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Edited by

RICHARD K. MORRIS

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2 Church Entry
London EC4V 5HB
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Reg. Charity No. 209605

Tel: 020 7236 3934
e-mail: office@ancientmonumentssociety.org.uk
www.ancientmonumentssociety.org.uk
[www.friendsoffriendlesschurches.org.uk]

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Annual General Meeting 2011

The 87th Annual General Meeting of the Society was held at 2.30pm on Thursday 7th July in the Great Hall of Hartlebury Castle, Worcestershire, by kind permission of the Church Commissioners and at the invitation of the Hartlebury Castle Preservation Trust. The meeting was chaired by the Earl of Leicester, President of the Society, and attended by 122 people. The weather was kind.

There was an optional visit in the morning to the Old Bishop's Palace in the centre of Worcester, led by Richard Morris, Frank Bentley and Chris Guy.

After receipt of apologies for absence (from 27 members, including Professor R. W. Brunskill and Lord Cormack) and the signing by the President of the Minutes of the 2010 AGM (previously published in Volume 55 of the *Transactions* for 2011), the Secretary, Mr Matthew Saunders, summarised the events of the year, particularly the severe cuts in public expenditure, and, on the domestic side, the retirement of Frank Kelsall and the appointment as Casework Secretary of Lucie Carayon. The Accounts for the year ended 31st December 2010 were presented by the Society's Treasurer, Mr Simon Barnes, and approved *nem. con.* by the meeting. He also nominated Messrs Blease Lloyd as the Society's auditors and their re-election was confirmed *nem. con.*.

The meeting then proceeded to the elections. A list of those standing had been issued as part of the AGM Notice and brief biographies had been available on request during the preceding month and were provided for the meeting. All Officers and Trustees standing had been proposed and seconded before 31st March in accordance with the Constitution. The President then put the election of Officers and Members of Council to the meeting in two separate blocs. They were all elected *nem. con.*.

After the closure of formal business, with a vote of thanks from the Chairman, Giles Quarme, to the President, there was an address on the building by Nicholas Molyneux of English Heritage, and an explanation by Alison Brimelow of the plans of the Trust to save the Castle by buying it from the Church Commissioners and opening it to the public. There then followed tours of the building (and the County Museum) and tea.

Editorial

It would appear that fate has caught up with me as I start as the new Editor of your *Transactions*. In the mid-1980s, if I remember correctly, I was flattered to be invited by Ivor Bulmer-Thomas to become editor, but I put him off because of my existing academic commitments at the University of Warwick. Now, in my retirement, events have come full circle. I think that it was Gwyn Meirion-Jones who took over then, and several other outstanding editors have followed since: it goes without saying that they will be hard acts to follow.

I am grateful to fellow Trustee, Jill Channer, who has volunteered to be Assistant Editor, in case back-up is required, though it has not been needed for this volume. I am also grateful to Matthew Saunders for standing-in as editor of Volume 55 last year, and for providing me with much assistance with the content of this current volume; and also to Murray Wallace of Direct Offset for accommodating any differences in working methods that come with a new editor.

I have several ideas for the *Transactions*, the first one of which I have been fortunate enough to implement in this volume – namely the revival of the tradition of printing the Anniversary Address. The last one to appear in the *Transactions* was that of Christopher Stell in Volume 38, 1994. I have always felt that the Address fills a gap for members unable to attend the AGM as well as providing a useful record for those who did, and I am most grateful to Nicholas Molyneux, the speaker in 2011, for the extra work involved in seeing his talk into print.

The contents of your *Transactions* reflect the offerings I receive. I am always on the look-out for new articles, and even more so currently on ecclesiastical topics. So keep sending me your ideas and manuscripts for consideration. My contact details are inside the back cover.

RICHARD K. MORRIS

Anniversary Address 2011 Hartlebury Castle, Worcestershire: An Introduction to its Architectural History[1]

by

Nicholas A. D. Molyneux

Hartlebury has been the site of a palace of the bishops of Worcester almost continuously from the middle ages until 2008 (Fig. 1). The castle's fabric still retains outstanding interiors from the 15th and 18th centuries, in the form of the great hall, the chapel, the saloon and the Hurd library. The life of the medieval bishops was peripatetic. They had a house in Worcester close to the cathedral, usually described as the Palace, which has substantial fabric dating from the later 13th century.[2] They had houses across the rest of the diocese, in Warwickshire, Worcestershire and Gloucestershire. There was also a house on the way to London at Hillingdon, Middlesex, and a house on the Strand, demolished for the construction of Somerset House in 1549. Gloucestershire became a separate diocese in the mid-16th century so the bishops no longer had most of those houses at their disposal. A late 16th century document lays out an ideal sequence of visits to their three remaining houses: Worcester Palace from 31 October until April, Grimley (Worcestershire)[3] until June and Hartlebury Castle 'all Sommer'.[4]

The most important documentary sources for the history of the castle are the 1647 Parliamentary survey, a number of court cases culminating in the Court of Delegates in the 1670s and the accounts for rebuilding in the early 1680s.[5]

THE MIDDLE AGES

The bishop of Worcester was given land in Hartlebury by the king of Mercia in the 850s, but the earliest mention of an episcopal house there is in 1268. Bishop Walter Cantilupe (1236-1266) began to fortify the manor house with a moat and a stone wall. On 8 June 1268 Henry III granted the bishop elect, Godfrey Giffard (1268-1302), the right to crenellate Hartlebury. In 1271 Godfrey also secured a licence to crenellate the 'houses within his close of Worcester'. His brother, Walter Giffard, Archbishop of York, emulated him, obtaining a licence to crenellate Cawood Castle, Yorkshire, in 1272.[6]

A chapel is first recorded at Hartlebury in December 1269, but no fabric of this period can be identified above ground. It is evident that by the 14th century the chapel and the bishop's private rooms formed a detached structure. The Bucks' print of 1731 shows the chapel with a four-light east window with intersecting tracery, apparently

Nicholas Molyneux is Inspector of Historic Buildings and Team Leader at English Heritage, West Midlands Region, Birmingham. He is the Chairman of the Worcestershire Archaeological Society, and has made a special study of the architectural history of the residences of the bishops of Worcester. This Anniversary Address was delivered in the great hall of Hartlebury Castle on Thursday, 7 July 2011.

