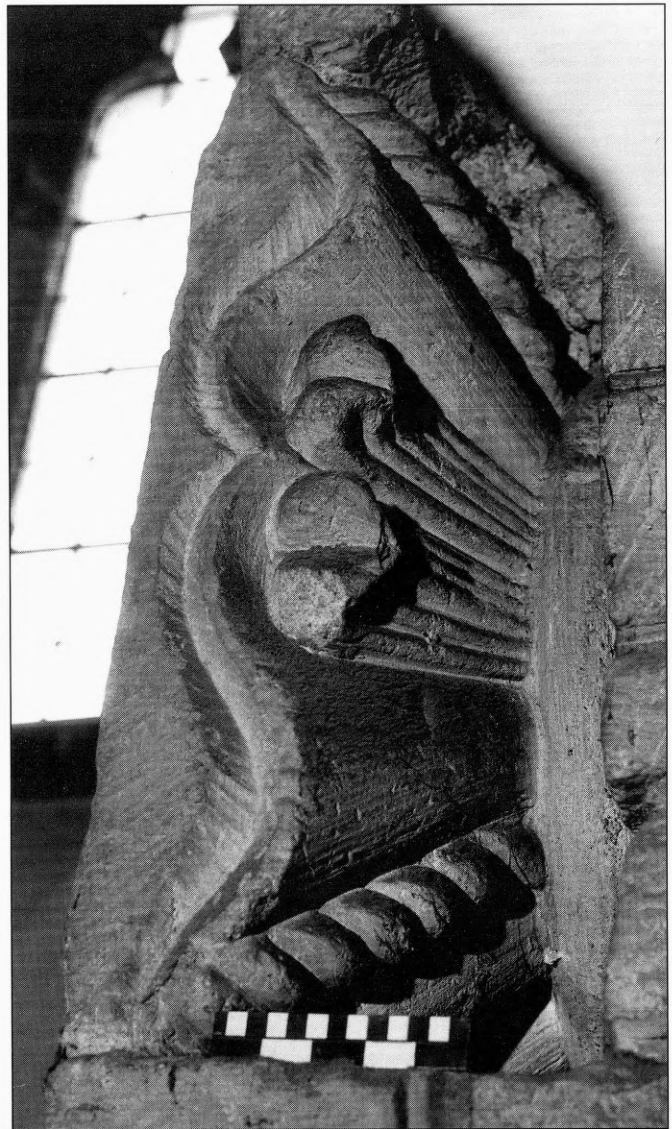
likely to be the marks of letter-cutters, trained to work on tomb slabs, who also turned their hand to architectural masonry when necessary (Alexander forthcoming). At Tewkesbury the same marks, including the 'h', often occur various ways up on the rib-stones, indicating that they were put on at the stage when the stones were shaped, either in a yard close to the church or at the quarry. On the other hand, some of the simpler marks like 'x' crosses and small circles may belong to the construction stage, to guide assembly. This is the provisional interpretation put on the use of small circles in the Exeter nave vault, though there in combinations with linear strokes (Moss, 1976). We also observed that Bays 2 and 4 had substantially more marks on the south than the north, which may result from a construction method which concentrated first on one side of the bay, then moving to the other.

Basically, the masons' marks suggest a tri-partite phasing for the construction of the vault, working east to west and prioritizing work on the monks' church: commencing with Bays 1 to 3, then 4 to 6, and finishing with 7 and 8. This sequence runs in the opposite direction to the west–east narrative of the life of Christ on the main vault bosses (Fig 2, 2–16), and thus demonstrates that vaulting the whole nave was part of the overall plan from the start. Bays 1 and 2 clearly belong together; quite a few marks used there are not found again. The greater quantity and variety of marks also suggests that work started here, with a relatively large and unfamiliar team of masons, to whom marks needed to be assigned to check and remunerate their work. A similar situation seems to have prevailed at the remodelling of the eastern parts of the church in the 1320s, where numerous masons' marks occur in the early works (Morris 1974, 147). Bay 3 of the nave vault has many fewer marks, but eight of the nine types of mark employed

are carried on from Bays 1 and 2. Overall it would appear that Bay 3 represents a continuation of the first phase, with a smaller workforce more familiar with each other.

