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WESTMINSTER CATHEDRAL ISSUE



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Cover Illustration:

J.F. Bentley's Westminster Cathedral from the geographical south west,
showing the liturgical east end and the bands of brick and stone.

Editorial: Brick in the City of Westminster

At its visit to the City of Westminster in September 2007, the meeting finished at Westminster Cathedral, where the speaker, Terence Paul Smith, promised a paper for a future issue of *British Brick Society Information* on 'Westminster Cathedral: its Bricks and Brickwork'. This was subsequently submitted fairly soon after the meeting. As the paper is both of some length and of considerable importance, early publication in an issue of *British Brick Society Information* seemed to be the most appropriate course.

Given its principal article, this issue of *British Brick Society Information* might equally be seen as an issue concentrating on brick and its uses in church building. One innovation has been to use the 'Brick in Print' section to draw attention to books and articles on the brick buildings of various Christian churches at dates from the Middle Ages onwards. Similarly, because of recent books on the use of brick in churches of various dates, some of this issue of *British Brick Society Information* is devoted to book reviews and book notices of these items. These include the recent book by the society's recent Chairman, James Campbell, on the building of St Paul's. In an issue mainly devoted to another of London's cathedrals, it is fitting to have the other masterwork represented.

Elsewhere in the City of Westminster, one of the two Anglican churches seen on the visit can elicit a brief comment. Inigo Jones was the architect of the Queen's Chapel at St James' Palace which members viewed from the street: admission is only possible when the chapel is in use for services, which it is most weeks, if not every Sunday.

Inigo Jones completed four major ecclesiastical works in London and one in Winchester. The earliest is St Paul's Covent Garden in connection with the first London square. The Tuscan portico closes the west side of the square, suitably of stone columns with stone used for the church's east wall. But this is essentially a brick-built church and as such pre-figures Wren's more extensive use of brick in London churches.

The Queen's Chapel, St James' Palace (fig. 1), was initially built as a Roman Catholic chapel for the first intended bride of Charles I, the Spanish Infanta; his choice of wife, made when he had become king was another Catholic princess, Henrietta Maria of France. The chapel thus served the religion of queen; after 1688, the furnishings became more Protestant in tone. The appearance today, as when it was completed, is a stuccoed building; the material covered is brick but the stone quoins are exposed.

The brick-built chapel for the royal apartments at Somerset House has been demolished but like the Queen's Chapel at St James' Palace, it was a double cube. Both were designed in 1623 but whilst building at St James' followed immediately, construction of the chapel at Somerset House was delayed until the early 1630s.

By the 1630s, Inigo Jones was responsible for the fabric of St Paul's Cathedral. He proposed to remodel and to rebuild the west front. In the end he added a massive portico, a grand gesture largely paid for by his monarch, Charles I, and built in 1635. The grand gesture also sought to emphasise the early Christian roots of the Church of England: Jones had been to Rome, where of the seven principal churches only St John Lateran did not have a narthex. This emphasis on ancient roots is a useful corrective to the oft repeated claim of crypto-Catholicism levelled at Charles I. Whilst elaborate ritual was favoured by the monarch and his principal ecclesiastic, William Laud, a development which dismayed the Puritan element in the English gentry, it did not imply any surrender of the independence of the English church..



Fig. 1 The stuccoed front of the Queen's Chapel at St James' Palace hides a brick building, designed by Inigo Jones in 1623.

This ritual found another architectural expression in the stone screen constructed for Winchester Cathedral in 1637, but having statues of Charles I and his father, James I, it hardly stands in the tradition of depicting saints as evidenced in the rood screens in the parish churches of Norfolk. Much of the Winchester screen has been transported to the Museum of Archaeology and Anthropology of the University of Cambridge, where it forms the barrier between the public portion of the museum and the private offices on the first floor.

The society held a very successful Annual General Meeting in Boston, Lincolnshire, on Saturday 13 June 2009, followed by a tour of the brick buildings of the town led by Mary Anderson of Anderson & Glenn, conservation architects. A report on the walk will be included in the next issue of *British Brick Society Information*.

DAVID H KENNETT

Editor, *British Brick Society Information*

Shipston-on-Stour, Warwickshire; 30 June 2009

Two London Churches by S.S. Teulon

by David H. Kennett

INTRODUCTION

Amongst recent correspondence received by the British Brick Society was a circular appealing for funds to complete the restoration of St Stephen's church, Rosslyn, Hill, Hampstead, one of the many churches designed by the architect Samuel Saunders Teulon (1812-1873). As this church shares many of the characteristics of Teulon's work, a brief review of his surviving churches in London would seem appropriate.

S.S. Teulon had a productive career from 1840 onwards, designing churches, large country houses, schools and workers' cottages in many English counties, although his work is now often criticised and much has been demolished. In the latter part of his career, he designed or remodelled several churches in London and what was then Middlesex, including the three considered here.

Other churches by S.S. Teulon still extant in modern west London (formerly Middlesex) are Holy Trinity church, Northwood, of 1854 and two which are partly rebuildings of earlier structures. St George's church, Hanworth Park, of 1865, was paid for by the local landowner, Algernon Perkins of Hanworth Park House, a house not to be confused with Henry VIII's Hanworth House. This reconstructs an earlier church of 1812 designed by James Wyatt. James Horne (d.1756) had rebuilt the medieval parish church of Ealing, St Mary's, between 1735 and 1740 but this did not satisfy the Victorians who, to quote Archbishop Tait, required 'the conversion of a Georgian monstrosity into the semblance of a Constantinopolitan basilica'. Teulon worked on this church between 1866 and his death. Indeed, the stair turret was added in 1874, a year after his death.

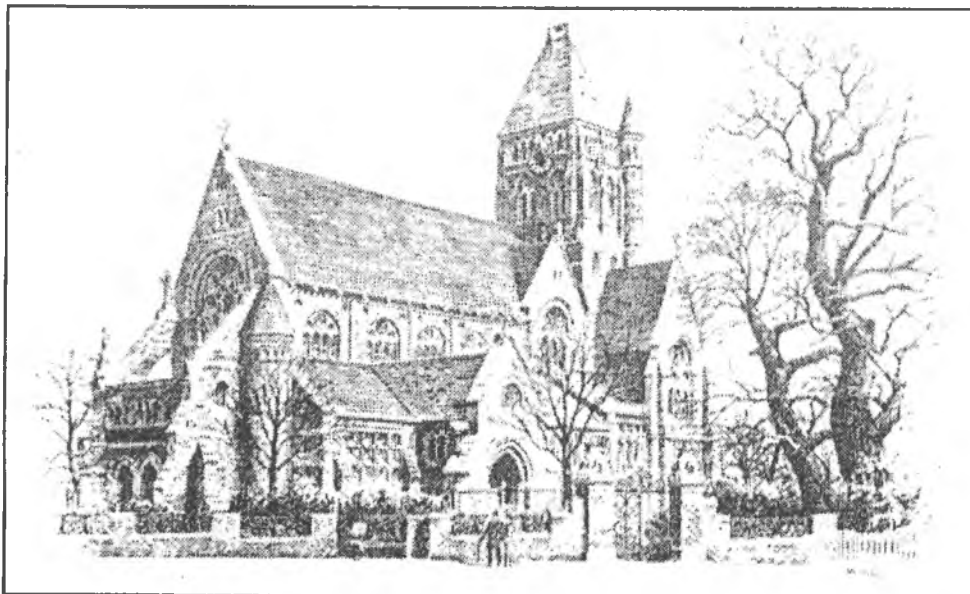


Fig. 1 Exterior view from the south-west of St Stephen's church, Rosslyn Hill, Hampstead.



Fig. 2 Interior view of St Stephen's church, Rosslyn Hill, Hampstead, designed in 1869 by S.S. Teulon, with his characteristic highly decorative use of brick in the arcades, the clerestory and the internal faces of the outside walls. The floor tiles are Minton.

ST STEPHEN'S CHURCH, ROSSLYN HILL, HAMPSTEAD, LONDON

Although deconsecrated, St Stephen's church is one of the few surviving major works by S.S. Teulon. Among his final buildings – it was constructed between 1869 and 1873 – St Stephen's exhibits many of the characteristics of his work, such as an interior in richly coloured brick. This is in stripes of grey, yellow and white brick, with the arches also including red brick. There are Minton tiles on the floor. The exterior is a dark red Dunstable brick with stone and granite dressings. The principal donors – Sir T. Maryon Wilson, who gave the site, R.H. Prance and Charles Woodd – were all wealthy men, able to afford expensive materials.

Externally the church is unmistakably the work of its architect: a tall central nave crowned with high clerestory, an even taller crossing tower with a steep pyramidal roof with a circular turret, capped by a conical roof, for access. Big transepts flank the choir space under the tower; the south and north walls are set slightly forward of those of the aisles. The sanctuary is a polygonal apse, reflecting Teulon's interest in eastern architecture. Internally, it has a brick vault. The nave is flanked by broad aisles and at the west end there is a narthex, also with a round tower at the south end.

On a prominent corner site at the junction of Rosslyn Hill and Pond Street, with the east end raised above a crypt because of the sloping site, it represents a powerful final statement of Teulon's artistic vision in a Low Church context. The architect is commemorated in the church, by the east window of the south transept.



Fig. 3 The former St Mark's church, Silvertown, now the Brick Lane Music Hall, designed by S.S. Teulon and built between 1860 and 1862.

Redundant since 1977 and unoccupied for over two decades, the church was subject to considerable vandalism, especially of its stained glass. St Stephen's church is being restored for community use under the aegis of St Stephen's Restoration and Preservation Trust with a 99-year lease from the London Diocesan Board. Since 1999, the trust with the aid of a £3.25 million lottery grant and private donations of over £1 million have worked valiantly to protect the fabric and preserve as much as possible of the church's High Victorian fittings and stained glass. In the late twentieth century, the glass in particular suffered from vandalism.

THE FORMER ST MARK'S CHURCH, SILVERTOWN Now Brick Lane Music Hall

Also deconsecrated and for long empty, unused and vandalised, the former St Mark's church, Silvertown, on corner of Connaught Road and North Woolwich Road. Following a major fire, St Mark's was restored with meticulous care between 1984 and 1989 by a team working under Julian Harrap. Specifically this included cleaning of the exterior brickwork and roof tiles. The result was to demonstrate what Matthew Saunders, the biographer of S.S. Teulon, has called 'a triumph of decorative brickwork' and, one might add, the decorative use of slates. Both brickwork and the way in which the slates are used show Teulon's care in creating detail and a high degree of intricacy in the patterning particularly on the roof, where there are both horizontal bands of lighter-coloured slates and, on the upper third, diamond patterns of the lighter colour with a central diamond.

Exterior walls have extensive use of hollow terracotta boxes, used as buff bricks. Other materials employed are stock brick, in some quantity together with red brick and black brick to

provide patterning. There is red terracotta corbelling in the tower.

St Mark's belongs to the early rather than the late 1860s: construction took place between 1860 and 1862. However, the plan and structural details which came to fruition in St Stephen's is largely present earlier in the decade. There is the big chancel tower with a pyramidal roof, even sharper in its angle than the later church. There is the south-east circular stair turret serving the tower, which includes a chimney from the boiler house. And the belfry stage is shown by very big gothic windows beneath polychrome brick gables. The nave is flanked by broad aisles, which do not quite reach the west end; these are low and lean against the central nave and extend as transeptal chapels beyond the tower. There is a polygonal apse. For a clerestory there are three big brick gables above large gothic windows. Externally the whole is a striking performance.

Internally, the whole is no less striking, under a tall hammerbeam roof, faithfully restored in the 1980s. Nave arcades and internal walls have their materials exposed. The range of brick materials is as extensive as those on the exterior.

Since restoration in the 1980s, the church has been converted into a music hall: the chancel beneath the big tower has become the stage and fly tower and the west bays behind screens for use as an art gallery. Vincent Hayes was both architect and entrepreneur for the conversion in 2003.

BIBLIOGRAPHICAL NOTE

St Stephen's church, Rosslyn Hill, is noted B. Cherry and N. Pevsner, *The Buildings of England: London 4, North*, London: Penguin Books for the Buildings Books Trust, 1998, pp.205-206 with plan on p.205 showing the original arrangement of the pews and a photograph from the west at pl.85. The former St Mark's church, Silvertown, is recorded B. Cherry, C. O'Brien and N. Pevsner, *The Buildings of England: London 5: East*, New Haven CT and London: Yale University Press for the Buildings Books Trust, 2005, pp.315-316 with pl.45, showing the south side.

The other surviving London churches by S.S. Teulon are all dealt with in B. Cherry and N. Pevsner, *The Buildings of England: London 3 North West*, London: Penguin Books, 1991: St May's church, Ealing on pp.166-167 with pl.85 showing the interior as in the 1980s; Holy Trinity church, Northwood, on page 342; and St George's church, Hanworth, on page 421.

WESTMINSTER CATHEDRAL: ITS BRICKS AND BRICKWORK

Terence Paul Smith

... *venite faciamus lateres* ... [et] *habueruntque lateres*

Genesis 11.3 (Vulgate)¹

INTRODUCTION

The 'red brick facing is making a great show,' wrote the architect of Westminster Roman Catholic Cathedral, John Francis Bentley, in April 1897, by which time some of the external brickwork had reached a height of 7 ft (2.1 m).² Today, with the exterior completed over a century ago and with the frontage now opened up by the creation of Cathedral Piazza off Victoria Street (Elsom, Pack & Roberts, 1975), it makes an even greater show, the cathedral, with its red brickwork banded with white Portland stone, being the most striking of late-nineteenth-/early-twentieth-century ecclesiastical buildings in the metropolis (fig. 1). But the red bricks of the exterior are not the only ones to be seen in this vast structure. Because funds have never been sufficient, much of the intended scintillant decoration of the interior has not been completed and dun-coloured London Stock bricks remain exposed in some of the arches, vaults, domes, and internal buttresses, giving a rawness and austerity which have appealed to some but which are far from the richness that the architect envisaged. Mgr Mark Langham comments on the 'bare brick, ... creating an atmosphere of mystery, yearning and poignancy' – although it is less than clear that he himself shares the enthusiasm.³ The numinous ambience is enhanced by – perhaps, indeed, is more the effect of – the indirect lighting from the 'hidden' windows and by the flickering candles and the pervasive scent of incense. The effect is further heightened during choral services, when the singing of the choir fills the cathedral with its ethereal sound. The exterior red facing bricks and the interior London Stocks do not complete the tale of bricks, for there are, as noted more fully in due course, three other types, used structurally within the cathedral. One of the merits of Winefride de L'Hôpital's detailed study of the building and its construction is that she gives the sources of the various bricks, and of some terracotta window components: it is that aspect of the building which is principally considered here. But to provide a context for this, something may first be said about the architect and his cathedral.

JOHN FRANCIS BENTLEY

Born in Doncaster, Yorks. on 30 January 1839, John Francis Bentley (fig. 2) first trained as an engineer, working for the Manchester firm of Sharpe, Stewart & Co., before moving to London, where he worked in the office of Winsland & Holland, builders. He then joined the London office of the architect Henry Clutton (1819–93), a convert to Roman Catholicism in 1856. (He should not be confused with another Henry Clutton [1814–95], also a London-based architect.) Bentley worked, with Clutton, on various Roman Catholic buildings before setting up practice on his own in 1860. On 16 April 1862, Bentley was received into the Roman Catholic Church, being the first person to be baptised in the church of St Francis, Kensington, built in brick by Clutton in 1859–60 and added to by Bentley himself in 1861–3.