Fig. 1
The east front and forecourt; the chapel is on the left
Photograph, M. Saunders

Fig. 2
The great hall, interior looking north
Photograph, author

Decorated in style.[7] The sills of the four windows in the north and south walls were lower than today. There is a blocked door in the east end beneath the lower sill of the window which might be evidence for an undercroft which, if it had existed, would imply that all the floor levels have been radically altered.[8] John Leland recorded that Bishop Henry Wakefield (1375-1395) rebuilt the chapel, and the lost window heraldry dated to the last two decades of the 14th century.

The new chamber in which Bishop Wakefield received Reginald Hembury of Hanbury on 25 December 1386 was probably attached to the chapel. The 1647 survey records 84 square yards of lead on the chapel roof, and the adjoining great chamber had 102 square yards. The great chamber was 21ft x 39ft (6.40m x 11.89m) so the chapel was 21ft x 36ft (6.40m x 10.97m). The current dimensions match those calculated from these roof measurements.

The great hall is the most evocative survival of the medieval palace (Fig. 2). There is evidence for a 13th or 14th century hearth just to the north of the standing buildings suggesting that there was a kitchen in that location, and by implication a hall in the same location as the current one. The hall, which measures 27ft 5in. by 62ft 8in. (8.36m x 19.10m) internally, retains its medieval roof and sandstone walls. The entrance has been moved from its early position; originally it was entered from a cross passage at the lower (north) end (Fig. 3). The south gable of the hall was external: in the roof space over the saloon there is a drip moulding at eaves level. There is a straight joint in the west wall at the lower (north) end suggesting that the hall was free-standing.

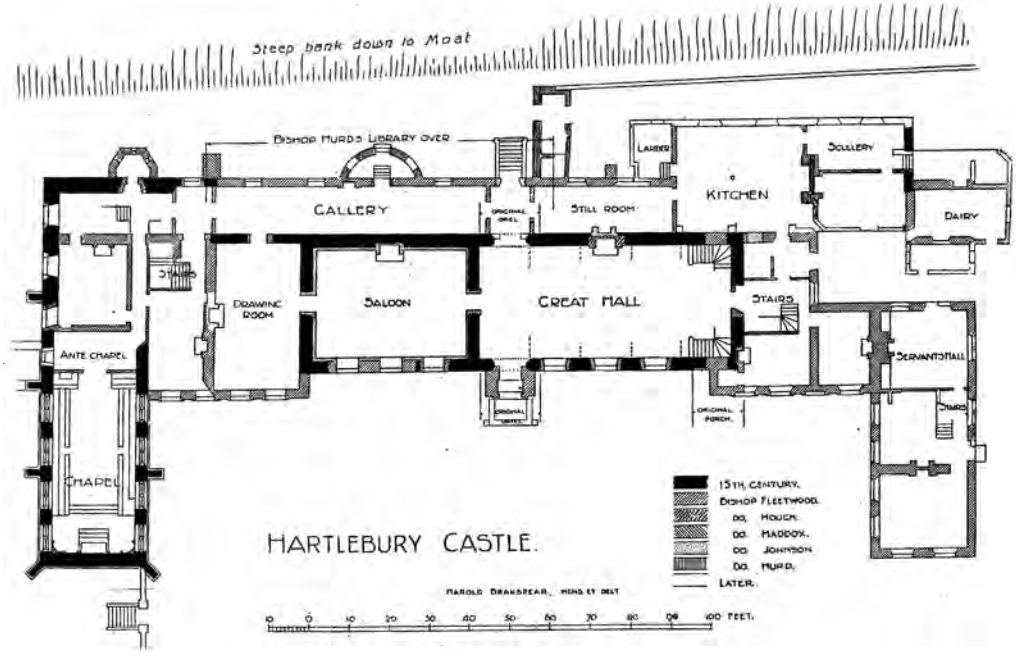


Fig. 3
Ground-floor plan by Harold Brakspear, *c.* 1920; north is to the right
E. H. Pearce, Hartlebury Castle *(London 1926), opposite p.328*

Fig. 4
The great hall, part of a blocked two-light window in the west wall, preserved in the roof space outside the hall
Photograph, author

