

The Archaeology of St Paul's Cathedral up to 1666

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This article summarises recent archaeological work in and around St Paul's Cathedral, London, and reviews the evidence for the cathedral site from the Roman period, through the ten centuries from the foundation of the cathedral in 604 until the Great Fire of London in 1666 which destroyed the medieval building. Archaeological sources include observations since 1675, salvage work north of the cathedral in 1969, and interventions from 1994 to the present, both inside and around the Wren building. Four subjects are briefly reviewed: the evidence for the Saxon cathedral and its relation to Roman topography; the Romanesque cathedral; the Gothic cathedral; and the works of Inigo Jones in 1633-41. Recent archaeological work, though small in extent, has been the catalyst for bringing together all the evidence, over the last three and a half centuries, for the archaeological story of St Paul's.

Introduction

St Paul's Cathedral, Wren's masterpiece, sits on a flattened mound of archaeological strata (Fig 1). It sometimes requires an effort to remember that the medieval St Paul's Cathedral should be studied like surviving cathedrals such as Lincoln, Canterbury and Salisbury.

It is remarkable that the archaeological evidence for the Saxon and medieval cathedral has never before been brought together. This article summarises some of the recent

archaeological discoveries and speculations, and fits them into the evolving overall story of the site from Roman times up to the present (Schofield in prep).

Roman and Saxon

In the middle of the 1st century AD, the centre of *Londinium* lay on the eastern hill now called Cornhill, but roads and some buildings had been laid out on the western hill in the area of St Paul's within 20 years. Though checked by destruction in the Boudican rebellion (60-61), the town grew during the 1st and 2nd centuries. A major Roman road beneath the present Newgate Street, north of the precinct, seems to be one of the original features of the Roman settlement.

A second Roman road of pre-Flavian date (ie before about AD 70) crossed the site of the cathedral from Ludgate, a Roman gate in the west, to connect with a Roman street beneath the present Watling Street on the east. Traces of Roman buildings found at 1-3 St Paul's Churchyard (south-west of the cathedral) in 1985 suggest that the east end of Ludgate Hill (just in front of the west front of the cathedral) lies over a Roman road, but no trace of a road has been found on the cathedral site.

In the 1st and 2nd centuries the churchyard area was used in part as a cremation cemetery, and had one or perhaps two complexes of pottery kilns in it. The evidence does not allow us to say if these two forms of land use were contemporary, or whether one post-dated the other. It is possible that the earliest layers excavated beneath the north aisle of the crypt in 1994 were the badly truncated remnants of an early Roman building. Nearby, Roman pits were recorded in 1969.

Around 200 the city was surrounded by a wall for the first time, with gates at Aldersgate, Newgate and Ludgate, incorporating the site of the cathedral into the town proper. This seems to have had the effect of pushing suburban uses such as cemeteries out beyond the new boundary (evidence

Fig 1 St Paul's from the west in 1994. The rectangular medieval cathedral precinct is now only traceable with difficulty, and only the south side is intact. To the left and behind the cathedral to the west are the largest areas of bombing in the last War; in the right foreground and south-west of the cathedral, the lower roofs of a conservation area. The Paternoster Square development of 1961 is prominent on the left; there was virtually no archaeological recording on this large site in 1961, and a little in 2000-1 when the tower blocks were demolished (Photo: National Monuments Record)

for industries, on the other hand, stops for the whole area). The Paternoster area immediately north of the cathedral site became residential, characterised by large masonry buildings. Some of these may have been erected earlier, after a widespread fire of about 125 known as the Hadrianic Fire; thus the boundary between the two halves of the Roman period presented here is not fixed. Buildings with sumptuous mosaics and 4th-century coins have been recorded along the north edge of the churchyard, though the observations were made in the 19th century and records are summary. But there is otherwise little late Roman evidence from the site. If there were Roman buildings on the site, they were probably secular or domestic structures rather than institutional or religious; though south of the precinct, from the 3rd century, there appears to have been a monumental complex containing several temples.