Motivated as much by religious conviction as by professional or personal ambition, he often worked for low fees and for longer hours than his far from robust health made prudent. At an early age he developed an antipathy to architectural competitions.⁴ Amongst projects for the Roman Catholic Church is the flint-and-ashlar Holy Rood, Watford, Herts. (1883–90), described

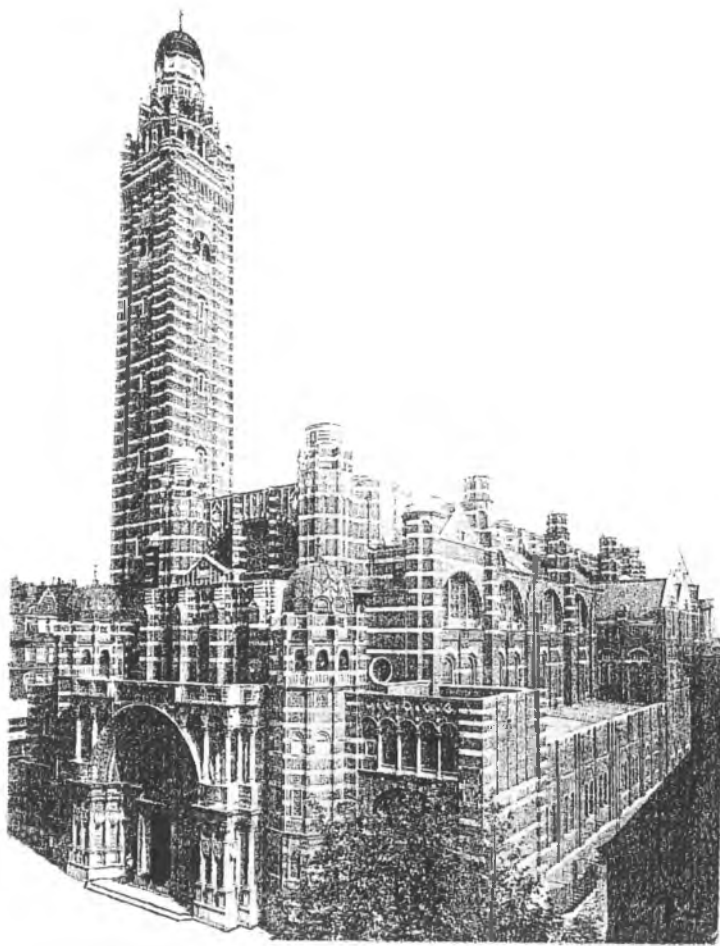


Fig. 1. Westminster Cathedral from the (liturgical) south-west

by H.S. Goodhart-Rendell (1887–1959), himself a convert to Roman Catholicism (1924), as ‘the most lovely church the nineteenth century gave to England’.⁵ Bentley died, aged 63, at his home, 3 The Sweep, Old Town, Clapham Common, on 2 March 1902, a year before his great project was completed externally. For legal reasons, interment within the cathedral was not allowed, and he was buried in the Catholic Cemetery at Mortlake (now London SW14). ‘By a bitter chance,’ writes Alastair Service, ‘the RIBA met to approve the award of its Royal Gold Medal to Bentley on the day following his death but, after consulting the King [Edward VII], found itself unable to award the medal posthumously.’⁶ After Bentley’s death, work on the cathedral was continued by his assistant, John A. Marshall (1852–1927), who formed the firm of John F. Bentley, Son & Marshall, although Bentley’s son Osmund later lost interest in architecture and did only a little work on the cathedral.⁷

WESTMINSTER CATHEDRAL

It is, of course, for Westminster Cathedral – more properly the Metropolitan Cathedral of the Most Precious Blood of our Lord Jesus Christ – that Bentley is best remembered.⁸ As early as the 1850s Cardinal Nicholas Wiseman, the first Archbishop of Westminster, raised money which would become the nucleus of the later building fund. But the present site (fig. 3), now bounded by Cathedral Piazza, Ambrosden Avenue, Morpeth Terrace, and Francis Street, SW1 (formerly occupied by the Middlesex County Prison), was not acquired until 1883, by the second



Fig. 2 John Francis Bentley (1839-1902), aged 56, photographed by his son Osmund

Archbishop, Cardinal Henry Edward Manning. Earlier, in 1867, Manning had caused controversy by appointing Henry Clutton as architect, since the latter was his brother-in-law. Clutton produced several Gothic designs (for an earlier site, immediately south-west of the present cathedral), but there were insufficient funds and work was postponed. In 1882 the wealthy and eccentric Sir Tatton Sykes (1826-1913), 5th Baronet of Sledmere, Yorks. (and a Protestant) offered sufficient money on condition that the Austrian architect Baron Heinrich von Ferstel (1828-83) should be responsible for the building, envisaged as a version of his neo-Gothic *Votivkirche* (1857-79) in Vienna.⁹ But when von Ferstel died in the following year, aged only 55, the project was once again shelved. Only under Manning's successor, Cardinal Herbert Vaughan, appointed in 1892, did work proceed, with Bentley as architect. The foundation stone was laid on 29 June 1895 and the cathedral was completed externally in 1903, the first major service being the Requiem Mass for Cardinal Vaughan on 26 June of that year: he had died on 19 June. The cathedral was, however, not consecrated until 1910. The interior, as already noted, is still incomplete – and, alas, almost certain to remain so in the lifetime of anyone now living. At time of writing, the Chapel of the Holy Souls at the north-west (which was designed by Bentley himself and executed by Christian Symons [1845-1911]) gives the best impression of what the architect intended for the whole cathedral.

Although Bentley's experience was mainly in the Gothic style – and he would, of course, have been familiar with Clutton's Gothic designs for the cathedral – this was rejected by Cardinal Vaughan in favour of an Italo-Byzantine style.¹⁰ Quite apart from its ultramontane resonances – and the hint of ecclesiastical primacy in the use of an early Christian style, pre-

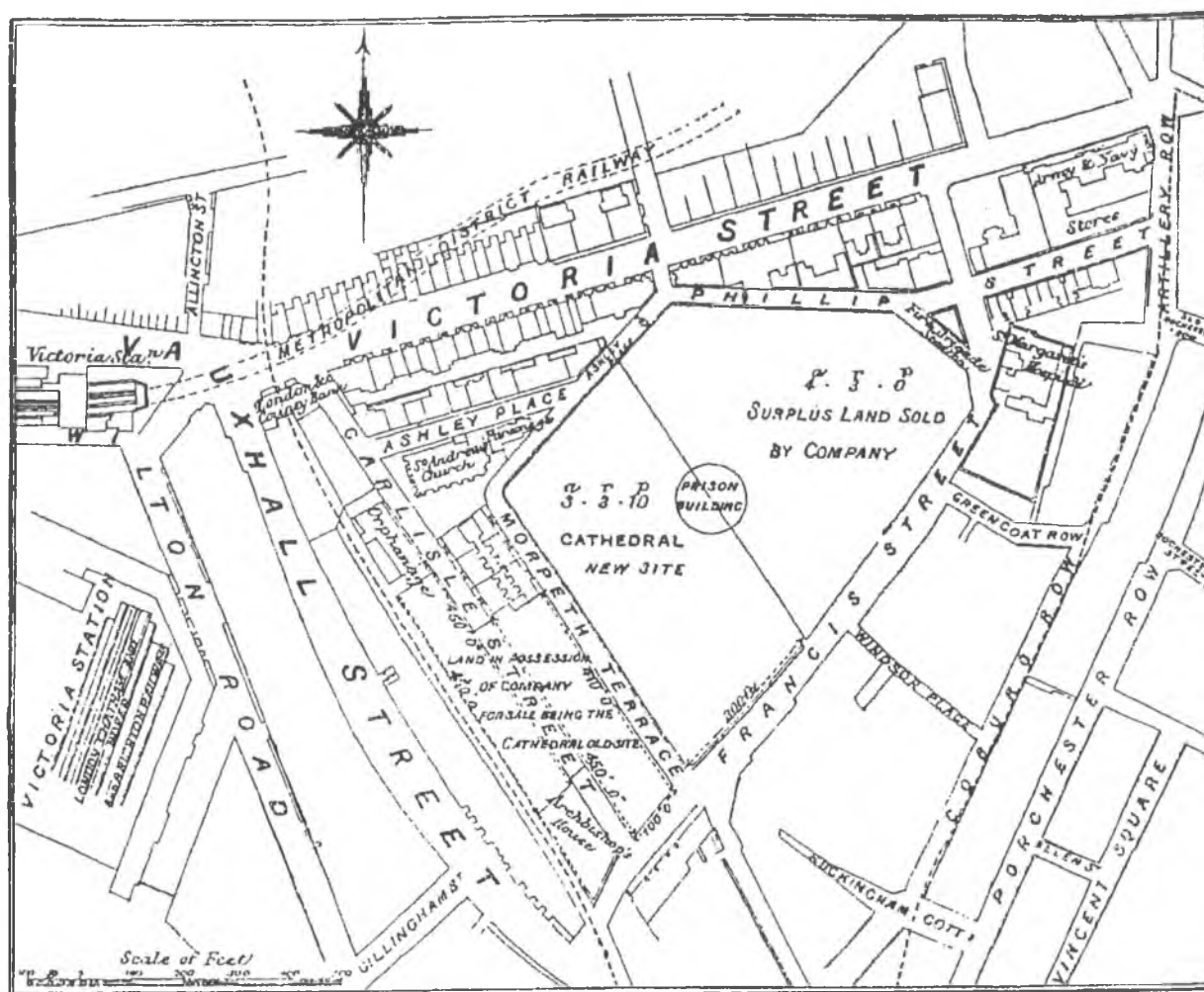


Fig. 3 A map published in *The Tablet*, 10 May 1884, showing the former Middlesex County Prison on Tothill Fields. The earlier cathedral site is immediately to the south-west. The present site comprises 3 a[cre], 3 r[oods], 10 p[erches] or 1.54 hectares. Ambrosden Avenue now runs along the line of division between the two parts of the prison site; housing on its north-east side was built in 1890-93.

dating the Gothic favoured by Anglicans at the time – it was significantly cheaper to build in. It also avoided competition with the genuine Gothic of Westminster Abbey,¹¹ in comparison with which a nineteenth-century version might come off worse, whilst the large open spaces provided by the shallow-domed construction were particularly suited to post-Tridentine (but, of course, pre-Vatican II) Roman Catholic liturgy. The style also had the practical advantage that it allowed the exterior shell of the building to be completed fairly quickly – it was indeed finished in only eight years – and the internal decoration to be applied later, as funds permitted.

Bentley studied the style intensively, travelling to Italy despite poor health, before designing his eclectic cathedral, which draws on a number of sources, noted by James Stevens Curl: San Marco in Venice, San Vitale in Ravenna, the Romanesque *Duomo* in Pisa, the *Domkirche* in Speier, Sant' Ambrogio in Milan, the Certosa in Pavia, and, above all, the Church of Hagia Sophia (Holy Wisdom) in Constantinople (Istanbul); the plan seems to owe something to Giacomo da Vignola's Jesuit *Il Gesù* church in Rome, whilst the saucer-domes 'recall those of St-Front, Périgueux'.¹² To these, as John Thomas argues, may be added the influence of 'the nineteenth-century tradition of Albi-inspired churches': he instances the 'firmly axial' (as opposed to centralised) plans both of thirteenth-century Albi and of Westminster as well as the

use in both cathedrals of internal buttresses – or ‘counterforts’, as Bentley called them, from the French *contreforts*; and ‘Albi-like, as much as Byzantine, are the galleries between buttresses at “first floor” level, and also the wide transverse vaults which link the buttresses and cover both outer chapels and aisle-passages...’; amongst churches seemingly inspired by Albi are, significantly, some by Bentley’s erstwhile master, Henry Clutton.¹³

The plan (fig. 4) is basically rectangular with only the asymmetrical east end projecting appreciably; the entrance front at the west projects only slightly. The transepts, internal buttresses, chapels, and even the lofty campanile towards the north-west are all contained within the basic rectangle. The campanile and the various turrets and recessions, however, help to disguise the rectilinearity at higher levels externally, so that the overall appearance is less confined than the adherence to a basically simple plan might suggest. Indeed, the skyline is varied and even, in places, slightly Baroque in appearance. We may be grateful to Cardinal Vaughan for his insistence on a single campanile – Bentley had wanted *two* – for the asymmetry thus imparted is a decided asset of the composition (fig. 1). The cathedral is 360 ft (109.8 m) long by 156 ft (47.5 m) wide externally; the campanile rises 273 ft (83.2 m) and is topped by a cross adding a further 11 ft (3.4 m).

Construction is of non-reinforced load-bearing masonry, for Bentley loathed iron in construction – although there are iron ties in the transepts and elsewhere. The domes are of mass concrete, incorporating broken brick and tile aggregate; they were covered with copper in 1948. The overall appearance is dominated externally by the horizontal banding in red brick and white Portland stone: some have conjectured from this the influence of New Scotland Yard (1887–90) by Richard Norman Shaw (1831–1912); but Bentley had already used the method of construction at the Jesuit St John’s Preparatory School, Beaumont, Old Windsor, Berks. (1886–8).¹⁴ In any case, Bentley’s knowledge of Continental precedent was far too profound for him to require *domestic* inspiration.

The precinct of the cathedral includes the Archbishop’s House, Clergy House, Diocesan Hall, and Choir School: these buildings are not considered here.¹⁵

THE BRICKS USED IN THE CATHEDRAL

A building as massive as Westminster Cathedral requires strong foundations; it also has a subterranean crypt. Two requirements were essential for any bricks used in such construction: the ability to withstand heavy loading from the superstructure and, where the walls come into contact with the ground, imperviousness to water. With regard to the first matter, three brick types were chosen from samples submitted to the architect and ‘were put through the most rigorous weight-sustaining tests by Messrs. Kirkaldy & Sons, testing engineers’.¹⁶ The results, indicating the mean ‘slightly cracking stress’ of the three types, are shown in Table 1: the Staffordshire blue engineering bricks were, unsurprisingly, the strongest, followed by the Poole wire-cuts, followed by the Fletton wire-cuts. London Stocks, the dominant brick type in the metropolis at the time and also used in the cathedral, would have cracked with only one-third of the load of the Flettons – that is at about 62 tons/ft². With regard to the second matter, Staffordshire blue engineering bricks are virtually impervious to water: their weight absorption is only 6.5 per cent, compared with, say, 20 per cent for (frogged) Flettons and 10–20 per cent for (frogged) London Stocks. They were thus chosen for damp-proof courses beneath all walls and piers, and for the external lining wherever the walls came into contact with the outside earth. To enhance the imperviousness of the brickwork, the engineering bricks were laid in ‘almost neat cement’.¹⁷ (A small number are also used exposed in the plinth at the east end.) The Fletton wire-cuts were used for the large piers and walls and the Poole wire-cuts for the smaller piers and abutments.

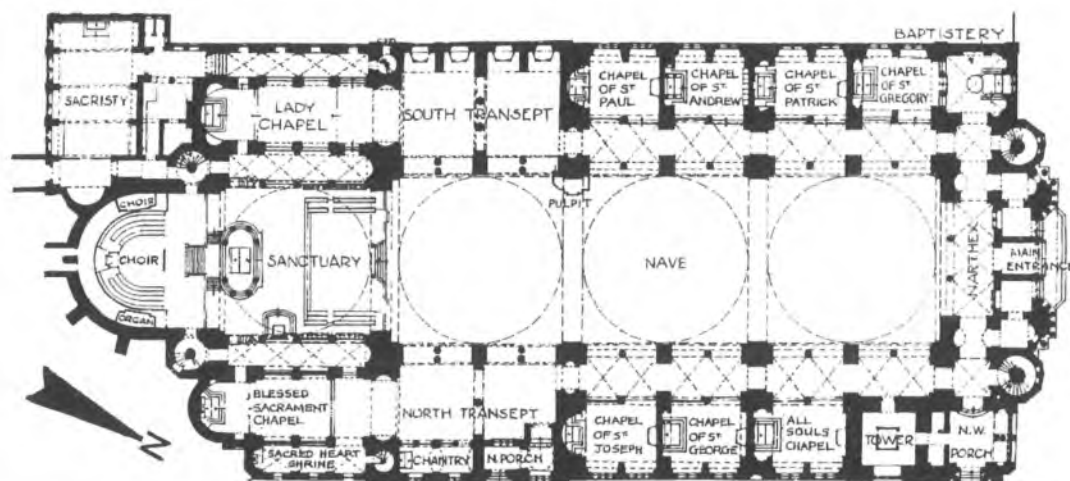


Fig. 4. Westminster Cathedral: plan

Brick type	tons/ft ²
Staffordshire blue engineering	700.0
Poole wire-cut	398.6
Fletton wire-cut	185.6

Table 1 Mean 'slightly cracking stress' of three brick types used in the cathedral

For the exterior facing, above the 8-foot (2.4-metre) Penryn granite plinth, Bentley chose the attractive red facing bricks from Bracknell, Berks., whilst for the internal lining of the building London Stocks were chosen: the latter, which in any case have fairly irregular surfaces, were 'left rough and unpointed in order to afford a satisfactory surface for the adherence of the shell of marble and mosaic when the time came for its application'.¹⁸ It is because much of this marble and mosaic work has never been completed that the raw London Stock brickwork is visible in many parts of the interior.

Just under twelve-and-a-half million bricks were used in building the cathedral, with more than two million used in the foundations alone, although it is not true, as sometimes stated, that they were all *handmade*.¹⁹ the red facing bricks certainly were and the London Stocks almost certainly were – for machine-making played little part in London Stock manufacture; but the blue engineering bricks could only be made by machine, whilst the Poole bricks and the Flettons are both specifically described as 'wire-cut', implying the use of that particular machine-method of manufacture: these machines, to be sure, may well have been *hand-operated* at the time, but that is not the same as the bricks being *handmade*.

As already noted, five brick types are used, the sources of which are mapped in fig. 5. The blue engineering bricks are specified as 'Staffordshire', with no precise source given. The Poole wire-cuts are from that town or its immediate environs in Dorset. The Fletton wire-cuts are from Fletton, immediately south of Peterborough. The London Stocks are specifically mentioned as coming from Faversham in Kent. The red facing bricks were supplied from Bracknell, Berks., the manufacturer being Messrs Thomas Lawrence & Sons. These diverse sources involved transport over widely varying distances, with the Staffordshire blue engineering bricks travelling the longest and the Bracknell red facing bricks the shortest distance. (Table 2 shows distances 'as the crow flies': actual distances travelled would, of course, have been somewhat longer; since the county alone is stated for the Staffordshire blue engineering bricks the distance given is only approximate).