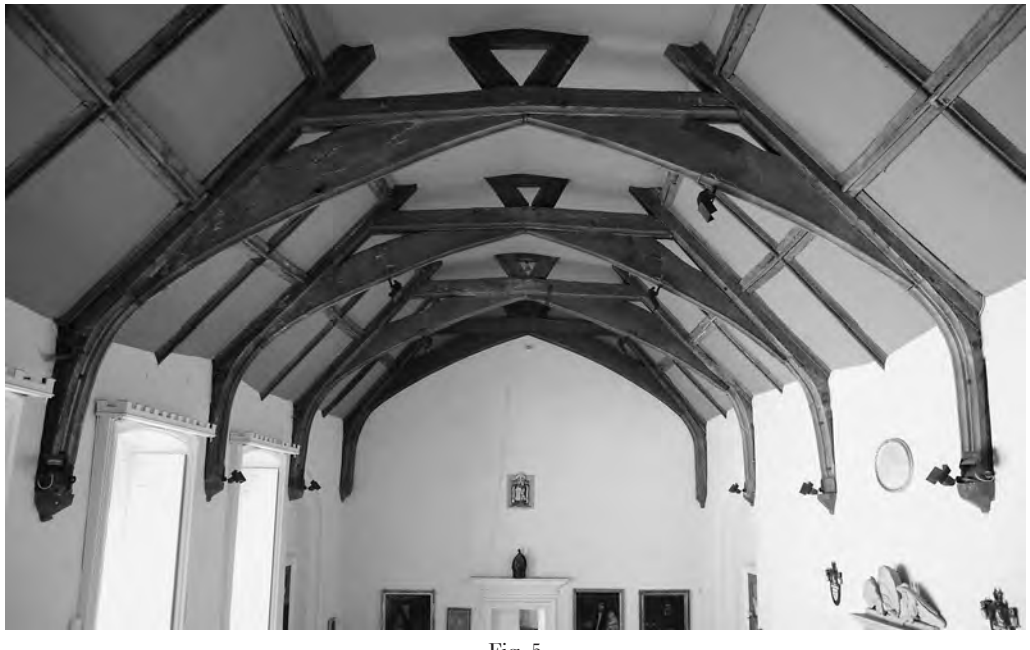


Fig. 5
The great hall, the 15th-century roof trusses, looking north
Photograph, author

There were probably oriel windows lighting the dais at the upper end. The other four bays had two-light windows in the west wall, two of which are partly preserved in the roof space outside the hall (Fig. 4). The blocked window over the cross passage was a little narrower and the chimney stack sits within a blocked window.

The medieval roof survives in its entirety (Fig. 5), except for the loss of its wind-braces; a ceiling has been inserted just above collar level. The six roof trusses which form five bays face the upper end of the hall to the south except that against the south wall. The wall-posts rise from stone corbels and are jointed to the principal rafters. The collars are supported by arch-braces forming four-centred arches. They have a hollow chamfer and the three tiers of purlins have a roll moulding. The bays are subdivided by an enlarged common rafter with a hollow chamfer stopping at the upper purlin. Above the upper purlin the rafters have long multi-pegged mortices for the former wind-braces. The ridge is set flat and the common rafters are morticed into its soffit. The apex of the roof has very light sooting and there is no sign of a louvre. The roof is a reflection of one the most magnificent arch-braced roofs in England, the early 14th-century roof

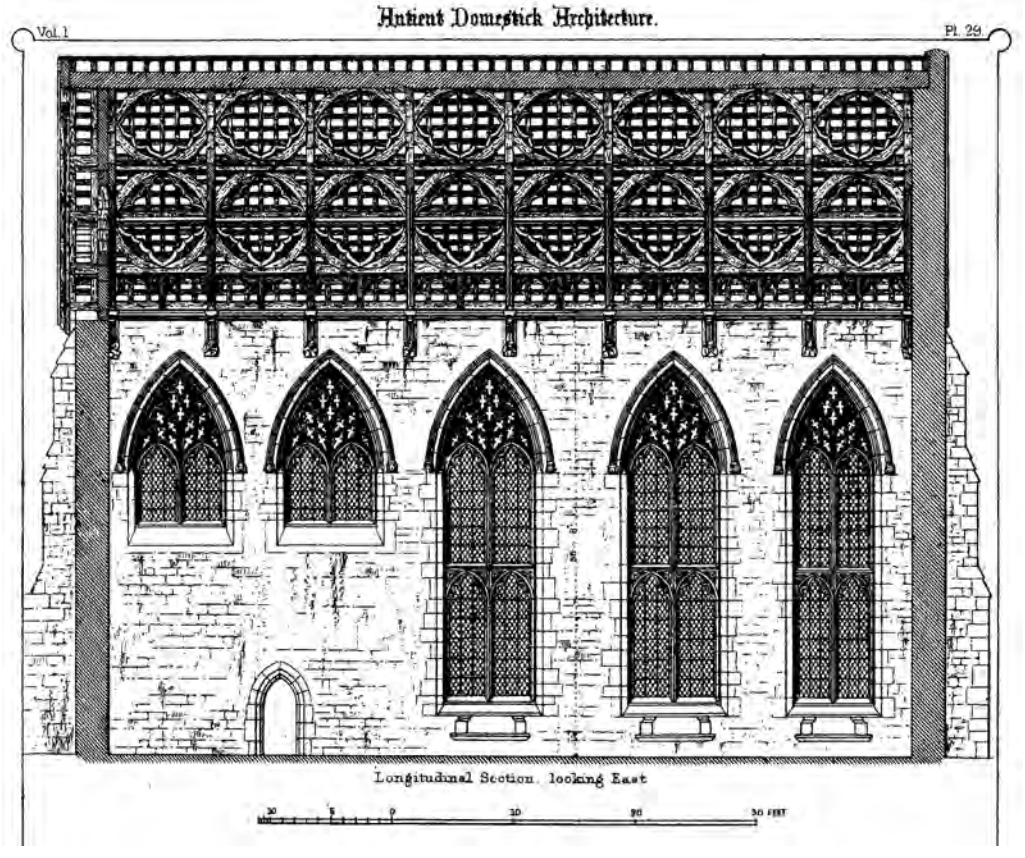


Fig. 6
The Guesten Hall of Worcester Cathedral Priory. The roof (re-erected at Avoncroft Museum, Bromsgrove) gives an idea of the richness of the decoration of a local arch-braced roof.
F. Dollman & J. Jobbins, Ancient Domestic Architecture *(London 1861) vol. 1, plate 29/30/31*

Fig. 7
The great hall porch, with the coat of arms of Bishop Fleetwood, designed by Thomas Wood of Oxford
Photograph, author

which covered the Guesten Hall at Worcester Cathedral, which illustrates the effect of the lost wind-braces (Fig. 6).