Bishop Restitutus of London attended the Council at Arles in 314, and it is likely that there were Christian buildings in the city, but these have not been located definitely. Traces of a basilican building dating to shortly after 350 were excavated at Colchester House, Pepys Street, in the south-eastern part of the walled city, in 1992-93. The excavated evidence consisted of the north wall and one internal partition of a building, with seven foundations for piers or pillars which seem to indicate two differing spatial arrangements for the piers either side of the internal partition. The excavator points to a resemblance to the basilica of similar date at St Tecla, Milan, but the London evidence is too fragmentary to pursue this. The artefactual evidence elsewhere in the city for Roman Christianity is also rare, and some of it at least is suspect; supposedly Roman Christian objects may have been brought into the city in post-Roman times.

In 604 the first cathedral was established, somewhere on the present site, when St Augustine instituted Mellitus as Bishop of London. Mellitus was expelled by the sons of Ethelbert's nephew Sabert in 618 and Christianity was not restored until 653, when Sigebert, king of the East Saxons, became a Christian. The cathedral's location was probably dictated or influenced by the popes' habit of establishing major churches in ex-Roman towns, whatever their level of population. It was also on a hill, like many cathedrals in England and France. There is at present no indication of any settlement in the area around the cathedral, or elsewhere in the City, for the period from the 6th to early 9th centuries. By the 7th century London lay outside the walls of the old Roman town, on a site to the west in the area of the modern Aldwych (Malcolm and Bowsher 2003).

There are a few scraps of documentary information about the Saxon cathedral. Bishop Erkenwald (consecrated 675) is said to have bestowed great cost on the fabric, and after his death his body was jealously retained by the cathedral almost as its traditional founder. Sometime between 693 and 704, Ethelred, king of Mercia gave 10 hides of land at Ealing to

Bishop Waldhere *for the increase of monastic life in the city of London* (Gibbs 1939, no 4), which seems to imply that the cathedral was served by clergy leading a communal life. In about 704-709 a charter of Ceonred, king of Mercia, speaks of *'the church in London called Paulesbyri'* (Gelling 1979, No 193). Bishop Theodred (bp about 926 to 951) was buried in the crypt of St Paul's, near a window that he might be seen by passers by. The *Anglo-Saxon Chronicle* speaks of a fire in 962, after which the cathedral was refounded in the same year (VCH 1909, 174).

Bede, in his *History of the English church and people*, provides two points of interest. First, he recounts how the sons of Sabert, king of the East Saxons, drove out Mellitus and thus reverted to paganism. They accosted him in the cathedral and said, among other things, *'we refuse to enter that font and see no need of it'* (Colgrave and Mynors 1969, 153). This indicates that by 618 there was a font of substantial character, and perhaps a baptistery, as might be expected in such a church. Second, the burial of Sebbi, king of the East Saxons (694 or 695) was in a stone sarcophagus, which miraculously adjusted its length to accommodate his body (Colgrave and Mynors 1969, 367-9). One therefore wonders whether the sarcophagus of Sebbi shown by Wenceslaus Hollar in one of his engravings of the 1650s may even be the original sarcophagus of the late 7th century, though a 12th-century date is equally likely.

The whereabouts and character of the Saxon cathedral remain otherwise unknown. Evidence will have been largely destroyed by the medieval and Wren buildings. Perhaps the cathedral lay to the north-west, like at Winchester. A test-pit dug immediately east of the present north-west door to the

Fig 2 Reconstructed Viking tombstone found in the south-eastern part of the churchyard in 1852, now in the Museum of London. It was at the head of a north-south grave, but the person commemorated is not known. The inscription records the two sponsors (Illustration: Christina Unwin)

crypt in 1933 located a foundation of late Saxon or 11th-century character; here a small area of stratigraphy remains. Another possible site is beneath the crossing and eastern half of the nave of the medieval cathedral, since the latter unusually had two opposed nave doors just over half the distance down the nave, implying that this cross-route (very popular with medieval Londoners) may have originated as a way in front of an earlier west front.

St Gregory's parish church, which stood in the medieval period at the south side of the west end of the nave, is first mentioned in 1010. Its outside walls have been observed at several points, but these fragments cannot be dated accurately. Unless the church was moved to its medieval position when the west end of the Norman cathedral nave was finished (? c 1180), we must assume that the church was in place by 1010. This must be relevant to the likely siting of the Saxon cathedral, but in what way is uncertain.