Brick source	miles	km
Staffordshire	c.125	c.200
Poole	100	160
Fletton	75	120
Faversham	50	80
Bracknell	30	48

Table 2 Distances over which bricks from different sources were carried

It has been noted that donors could contribute to the building by giving the costs of materials: for example, 10,000 bricks could be paid for by a donation of £33 – a price, therefore, of £3. 6s. 8d. per 1,000; which of the five brick types this sum would have purchased is not, however, stated.²⁰

Staffordshire blue engineering bricks

Staffordshire blue engineering bricks were first made in the early nineteenth century, once machinery had been developed of sufficient power to grind the intractable raw material and to form the bricks themselves. That raw material is Etruria Marl occurring in the Coal Measures. The bricks may be either extruded and wire-cut, in which case they will be unfroged, or machine-pressed, in which case they may have frogs – usually fairly shallow – in one or both bedfaces. They are very dense and are semi-vitrified with a smooth, semi-gloss surface and sharp arrises. These qualities give the bricks their great strength and their considerable imperviousness to water. Their ‘blue’ – in fact, virtually *black* – colour is achieved by firing at a very high temperature in a reduced (oxygen-deficient) atmosphere. Their strength and water-resistance made them especially suitable for the engineering structures of, for example, railways: they are, indeed, a familiar sight from train windows. Less easily seen, though certainly no less important, are such bricks in tunnel linings; in many earlier tunnels ‘the common bricks [that] they were lined with scaled and crumbled under the dripping of water. These blue bricks proved satisfactorily resistant and they were employed to an increasing extent both in the building of new tunnels and in re-lining old ones’.²¹ But they could also be used decoratively, for example in banding across red brickwork. Specials include bullnose bricks, paviments, and large coping bricks. The bullnose bricks are often used at the jambs of entrances in industrial structures, where they are subject to frequent knocks from vehicles.

At Westminster Cathedral they are mostly hidden from view in foundations – where the walls meet surrounding earth – and in damp-proof courses. But they are also used exposed at the foot of the low plinth at the north-east angle, where they measure $8\frac{3}{4} \times 4\frac{1}{4} \times 2\frac{1}{2}$ inches ($222 \times 114 \times 63$ mm) and where they are laid in English Bond. Single bullnose bricks are used, on-edge, at the top of the plinth.

Staffordshire blue engineering bricks could be delivered to London, slowly, on the canal network, but much more speedily by rail, specifically by the London & North Western Railway. Because these specialist products were relatively expensive, even ‘at the yard’, transport costs added a smaller percentage to that cost than was the case with common bricks. It was therefore fairly economic to send them by rail, and it is most likely that that is how the bricks for the cathedral were carried, probably *via* Willesden Junction and perhaps with a transfer at Clapham Junction, enabling the bricks to be carried on London Brighton & South Coast Railway tracks to Battersea Goods Yard: from there it was a short journey by road across Chelsea Bridge (1851-58, replaced 1934), to the cathedral site. A more convenient *rail* route was *via* Willesden

Junction to the LNWR's own goods station at Brompton & Fulham, although this involved a much longer and more tortuous continuation by road to the cathedral site: despite that, this route may well have been considered overall more convenient.²²

Fletton wire-cut bricks

When Bentley chose Fletton bricks for much of the structural work at the cathedral they were still a quite new product, having been developed in the village of Fletton, just south of Peterborough, in the mid-1880s.²³ Subsequently, manufacture extended to other areas on the Oxford Clay, actually a shale, which is the raw material of these bricks. It is not an easily worked material and, as with the engineering bricks, exploitation depended on the availability of machinery capable of winning and preparing it and for forming the bricks. An important London market was opened up, entirely dependent on the railways – principally, in early days, the Great Northern Railway, on which Fletton itself was situated. They were presumably delivered to the Great Northern's goods yard at Farringdon and carried thence to the cathedral by road.

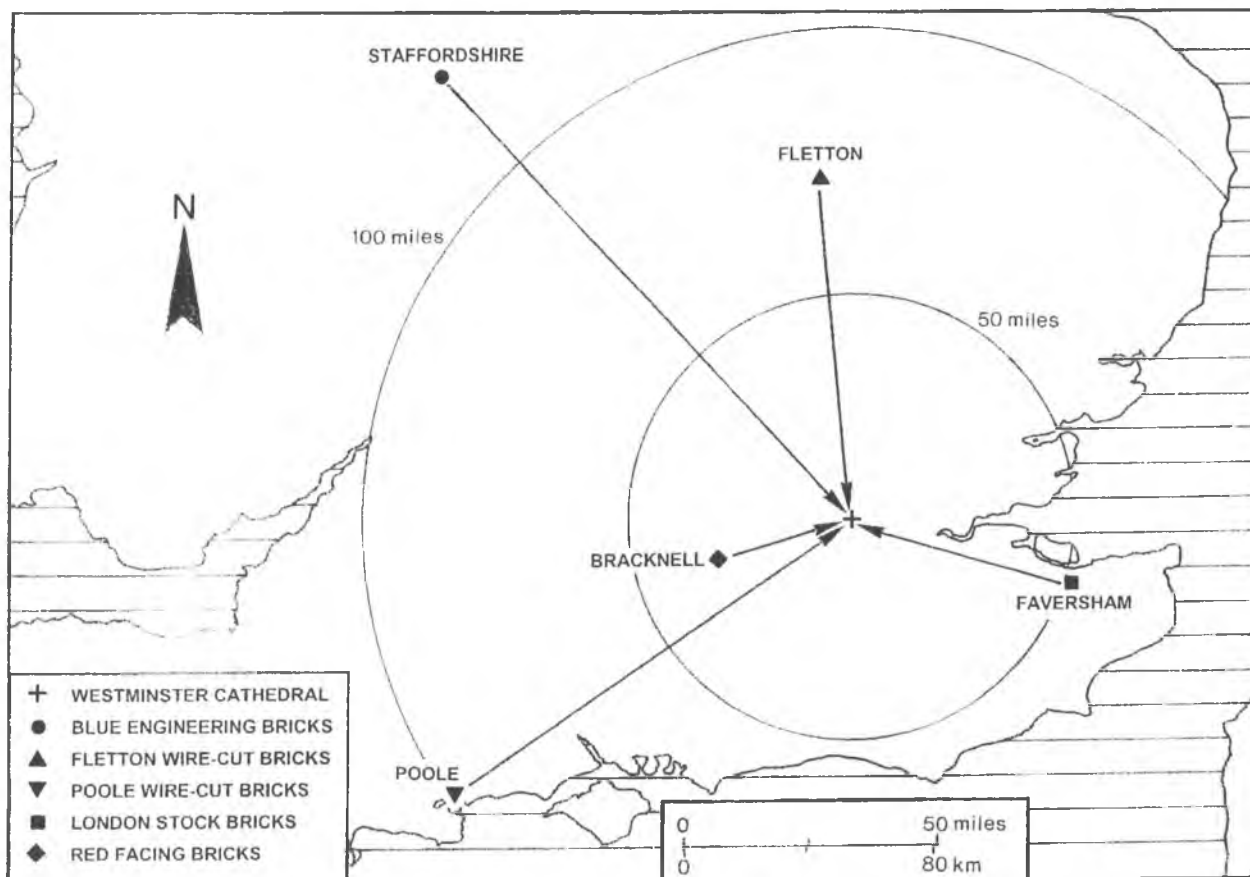


Fig. 5 Sources of bricks for Westminster Cathedral

This has sometimes led to exaggerated claims about the rôle of the railways in distributing bricks to distant markets and thus altering the architectural face of late Victorian and Edwardian Britain: 'In one outward respect,' writes Michael Robbins, 'railways did swamp regional traditions – in building, by carrying Fletton bricks all over the country...'.²⁴ In fact, Flettons had different cost advantages. The firm semi-dry raw material enabled them to be

stacked in the kiln immediately after shaping, without the need for separate drying: such drying as was required was carried out within the (Hoffmann) kiln using recycled heat from previous firings. More important, the high carbonaceous content of the shale meant that once a sufficient temperature had been achieved the bricks virtually burned themselves, thus cutting down considerably on the costs of coal for fuel. The bricks were thus cheaper 'at the yard' than their rivals and this allowed them to be sold competitively in distant markets even with the additional costs of rail transport. Even so, those markets were, initially, in London alone, not in other regions. Moreover, they led, at first, to no significant *visual* change since, with their pallid pinkish hue and prominent kiss-marks resulting from their setting in the kiln, they were not suitable as facing bricks. Not until later, in 1923, were facing bricks produced by machining into the faces a zigzag pattern to produce the so-called 'Rustics'.²⁵

Flettons can be made by pressing or by extrusion and wire-cutting. It was the latter that Bentley specified, doubtless because these unfrosted bricks had the superior strength required for the cathedral footings and other structural work. Where exposed (though painted) in the crypt they may be seen to be laid in English Bond in the walls but in Stretcher Bond in the piers.

They were required in huge quantities, and supply proved a problem: 'at first, progress of work [on the cathedral] was arrested from time to time by the difficulty of getting an adequate supply of bricks. To avoid these vexatious delays the contractors [Messrs Shillitoe & Sons of Bury St Edmunds] took a brickfield at Fletton, ... and were thus enabled to deliver, if demanded, as many as 60,000 bricks a week'.²⁶ They were required in huge numbers since they form the core of the building, between the red facing bricks and the interior lining of London Stocks. Some ten million were used, amounting to about 80 per cent of the total number of bricks. Westminster Cathedral was, indeed, the first large-scale application of these bricks in London: their employment gave a tremendous boost to the Fletton industry and 'was one of its biggest coups'.²⁷

Poole wire-cut bricks

A map of known brickmaking sites in Dorset reveals a fairly even distribution, except on the chalk downlands, where there are few, and on the heathlands north of Poole Harbour, where 'the map goes haywire with thick clusters of sites. Now nearly all disused, they have in many cases disappeared under the urban growth of Poole and Bournemouth – the very expansion that created a demand for their products'; here, 'brickmaking concentrated on those parts of the Bagshot Beds clays unsuitable for [making] pottery'.²⁸ These clays permitted the production of robust materials such as stoneware goods and the bricks of engineering quality required for structural work in Westminster Cathedral.

Those bricks are specifically designated as wire-cuts. At one Poole yard in the early twentieth century, wire-cuts were made using 'clay which was unsuitable for hand-moulding'. Extruded from the pugmill, the rectangular column of clay was cut into ten bricks using eleven wires, the spare ends of the column being returned to the pugmill. The wire-cut machine could produce ten thousand bricks a week.²⁹ 'The product,' it has been observed, 'was inferior in appearance ... but there was always a market for a cheaper brick for utility work, and the process was suited to high strength "engineering" bricks'.³⁰ As with the Flettons, wire-cuts were presumably chosen because of the strength of these unfrosted bricks.

Poole, with its harbour, was ideally placed for the shipping of bricks, although for London that would have involved coastal shipment around the whole of south-east England and up the River Thames. It is far more likely that the Westminster Cathedral bricks were carried by rail, using the London & South Western Railway; with a transfer at Clapham Junction the bricks could be taken to Battersea Goods Yard and thence by road to the cathedral site.

London Stock bricks

London Stocks have a dull brownish yellow colour which can be surprisingly attractive in mass brickwork; they are also good quality products.³¹ Their origin seems to lie in a change in architectural taste in the early eighteenth century, when something closer to the colour of stone was desired in place of red brick. It was discovered that by mixing chalk, in the form of a slurry, with the basic raw material an appropriately fulvous hue could be achieved. The raw material was brickearth above the London Clay of London, Middlesex, and the Lower Thames Valley. It was further mixed with ash and cinder (known initially as 'Spanish', later as 'roughstuff') from domestic fires in the metropolis. In this way there grew up a neat symbiotic relationship: the brickmakers' barges carried the 'roughstuff' from London to the brickyards and returned laden with bricks to build the capital. Although brick-machines were occasionally used, the overwhelming majority of the bricks were moulded by hand. The stock-board on the moulder's bench was typically provided with a 'kick' to produce a shallow frog, with makers' names or initials sometimes included.

According to de L'Hôpital, the London Stocks for Westminster Cathedral were made at Faversham in Kent. Around Faversham in 1895 (fig. 6) there were five brickmaking companies and eight other brickmakers, one of them with an off-site office in the Faversham 'suburb' of Ospringe; there were also a brick merchant and, at Preston, a firm of brick machinery manufacturers.³²

The London Stocks in the cathedral measure $9 \times 4\frac{1}{4} \times 2\frac{1}{2}$ inches ($229 \times 114 \times 63$ mm) and are laid in English Bond in the walls; in arch intradoses and vaults they are in Stretcher Bond; the internal buttresses incorporate inverted segmental relieving arches of three courses of headers on edge: slightly distracting when one views the brickwork, they were, of course, never intended to be seen. Behind the marble cladding, as early photographs show, the London Stocks are again in English Bond.³³ In the south-west stair-turret, even beneath the paint, it is possible to discern the junction between the rougher London Stocks at lower levels and the smoother bricks (presumably either Poole or Fletton wire-cuts) at higher levels. Many of the London Stocks show pressure marks: only longitudinal marks have been observed.

Although Faversham had a direct rail connexion with London, using the South Eastern & Chatham Railway, the symbiotic relationship already mentioned led to the almost exclusive use of the Thames for delivering bricks, and we can be virtually certain that the Westminster London Stocks were delivered by water – probably the only cathedral bricks to have been so. The final short leg of their journey would have been by road, either along Victoria Street or along Vauxhall Bridge Road.

Bracknell red facing bricks

Many of the best reds for facing Victorian buildings, it has been observed, 'came from Fareham [Hants.] or Bracknell [Berks.]'.³⁴ For Westminster Cathedral, 'Bentley chose Bracknell red facings, from Messrs. Lawrence & Sons' fields':³⁵ this was Thomas Lawrence & Sons, the most important of the several brickmakers in the Bracknell area. Lawrence was one of those entrepreneurs who began brickmaking as a sideline to other, wholly unrelated, business activities. He started as a draper in Binfield in 1847 and gradually enlarged his interests to include printing, home furnishing, a grocery business, and, by 1860, brickmaking.³⁶ Thomas Lawrence & Sons had brickworks close to central Bracknell at Swinley and Easthampstead, and others further out at Crowthorne (Wellington College), Pinewood (Oaklands Lane), Warfield

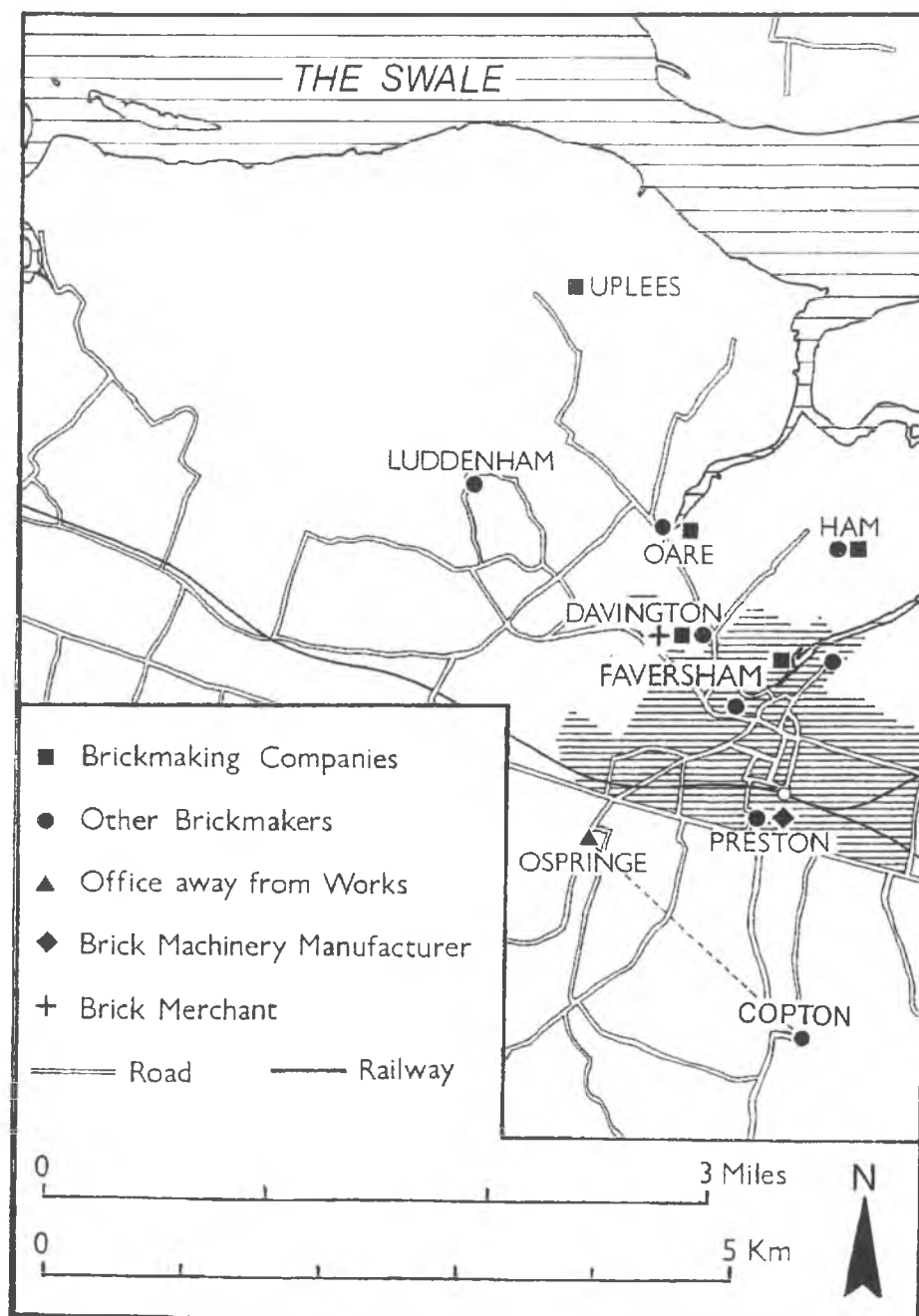


Fig. 6. Brickmakers and associated occupations in the Faversham area, 1895

(Goughs Lane), and Wokingham (Keep Hatch Lane); it was from the last of these that the Westminster Cathedral bricks were supplied. The term *Bracknell* was applied generically to bricks made at all these locations, as well as by other manufacturers at their respective yards. The local industry scarcely survived World War II, although the Wokingham yard continued to supply handmade bricks for specialist projects, including restoration work at Windsor Castle, Hampton Court Palace, and Eton College; it finally ceased production in 1964. The Thomas Lawrence brickyard at Warfield survived until the late 1980s.