It is recorded that twenty-two great oaks were delivered to Hartlebury Castle from Welland in the manor of Bredon (Worcs.) in 1395/6. What were they for? The hall roof is an appealing idea, but the scientific evidence shows otherwise. The tree-ring dates for the hall roof gives a bracket of 1428-1447. This offers three possible bishops as the builders: Thomas Polton (1426-1432), Thomas Bourchier (1433-1443) or John Carpenter (1443-1476). It is tempting to associate the building with Bourchier who, as archbishop of Canterbury, embarked on a major programme of building, including the reconstruction of Knole (Kent) in the 1460s.[9]

There is considerable evidence for building at Hartlebury in Bishop John Carpenter's episcopacy. Leland, writing in the 1540s, says that he built a gatehouse, which was recorded in the 1670s dilapidations, but there is no mention of it in the 1680s accounts when the lodges were built, presumably on its site. Expenditure at Hartlebury Castle and the Worcester Palace is recorded in 1460/1, 1467/8 and 1469/70. This may be an early phase of what is now the saloon, although the present roof is early 17th century. However, it does contain reused timbers, two of which have been tree-ring dated to 1418-1454 and 1430-1466. There is a five bay timber-framed structure touching the north-west corner of the hall, where it would have been directly accessible from the cross passage. The tree-ring evidence shows that the timbers were felled in 1469, which matches Bishop Carpenter's expenditure.

It is possible to give an impression of the castle at the end of the middle ages, comprising a number of separate structures. To the south was the chapel block, and to the north of that the hall, with a chamber at its south end. At the north end of the hall there was a timber-framed kitchen, accessible from the cross passage. Warwick's tower stood at the south east corner of the forecourt. These buildings were enclosed within a perimeter wall.

REFORMATION TO CIVIL WAR

The diocese was split in two in 1541 and reunited by Edward VI in 1552 with John Hooper as bishop, only to be divided once more. The 1552 grant included the palace in Worcester, but not Hartlebury Castle, which passed first to the king, and then to private ownership. Queen Elizabeth I slept here on the 12 August 1575 after her her famous stay at Kenilworth Castle, en route to Worcester. The manor and castle were secured for the diocese in 1579 by Bishop John Whitgift (1577-1583). No fabric can be attributed to the 16th century.

The roof over the saloon is dated by tree-ring evidence to 1608-1629. It has five trusses with two tiers of purlins and a diagonally set ridge piece. The upper face of the southernmost truss is against the later 17th-century brickwork of the drawing room/staircase block. Many of the vertical struts are reused timbers, which suggests that this roof is sitting on a late medieval structure. The roof could belong to the parlour of the 1647 survey, which measured 24ft x 34ft (7.32m x 10.63m) and had a tiled roof, although it was a little larger on the 1760 plan at 26ft x 37ft 5in. (7.92m x 11.40m) (Fig. 16).

During the Civil War, Bishop John Prideaux (1641-1650) identified himself with the Royalists and permitted the castle to be garrisoned by 120 men and twenty horse under Captain William Sandys. They surrendered on 16 May 1646 without a shot being fired. The castle was not seriously damaged by the soldiers, although the fences in the park were despoiled. The bishop was deprived of his See and retired to Bredon to live on a pittance, and he died a poor man in 1656. The castle was granted to Edward Smith, gentleman, on 29 September 1646 for £45 a year. The 1647 Parliamentary survey valued the materials in the castle, but it was more profitable to sell the building and it was purchased in 1648 by Thomas Westrowe.[10]

THE RESTORATION AND REBUILDING

The manor was restored to the bishop in 1660, but it was a long time before the castle was repaired. When Bishop George Morley (1660-1662) was translated to Winchester he promised £500 towards repairs if the work was completed within two years. He was followed in rapid succession by three bishops who did nothing at Hartlebury. The fourth, Walter Blandford (1671-1675), bequeathed £1,000 towards repairs provided that Morley's money was forthcoming. The next bishop, James Fleetwood (1675-1683), sued Blandford's executors (John Fell, bishop of Oxford, and William Thomas, dean of Worcester) in the Court of Delegates. The outcome was that the court allocated £1,000 for the refurbishment of the castle. The surviving accounts which cover 1681-1683 start part of the way through the rebuilding and record expenditure of £450. On 15 July 1683 Mr Wood of Oxford was paid £2 10s, the remainder of the money owing to him

Fig. 8
The main staircase, balusters; by Thomas Wood of Oxford, 1680s
Photograph, author

Fig. 9
The great hall, the chimney piece, installed by Bishop Hough, with his coat of arms
Photograph, author

for the coat of arms over the porch and for supplying drawings. He was Thomas Wood (c1644-1695), a master mason and sculptor, who undertook the stonework of the bishop's palace at Cuddesdon, Oxfordshire, for Bishop John Fell.

Bishop Fleetwood rebuilt much of the east elevation of the castle (Fig. 1), and the central porch with its eared architrave bears his coat of arms (Fig. 7). The new range at the north end breaks forward from the hall. Beyond this there is a wing echoing the chapel wing. The windows were of the mullion and transom type. At the south end a new block was added to link the saloon and the chapel, matching that to the north. The low-pitched chapel roof was replaced with a steep tiled and hipped roof. It has four king-post trusses, and common rafters tenoned into the single tier of purlins. The tree

rings give a felling date of 1678, so it was erected before the accounts commence. The plain plaster walls are visible above the plastered timber vaulting inserted in the 18th century (Fig. 12).

Various craftsmen and their tasks are documented in the 1680s accounts. Hugh Buxton, stone mason, was working on the chapel from 1681 to February 1682. He levelled the stone work for the chapel roof and amended the battlements of the hall and parlour. The chapel was refitted by the joiners John Cowell and Reece Price who made doors and wainscot. Richard Jackson, a Worcester joiner, contracted on 3 November 1682 to make the wainscot for the little dining room. This was probably the new room between the saloon and the bishop's chambers, later to become the drawing room.

The main staircase at the south end of the house and that at the north end has balusters similar to those in the staircase that Thomas Wood designed and built at the Old Ashmolean Museum in Oxford (Fig. 8). The sawyers, William Clymer and John Barret, were sawing risers for the stairs, and the door for the chapel and the house. They sawed posts for the balcony door case and rails and risers for the staircase. The long gallery behind the saloon and the hall provides access between the upper and lower ends of the castle. The only sign of the gallery in the building accounts is a payment to Hugh Buxton, stone mason, for paving the gallery. It is shown as a single storey range under a cat-slide roof in a 1781 survey drawing. The disadvantage of this arrangement is that its roof blocked the medieval west windows of the hall and saloon (Fig. 4).