Nothing further is known of the buildings which went with the Saxon cathedral, but in 1852 a Viking grave monument still at the head of its grave was found below a building in the south-east of the churchyard. This stone, carved with a lively mythological beast in Ringerike style of the second quarter of the 11th century (Fig 2), is now in the Museum of London. It seems additionally significant that this find-spot was near, if not within, the general site of the bishop's palace before the latter moved site in the 13th century; a prestigious burial was made in or near a site of authority which may have been functioning in the 11th century. Another carved Saxon stone is known from the churchyard, and at least two 11th-century grave covers probably of Jurassic Limestone survive.

Other conventional burials probably surrounded the Saxon church. Excavation ahead of a drain trench in a basement corridor immediately north of the Wren nave in 1996 found parts of 29 human skeletons, and C14 samples from them gave date ranges from 773-883 to 894-986 (2 sigma). Monolithic and chalk-lined graves have been noted in 19th-century observations, but not seen in recent excavations.

Romanesque

In 1087 there was a widespread fire in London in which, according to the *Anglo-Saxon Chronicle*, 'the holy minster of St Paul, the cathedral church of London, was burnt down, and many other churches, and the largest and noblest part of the city' (Garmonsway 1954, 218). Bishop Maurice (1085-1107) began to rebuild the church 'from the foundations' (from the *Life of Erkenwald* by Arcoid: Gem 1990, 51). Another fire in the 1130s damaged the building. There may have been a halt or interruption in the work in the middle years of the century, and Bishop Gilbert Foliot (1164-87)

appealed for funds to finish the cathedral in 1175.

No parts of the Romanesque choir and crypt survive or have been archaeologically recorded, though the accounts of Wren and other sources demonstrate that the Romanesque crypt was reused, its east end truncated, as the west end of the podium beneath the Gothic choir which was extended on a new undercroft (an arrangement similar to Canterbury). No moulded stones have yet been securely attributed to the Romanesque choir or the crypt mentioned in 1140; those from excavations of 1994-6 are probably from the nave. From Hollar's engravings, it seems that the north wall of the Gothic choir (1250s onwards) was a rebuild of the Norman north wall for two bays out from the crossing. It also seems possible that some Romanesque work can be seen in the piers which articulate the first two or three bays, and that they were only adapted and not replaced.

WR Lethaby proposed in 1930 that the Romanesque cathedral had an eastern arm comprising a rounded end with three chapels, and therefore an ambulatory, but the more detailed argument for this form of plan has been made by Richard Gem (1990). Gem suggests that, on the assumption that the 13th- and 11th-century work joined on the chord of the apse of the earlier crypt, the 13th-century construction would have left the straight section of the crypt intact, between the crossing piers and the new crypt's west wall. He reconstructs the straight section as being of four bays with aisles. He further suggests an apsidal ambulatory with three chapels, one placed axially and one on each side pointing out diagonally, for the Romanesque east end.

It can be concluded that the Romanesque choir had at least four straight bays and aisles; the outer walls of the Norman choir probably coincided with those of the later

Fig 3 The ruins of St Paul's after the Great Fire of 1666, by Thomas Wyck. This shows that Hollar's treatment of the east side of the transepts is incorrect in many ways. It seems that Jones's restoration of 1635-40 got as far as three bays of the south transept as shown here, including the Romanesque chapel. The bay north of the chapel must be the original Romanesque work. (Illustration: Guildhall Library, London)

Gothic structure for at least two bays out from the crossing. But otherwise Gem's reconstruction of the choir is speculation. Most scholars seem agreed, however, that the most likely configuration would be an apse with an ambulatory, as in churches in Normandy such as Rouen Cathedral (begun c 1025-30) and Jumièges (1040-67).