In 1988, Walter Spencer, then 93 years old, wrote some notes about his father, who worked in one of the Bracknell yards, by the Ascot to Bagshot Road, in late Victorian times.³⁷ The bricks were hand-moulded and then placed in a press, which trimmed them and stamped

them T L B in a shallow frog, T L standing for *Thomas Lawrence* and B for *Bracknell*, not *Brick*. The bricks were hacked for drying in a diagonal setting; in wet weather the hacks were covered with 'caps' of straw battened together with two long strips of wood. The bricks were loaded into the kiln and fired after about a week. The finished bricks were placed into railway trucks on a single line which ran down an incline and thus needed no form of locomotion. It connected with the London & South Western Railway's Reading to London line at Ascot West station; as perhaps with some of the other bricks, those from Bracknell may have been transferred at Clapham Junction and carried to Battersea Goods Yard and thence by road to the cathedral site.³⁸ The trucks returned from Ascot West, loaded with coal for firing the kilns and pulled by three shire horses. Hours were long: Mr Spencer worked from 6am to 6pm Monday to Friday and from 6am to 1pm on Saturday; but if it rained on Saturday afternoon or on Sunday he had to travel 2 miles (3.2 km) to cover the drying bricks, work for which he received no extra pay.

The cathedral bricks are of a pleasing orange-red hue. In the low plinth at the south-east corner are what appear to be Bracknell bricks of standard size: $9 \times 4\frac{3}{8} \times 2\frac{5}{8}$ inches ($229 \times 111 \times 67$ mm) in English Bond. They include voussoir bricks for arches, with bullnose forms at the intrados. But the principal bricks are narrower, more suited to the Italo-Byzantine style of the building: they measure $9 \times 4\frac{1}{4} \times 2$ inches ($229 \times 108 \times 51$ mm). Most are laid in a version of English Garden Wall Bond with four courses of stretchers between single courses of headers, the stretchers in the second and fourth courses being offset by a quarter rather than by the more usual half. The header courses enable the facing to be bonded into the internal brickwork of standard size bricks, or, as de L'Hôpital puts it, the 'exterior (thin brick) walling was bonded to the backing with one course of binders [= headers] to four of stretchers...'.³⁹ But at various key points other arrangements of these bricks are employed: some are arranged in herringbone patterns of stretchers with two courses of vertically laid roofing tiles between the two sets of raked bricks. In the transept gables, stretchers are laid angled, together with angled stones. On the front face are sections of vertically laid stretchers.

As well as the principal bricks, a number of specials are employed (fig. 7). They include bricks with a quadrant cut from each angle of one header face, used to form mullion-like jambs between series of blind arches. The semicircular arch-heads themselves are formed from bricks with a quadrant formed in just one angle, between a bedface and a stretcher face and thus laid on edge. Within various arches – blind or open – tapering voussoir-bricks are used and at the junction with the intrados these are made with one angle formed as a bullnose to give a quarter-round shape. Surrounding some openings are cownose-on-flat headers – that is, bricks with a half-round moulding along one header face. For semi-circular niches, concave bricks are used to build up the complete form. Simple single cants are employed for chamfered angles on the west front. Here too, for arch surrounds, are the most elaborate specials: one header face has at one angle an ogee moulding whilst from the remaining plain section of the header face projects a slight square-sectioned fillet. A number of the arches are turned in bricks which have in their faces a series of reed-like (convex) projections, giving them a peculiarly cogwheel-like appearance. Most of these specials, it may be noted, could be formed using a simply modified brick-mould, although the cownose bricks would have required a removable component within the mould.

TERRACOTTA WINDOW COMPONENTS

The other building materials of the cathedral – principally Portland stone from Dorset and Penryn granite from Cornwall externally and the various marbles and mosaic components internally – do not concern us here.⁴⁰ But mention may be made of a further *ceramic* building material: the Diocletian windows in the clerestory are filled with trellises of varying patterns

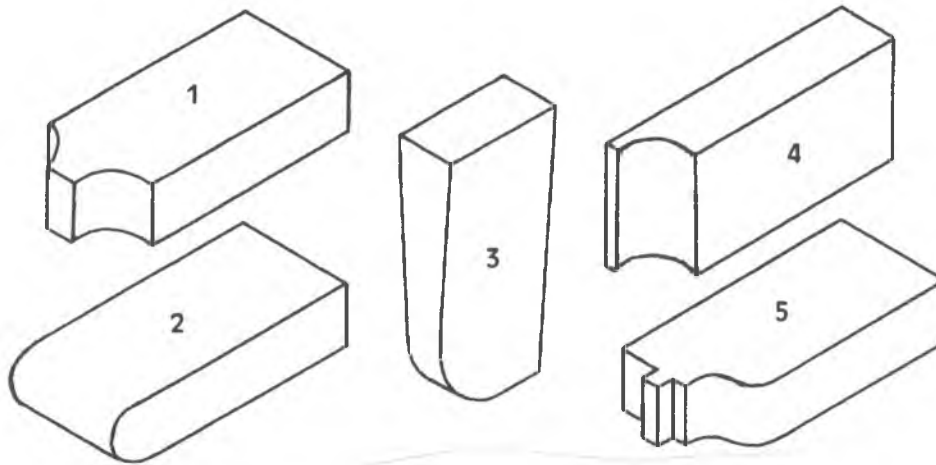


Fig. 7. Some of the specials used in Westminster Cathedral: 1: double quadrant in header face; 2: cownose-on-flat header; 3: voussoir with bullnose foot; 4: single quadrant in header face used on edge; 5: ogee and square fillet in header face

built up from moulded terracotta components: they may be glimpsed in fig. 1. They are also used in some other, smaller, windows, including some in the west face. The components were made by Doulton & Co., who, conveniently, had their manufactory at Lambeth across the Thames from the cathedral, about 1 mile (1.6 km) distant.⁴¹ The components were presumably taken across the Thames using Lambeth Bridge (1861–2, replaced slightly upstream in 1929–32); an alternative route using Vauxhall Bridge, which would have been rather longer but somewhat less tortuous, was not available at the time since the original bridge (known as The Regent's Bridge) of 1813 was being rebuilt between 1895 and 1906.⁴²

AFTERWORD

This contribution has been concerned principally with the mundane topic of the provision of ceramic building materials for 'the first great church in Britain in modern times to be built ... of brick'.⁴³ But architecture is more than a mere assemblage of materials, and a 'building of the status of a cathedral ... only deserves to be considered a work of art when it suggests spiritual environment'.⁴⁴ This, *pace* Ian Nairn,⁴⁵ Bentley's cathedral admirably achieves – even for those of us who must see in that achievement an expression of the *human*, rather than of a *divine*, spirit: 'a thoughtful and poetically conceived work,' as Ian Sutton puts it.⁴⁶ Jonathan Glancey refers to the 'vast structure infused with the light of religion':⁴⁷ 'light' may not be an *obvious* word to use of the tenebrous interior of this building, although Ann Saunders applies to it the nicely oxymoronic 'shadowy light'.⁴⁸ Possibly, both writers had at the back of their minds John Milton's '... high embowed roof, / With antique pillars massy-proof, / And storied windows richly dight, / Casting a *dim religious light*'.⁴⁹ Michael Jenner identifies a further quality of the building when he notes 'the great power ... of Westminster Cathedral', whilst for Richard Fellows it is a '*tour de force*', as also for James Stevens Curl, and for Paul Thompson '[o]ne of the noblest of all Victorian buildings',⁵⁰ all these judgements implicitly countering one of the quirkiest of architectural appraisals: Henry-Russell Hitchcock insists that the detail of the cathedral is 'rather underscaled' and that this 'goes ... to prove the extent to which this period [1850–1900] in England saw all architecture, even that of cathedrals, in domestic terms'.⁵¹ I do

not even *begin* to understand this assessment, with which one may contrast Sir John Betjeman's reference to the architect's 'sure sense of scale': 'Bentley,' he continues, 'was not just a master of scale, but took the greatest care over detail'.⁵² 'Superb in its scale and character,' Richard Norman Shaw wrote of what he regarded as '[b]eyond all doubt the finest church that has been built for centuries'.⁵³

In Bentley's church of the Holy Rood, Watford is a memorial tablet to the architect by Henry McCarthy.⁵⁴ Beneath a bas-relief of the architect's head, surrounded by floral ornament, is the inscription, in seriffed capitals:

✱PRAY•FOR•THE•SOUL•OF•JOHN•FRANCIS•BENTLEY
THE•ARCHITECT•OF•WESTMINSTER•CATHEDRAL
TO•WHOSE•GENIUS•AND•DEVOTION•THE•BEAUTY
OF•THIS•CHURCH•IS•DUE • BORN•JAN^Y•30TH•1839
DIED•MARCH•3RD•1902•BURIED•AT•MORTLAKE
•MAY•HE•REST•IN•PEACE•

There is no memorial in Westminster Cathedral itself. But *then*, perhaps none is needed: as Christopher Wren Jnr (1675–1747) wrote for the tomb of his father, Sir Christopher Wren (1632–1723), in the crypt of St Paul's Cathedral: *Si monumentum requiris, circumspice*;⁵⁵ or as Dennis Farr puts it: 'The fugal treatment of the west front ... with its banded brickwork and asymmetrically sited campanile is a lasting monument to Bentley's genius'.⁵⁶ It certainly stands proud amongst the eleven English cathedrals (Anglican or Roman Catholic) completed in the twentieth century.⁵⁷ At time of writing, however, the cathedral – which is a Grade I listed building – is in urgent need of repairs, for which a £3 million appeal was launched on 17 January 2008 by Cardinal Cormac Murphy-O'Connor.⁵⁸

NOTES AND REFERENCES

1. "Come, let us make bricks..." And they had brick[s]...' (New Revised Standard Version).

2. W. de L'Hôpital, *Westminster Cathedral and its Architect*, 2 vols, London: Hutchinson & Co., n.d. but 1919, p.74; pagination is consecutive, so that here and in subsequent references volume number is not stated. The author was one of the architect's daughters. The best succinct guide to the cathedral, for those whose interest is primarily architectural, is S. Bradley and N. Pevsner, *The Buildings of England: London, 6: Westminster*, New Haven and London: Yale University Press for the Buildings Books Trust, 2003, pp.673–9. For other aspects of the cathedral see, e.g., J. Browne and T. Dean, *Westminster Cathedral: Building of Faith*, London: Booth-Clibborn, 1995, and P. Doyle, *Westminster Cathedral 1895–1995*, London: Geoffrey Chapman, 1995. For the wider context of the Byzantine Revival: J.B. Bullen, *Byzantium Rediscovered*, London and New York: Phaidon, 2003, with superb colour photograph of Westminster Cathedral at p.5. Britain is covered at pp.106–185. For English Roman Catholic churches: C. Martin, *A Glimpse of Heaven: Catholic Churches of England and Wales*, Swindon: English Heritage, 2006, with

excellent colour photographs of Westminster Cathedral at pp.19, 170–74; also S. Brown, 'Catholic Church Building in England', *Ecclesiology Today*, 38, May 2007, pp.7–24.

3. M. Langham, *Westminster Cathedral*, guidebook, Norwich: Jarrold Publishing, and London: Westminster Cathedral, 2003, p.4; the effect is stunningly captured in a colour photograph by Alex Ramsay in Martin, 2006, p.172. I had thought this a characteristically mid-twentieth-century perception, associated especially with maverick critics such as Ian Nairn: see *Nairn's London*, Harmondsworth: Penguin Books, 1966, pp.60–61: 'the majestic brick vaults'. But it recurs much later, and from critics less waspish than Nairn – e.g. I. Sutton, *Western Architecture: a Survey from Ancient Greece to the Present*, London: Thames & Hudson, 1999, p.285, caption to fig. 331: the brick arches are 'perhaps all the more impressive for being (so far) left bare'. Much earlier, the architect Philip Webb (1831–1915) had admired the rawness of the interior: cited in J. Fleming, H. Honour, and N. Pevsner, *The Penguin Dictionary of Architecture*, 3rd edn, Harmondsworth: Penguin Books, 1980, p.36. See also the views of Sir John Rothenstein (1901–92),

who, in 1955, did not wish even the marble cladding of the piers to be completed: quoted in Doyle, 1995, p.89. For different assessments: A. Whittick, *European Architecture in the Twentieth Century*, Aylesbury: Leonard Hill, 1974, p.8, and, a little more grudgingly, A. Clifton-Taylor, *The Cathedrals of England*, revised edn, London: Thames & Hudson, 1986, pp.249–50.

4. In 1858, aged only nineteen, he had entered, unsuccessfully, a competition for a church at Heigham, Norfolk. The design, in red brick and stone, is a sprawling and ill-proportioned composition, reflecting his lack of experience. His perspective drawing of the church is reproduced in P. Howell, *Victorian Churches*, RIBA drawings series, Feltham: Hamlyn/Country Life Books, 1968, pp.12–13, pl.10. Bentley kept this drawing hanging in his office, where it 'served to point the moral when from time to time he denounced architectural competitions ... as essentially inimical to the production of good design': de L'Hôpital, 1919, p.348. Bentley himself never entered another competition. One hopes that this was not just pique on his part. But the position was clearly flawed: competition entries do not *per se* result in poor design, whatever may be the case with those of nineteen-year-old tyros! At Westminster the original intention was to hold a competition, but this idea was soon dropped: Doyle, 1995, p.28.

5. Quoted in A. Service, *Edwardian Architecture: a Handbook to Building Design in Britain 1890–1914*, London: Thames & Hudson, 1977, p.74; see also N. Pevsner, *The Buildings of England: Hertfordshire*, 2nd edn, revised B. Cherry, Harmondsworth: Penguin Books, 1977, pp.386–7, and Martin, 2006, pp.144–6.

6. A. Service, *The Architects of London and their Buildings from 1066 to the Present Day*, London: The Architectural Press, 1979, p.147; cf. de L'Hôpital, 1919, pp.668–9. The reason given was that there was no precedent for a posthumous award and that it would be inadvisable to set one. This decision should not be seen as reflecting any anti-Catholic bias on the king's part: he 'was the first English monarch to visit the Pope [Leo XIII, 29 April 1903] since the Reformation, and he agreed with those who sought to change or get rid of the "Coronation Oath", ... with its insulting references to his Catholic subjects': Doyle, 1995, p.7.

7. P. Rogers, *Westminster Cathedral from Darkness to Light*, London: Burns & Oates, 2003, pp.19–20. For Bentley's life and career I have used principally de L'Hôpital, 1919, R. O'Donnell, 'Bentley, John Francis', in J. Turner, ed., *The Dictionary of Art*, London: Macmillan, and New York: Grove, 1996, vol. 3, *B to Biard*, pp.745–7, and P. Waterhouse, revised P. Howell, 'Bentley, John

Francis', in H.C.G. Matthew and B. Harrison, eds, *Oxford Dictionary of National Biography*, Oxford: Oxford University Press, 2004, vol. 5, *Belle–Blackman*, pp.284–6. Francis was a baptismal name added when Bentley converted: de L'Hôpital, 1919, p.360, Doyle, 1995, p.29. Conversion was a courageous, because professionally hazardous, act in nineteenth-century England, when there was still much hostility towards Roman Catholicism. Architectural partnerships might be dissolved (amicably or otherwise) when one partner converted: R. O'Donnell, 'Pious Bachelors, Converts, Fathers and Sons: English Catholic Architects 1791–1939', *Ecclesiology Today*, 38, May 2007, p.33. The personal strains which might result from conversion are poignantly expressed in one of his 'terrible sonnets' by Gerard Manley Hopkins (1844–89), who converted, from High Anglicanism, in 1866: 'Father and mother dear, / Brothers and sisters are in Christ not near...': W.H. Gardner and N.H. MacKenzie, eds, *The Poems of Gerard Manley Hopkins*, 4th edn, London, Oxford, and New York: Oxford University Press, 1970, p.101, no 66, ll.2–3 (written 1885).