John Giles and John Jukes made 100,000 bricks in the park, but five loads of slack was carried from the Severn which was used to burn Jukes' bricks for a second time. Thomas Wynnet and Thomas Hill were paid for the brickwork of the 'Court wall lodges and anti court wall', and in another contract of 14 December 1681 to build the wall in the castle yard from the corners of the chapel and the north range and across from Warwick Tower along the graft with a porter's lodge. On 24 December 1681 they contracted to pull down the walling in a line from the inner corner of the chapel to the outside of Warwick Tower eastward, and to clear the ground from this line southward. William Cole, carpenter, followed on from the bricklayers and erected pyramidal roofs on the two lodges, capped by wrought-iron weather vanes supplied by Jacob Heape. The accounts do not mention the gatehouse, which had probably already been demolished, and the Warwick Tower was also demolished towards the end of the works.

Bishop Fleetwood died at the castle on 17 July 1683 just as the works were completed. At the end of this phase the castle had the aspect of a country house rather than a medieval castle, with much of the medieval structure removed or concealed (Fig. 1). Colvin points out that the stepped plan is reminiscent of Versailles.[11]

THE EIGHTEENTH CENTURY

It was said of Bishop John Hough (1717-1743) that he 'rebuilt so great a part of the episcopal palace at Worcester, and made such improvements in his other seat at Hartlebury, ... [which] left little to be superadded by any of his successors towards perfecting both those episcopal seats'. This included building a new facade for the Worcester palace at a cost of £1,164 16s 10d, using the architect and builder William Smith (1661-1724). At

Hartlebury there is much less to show. In the hall the over-mantel of the fireplace bears Hough's coat of arms in stone (Fig. 9). He rebuilt the stables and coach house, the brick buildings to the east of the forecourt. The coach house to the south has three broad segmental arches over carriage doors. The stables to the north were substantially rebuilt in the 19th century.

The interior of the chapel was remodelled between 1748-1750 and is one of the outstanding early works of 18th-century Gothick (Fig. 10). According to Bishop Hurd, it was Bishop Isaac Maddox (1743-1759) who 'fitted up the Chapel, & put a new roof to it. The architect was Mr Keene of London. The painted Window at the Altar & the paintings in the other windows were executed by Mr Rowell of Reading in Berkshire.' Bishop Maddox employed the brilliant young architect Henry Keene (1726-1776), with additional advice from the gentleman architect, Sanderson Miller. On 26 October 1749 Miller went to Hartlebury to breakfast with the bishop and recorded the 'Bishop's chapel very near finished and very handsome.'[12]

The windows were rebuilt with raised sills, the east window with three lancets. There are four windows on each side of the chapel in the position of earlier windows, but the easternmost in each wall was blocked with stone. Internally the blind windows are filled with a plaster rosette. The upper spandrels of the side windows contain the arms of various bishops, the only remnants of the glazing executed by John Rowell of Reading. The east window was described in 1766 as 'elegantly painted, representing, in the middle, the passion or agony of our saviour in the garden, and on one side the disciples sleeping and on the other Judas with his band'.[13]