The evidence for vault Bay 4 strongly suggests a new phase, with more marks and types of marks than Bay 3, and including two new ones which continue in use in subsequent bays. This phase extends through Bays 5 and 6, with the same overall pattern of fewer marks as the work progresses west, as in the first phase. Bays 7 and 8 have several new marks, again implying a new phase. There are fewest marks of all in these bays, which is what one might expect if these were the last to be undertaken. Further evidence may indicate that Bay 8, probably including the creation of the new west window, actually preceded Bay 7 in sequence of execution. The construction of the window heads in Bay 7 is especially crude, and the precision of cutting of the rib-stones in this bay is abysmal by medieval great church standards; smacking of amateur work (see further below, Polychromy). Even so, the overall quality of

cutting displayed in the vault is not outstanding. The springer blocks, and particularly the wall-ribs, are poorly cut and aligned in some bays, very noticeably at the west at N8, N9, S9 (Fig 1). Close examination, only possible from a scaffold, showed these faults to be the result of low quality 14th-century work, rather than a recutting *in situ* of earlier shafts or vault springings in these positions.

An interesting observation about the main bosses along the ridge rib (Fig 2, 2–16) is that they lack prominent stubs of rib profile to meet the diagonal ribs of the vault. As the carving of the bosses projects further



*Fig 6   Nave west window, detail of the head; medieval jamb on the left, 17th-century mullion on the right (Photo: R K Morris)*

than the stubs, each could not have been the last stone put in place at the apex of its respective arch, thus closing the vault. Rather, the boss would have needed to be propped or suspended whilst the adjacent rib-stones were fixed around it.

## The west window

It was unclear before 1996 whether the present tracery was a loose 17th-century copy of a previous 15th-century Perpendicular window, or whether its medieval predecessor was of an entirely different design (Fig 1). Inspection from the scaffolding proved that the latter view is correct. Considerable lengths of the medieval mouldings are still extant in the jambs and around the head, employing a stepped chamfer design characteristic of this region c1325–75 (Fig 6; Morris 1979, 8–11). In fact, the use of the unusual triple stepped chamfer is found in four other windows of the later 1320s in the abbey: in the former eastern Lady Chapel (west clerestory) and eastern bays of the nave aisles (Bays 1 and 2 north, and 1 south). The details are larger and coarser on the nave west window (Fig 6), and taken together with the angle-fillet mouldings of the window's rere-arch (recorded for the first time during this project) and the fact that the window had a transom (see further below), it is likely to have dated from the later 1330s or 1340s.

Enough clues remained in the jamb and head mouldings to be certain that the medieval tracery pattern was different to the present window. Most significantly, close to the points where the present main mullions meet the head of the window, there are traces of the stepped chamfer mouldings returning to form super-arches. Thus the 14th-century tracery was divided in half to create Y-tracery, and therefore had an even number of lights, probably eight: unfortunately no traces survive of mullion stubs on the sill. This

contrasts with the present 'triptych' arrangement, in seven lights (Fig 1). Interestingly, the other stepped chamfer windows at the abbey also have an even number of lights, but the most specific parallel for Tewkesbury would seem to be the south transept windows of Gloucester Cathedral (1331–37). Not only are the latter of Y-tracery with an even number of lights, but they employ stepped chamfer mouldings and are well known for their early use of transoms. At least one transom almost certainly existed at Tewkesbury too, because at about 1.08m above window sill level on both jambs there are scars about 400mm high, suggesting that a row of arched lights with a transom above ran across the window at this point (just above the level of the lowest transom today, Fig 1). So the Tewkesbury window assumes a significant place in the development of large-scale proto-Perpendicular tracery in the region.

An unusual feature of the window was that it was reinforced internally by two large rib-like mouldings, arching out from the head of the window aperture close to the apices of the super-arches, and presumably descending to the sill, strengthening the Y-tracery pattern and the central mullion. The mutilated stub of one of these reinforcements survives in the north half of the head, and disturbance in the corresponding southern area suggests the former existence

of the other one. It would appear that such reinforcement was required because of the large size of the 14th-century window, in an exposed position facing into the prevailing wind, combined with the relative slightness of the mullions. It could well be that poor structural design in the medieval window caused its failure in the 17th-century storm.