8. In what follows, cardinal points are given in their *liturgical* sense, with the altar assumed to be at the east; the cathedral is actually oriented towards the south-south-east (see figs 3, 4). There are succinct accounts of the cathedral's 'prehistory' and building in, e.g., Langham, 2003, p.2; in Martin, 2006, pp.170–171; in B. Weinreb and C. Hibbert, eds, *The London Encyclopædia*, revised edn, London and Basingstoke: Macmillan, 1993, pp.976–7; and in Bradley and Pevsner, 2003, p.673. Such building was made possible by the new freedoms granted to Roman Catholics, especially by the Catholic Emancipation Act of 1829. The first Roman Catholic cathedral to be built in Britain since the Reformation was the red brick St Chad's, Birmingham (1839–41) by A.W.N. Pugin (1812–52): appreciation in Martin, 2006, pp.67–9. Of various recent histories of London that I have consulted, only one adequately discusses nineteenth-century Roman Catholicism in the metropolis and its relevance to the building of the cathedral: S. Inwood, *A History of London*, London, Basingstoke, and Oxford: Macmillan, 1998, pp.684–5.

9. There is a photograph of the *Votivkirche* in M.J. Lewis, *The Gothic Revival*, London: Thames & Hudson, 2002, p.131, fig. 117; also in J. Glancey, *Eyewitness Companions: Architecture*, London, etc.: Dorling Kindersley, 2006, p.406.

10. But Bentley was not unpractised in the Byzantine style, his first essay in it being the apse and shrine added in 1874–5 to the Roman Catholic church of Our Lady of the Assumption, Warwick Street, London W1, originally built in 1789–90 to designs by Joseph Bonomi (1739–1808): de L'Hôpital, 1919, p.449; Bradley and Pevsner, 2003, p.393; there are

good colour photographs of the interior of Bentley's apse in Bullen, 2003, p.174, fig. 142, and in Martin, 2006, p.45.

11. Not wholly genuine, in fact, since the two west towers were completed only in 1722–45, to designs by Nicholas Hawksmoor (1661–1736): see, e.g., V. Hart, *Nicholas Hawksmoor: Rebuilding Ancient Wonders*, New Haven and London: Yale University Press for the Paul Mellon Centre for Studies in British Art, 2002, pp.58, 62; Bradley and Pevsner, 2003, pp.115, 122–3.

12. J.S. Curl, *A Dictionary of Architecture* (= *The Oxford Dictionary of Architecture*), Oxford: Oxford University Press, 1999, p.71. An outbreak of cholera prevented Bentley from visiting Constantinople (*pace* E. Jones and C. Woodward, *A Guide to the Architecture of London*, 2nd edn, London: Phoenix, 1997, p.241) and for Hagia Sophia he had to rely on W.R. Lethaby and H. Swainson, *The Church of Sancta Sophia, Constantinople: a Study in Byzantine Building*, London: Macmillan & Co., 1894; cf. de L'Hôpital, 1919, p.35. The *Gesù* plan had already been used for the neo-Baroque Brompton Oratory of St Philip Neri, Kensington, SW3 (1878–84) by Herbert Gribble (1847–94): illustrated in Martin, 2006, pp.118, 127–30.

13. J. Thomas, *Albi Cathedral and British Church Architecture*, London: The Ecclesiological Society, 2002, pp.15, 23–4 (I have taken the liberty of silently removing some of the commas from Thomas's over-punctuated sentence); churches by Clutton are considered at pp.15–17. J.S. Curl, *Victorian Architecture: Diversity & Invention*, Reading: Spire Books, 2007, p.364 adds Albi to his earlier (1999) list; at pp.332, 364, and *passim* he notes other instances of such planning, notably the Dominican Church at Gent (Ghent, French Gand), in what is now Belgium. Thomas, 2002, pp.10–11 mentions and illustrates this church. Bentley himself acknowledged no such influence, but he had a profound knowledge of architecture and the inspiration may well have been subconscious, a circumstance that, I now think, I did not sufficiently allow for in my notice of Thomas's work in *BBS Information*, 89, November 2002, pp.31–2. That an architect may not be conscious of all the influences on his own designs (though in this instance becoming aware of them *later*) is nicely illustrated by the case of the Hanover Chapel (1821–5, demolished 1896), Regent Street, London W1 by Charles Robert Cockerell (1788–1863): D. Watkin, *The Life and Work of C.R. Cockerell*, London: A. Zwemmer, 1974, p.138; cf. pp.154–5. And Bentley himself, we may be certain, was familiar with Clutton's Albi-inspired work. Identifying the several influences is intellectually satisfying, but, as Julian Orbach pertinently observes, Bentley's achievement is 'so original and personal that the issue of derivation

seems minor': J. Orbach, *Blue Guide: Victorian Architecture in Britain*, London: A. & C. Black, and New York: W.W.Norton, 1987, p.218.

14. As noted in D. Watkin, *English Architecture: a Concise History*, London: Thames & Hudson, 1979, p.178. Earlier still it appears in his unsuccessful competition design for Heigham church: n.4, *supra*. As Curl, 2007, p.364 notes, 'the stripey effects clearly derived from that phase of the Gothic Revival which drew on [the] structural polychromy of Italy'. There were north European precedents too, e.g. the striking fifteenth-century town wall at Veere, Zeeland in the Netherlands: E. Elzenga, *Nederlandse monumenten in beeld: Noord-Holland / Zuid-Holland / Zeeland*, Baarn: Bosch & Keuning, 1975, pp.13, 206. (In Dutch, incidentally, the effect is nicely described as *speklagen* – 'streaky bacon'!)

15. For these buildings see Bradley and Pevsner, 2003, pp.678–9; for some acerbic comments on Archbishop's House see the two quotations in A. Howard, *Basil Hume: the Monk Cardinal*, London: Headline, 2005, p.103. But E. Harwood and A. Saint, *Exploring England's Heritage: London*, London: HMSO, 1991, p.30 are kinder in their assessment. [See also M. Binney, 'Archbishop's House, Westminster', *Country Life*, 4 September 2003, pp.104–9. DHK]

16. de L'Hôpital, 1919, p.70.

17. R.V. Boughton, 'Materials: Brickwork', in T. Corkhill, ed., *Brickwork, Concrete and Masonry*, London: Sir Isaac Pitman & Sons, 1936, table at p.44: weight-absorption data are obtained by weighing a sample of dry bricks, immersing them in water for 24 hours, weighing them again, calculating the average (mean) increase of each brick in the sample, and expressing this as a percentage of the dry weight. For the cement: de L'Hôpital, 1919, p.66; *neat cement* comprises just cement and water: it is suitable for use only with dense bricks.

18. de L'Hôpital, 1919, p.70.

19. Langham, 2003, p.4; de L'Hôpital, 1919, pp.66, 72 (though these latter appear to apply only to the red facing bricks). This seems to be one of those assertions that, once made, go on being repeated: it occurs in, e.g., F. Hoar, *An Introduction to English Architecture*, London: Evans Brothers, 1963, p.184, and R.J.L. Smith, ed., *A Guide to Cathedrals and Greater Churches*, revised edn, Much Wenlock: R.J.L. Smith & Associates, 1991, p.292; the former also includes the error that the stone banding is of 'yellow brick', which is not, perhaps, quite as absurd as the assertion that the cathedral is of 'red brick striped horizontally with cream paint': D. Piper, *The Companion Guide to London*, revised edn, London: Fontana, 1970, p.162 (my italics). No less misleading

is the claim that the 'red brick is relieved *towards the top* with stripes of white Portland stone': D. Avery, *Victorian and Edwardian Architecture*, London: Chaucer Press, 2003, p.46 (my italics). The precise number of bricks used in the cathedral is given as 12,454,474 in de L'Hôpital, 1919, p.261 n.1, and in C. Donington, 'Why Does Westminster Cathedral Need Another Fund-Raising Campaign?', *Oremus: Westminster Cathedral Magazine*, 123, February 2008, p.13.

20. de L'Hôpital, 1919, p.261: '£33 would pay for 10,000 bricks ... laid in cement in the foundations or piers'; Doyle, 1995, p.44; the price given is high and but seems to have included the cost of laying. Even in 1914 Flettons cost only £1. 2s. 6d. per 1,000 and London Stocks only £1. 8s. 6d. per 1,000 in London: A. Cox, 'Bricks to Build a Capital', in H. Hobhouse and A. Saunders, eds, *Good and Proper Materials: the Fabric of London since the Great Fire*, London: RCHM in association with the London Topographical Society, publication 40, 1989, p.15. In London in the mid-1890s the price of bricks 'ranged from about £6 per 1000 for very high quality products for arches down to £1-3s for place bricks for use in concealed positions': C.G. Powell, *An Economic History of the British Building Industry 1815-1979*, London and New York: Methuen, 1980, p.80.

21. J. Simmons, *The Victorian Railway*, corrected edn, London: Thames & Hudson, 1995, p.349.

22. For railway routes mentioned throughout this section see W.P. Connolly, *British Railways Pre-Grouping Atlas and Gazetteer*, 5th edn, Shepperton: Ian Allen, 1967, *passim*, and H.P. White, *A Regional History of Railways of Great Britain, Volume 3 Greater London*, 3rd edn, Newton Abbot: David St John Thomas/David & Charles, 1987, *passim*, esp. map at p.41. Victoria Station was conveniently close to the cathedral, but seems not to have been used for bulk freight. I am grateful to David Kennett for constructive criticism of my initial speculations on railway routes.

23. There is a valuable history of the Fletton industry in R. Hillier, *Clay that Burns: a History of the Fletton Brick Industry*, London: London Brick Company, 1981.

24. M. Robbins, *The Railway Age*, pbk edn, Harmondsworth: Penguin Books, 1965, p.47. The picture (and not just with regard to Flettons) can too easily be skewed by focussing on prominent architect-designed brick-built projects. To walk around the late Victorian and Edwardian portions of many towns, as well as numerous London suburbs, is to appreciate that smaller but still significant buildings – churches, chapels, and schools, for example – as well as acres of

housing are overwhelmingly of locally produced bricks, only in locations like Cardiff (Caerdydd) did the railways make an appreciable difference by introducing brick where there was no tradition of building in the material. The issue is well discussed in S. Muthesius, *The English Terraced House*, New Haven and London: Yale University Press, 1982, pp.208–15. The real difference came only with the development of cheap road transport in the interwar period: cf. R.W. Brunskill, *Brick Building in Britain*, new pbk edn, London: Victor Gollancz in association with Peter Crawley, 1997, pp.35–6.

25. Hillier, 1981, p.68. Nor should one exaggerate the inroads made by Flettons into the London market: figures published in *The British Clay-Worker* in 1892 show that the annual average (mean) number of bricks required by London was 800 million and that of these only 100 million were Flettons – a mere 12.5 per cent: Cox, 1989, p.15.

26. de L'Hôpital, 1919, p.72.

27. R. Dixon and S. Muthesius, *Victorian Architecture*, London: Thames & Hudson, 1978, p.15; J. Woodforde, *Bricks to Build a House*, London: Routledge & Kegan Paul for the London Brick Company, 1979, pp.148 (figure caption), 150.

28. J.W. Perkins, *Geology Explained in Dorset*, Newton Abbot, London, North Pomfret (VT), and Vancouver: David & Charles, 1977, pp.167, 170, with map at p.169, following D. Young, 'Brickmaking in Dorset', *Proc. Dorset Nat. Hist. and Archaeol. Soc.*, 93, 1971, pp.213–42, especially pp.217, fig. 2 (map), 241–2.

29. 'Brickmaking at Jubilee Works, Lytchett Maltravers, Poole, Dorset: Some Recollections by Mr William George Short, as Recorded by Martin Hammond, 25 February 1981', *BBS Information*, 55, March 1992, p.10.

30. Young, 1971, p.222.

31. There are several descriptions of the manufacture of London Stocks: E. Dobson, *A Rudimentary Treatise on the Manufacture of Bricks and Tiles*, London: John Weale, 1850, reissued in slightly reduced facsimile, ed. F. Celoria, as *J. Ceramic Hist.*, 5, 1971, vol. 2, pp.1–50; E.M. Hewitt, 'Brick-Making', in W. Page, ed., *The Victoria History of the County of Kent*, vol. 3, London: The St Catherine Press, 1932, pp.394–5; F.G. Willmott, *Bricks and 'Brickies'*, privately published, Rainham (Kent), 1972, pp.18–22, 30–34; J.M. Preston, *Industrial Medway: an Historical Survey*, privately published, Rochester, 1977, pp.50–54, 91–8, 178–9, 199; R.-H. Perks, *George Bargebrick Esquire: the Story of George Smeed, the Brick and Cement King*,

- Rainham (Kent): Meresborough Books, 1981, pp.25–30; S.J. Twist, *Stock Bricks of Swale*, Sittingbourne: The Sittingbourne Society, 1984, pp.3–13; Cox, 1989, pp.3–10; *inter alia*.
32. Data derived from *Kelly's Post-Office Kent Directory*, London, 1895. The presence of a brick machinery manufacturer is interesting: as previously noted, machine-making did not play a major part in the London Stock industry; but some machinery was required – e.g. horse-operated chalk and clay mills and, by the nineteenth century, pugmills. Perks, 1981, p.9 (followed by Cox, 1989, p.14) claims that the London Stocks for the cathedral were supplied by George Smeed of Sittingbourne; but de L'Hôpital, 1919, p.70 is explicit that they came from Faversham. On the Faversham yards see Twist, 1984, pp.15–17.
33. See, e.g., the two final photographs of those between pp.20 and 21 of Doyle, 1995.
34. Muthesius, 1982, p.209. Amongst the most striking local applications of Bracknell bricks are those in Wellington College, near Sandhurst (1855–9), by John Shaw Jnr (1803–70); for the building: N. Pevsner, *The Buildings of England: Berkshire*, Harmondsworth: Penguin Books, 1966, pp.260–62.
35. de L'Hôpital, 1919, p.70.
36. Details of Lawrence's activities are taken from the Bracknell Forest Borough Council Heritage website, 'The Brickwork [sic] Industry': <http://www.bfheritage.org.uk/history.php?CID=44&Title=The+Brickwork+Industry>.
37. W. Spencer, 'Memories of Thomas Lawrence Brickworks', *BBS Information*, 45, July 1988, pp.20–22.
38. Acton West was also known as Acton Race Platform (it connected by road with Ascot Race Course): T. Dewick, *Complete Atlas of Railway Station Names*, Hersham: Ian Allan, 2002, map 4; the station no longer exists but was at NGR SU915683.
39. de L'Hôpital, 1919, p.70. This is well seen in the jambs at the top of the campanile: the backing bricks and the narrower facing bricks are brought to course at every *fourth* brick of the former and every *fifth* brick of the latter. Cox, 1989, p.8, pl. IIe is a good close-up photograph of the brick bond (but the captions to pls IIe and II f should be transposed).
40. For the marbles and mosaics: Rogers, 2003, pp.24–112; and for the marbles: P. Rogers, *The Beauty of Stone: the Westminster Cathedral Marbles*, London: Oremus, 2008.
41. de L'Hôpital, 1919, pp.54, 96; they are shown in Bentley's pen and wash drawing of the south elevation, reproduced in Howell, 1968, pp.50–51, pl.35, although this is slightly different from the executed design: the semi-circular lunettes of the drawing were actually built as tripartite Diocletian windows, presumably for structural reasons: the two mullions would have provided additional support to these wide openings. Two of the windows, with varying patterns, are well shown in an excellent detail photograph in Brunskill, 1997, p.181. The Doulton components are not confined to the sanctuary, as implied in L. Pearson, ed., *Tile Gazetteer: a Guide to British Tile and Architectural Ceramics Locations*, Shepton Beauchamp: Richard Dennis for the Tiles and Architectural Ceramics Society, 2005, p.248; the story of Doulton & Co. is succinctly told at p.456, and more fully in K. Tyler with J. Brown, T.P. Smith, and L. Whittingham, *The Doulton Stoneware Pothouse in Lambeth: Excavations at 9 Albert Embankment*, London, MoLAS Archaeology Studies Series 15, London: MoLAS, 2005, pp.12–14.
42. Weinreb and Hibbert, 1993, pp.456, 935–6; Bradley and Pevsner, 2003, pp.686, 770.
43. Thomas, 2002, p.24.
44. A.E. Richardson and H.O. Corfiato, *The Art of Architecture*, London: The English Universities Press, 1938, p.241; cf. Harwood and Saint, 1991, p.30 on the 'profoundly spiritual interior' of Westminster Cathedral.
45. Naim, 1966, pp.60–61; despite his liking of the (unintended) bare brickwork of the interior (n.3, *supra*), Naim is highly critical both of Bentley and of Westminster Cathedral; but he does have the grace to add: 'For ... many ... [it] is a holy place and a house of God. If I offend them, I am sorry'.
46. Sutton, 1999, p.285.
47. J. Glancey, *C20th Architecture: the Structures that Shaped the Century*, London: Carlton, 1998, reissued as *Great Modern Buildings*, London: Sevenoaks, 2006, p.72.
48. A. Saunders, *The Art and Architecture of London: an Illustrated Guide*, 2nd edn, London: Phaidon, 1997, p.178.
49. J. Milton, *Il Penseroso*, ll.157–60 (my italics).
50. M. Jenner, *London Heritage: the Changing Style of a City*, London: Michael Joseph, 1988, p.242; R. Fellows, *Edwardian Architecture: Style and Technology*, London: Lund Humphries, 1995, p.21; Curl, 1999, p.71; P. Thompson in P. Kidson, P. Murray, and P. Thompson, *A History of English*

Architecture, revised pbk edn, Harmondsworth: Penguin Books, 1965, p.290.