Fig. 10
The chapel, interior looking east
Photograph, M. Saunders

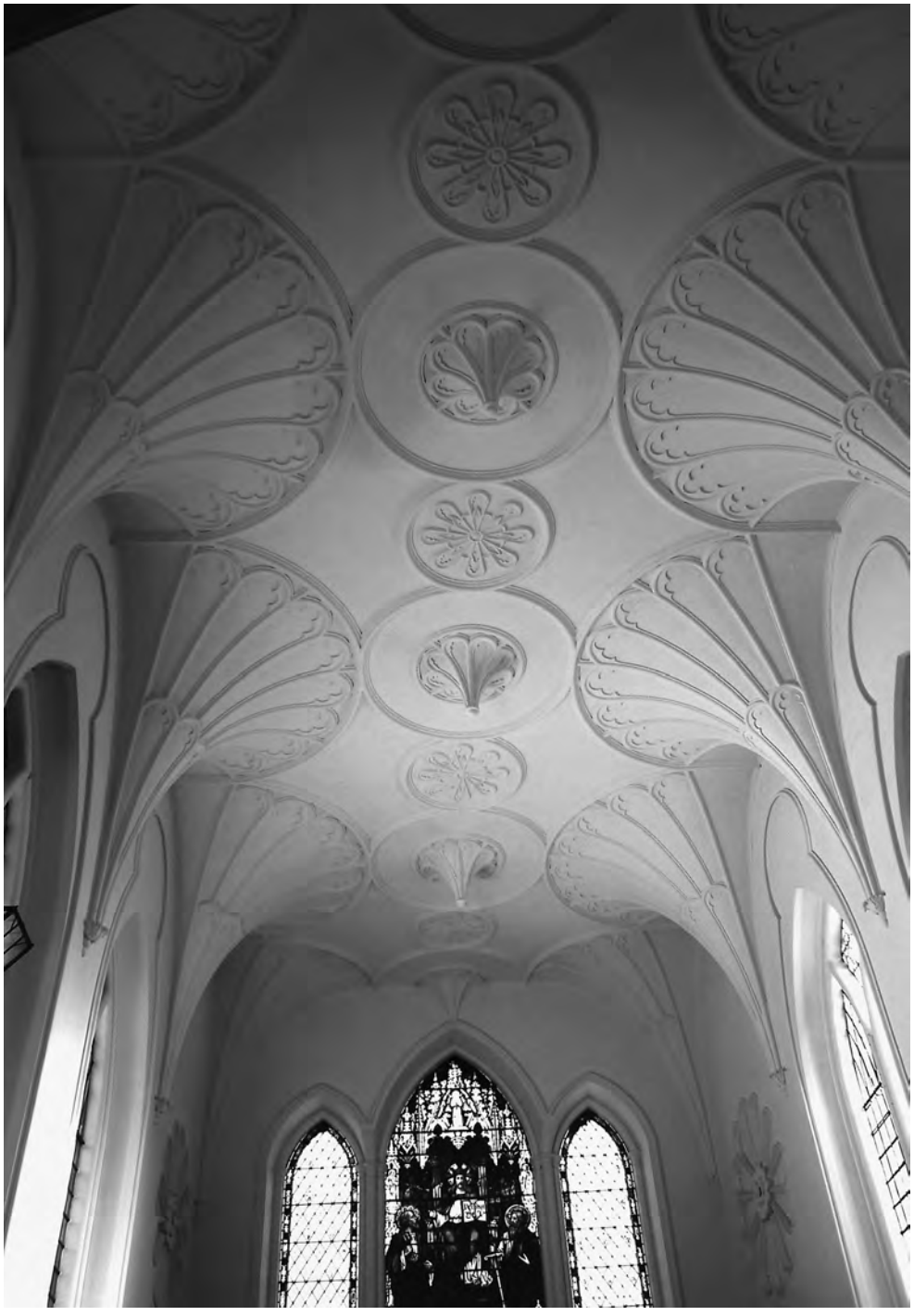


Fig. 11
The chapel, the plaster fan-vaulted ceiling
Photograph, author

Fig. 12
The chapel, the lath and plaster construction of the ceiling
Photograph, M. Saunders

Fig. 13
The chapel, interior looking west, a late 19th-century view before Bishop Perowne's alterations
Photograph in the Hurd Library

The ceiling is a fan vault with pendants on a new timber structure (Figs 11, 12). The earlier wall plaster visible above the fans is marked out in red for the geometry of the new ceiling. The walls are lined with oak panelling rising to window sill level with Gothick arcading. This has engaged columns supporting triangular headed cusped arches. The side walls have fitted benches with frontals which have cinquefoil blind arcading. There was a delicate wrought-iron Gothick altar rail.[14] The west end has a tripartite screen with a 19th-century viewing window above replacing Gothick blind arcading (Fig. 13). The screen is similar to Batty Langley's 'Gothic Portico'.[15] The bishop's pew at the south-west corner has an elaborate canopy supported on slender wooden columns designed by Sanderson Miller (Fig. 14). Keene designed the Gothick benches in the chapel (Fig. 15), the fretted door at the entrance and the cupboard for storing surplices with a Gothick ogee arched top.

Fig. 14
The chapel, the bishop's pew, designed by Sanderson Miller
Photograph, M. Saunders

Fig. 15
The chapel, detail of the benches, designed by Henry Keene
Photograph, author

Bishop Maddox added the open sided octagonal Gothick cupola on the hall roof with its ogee arches which supports a bell which can be rung from the hall (Fig. 7). The lodges were given flat roofs and the forecourt walls were gothicised by adding crenellations on the south and east sides. His works saw the introduction of Gothick features emphasising the medieval appearance of the castle, with the crenellated courtyard walls. The plan made in 1760 shows the hall was still central, with the kitchen against the north west corner (Fig. 16). The rest of the north wing contained service areas with the dramatic back staircase. The long gallery behind the hall provided the main route to the bishop's apartments at the south end. The main staircase was accessed from an ante-room at the end of the gallery and led to rooms above the drawing room and the bishop's study. There was a narrow passage south to the chapel, explaining the need for light through the fretted door.