One of the best contributions to reconstruction of the history of the transepts comes from a view of the fire-damaged cathedral from the north-east by Thomas Wyck (Fig 3). This is undated, but by use of references to the process of demolition in the Wren accounts, particularly of the crossing piers which are shown removed, it can be attributed to either 1672 or 1673. In particular, it shows the east side of the south transept, as left by Inigo Jones in 1640, with an apsidal chapel which is documented from about 1540 and which must be from the 12th-century church. There is no evidence yet for any corresponding Romanesque chapel protruding from the north transept.

Wyck also shows a band of blind arcading on the east wall of the south transept, in the bay north of the apsidal chapel. A similar band of blind arcading beneath the round gallery windows on the first two bays of the nave is shown by Hollar in his engraving of the chapter house (not shown here, but published for instance in Harvey 1978). This similarity can be taken at face value as indicating a similarity in date for the external wall of the first bay of the south transept and the first two bays of the nave.

Romanesque fragments survive in the 'historic collection' of moulded stones, dug up since the 19th century, which are now housed on shelves in the triforium of the present cathedral. Others were found in excavations of 1994 and 1996. The stones appear from their size to be from the nave, and to represent the arcade pier, the arcade arch, and the

thickness of the arcade wall above; the gallery arcade arch; vault ribs; and possibly the clerestory window. These confirm Gem's work on the typical pier section and bay size, and extend it by suggesting basic dimensions and the character of the gallery arch and the aisle ribs. The conclusion must be, with Gem, that vaulting was intended for the nave, though whether it was ever carried out is not yet known. Hollar's view shows a ceiling which appears to be of timber (Fig 4), but later references imply it was a stone vault and could be of the late 12th century.

The dating of the Romanesque church can therefore be summarised as follows:

Phase I: an apsidal chancel and choir: 1087 to 1135, interrupted by fire and 7-year vacancy to 1141 (though one translation of Erkenwald's relics is dated to 1140);

Phase II: the choir rebuilt by 1148 and a second translation of Erkenwald, probably into the choir

Phase III: nave and transepts in construction 1148-75, largely finished by the 1180s.

The true significance of the Romanesque St Paul's within England cannot yet be fully assessed, but it may have been influential, as its successor was. Though flanking west towers are a feature of several larger churches around 1190, the St Paul's towers are possible precedents for those at Wells and Coventry in the next half century.

Gothic

According to Stow, rebuilding of the crossing tower was finished in 1222. The date of the spire is not certain, but Matthew Paris shows the cathedral with a spire in his emblematic drawing of London in the mid 13th century. The plan of the cathedral produced by Hollar in 1657, redrawn by the 19th-century St Paul's surveyor Penrose, and shown in relation to the present cathedral, is given here as Fig 5. This is a working plan which is subject to much questioning and stretching on the computer as accurate surveying and archaeological investigations refine the information.

By 1400, as shown in Fig 5, St Paul's had a Romanesque nave, 13th-century transepts with 14th-century additions, and a choir of 1250-1314. In the angle between the nave and the south transept, a new chapter house at first-floor level, in the middle of a square cloister on two floors, was constructed in 1332-40.

Several archaeological sightings of parts of the Gothic choir and of St Faith's crypt beneath it can be reported. First, Penrose located and conserved four fragments of the medieval east end of the cathedral in 1879, including the south-east corner of St Faith's crypt, its stones blackened by the Great Fire of 1666. The fragments lie east of the Wren building, and are accessible through four separate manholes. By studying all the available evidence, R K Morris (1990) proposes that the crypt was begun in the 1250s and that the above-ground walls were being constructed in the 1260s.

Fig 4 Hollar's view down the nave, 1657. Recent archaeological work has confirmed many of the details of the piers and gallery arches (Illustration: Museum of London)

Fig 5 Working overlay of the medieval cathedral, as planned by Hollar in 1657 and rectified by Penrose in 1879, with the Wren building. This ground plan is also the basis of a proposed three-dimensional computer model, to reconstruct each part of the cathedral in a plausible vertical dimension (Illustration: author and Museum of London Archaeology Service)

The clerestory is dated from the features shown by Hollar to the 1270s and 1280s, and the vault to the period 1270-1300. The rose window in the east gable may date from around 1290. According to Morris, *'no other English church of the 1270s and 1280s has a better claim to be the trend-setter of its generation'* (1990, 75; studied further in Coldstream 1994).