51. H.-R. Hitchcock, *Architecture: Nineteenth and Twentieth Centuries*, revised 4th edn, New Haven and London: Yale University Press, 1987, p.307.

52. J. Betjeman, Introduction to Anon., *Westminster Cathedral*, guidebook, Manchester: The Whitehorn Press, n.d. but c.1970, p.1.

53. A. Saint, *Richard Norman Shaw*, New Haven and London: Yale University Press, 1976, pp.218–19; also quoted in de L'Hôpital, 1919, p.308.

54. Photograph in Martin, 2006, p.146, as noted in de L'Hôpital, 1919, p.431, there is a slight error on the memorial: Bentley died on 2, not 3 March 1902.

55. 'If you seek a monument, look around you'.

56. D. Farr, *English Art 1870–1914*, Oxford History of English Art, 11, Oxford: Clarendon Press, 1978, p.94; 'genius', however, strikes me as somewhat hyperbolic.

57. Most of the cathedrals completed in the twentieth century are assessed in Clifton-Taylor, 1986, pp.249–62, and in D.L. Edwards, *The Cathedrals of Britain*, Andover: Pitkin Pictorials, 1989, pp.71–6; the most recent, which post-dates these two publications, is considered in Martin, 2006, pp.216–17; see also P. Walker, 'Liturgy and Architecture: Catholic Church Building in the Twentieth Century', *Ecclesiology Today*, 38, May 2007, p.51. The eleven cathedrals (all

Anglican except where indicated) are: Truro (1880–1910, J.L. Pearson, completed by his son, F.L. Pearson); Norwich (RC, 1882–1910, George Gilbert Scott Jnr, completed by John Oldrid Scott; not raised to cathedral status until 1976); Westminster (RC, 1895–1903, J.F. Bentley; incomplete internally); Leeds (RC, 1901–4, John Henry Eastwood and Sydney Kiffin Greenslade); Liverpool (1903–80, Sir Giles Gilbert Scott); Guildford (1936–61, Sir Edward Maufe); Coventry (1956–62, Sir Basil Spence); Liverpool (RC, 1962–7, Sir Frederick Gibberd, on the crypt-podium of the enormous Baroque cathedral designed by Sir Edwin Lutyens, begun 1933 but abandoned for financial reasons after World War II); Clifton (RC, 1970–73, Ronald Weeks of the Sir Percy Thomas Partnership, replacing the nearby cathedral started by H.E. Goodridge in 1834 but completed to a different design by C.F. Hansom in 1847–8); Middlesbrough (RC, 1975, the Frank Swainston Partnership, replacing an 1870s Cathedral by George Goldie on a different site), and Brentwood (RC, 1989–91, Quinlan Terry, joined to a neo-Gothic church of 1860–61 by G.R. Blount). Perhaps one should add, as a twelfth example, St George's RC Cathedral, Southwark, for although this was designed by A.W.N. Pugin and built between 1841 and 1848, it has been extensively rebuilt and extended by Romilly Craze following World War II damage.

58. See, e.g., Donington, 2008, pp.10–13, which includes some disturbing photographs of the state of the brickwork. Donations may be made by cheque, payable to 'The Friends – Cathedral Appeal' and sent to The Head of Development, Clergy House, 42 Francis Street, London SW1P 1QW, or online at www.westminstercathedral.org.uk.

Book Review: Rebuilding St Paul's Cathedral

James W.P. Campbell, *Building St Paul's*,
176 pages, 8 colour plates, numerous unnumbered black-and-white illustrations,
London: Thames and Hudson, 2007
ISBN: 978-0-500-34244-2; price £12-95, hardback

It was gratifying to hear our then Chairman, James Campbell, referred to, on what I still prefer to call the wireless, as a leading authority on the building of St Paul's Cathedral ('Great Lives [: Robert Hooke]', BBC Radio 4, 19 August 2008: the endorsement came from no less an academic luminary than Prof. Lisa Jardine). In *Building St Paul's* [more properly perhaps *Rebuilding St Paul's*], James Campbell distils his considerable knowledge and understanding into a relatively small compass.

Chapter 1 is introductory, whilst the following three chapters traverse well-worn paths in order to establish the background: Sir Christopher Wren, the Great Fire, and the evolution of the final design. Throughout this succinct account, reference is made to the most recent scholarship, especially when this questions or even overturns previously received opinion.

The more original work begins with chapter 5, on the demolition of those parts of the medieval cathedral (with additions by Inigo Jones) that had been left standing, though tottering, by the Fire. Chapter 6 gives a vivid account of life in the Office of Works, including looking at the equipment and methods used in designing the cathedral. The brief chapter 7 examines the laying of the foundations, a far less scientific process than it is today: Wren himself made the mistake of relying on the unstable brickearth instead of digging down to the firmer sand and gravel beneath it. In chapter 8 the financing of the project is discussed: this is an important aspect of the cathedral which 'was by far the most expensive building constructed in England during this period' (p.60). St Paul's was built in the late seventeenth and early eighteenth centuries. Including loans later repaid at interest, the total amount passing through the accounts was more than £1.1 million; as the author comments, '[i]t is very difficult to provide an accurate conversion, but this figure could probably be multiplied one thousand times to give an equivalent in today's currency' (p.60). There were considerable financial problems, and one takes leave of this chapter somewhat surprised that the project was completed at all!

The nicely punning chapter 9 ('The Wealth of Masons') reviews the nature of stone-working at the time and the careers of some of the leading craftsmen – little is known about the 'lesser' workers. There is also a succinct – possibly, here, a little *too* succinct – discussion of working methods. Carpentry and scaffolding are considered in chapter 10. Carpenters were essential to the construction of such a building, but as the author stresses, much of their work was temporary – scaffolding, walkways, formwork for arches and domes, cranes, and so forth – and thus no longer exists.

With chapter 11 we move to a consideration of the provision of materials. Timber was obtained from a number of places, the longest oak beams proving particularly difficult to source. The exterior was faced with stone from Portland, Dorset; Ketton, Rutland; and Burford, Oxon. But for interior faces and infill, other sources were employed: from Headington, Oxon.; Reigate and Guildford, Surrey; Tadcaster, Yorks.; Beer, Devon; Maidstone, Kent (Kentish Rag); and Caen in France. (There is a useful map of these sources at p.95; what is *not* mentioned – and here this reviewer draws on his own experience working at St Paul's – is the reuse of stones from the medieval cathedral: this is, in fact, an important matter – an instance of recycling for economic reasons which has the advantage of preserving some of the medieval mouldings.)

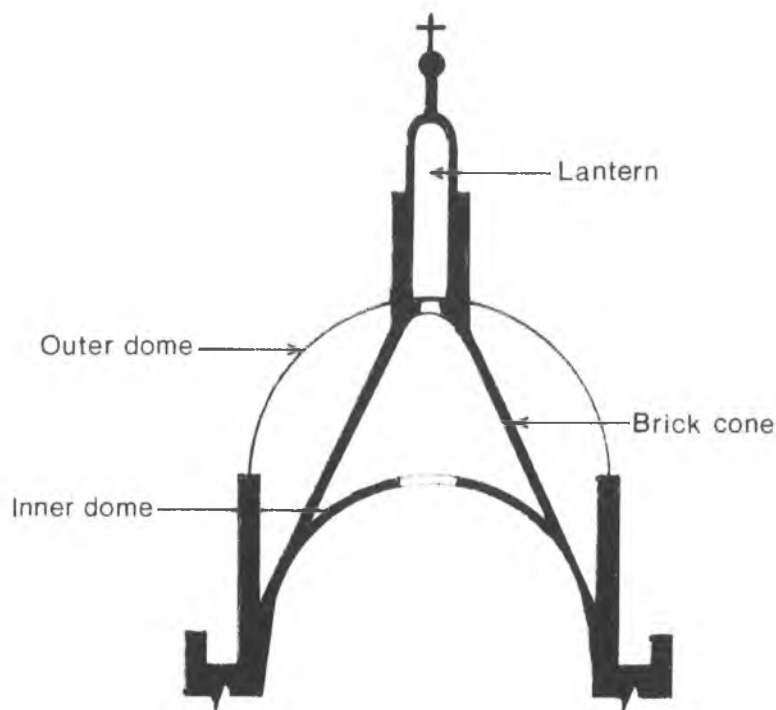


Fig. 1 Schematic diagram showing the stone outer walls and lantern, the brick supporting cone and inner dome, and the timber and lead outer dome of St Paul's Cathedral.

Members of the British Brick Society will be especially interested in the supply and use of bricks. The former topic is addressed, with others, in chapter 12. Traditional brickmaking methods are outlined and the superior *stock bricks* are distinguished from the inferior *place bricks* - although one may question the assertion that place bricks were 'moulded directly [*sic*, for 'direct'] on to the ground' (p. 106); certainly this is not how Richard Neve explained the term in the early eighteenth century: rather, place bricks were moulded *at a bench* but without the use of a stockboard and were then carried individually to the *place* (= drying ground), where they were set flat and separately for the initial drying.¹ Nor is it certain that, at this period, stock bricks - which, as the author states, were made using a stockboard and 'turned out on to pallets' - were 'placed on barrows to be taken ... to dry on the ground' (pp. 106-7): according to Neve (and to John Houghton in 1683) they were carried to the drying ground in batches of three: barrows seem to be a later introduction.² It might also have been mentioned that the stock bricks, unlike the place bricks, could be stacked on edge from the first, without a preliminary period of drying flat. For St Paul's, the stock bricks, we learn, 'were often made in Kent ... by Messrs Woodforde and Rawlins, whilst the suppliers of the place bricks were not recorded' (p. 107). The rest of the chapter considers changes to the design, in particular the introduction of masking screen walls above the aisles - much vilified as 'dishonest' by Pugin and by Modernist architectural critics, though fully justified within Wren's own conception of the nature of architecture: they were 'a matter not of honesty but of ingenuity, and ... were an ingenious solution to a difficult problem' (p. 114). (That problem was visual, but the walls probably also had a structural function, as suggested by the late Sir John Summerson in a 1982 Radio 3 programme - but this is not discussed.)

Chapter 13 deals with the effort to complete the choir, so that this could be used for services whilst the rest of the cathedral was building. It is largely concerned with glazing and

joinery. Chapter 14 reviews the roofing of the cathedral, and necessarily is chiefly concerned with carpentry – including Wren's clever solution to the problem of covering such wide spaces. The end of the chapter considers the covering of the roof structures with cast lead.

Chapter 15 turns to the glory of St Paul's - its central dome - and once again brick comes into the picture: the stone lantern is supported by a great truncated cone of 18-inch brickwork (fig. 1); beneath this is the shallow inner dome, also of 18-inch brickwork, plastered on its lower face: most is of two courses of standard 9-inch bricks; but '[i]n addition, special bricks each 18 inches long were employed in binding courses spaced at regular intervals to hold the two layers of brickwork together' (p. 133). An interesting constructional aspect is the use of fast-setting gypsum-and-lime mortar for laying the bricks. The outer dome – what one sees in all the familiar views of St Paul's – is a lead-clad timber structure resting on the brick cone. The story is taken further in chapter 16, which deals with mathematical theories deriving from Wren's colleague Robert Hooke, on which, almost certainly, the design of the brick cone and the inner dome was based.

Chapter 17 considers the possibility of using part of the cathedral as a zenith (fixed-direction) telescope and also discusses the intriguing 'cantilevered' stair in the south-west tower.

Chapter 18 looks briefly at some of the unsavoury financial disputes concerning the building. The final chapter, 19, discusses the completion of the cathedral and the several changes introduced, some of them controversially, since Wren's death in 1732. There is a brief Epilogue. A short Further Reading list precedes the references.

Throughout, one wishes that proof-correction had been carried out more rigorously, avoiding omitted or duplicated words and inappropriate verb forms. One also misses an index – surely a *sine qua non* of a publication like this? The colour plates are of adequate quality, but the black-and-white illustrations are *drab* (not the author's fault, of course), making detail sometimes difficult to discern – a regrettably common defect of Thames & Hudson art books despite their long experience in this field.

That said, and with some reservations concerning the treatment of brickmaking in Wren's time, James Campbell's monograph is a valuable contribution to the constructional aspects of St Paul's, and *ipso facto* to the study of late-seventeenth-/early-eighteenth-century building methods.

TERENCE PAUL SMITH

REFERENCES

1. Richard Neve, *The City and Country Purchaser and Builder's Dictionary: or, the Compleat Builders Guide*., 2nd edn, London, 1726, reissued in facsimile Newton Abbot: David & Charles, 1969, pp. 42-43.

2. Neve, 1726/1969, pp. 43-44; Houghton's description is in a letter of 1683, quoted in N. Lloyd, *A History of English Brickwork* ..., London: H. Greville Montgomery, 1925, reissued Woodbridge: The Antique Collectors' Club, 1983, pp. 33-35.

Book Review:

The Roman Catholic Churches of England and Wales

Christopher Martin, *A Glimpse of Heaven: Catholic Churches of England and Wales*, 224 pages, numerous unnumbered colour photographs by Alex Ramsay, Swindon: English Heritage in association with the Catholic Bishops' Conference of England and Wales, 2006, ISBN 978-185074-970-7; price £25-00, hardback

England and Wales possess more than 3,000 Roman Catholic churches and chapels including twenty cathedrals, but they have received far less attention than their Anglican counterparts. This book, of coffee table format, aims to redress the balance by illustrating and describing 103 examples. 'Credit where credit is due', the late Stuart Rigold once began a book review, 'the illustrations are superb': the excellent colour photographs by Alex Ramsay are indeed the chief attraction of this book.

The text, by Christopher Martin, is a commentary on them, arranged, after an introductory chapter, in broadly chronological order from pre-Reformation survivals to the late twentieth century, each thematic chapter beginning with a brief overview. The text is variable: at times it is evocative and enthusiastic - occasionally slightly cloying; at others it descends to the uninformative epithets of the poorer kind of guidebooks: at the Holy Name of Jesus, Oxford Road, Manchester, 'The organ by Hill & Son (1871) is very fine' (p.112); 'The communion rails [at St Peter's Italian Church, Clerkenwell, London EC1] are ornate' (p.125); whilst at St Peter, Stonyhurst College, 'The stained glass is excellent' (p.151): one is reminded of the nicely parodic VOICE OF A GUIDE-BOOK in Dylan Thomas' *Under Milk Wood*. With regard to the writing, it is irritating to come across 'prevaricated' for 'procrastinated' (p.67) - although this solecism is all too common nowadays, even on BBC Radio 4 and even from writers as accomplished as Peter Ackroyd. In a book intended for general readers, a glossary would have been helpful, for there are some obscure terms, such as '*dalles-de-verre* stained glass' (p.203): the phrase translates as 'slabs of glass' - but this reviewer has to examine the accompanying photograph to ascertain what precisely it means. Compiling a glossary might also have enabled the author to sort out in his own mind the difference between 'spire' and 'steeple', which are *not* synonymous (see pp.92, 94, 99, 112). It is disconcerting to find the name of one benefactor spelled both 'Grimston' and 'Grimstone' within three lines (p.120) - the former seems to be correct. And there are occasional misleading statements: the architect John Francis Bentley, for example, is said to have had 'no liking for the Classical' (p.171): in fact, some of his secular works, furnishings as well as buildings, are in a Renaissance Classical style, whilst his restorations of some of the post-Fire London churches are highly sympathetic.

The book is not, of course, concerned specifically with *brick* churches, and buildings in a variety of materials are included. There are, however, numerous brick examples. To consider *all* within this review and to assess the author's descriptions and judgements of them would occupy far too much space, whilst simply to list them would be tedious. Amongst them, this reviewer has - as who could not have? - his own favourites, but to name *them* and ignore others might be construed as self-indulgence. Suffice to say, therefore, that examples range over a period of more than two centuries (the non-brick ones extend much further back - to the mid-thirteenth century), that they cover a wide variety of styles, and that they include examples of all sizes from, say, the humble (but internally striking) Our Lady of Mount Carmel, Lampeter, Ceredigion (1939-40, T.H.B. Scott; see pp.189-190) to Bentley's vast Westminster Cathedral (1895-1903), dealt with at pages 170-176.