The mullions of the 1686 window are robust by comparison, with the main mullions about 720mm deep by 270mm wide; compared with an estimated 520mm by 200mm for the largest medieval mullion. They employ ovolo and ogee (cyma) mouldings more characteristic of the Jacobean and early Carolean period (Fig 6), and comparisons should perhaps be sought with traditional 17th-century works in Oxford, such as the Front Quad of University College (1634–77). Inscriptions and heraldry at four upper points on the main mullions were recorded, and these include, 'Francis Reeve James Hill Master Build: ers 1686'. Thus, the window is another work which can be added to the considerable

*Fig 7   Nave arcade, Bay 7 north, painted cross on south-facing extrados of the arch (Drawing: Neil Birdsall)*

oeuvre of James Hill (fl. 1675–1734), a Cheltenham-based master mason who seems to have specialized in Gothic church repairs in the area (Colvin 1995, 494). This probably explains why the window tracery is of remarkably convincing Gothic character for its period, in comparison, say, with the rebuilding of the nave of St Mary's, Warwick, a decade later. The general model was probably the large Perpendicular windows at Gloucester Cathedral, such as the east window of the 15th-century Lady Chapel, though for the more decorative features in the head the designer may have been looking further afield, perhaps to St George's, Windsor (Berks).

## Polychromy

The cleaning and conservation of the vault polychromy are dealt with in more detail in Ruth Davis' report (Davis 1996), but it is relevant to note here that the relatively sensitive restoration afforded to Bays 3 to 8 by Gambier Parry is corroborated by considerably more signs of medieval fabric surviving in these bays (see also Cave 1929, 74–76). Traces of medieval pigment were found in the deep recesses of the carved bosses, and at the west end the angel musician bosses appeared not to have been so thoroughly cleaned. Areas of medieval lime plaster in the vault cells are still extant in all but one of Bays 3 to 8, but had been completely replaced by Victorian plaster in Bays 1 and 2. Also many of the faces of carved figures on the bosses in these two bays appear to have been recut by the Victorians (Davis 1996, 2.1). Throughout the scheme of carved bosses examples of 19th-century overpainting were observed, often in line with High Victorian taste. For instance, Christ is provided with an undergarment to cover his bare chest in the 'Christ in Majesty' boss (Fig 2, 2). An apostle seems to have been converted into a figure of the Virgin

Mary in the 'Last Supper' boss (Fig 2, 8) by the addition of a wimple.

Two previously unknown mural paintings were spotted on the wall surfaces adjacent to the vault scaffolds. On the rere-arch of the north clerestory window in Bay 3 is a curious painting of a rose on a three-leafed stem, executed in limewash, about 300mm long (photo in Davis 1996). The painting is potentially medieval, for it was overlain by a brownish surface, thought to be Georgian. More exciting was the discovery of a painted cross on the nave arcade arch of Bay 7 north (Fig 7). It is placed on the south face of the extrados of the inner order, at the apex; in other words, across the aisle from the north porch, but facing into the nave, in a position which is inaccessible and invisible from the ground. None of the other arcade arches showed any traces of paintings in this position. Its date and purpose are uncertain, and special scaffolding would need to have been erected to paint it, unless a scheme of work was already under way in the vicinity. Assuming that it postdates the Romanesque building, our suggestion is that it may relate to the coming of the Black Death in 1347, and that it commemorates the completion of the vault in the plague years. Bay 7 was probably the last bay to be finished, and the poor quality of its execution could reflect the difficulty of finding skilled labour for the work in the mid century.

The archive for the project is deposited with the PCC at the Abbey Office in Tewkesbury. It comprises the conservator's report (Davis 1996), together with a set of colour slides; and the archaeological consultant's report, together with a black and white photographic record of the clerestory, and record sheets and rubbings of the masons' marks. Photographs of the figure bosses are at the National Monuments Record Centre, Swindon, and profile drawings of architectural details with

the Warwick Mouldings Archive, University of Warwick.

*Richard K Morris is Reader in Architectural History at the University of Warwick and the archaeological consultant for Tewkesbury Abbey. He is a specialist in medieval and Tudor architectural design and building fabric.*

*David Kendrick, BA (Warwick) MPhil (Oxon) is a freelance archaeological and buildings consultant, based in Kidderminster, with considerable experience of Roman and medieval sites.*

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