Fragments of foundations of the south transept observed in trial holes in 1933 are undated, and might be of either 12th- or 13th-century date. There are no moulded stones which can be confidently assigned to the transepts, crossing or tower, and the sketchy building history relies on graphic evidence such as the Hollar engravings. His plan, for instance, shows two large buttresses in line with the arcade outside the south transept, which may have been part of the documented work by Henry Yevele in 1387. These repairs might have been in response to a mild earthquake in May 1382 which was also felt in Canterbury (Woodman 1981, 153). A notable feature of the 16th- and 17th-century panoramas is the arrangement of flying buttresses to the corners of the tower. No medieval documentation for them is known and from the evidence of the panoramas, the buttresses on all four corners predate 1540.

A chapter house at St Paul's is mentioned in 1241, though without details as to its location, in the record of resolution of a property dispute between the cathedral and St Bartholomew Smithfield (Madge 1939, 26). In July 1332 the mason William Ramsey was granted exemption from jury service on account of his giving *'especially and assiduously his whole attention to the business'* of St Paul's (Harvey 1987, 242-3). Ramsey had worked at St Stephen's Chapel, Westminster, in 1323, and until his death in 1349 he worked on several royal and other important places, such as the Tower, Windsor and Lichfield Cathedral. The new chapter house and cloister at St Paul's are therefore dated to 1332-49 by John Harvey (1978). This early example of Perpendicular architecture is shown in one of Hollar's engravings. The location of the previous chapter house is not known, but it must have been nearby, and may have been on the same site.

Partial remains of the 14th-century chapter house and the cloister around it, south of the Wren nave, were found and initially conserved by Penrose. All the north claustral range and part of the western range, along with two of the eight radiating buttresses of the chapter house, had been removed for construction of the Wren building in the 1670s. Penrose

located two of the southern buttresses, and the two outer southern corners of the cloister. The buttresses of the chapter house had Caen stone externally, and the footings of the arcade of the cloister were of Purbeck. Part of the paving of the east walk of the cloister survived *in situ*, and consisted of squares and lozenges of Purbeck. A future landscaping project now being considered might be able to locate the cloister walks again, though the whole area is damaged by Wren's works, 19th-century holes (including one large one by Penrose) and by the roots of trees.

St Paul's precinct had a wall and gates like other cathedral closes. The nature of the gates is not known except for that facing Cheapside, which apparently survived until well after 1547, possibly because it was by then part of a range of shops. North of the cathedral lay the (second) bishop's palace, about which little is known, and the Pardon Cloister with its 15th-century Dance of Death wall paintings. Inside this was the 12th-century chapel established by Thomas Becket's father, an unusual feature (ie a 12th-century separate chapel north of the nave of a cathedral). All this area was destroyed in 1969, to form the present underground Works Department. Only summary records were made.

From the Reformation to Inigo Jones

At the Reformation in 1549, the cathedral suffered. The high altar was demolished and replaced by an ordinary table for the sacrament. The nave, now known as Paul's Walk, became a thoroughfare between the north and south doors, where servants could be hired and lawyers received clients. Though Elizabeth I attended services in the cathedral several times and donated to its repair, the building gently declined. The 13th-century spire was hit by lightning in 1561, and caught fire; it was afterwards demolished.

A notable feature of the choir around 1600 were the prominent tombs of medieval bishops and especially national dignitaries of the Elizabethan era. Several fragments from this later group are displayed in the present crypt. The original sites of several of these monuments lay in the first four western bays of the medieval choir, which Wren noticed had survived the Fire better. Presumably these effigies were to some extent shielded from the flames by the bulk of the crossing piers and the 14th-century stone choir screen.

Inigo Jones was appointed honorary architect in 1633, and work began on the choir in the same year. Architectural fragments of Jones's works have come from the excavations of 1994 and 1996. The great majority, all from the tunnel dug through the east foundation of the south-west tower, are pieces of fluting from columns of the portico (Fig 6).