Overall, one cannot but welcome this consideration of the previously far too neglected Catholic churches of England and Wales, with its consummate colour photographs, whilst, on the other hand, wishing that its text might have been more critically engaged, less reverential. It is, arguably, the post-1950 buildings that call for the most trenchant appraisal; and here it is not to an architectural critic but to a crime writer that one may turn for pertinent comment: in *The Coldest Blood* (2006), Jim Kelly writes of 'the modern Catholic Church's inability to build an inspiring place of worship'. One may instance the neo-Classical Brentwood Cathedral, Essex, (1989-91, Quinlan Terry: interior photograph at p.217; the exterior photograph at p.216 shows the London Stock brick clerestory). Terry's building is grafted, somewhat uncomfortably, on to the neo-Gothic church of 1860-61 by G.R. Blount. It receives warm appreciation in the book, but to this reviewer there seems little congruity between Catholic worship, even post-Vatican II, and Terry's mannered pastiche of seventeenth-century Protestant space. Terry notoriously renounces Le Corbusier and all his works - yet how much more was achieved forty years earlier at Notre-Dame-du-Haut, Ronchamp, France. To put the point brutally: Brentwood, stripped of its altar and font, might serve as an elegant ballroom; that could never be said of the mystic - almost chthonic - interior of Ronchamp. Externally, too, Ronchamp, looming like a large dolmen, is obviously a *religious* building; Brentwood is *not* - only its cross distinguishes it from, say, a library or a small town hall. Paradoxically, Le Corbusier claimed that the 'requirements of religion ... had little effect on [his] design'; whereas Terry's *parti* depends entirely on his (decidedly quirky) theologico-architectural fundamentalism (on which see the Editorial to *BBS Information*, 47, February 1989). No less paradoxically, Ronchamp's coarse *beton brut* is actually welcoming; Brentwood's refined formality is aloof and uninviting. This is not the place for an extended critique of Brentwood - its uneasy hotchpotch of materials externally, the ill-placed front-face pediments, the inconsequential entrance portico, or the fact that the patterned internal grilles are more prominent than the Stations of the Cross; and I am humbly aware that, in John Milton's words, 'the work some praise / And some the Architect'. But the point of this coda is to stress, by looking at just one example, that the long overdue study of the Catholic churches of England and Wales need not - *should* not - preclude critical assessment of them.

There is now a two-disc DVD version, written, produced and presented by Christopher Martin, filmed and edited by Charles Chabot, with still photographs by Alex Ramsay, and including interviews with Sophie Andreae, Marcus Binney, Lord Camoys, Mark Girouard, Bishop Thomas McMahon (Brentwood Cathedral), Abbot Geoffrey Scott OSB (Douai Abbey, Woolhampton, Berks.), Gavin Stamp, Quinlan Terry, and Austin Winkley: *A Glimpse of Heaven: Great Catholic Churches of England and Wales*, Leominster: Gracewing, 2008, total length 1 hr 50 min; ISBN 978-0-85244-697-3; price £12.99. Numerous brick buildings are included (though fewer than in the book) and there are some stunning images of Westminster Cathedral. The uncritical enthusiasm is again pervasive, though balanced here by occasional critical perceptions from Mark Girouard, Abbot Geoffrey Scott, and Gavin Stamp. The filming is magnificent - marred only by the distracting deficiencies of DVD technology, particularly in zoom-shots. Despite this the DVD is warmly recommended.

So far as Catholic *brick* churches are concerned, it is to be hoped that book and DVD may act as a stimulus to members of the British Brick Society to contribute considerations of individual churches or groups of churches to these pages. Gavin Stamp's study of Sir Giles Gilbert Scott's Catholic churches (not all of them brick) in *Ecclesiology Today*, 38, May 2007, pp.63-80, provides an admirable model - although this reviewer, so to speak, has already stolen the sixpence from the plum pudding elsewhere in this issue of *British Brick Society Information*.

TERENCE PAUL SMITH

Book Notices: Church Brick in English Counties

Tim Bridges, *Churches of Worcestershire*,
x + 278 pages, map, numerous unnumbered black-and-white photographs,
Logaston, Herefordshire: Logaston Press, revised edition 2005
ISBN 1-904396-39-9, price £14.95 (paperback)

Tim Bridges' revised *Churches of Worcestershire* covers every Anglican church in the county except for Worcester Cathedral and follows a first edition of 2000. Bridges is writing a guide book, albeit in large format. There is an extensive discussion of general matters before he arrives at the descriptive part of his book.

About half of the Worcestershire churches are illustrated, both interior views and exterior shots. Church plans for six buildings are very clear. The plan of St John the Baptist, Bromsgrove, Worcs., suggests the possibility of an original central tower: the present west tower is fourteenth century, but with an added belfry stage and spire from the following hundred years. Other churches with plans are St Eadburga, Broadway, where a fourteenth-century central tower rises from within a much earlier nave, south aisle and chancel; St Mary and All Saints, Kidderminster, with its south-west tower; and the late Norman church at Stoke Prior with its monumental south transept tower. There are also plans of both Malvern Priory and Pershore Abbey. One would have liked to have seen more plans.

For almost every building, there is clear guidance on the building materials used. Worcestershire is a county of great variety. Different types of stone occur: more than one form of sandstone, lias, Cotswold and other forms of limestone, and Malvern stone. But many other materials were used: both time wattle-and-daub and clapperboarding cover timber-framed structures; and there is extensive use of brick. One church may have parts of several materials. At St John the Baptist, Bransford, the material mainly used is sandstone but the east end was patched up in brick in 1812 when new east and south windows were inserted, and the sixteenth-century porch is of timber with a timber-framed bell turret covered with clapperboarding added to the west end of the nave a century later. Lias for the nineteenth-century chancel and timber-framing with wattle-and-daub infill for the fourteenth-century nave are the materials at St Peter, Besford. There is a fourteenth-century timber-framed chapel at St Leonard, Newland. While a nave or a chapel is a rare survival, timber-framed towers are not uncommon. With wattle-and-daub infill in square panels are St James, Defford, St Nicholas, Dormston, and St Nicholas, Warndon in Worcester. St Peter at Pirton has close vertical studding while clapperboarding was used at St Leonard, Catheridge. A timber-framed structure was replaced by a pinnacled red brick tower at St Peter and St Paul, Eastham.

Brick makes many appearances. The earliest may be the 1560 Blount chapel on north side of the chancel of St John the Baptist, Mable. In contrast the Sheldon chapel of 1570 at St Leonard, Beoley is of sandstone. Little church building was done in the seventeenth century, so examples of the use of brick are difficult to find.

The Georgian century is not often seen as an active one for the Anglican church. In Worcestershire there is much to counter-act this mistaken view. Demolished in 1912, the original brick church of St Michael and All Angels at Stourport-on-Severn was built in 1792. The small brick church at Broome of 1780 stands comparison with the better-known rubble limestone church by George Gilbert Scott's father at Gawcott, Bucks. At St Mary, Longdon, the nave remains from the Georgian rebuilding done in 1786 by William Marshall, with a splendid tripartite south window. Just north of Kidderminster is Wolverley, where the church dedicated

to St John the Baptist was built in red brick in 1792. Old St Martin in Worcester of 1772 by Anthony Keck uses blue bricks with limestone dressings. While the contemporary furnishings do not survive, the interior maintains the image of its century with the Ionic columns dividing nave from aisles.

The Georgian century also saw rebuilding in stone. Among the best examples in Worcestershire is All Saints, Deansway, Worcester, completely reconstructed between 1739 and 1742. Elsewhere in the city, St Swithun Church Street was rebuilt earlier in the 1730s. Thomas Woodward of Chipping Campden rebuilt St Anne, Bewdley, between 1745 and 1748 in well cut sandstone but retained the rough sandstone tower of 1695. At Croome D'Abitot, Lancelot Brown provided his client, the sixth Earl of Coventry with a Gothic church in limestone.

Victorian brick churches include several with polychrome brick interiors: William Butterfield's St Lawrence at Alvechurch of 1859-61 is the earliest and is still the parish church. Both interior and exterior are of brick. With a sandstone exterior is St John the Baptist, Kidderminster, where the nave and chancel were rebuilt in much larger fashion by Julius Chatwin of Birmingham between 1890 and 1894. This retains a blue brick tower and spire from the 1842 church by George Alexander. An Assembly of God congregation now worship in St Paul's, Spring Gardens, Worcester, by Arthur Edward Street in 1885-86, another brick church with a polychrome brick interior. A fourth example of polychrome brickwork used internally is Frederick Predy's St Mary, Wythall, to which a brick tower was added by W.H. Bidlake in 1903. Also in Worcester are St Barnabas, Rainbow Hill, of 1885 where the interior is brick faced with sandstone dressings. Another Worcester church is St George, Barbourne, of 1895 by Aston Webb while much earlier is the stuccoed St Clement on Henwick Road built in 1822 to designs by Thomas Lee of London, Richard Ingleman of Nottingham and Richard Jones of Worcester.

Churches of Worcestershire has a glossary of architectural and ecclesiastical terms and an extensive bibliography together with an index. It is highly recommended. The descriptions are excellent.

DHK

David Stanford, *Suffolk Churches*,
112 pages, map, numerous unnumbered colour photographs,
London: Frances Lincoln, 2005
ISBN10 0-7112-2496-X, price £14-95 (hardback)

David Stanford, *Essex Churches*,
112 pages, map, numerous unnumbered colour photographs,
London: Frances Lincoln, 2007
ISBN10 0-7112-2643-1, price £14-95 (hardback)

Unlike *Churches of Worcestershire* which covers every Anglican church in the county except for Worcester Cathedral; these two books are more selective. For Suffolk, it is 56 out of the 700 or so Anglican churches of the county while 52 have been chosen to serve Essex, a county with about 500 churches. Each exterior of the selected Essex and Suffolk churches is illustrated, together with interior views for over half of these churches, but there are no plans.

David Stanford is a professional photographer with an interest in churches which influences his approach to their description. The superb colour photographs tell us much: St Margaret of Antioch at Cowlinge with its red brick Georgian tower and later buttresses also in red brick stands out as too does the tall brick tower of St Mary, Stoke-by-Nayland, built in the 1440s and the 1450s, a beacon on top of the hill. The brick of St Mary, Polstead, is shown in

three interior photographs: the earliest brick in a Suffolk church.

The area around the River Waveney is well-represented in *Suffolk Churches*. Here the photographs show how much casual use of brick there was as the Middle Ages. The corners of the octagonal remodelling of the round tower of St Mary Ashby, and around the single lancets of the bell chamber; the bands of brick in the upper part of the round tower of Holy Trinity Barsham; in the great buttress against the tower of St Mary, Blundeston, done when the church was widened; all point to the clear availability of red brick in the area in the medieval centuries.

In *Essex Churches*, it is the big brick towers which attract. Early Tudor ones are Gestingthorpe of 1498 and a little later; All Saints at Wickham St Paul of 1505 and later, the red brick stair turret at Ashen of 1525, and Layer Marney, where the whole church is brick. Also completely of brick is All Saints, East Horndon, the multi-period church where one branch of the Tyrell family had their burial place. Later brick towers illustrated include Castle Hedingham of 1616; St Thomas, the parish church of Bradwell-juxta-Mare, where the tower was constructed in 1743; the amazing St Peter and St Paul, Dagenham, of c.1805, where the chancel retains the brass of the Recorder of London, Sir Thomas Urswick (died 1479); and Great Easton's 1928 tower, with its diaperwork.

We often criticize the Victorians for being unsympathetic to older churches, but at Ashen the chancel in flint with brick bands seem just right, and the restoration of Greenstead-juxta-Ongar did preserve the stave-built nave and Tudor brick chancel.

Both books show debts to *The Buildings of England* series initiated by the late Sir Nikolaus Pevsner and still being produced in revised editions: one of the latter for Suffolk appeared in 1974, thirteen years after the first edition of 1961, which is cited by Sandford. A second edition of Pevsner's Essex volume came out in 1965, eleven years after the first edition. Both were revised by Enid Radcliffe working closely supervised by the late Sir Nikolaus. A third edition of *The Buildings of England: Essex* by James Bettey appeared in May 2007, nine months after David Sandford's book was published.

In each book, there is a glossary of architectural and ecclesiastical terms and a brief bibliography. Sadly, Stanford omits *Suffolk Churches* by H. Munro Cautley, which appeared in five editions between 1938 and 1969.

Taken with Tim Bridges' *Churches of Worcestershire*, noted above, these two books show different approaches to covering a county's churches. Buy *Suffolk Churches* and the more recent *Essex Churches* for the photographs and the clear delineation of building materials. These are lovely books to dip into and for one who walked across much of Suffolk and a little of north Essex some two decades ago, a source of some nostalgic remembering.

DHK

Brick Churches in Print

The Editor of the British Brick Society regularly receives notice of publications of interest to members of the society. In this issue of *British Brick Society Information*, this regular feature concentrates on items concerned with the use of brick in churches. Members who are involved in publication and members who come across books and articles of interest are invited to submit notice of them to the editor of *BBS Information*. Web sites are also included. Unsigned contributions in this section are by the editor.

DAVID H. KENNETT

1. Thomas Coomans and Harry van Royen (editors), *Medieval Brick Architecture in Flanders and Northern Europe: The Question of Cistercian Origin*, [being *Novi Monasterii*, 7], Koksijde: Adbijmuseum Ten Duinen 1138, 2008
iv + 330 pages, numerous (unnumbered) illustrations
ISBN 978-90-382-1293-7, price not stated

Between the evening of Wednesday 24 October 2008 and the afternoon of Saturday 27 October 2008, the grange at Ten Bogaerde, once belonging to the former abbey at Ten Duinen on the outskirts of Koksijde on the Belgian coast was host to an international colloquium organised by the Adbijmuseum Ten Duinen 1138. The colloquium sought to investigate the origins of brick architecture in northern Europe and the Dutch-speaking area in particular.

The present volume is the result of that conference. Seven papers were given in English, twelve in Dutch and one in French. Authors are published in the language in which they delivered their paper. Philippe Araguas on the dimensions and proportions of bricks found in medieval Spain dealt with an area somewhat apart from the rest of the conference remit.

Araguas' contribution appears in the section of the book devoted to varying perceptions and methodological approaches to brick and its uses, which formed the focus of the session on Thursday morning. Here four of the articles are in English although authors on provinces in the Netherlands write in their native Dutch: Karel Emmens on brick in Friesland and Groningen and Gabri van Tussenbroeck on Holland before 1300. Two German contributors offer wide-ranging surveys. Matthias Untermann writes on 'Cistercians and Medieval Brick Architecture in Europe' and Barbara Perlich on 'Medieval Brick Production in Europe: Travelling Competence or Local Innovation? From High Quality to Mass Production'. The two contributions by scholars from England will be of most interest to members of the British Brick Society.

David Andrews writes on 'The Influence of the Low Countries on Medieval Brick Building in Eastern England' using mainly Essex evidence. He makes the point that imports of Flemish-type brick seem to have ceased by the end of the fourteenth century. By 1400, both in Essex and Norfolk local manufacture had replaced imported materials. Dr Andrews considers the foreign brickworkers, both in making and laying the bricks, present in eastern England in the mid to late fifteenth century. An interesting example is Nether Hall, Roydon, Essex, where the patron, Thomas Colt, died in 1467 and the quality of the brickwork of the site's curtain wall is distinctly inferior after an irregular joint, suggesting that it was done by less skilled craftsmen after Colt's death. There is an excellent elevation drawing of the ruined gatehouse at Nether Hall showing the complex diaper patterns.

Ian Bailiff presents 'New Developments in the Scientific Dating of Brick' considering evidence from Lincolnshire using the thermoluminescence technique. His final graph shows a close correlation for the buildings studied between documentary and stylistic evidence on the one hand and the scientific data on the other. His samples range over three-and-one-third centuries. Those in Lincolnshire are from St Mary's Guildhall, Boston, of c. 1390; Tattershall Castle of the 1440s; Ayscoughfee Hall, Spalding of the 1450s; Doddington Hall of the late 1590s; and Fydell House, Boston, of the first quarter of the eighteenth century. To some extent, the paper is a partial reworking of his article in *Archaeometry* 49, 2007.

The Thursday afternoon was devoted to brick architecture in the cities of the County of Flanders, and here the majority of the contributions are in Dutch. Thomas Wets writes on Brugge (Bruges); Marie Christine Laleman and Gunter Stoops on Gent (Gand/Ghent); Vincent Debonne on Kortrijk (Courtrai) and Oudenaarde; Alexander Lehouck on Veurne (Furnes) and its region between 1200 and *circa* 1550. Many of the sites covered in this article were visited by several of the participants on the Friday. Marc Dewilde writes on medieval brick in Ieper (Ypres), which was not visited. Like all articles in the volume those on the cities of Flanders are superbly illustrated. Photographs from Gent and Ieper show before and after individual building

restorations. If one has a criticism, it is that at the conference, participants were given handouts in English for lectures in Dutch and for each of the papers in Dutch a short summary in English would have been helpful.