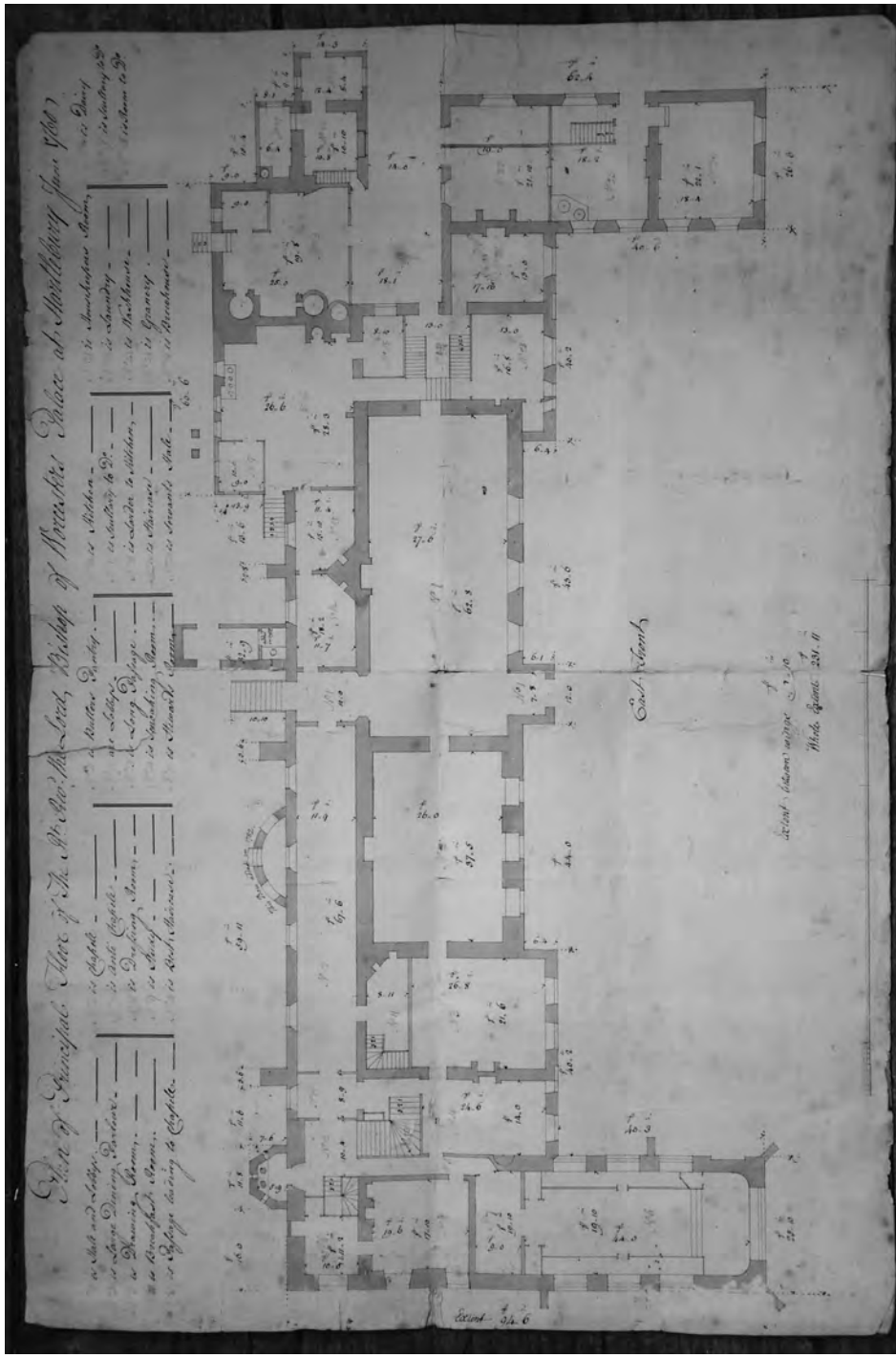
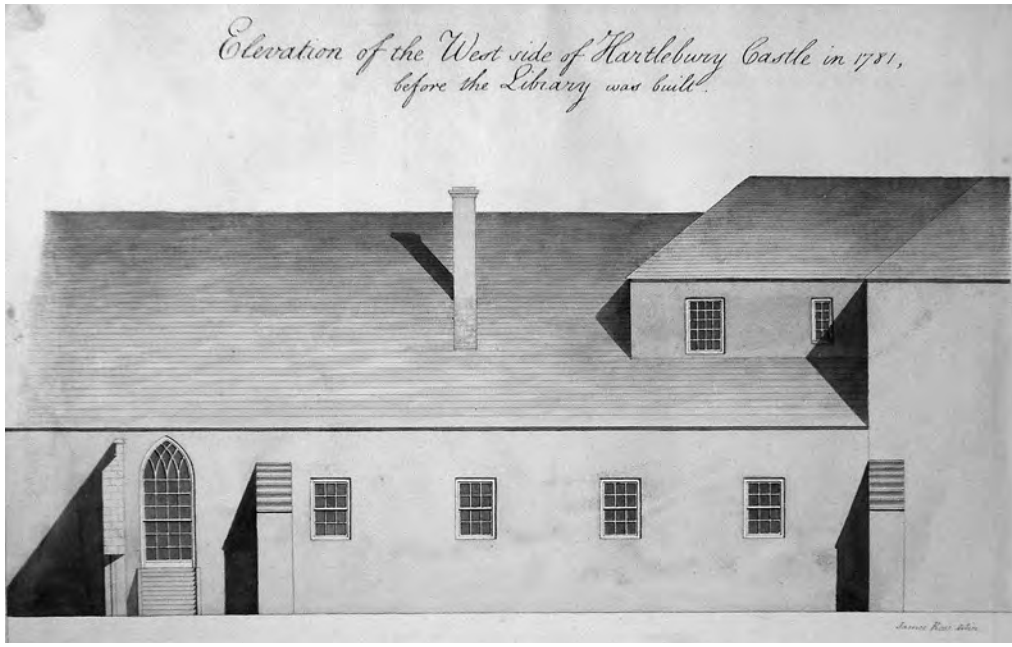


Fig. 16
Ground-floor plan, drawn in 1760
Plan in the Hurd Library

Fig. 17
The saloon
Photograph, author



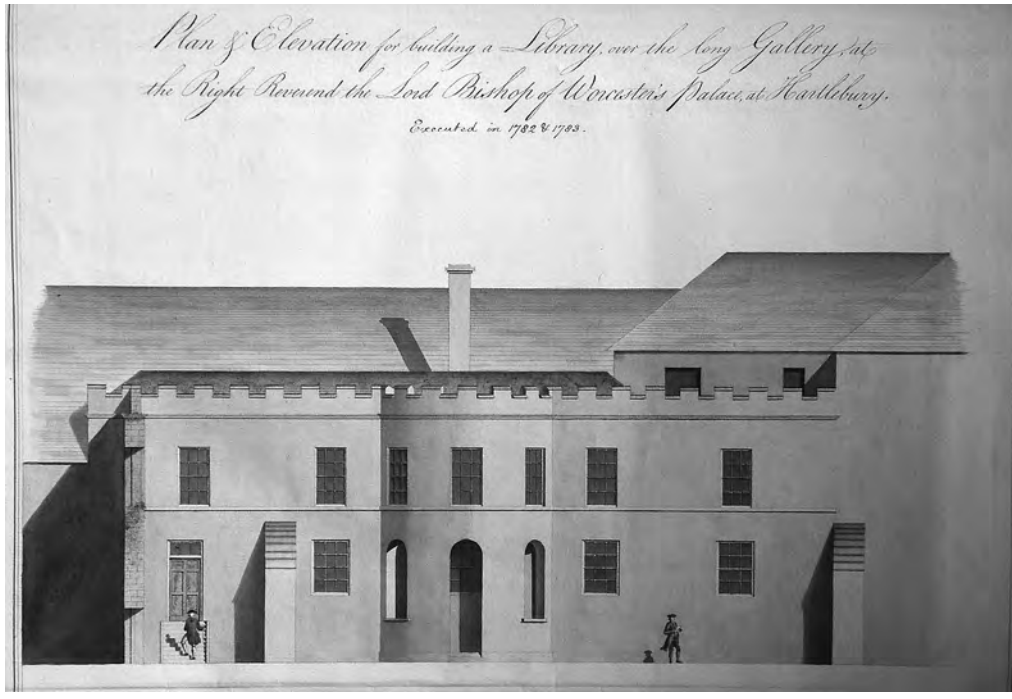


Fig. 18
A. West elevation by James Ross, showing the long gallery before the building of the library above.
B. West elevation by James Ross, showing the proposed library addition
Drawings in the Hurd Library; photographs, G. Price