From these Mark Samuel has been able to restore the likely column width, both in the fluting section and below it. The Corinthian capital used by Jones could also be reconstructed from a small number of fragments and drawings by Palladio. Thus Hollar's view of the portico can now be tested (Fig 7), and a new reconstruction of the

Fig 6 One of the fragments of fluting from the Jones portico, recovered in 1996 from a tunnel through the foundation of the south-west tower of the Wren cathedral (scale is 10 x 10mm units). All the fluting fragments had soot on them, the evidence of the Great Fire of 1666 (Photo: Museum of London Archaeology Service)

portico is being discussed.

Other Jones pieces recovered in 1994 and 1996 include part of an aisle window and what are probably fragments of the north transept doorway. In the historic collection of stones there is also a lion's head in relief. Where it came from and when is unknown. Hollar's drawings show that the new west end and the terminal walls of both transepts had eaves cornices with lions' heads interspersed with other decorations. As far as can be seen in the Hollar engravings, the lions' heads did not decorate the longer cornices on the sides of the nave or the sides of the transepts. Secondly, the building accounts of 1635-40 refer to refurbishment of the choir, in such a way that it seems Jones never intended to recast it in classical style, but only to deal with the nave and transepts (and possibly the tower, but the Civil War intervened). There are references to painting of the (13th-century) window tracery in stone colour; and at least one fragment in the collection seems to be such a piece of tracery.

Conclusion

The archaeological history of St Paul's is now being brought together, from discoveries and records going back to the time of Wren. At present we know very little about the Saxon cathedral in probably several periods of building. The Romanesque presbytery and underlying crypt, though still imperfectly known, place St Paul's alongside the major church projects at Winchester and Bury St Edmunds. Its long nave also suggests that the building was intended to rival or stand as an equal to Winchester. The Romanesque nave elevation may have derived from St Etienne in Caen

Fig 7 The west end of the cathedral and Jones's portico, by Hollar (1657) (Illustration: Museum of London)

and from Canterbury. Analysis of moulded stones from the recent excavations has filled out this picture and identified the main building stone (at least for nave piers and responds) as from Taynton in Oxfordshire. Problems remain, and the sequence of building around the crossing and the apsidal chapel on the south transept in particular is still unclear.

As we progress through the succession of cathedrals on the site, the information increases and our understanding of the building and therefore its architectural and historical significance becomes clearer. The New Work of the 1250s was presumably intended to provide an enlarged, spacious setting for the shrine of Erkenwald; a similar extension for the patron saint had just been finished at Ely in 1252. The architecture was similar in scale and character to contemporary parts of other great English churches which have survived, particularly Lincoln, Lichfield and York; but there are also elements which suggest precedents in France. The rose window in the east gable, the largest in Britain, may have been a conscious echo of or reponse to the rose in the south transept of Notre Dame in Paris. From 1270 to the 1290s, St Paul's was the greatest architectural undertaking in the London area, surpassing even the works at Westminster Abbey. The design of its window tracery was

afterwards influential throughout the country. Much further information about the Romanesque and Gothic building will be produced when the historic collection of moulded stones, now housed in the triforium of the Wren building, can be catalogued.

A major new element in our understanding of the development of the pre-Fire cathedral comprises the recovery and analysis of fragments of the Jones portico of 1633-41 and other fragments from his restoration of the church. For the first time the portico can be reconstructed from actual fragments and a detailed picture of Jones' whole restoration is emerging from the combination of archaeological and documentary study. All this new material makes a contribution to the gazetteer of sites in the churchyard which underpins the Conservation Plan.

Future archaeological work in the historic churchyard and beneath the present cathedral may elucidate important questions such as the Roman topography and its influence on the choice of the site for the cathedral in 604, the location and character of the Saxon cathedral, and significant aspects of the development of the medieval cathedral and at least some of the structures in its churchyard. Much of the area around the cathedral, including encroachments into the

Saxon and medieval precinct, is now destroyed. There was virtually no archaeological recording on the large Paternoster development in 1961, and a little in 2001 when the tower blocks were demolished. But the present east and south churchyards, and the adjacent open area on the south, constitute the largest block of intact strata remaining from the Roman period onwards in the City of London.

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