The session on the Saturday afternoon was a forum on Flemish and Dutch Cistercian Sites. Marion Brüggler has studied the 'Bricks from the Cistercian Abbey of Ihlow' 30km east of Emden, in Lower Saxony, Germany, in existence from 1218 to 1529. Excavations have taken place intermittently since 1973. Else Hartoch and Marleen Martens write on two medieval brick kilns excavated at Tienen. The contributions in Dutch are Gerrit Vermeer on Cistercian abbeys in Holland; Vincent Debonne and Tony Oost on the abbey at Boudelo; Benoît Delaey on the monastic barn at Ter Doest. The two final articles consider the abbey at Ten Duinen: Evy van der Voorde on brick types and Brecht Vandenberghe on the restoration of the site.

2. Kathleen Curran, *The Romanesque Revival Religion, Politics and Transnational Exchange*, University Park, Pennsylvania: Penn State University Press, 2003.
xxviii + 364 pages, 8 colour plates, 180 figures.
ISBN10 0-271-02215-9, price \$US 80-00 (hardback)

From the German *Rundbogenstil* to Trinity Church, Boston, the scope of this book is wide. Chapters 1 to 4 deal with Germany between the late 1820s and 1861; the final two chapters, numbers 6 and 7, with the Romanesque revival in the U.S.A.

Chapter 5 (pages 179-224) will be of greatest interest to members of the British Brick Society; it covers 'The Romanesque Revival and Victorian Religion' with many examples from England. Herein, pages 199 to 210 examine 'The Romanesque Revival in London: Bethnal Green and Christ Church, Streatham', and pages 214 to 221 look at 'The Romanesque Revival, Victorian Nonconformity and the "Evangelical Alliance"'. The former is particularly valuable for its discussion of the brick-built churches of Henry Clutton, Louis Vulliamy, Thomas Wyatt and others in Bethnal Green and of James Wild's Christ Church, Streatham, also a brick church. The encouragement of high church bishops like Charles Blomfield of London and C.R. Sumner of Winchester was significant. In the latter discussion, Curran illustrates Richmond Chapel of 1830 by John Davies for the Congregationalists, the Bloomsbury Baptist Chapel of 1847-48 by John Gibson, and Westminster Chapel of 1864-65 by W.F. Poulton again for the Congregationalists and she stresses the links between Nonconformity and low church Anglicanism which gave rise in 1846 to the Evangelical Alliance.

3. Peter Davidson, 'Recusant Catholic Spaces in Early Modern England', in R. Corthell, F.E. Dolan, C. Highley, and A.F. Marotti (eds.), *Catholic Culture in Early Modern England*, Notre Dame, Indiana: University of Notre Dame Press, 2007, pages 19-51.

Religious space can take many forms. For adherents of the old faith in Elizabethan and Jacobean England, it could be a hidden room or perhaps a defiant gesture in memorials in the local Anglican church. It could be room decoration within a brick house, as at Harvington Hall, Worcs., or the provision of exquisite vestments embroidered with symbols of the Blessed Virgin, an act of devotion to the Immaculate Conception by Helena Wintour, as examined elsewhere in the volume by Sophie Holroyd (pp.73-116). In the same skene, Davidson shows how the embroidery of Mary Queen of Scots provided a religious space. Religious space is more than a priest hole hollowed out from former garderobe discharge channels as at Oxburgh Hall, Norfolk.

4. Stephen Hart, *Flint Flushwork A Medieval Masonry Art*, Woodbridge: The Boydell Press, 2008, 175 pages, 83 plates, 18 colour plates. ISBN 978-1-84383-369-7, price £30-00 or \$60-00 (hardback)

Flint flushwork, which occurs mostly on ecclesiastical buildings and which may be combined with brick, is a feature of the churches in Norfolk and Suffolk, with to a much lesser extent those of Essex and Cambridgeshire. Other counties have isolated examples, although the flushwork which adorns the north side of the parish church of St Mary the Virgin, Luton, is a nineteenth-century invention: eighteenth-century drawings and the sixteenth-century testimony of William Camden, who wrote "I saw a tower prettily chequered in freestone and flint", make this abundantly clear.

Flint can be combined with brick in flushwork: the brick diaper of the clerestory of Great Witchingham church in Norfolk is set in flint. Flint flushwork is set in the buttresses, voussoirs, and panelling of the brick porch of the church at Ixworth Thorpe, Suffolk. Flint flushwork can be combined with brick: at Lawford, Essex, in both horizontal bands and chequer patterns.

The flint-faced churches of Norfolk often have brick as the structural element. Plaster descended to the floor beside the inner face of the north wall of Loddon church during a wedding in the early 1980s. The builders eschewed flint flushwork on the north side of Long Melford church, Suffolk: the south is much adorned with flint.

5. J.M. Robinson, 'Hansomly done Church of the Holy Name, Oxford Road, Manchester', *Country Life*, 8 April 2009, pages 58-61.

Amid the student world of the University of Manchester stands a magnificent church, built between 1869 and 1871 for the Roman Catholic population in the then 'prosperous Regency suburb of Chorlton-on-Medlock' south of Manchester city centre. In the late nineteenth century, the Jesuits served an Irish population but since 1945, the area has been turned over to academe and the various hospitals. Now supported by Birmingham Oratory after its sale in 1992 by the Jesuits, the church was being restored when your editor was living in Salford.

Designed by James Aloysius Hansom (1803-1882), the church can be recommended to members of the British Brick Society for its interior: the exterior is load-bearing stone. Inside, the church is clad throughout with terracotta from Gibbs & Canning: walls, vaults, window tracery, and decorative features like the Stations of the Cross. Only the columns are stone. Three superb photographs of the interior illustrate this. There is a general view of the nave which shows much of the vault of hollow, hexagonal blocks of terracotta (p.59). A detail of the work above the rows of confessional boxes illustrates both window tracery and three of the Stations of the Cross (p.60). The final photograph illustrates the terracotta of the walls and vault of the octagonal baptistry designed by Joseph Stanislaus Hansom, part of the fitting out of the building done after his father's death. Other architects who contributed designs for side chapels include J.F. Bentley and C.A. Buckler.

6. Simon Roffley, *The Medieval Chantry Chapel An Archaeology*, being Studies in Religious History, XXXIV, Woodbridge: The Boydell Press, 2007, xiv + 189 pages, 76 figures, ISBN 978-1-84383-334-5, price £40-00, or \$75-00 (hardback)

A chantry chapel was a building designed to house the tomb of a commemorated person or couple and provided a space in which a priest could pray for their souls and any others named in the benefaction. Simon Roffley has studied the chantry chapels of three counties in southern

England: Hampshire, Wiltshire and Somerset. He provides a representative list for other counties, but omits for example the Rotherham chapel in Rotherham parish church and the St Katharine Chantry in the parish church at Eccles, Lancs. The gazetteer does note the Frowyk chapel at St Giles, South Mimms, Middlesex, but omits telling us that it was built of brick. But few chantry chapels were built of brick, as can be seen from the examples given by Roffley. The great exception he illustrates lavishly and discusses in depth are the Paulet chapels at Old Basing church, Hants. where the south chapel begun before 1543 and probably completed by 1566 is brick. The earlier chapel, of *circa* 1500, is built in flint rubble. During the mid-sixteenth-century building phase, the gable of the chancel east end and the outer part of the gable of the south chapel were rebuilt in brick.

7. Gavin Stamp, 'The Church of St Hilda, Crofton Park', *Ecclesiology Today*, 40, July 2008, pp.77-82

A recent house-move has rekindled Gavin Stamp's interest in suburban London churches: see the Editorial to the same issue of *Ecclesiology Today*, p.5. In this article, he reconsiders a brick church, St Hilda, Crofton Park (Forest Hill, Lewisham), 1907, by Greenaway & Newberry - that is the architectural practice of Francis Hugh Greenaway (1869-1935) and John Ernest Newberry (1862-1957). Puzzled by Pevsner's description of a 'rather irresponsible Arts and Crafts Gothic', Stamp attempts to reinstate this church, which is built of red Crowborough (Sussex) bricks with stone dressings. (The interior, of yellow brick and Bath Stone, was later whitewashed and then painted.) The east end is, as Pevsner noted but without explanation, 'odd', since it incorporates a stunted south-east tower; Stamp provides the explanation: it had, in fact, begun as a transept, and when the decision was taken to make it into a tower the already built foundations would not allow a higher structure. The east-end proper, with its high-set windows above plain brickwork, is *powerful* rather than 'odd'. One welcomes Gavin Stamp's reassessment of the church. It is a reminder that suburban churches - Victorian, Edwardian, or later - can make it worth visiting parts of the country, such as Lewisham, which might at first seem architecturally unpromising. Brick is the dominant material of such churches.

T.P. SMITH

London Synagogues of Brick

The British Brick Society recently received a circular about the European Days of Jewish Culture and Heritage 2009, which take place between Sunday 6 September and Wednesday 16 September 2009, the second Sunday (13 September) being also in conjunction with the national Open House weekend. London synagogues have 'Open Doors' on both of the Sundays, but not all are open on each day and some have only restricted opening times: check the list on the society's website www.britishbricksociety.org for details of dates and times of opening. There may be a need to bring a head covering when going inside the building.

Members wishing to visit should be aware that there are security checks at all of the synagogues.

Synagogues in the City of London and East London

Members who came on the Autumn Meeting in 2007 which crossed the boundary between the City of London and Tower Hamlets glimpsed part of the exterior of the Bevis Marks Spanish and

Portuguese Synagogue through the entry to the small square in front of it, although the east end is visible from Heneage Lane. The present building, taking two years to build, was completed in 1701. In red brick with stone dressings, externally the Bevis Marks Synagogue resembles contemporary Anglican churches, those of Sir Christopher Wren and Robert Hooke, with two tiers of windows, reflecting a galleried interior. Much involved with its design and construction were the carpenters, Henry Ramsey and Joseph Avis, the latter a Quaker.

Another synagogue in the same discreet architectural tradition, but built two and a quarter centuries later, is East London Central Synagogue, designed by Lewis Solomon & Son and opened in 1923. In Nelson Street, it too has two tiers of windows beneath round-headed arches. That the Jewish community of London's East End was not always prosperous is demonstrated by a building Lewis Solomon designed two decades before the synagogue, the Soup Kitchen for the Jewish Poor, in Brune Street, of 1902. Purpose and date are given in both Hebrew and English carved into buff terracotta from Evans of Ruabon.

Also discreet is the Sandys Row Synagogue, catering for London's Dutch Ashkenazi Jews. Originally built for French Protestants, the Huguenots, in 1763-64, the building was remodelled by Nathan S. Joseph in 1870 and internally refurbished by Lewis Solomon in 1902. The brick front could make it mistaken for houses and offices.

In 2007, members did see the former synagogue on Brick Lane with the adjacent dwelling for the religious leader on Fournier Street (no. 39). As with the Sandys Row Synagogue, this also was built as a Huguenot chapel; constructed in 1743-44 to designs probably by Thomas Stibbs, who was the surveyor to the French congregations in London. This religious building has had an interesting history. The Huguenots used it until 1815, when it briefly became a chapel for the Society for Propagating Christianity among the Jews. In 1819, the building was taken over as a Methodist chapel, a use it retained almost to the end of the nineteenth century. A congregation of Orthodox Jews from eastern Europe took over the adjacent vestry and school on Brick Lane (no. 59), designed by Thomas Stibbs. It became the London Jamme Masjid Mosque in 1975.

From French Protestants, to English Nonconformists, to east European Jews, to south Asian Muslims, the Brick Lane building encapsulates the changing nature of immigration in east London. Built of good quality brown brick, presumably from the Spitalfields brickworks half a mile to the north on Brick Lane, the main building is six bays to Fournier Street and three to Brick Lane. The two storeys are divided by a stone band and there is a stone cornice. The windows have stone cills and shallow brick arches with a keystone on the ground floor but the deeper windows on the first floor have round-headed arches in gauged brickwork with a keystone. In almost all cases, they retain their eighteenth-century glazing bars. The central four bays of the Fournier Street frontage are set slightly forward beneath a pediment. The entrances are in the two outer bays of this. Also with a pediment is the Brick Lane façade.

Another former synagogue in the same area is the Museum of Immigration, on Princelet Street (no. 19), which looks like a brick terraced house. It was constructed in 1718 or soon afterwards. The house was used as the school for the synagogue built in 1869-70 in the back garden for a group of Polish Jews.

Still in use as a synagogue is the Fieldgate Street Great Synagogue. Originally built in 1899, it was rebuilt in 1959-60 after bomb damage, reusing materials from earlier structures. It serves an Ashkenazi congregation.

Slightly further out, just beyond Sidney Street, on the Commercial Road (nos. 351-353) is the Congregation of Jacob, a Hasidic group. Celebrating its centenary in 2003, the premises had been converted by Lewis Solomon in 1920. The interior retains much folk art of east European origin.

Synagogues in the City of Westminster

Several of the synagogues are within the area of the modern London Borough of the City of Westminster, which includes St Marylebone and Paddington as well as Westminster itself. Most notable from the outside is the New West End Synagogue in St Petersburg Place, just north of the Bayswater Road. From here it is easily mistaken for an ambitious Christian church. The synagogue reveals its purpose from the quotations from the Torah in Hebrew; these bricks have raised surfaces for the lettering. The bricks would have required special care both in the throwing into the mould and in the firing.

Opened in 1879, the New West End Synagogue was designed two years earlier by Audsley & Joseph following George Audsley's successful Princes Road Synagogue in Liverpool of 1874. Both have High Victorian interiors and both are open on Sunday 6 September 2009. In London, the thin, twin towers ending in pepper pots flank a great rose window on the west front. In red brick with dressings in a deeper red brick, both internally and externally, the architectural influences include Moorish, Romanesque and early Gothic styles.

The Sephardic tradition of the Spanish and Portuguese Jews is well represented in west London. In Maida Vale, the Spanish and Portuguese Synagogue on Lauderdale Road was designed, late in his career, by Henry David Davis (1838-1911). Opened in 1896, it has a Greek cross plan with a great central domed roof; internally there is much use of polished granite. A later synagogue in the same tradition is that in St James' Gardens, Kensington. The Holland Park Spanish and Portuguese Synagogue, opened in 1928, has two squat towers flanking a narthex surmounted by a Diocletian window. There is a great copper dome over the worship space.

In 1870, much earlier in his career, H.D. Davis had designed the West London Synagogue on Upper Berkeley Street for the Reform Congregation. The impressive interior, with tall marble columns, is behind a great arched entrance loggia. Windows are in the *Rundbogenstil* tradition.

With incomplete towers is the New London Synagogue of 1882 on Abbey Road. The designer was H.H. Collins.

Synagogues in England outside of London

The circular from the European Days of Jewish Culture and Heritage 2009 also included notice of several synagogues open elsewhere in England open on either Sunday 6 September 2009 or on Sunday 13 September 2009. Those in Brighton, Lincoln and Manchester are open on both Sundays but the others on only one of these.

South of London, synagogues open on 6 September 2009 are those in Brighton, Bristol, Chatham, Croydon, the two in Ramsgate, and that in Reading. Synagogues in Canterbury, Exeter and Plymouth are open only on 13 September 2009.

In the Midland counties and East Anglia, the synagogues are mainly open on Sunday 13 September and include one in Birmingham and others in Cheltenham, Norwich and Oxford.

In northern England, apart from congregations in Lincoln and Manchester open on both Sundays, synagogues in Bradford and Liverpool are open on Sunday 6 September 2009. The former synagogue converted into the Manchester Jewish Museum is also open on both Sundays, see www.manchesterjewishmuseum.com for details.

DHK

BRITISH BRICK SOCIETY MEETINGS IN 2009

Meetings in 2009

Monday 24 August 2009

Rugby

Afternoon tour of Rugby School.

Saturday 3 October 2009

London Autumn Meeting

A walking tour of Finsbury from the Angel to the Charterhouse

Meetings in 2010

In active arrangement are:

A Saturday in April or May 2010

Early brick houses in West Norfolk

To include some of East Barsham Manor, Oxburgh Hall, Great Gressingham Priory and Methwold Vicarage (these are all on or near the A1065 road from Fakenham to Mildenhall)

Provisionally Saturday 12 June 2010

Annual General Meeting

Reading

To include a tour of brick buildings in the town in the afternoon.

A Saturday in late September or early October 2010

London Autumn Meeting

A walking tour of Islington downhill from Canonbury to Moorgate.

We hope also to arrange a visit to a brickworks in July 2010 and a visit to the Tilbury Forts in August 2010.

*Details of meetings in 2009 are included in this mailing
Details of meetings in 2010 will be included in
either the January 2010 mailing or the July/August 2009 mailing.*

The British Brick Society is always looking for new ideas for future meetings.

Suggestions of brickworks to visit are particularly welcome.

Offers to organise a meeting are equally welcome.

Suggestions please to Terence Paul Smith, Michael Oliver or David Kennett.

Changes of Address

If you move house, please inform the society through its Membership Secretary, Dr Anthony A. Preston at 11 Harcourt Way, Selsey, West Sussex PO20 0PF.

The society has recently been embarrassed by material being returned to various officers from the house of someone who has moved but not told the society of his/her new address.