The next bishop, James Johnson (1759-1774), initiated a comprehensive repair programme, reflecting a desire for a more modern residence whilst also Gothicising the castle further. A survey of repairs needed was undertaken by Stiff Leadbetter in 1759. The estimate for Hartlebury was £319 5s 11½d, whilst at Worcester it was £252 0s 4d; but there is no evidence that Leadbetter was employed at Hartlebury. Johnson had the old fashioned mullion and transom windows removed from the east front, replacing them with sash windows and gave most of the ground-floor windows two centred heads (Fig. 7).

The main rooms at the south end of the house were thoroughly gone over. In particular, the splendid interior of the dining room (the saloon) was created (Fig. 17). It was lined with new plasterwork on studs and the elaborate rococo decorations added, with ceiling panels bearing musical scores and wind instruments. The walls have rectangular panels with eared frames enriched with egg and dart ornamentation flanked by drop decorations of leaves and fruit with military trophies at their centre. Over the chimney piece there is a symmetrical design of rococo style. The decorations have a further interest beyond their design, because they are made of the then fashionable papier mâché.[16] The adjoining drawing room (divided up in the 1960s) had a simple moulded cornice and a marble chimney piece in the south wall, similar to that which survives in the breakfast room. It had columns supporting the mantel shelf and a decorative frieze. The lower (north) end of the house was 'rather more ruinous' and was thoroughly overhauled.

Altogether this must have cost rather more than the £319 estimate provided by Leadbetter but there is no trace of it in the accounts. Perhaps the bishop was spending his own money; he was known to have had some legacies left to him by good friends. He engaged in another building campaign towards the end of his episcopacy in 1773.

This included a major reconstruction of the 1680s staircase in the service wing, which was connected with the insertion of the stone geometric staircase at the north

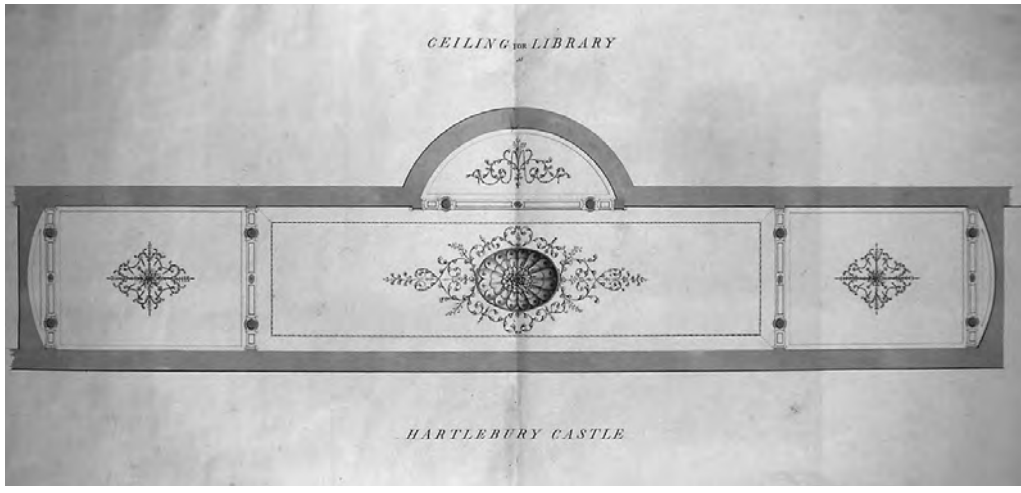


Fig. 19
The Hurd Library, plan for the plasterwork of the ceiling
Drawing in the Hurd Library; photograph, P. Walker

Fig. 20
The Hurd Library, looking north from the entrance vestibule
Photograph, M. Saunders

end of the hall, with its elegant cast iron balustrade. It was cantilevered out from the wall without further support. He also turned the forecourt from its former square lawn to the circular drive to allow carriages to sweep around.

Bishop Richard Hurd (1781-1808) succeeded Brownlow North (1774-1781). North had made little contribution to the castle. A picture of life there is given by an inventory of the goods which North sold to Hurd in 1781. Forty rooms in the main building are listed, as well as sundry passages, lofts and outbuildings. The principal rooms in the south wing included the lord's dressing room, with all necessary comforts, such as six French arm chairs and two blue festoon window curtains. In the adjoining room was the bishop's study. From here to the hall the sequence was the breakfast room, the drawing room, and the eating parlour (saloon). The long gallery was furnished with framed prints, busts on pedestals, stained glass in the windows and a billiard table. The hall was sparsely furnished, reflecting how little it was used. The out-houses included a dairy, laundry, brewhouse and stables. The contents of the castle were valued at £1,264 12s 2d, compared with £221 18s 6d for the palace in Worcester.

Bishop Hurd made the last major addition to the castle, the library to house his large book collection. It was built in 1782-83 on top of the single storey long gallery (Fig. 18A,B). There is an external elevation and a plan of the proposed library signed by James Smith and dated November 1781.[17] The coloured drawing which shows the internal elevations is dated to the same month.[18] A reflected ceiling plan for the decorative plaster work is dated July 1782 (Fig. 19).[19] Relatively little is known of the work of James Smith (1734-1807), a Shropshire man.

The library has an ante-chamber at each end, and a segmental plan bay window thrown out to the west overlooking the moat (Fig. 20). The ante-chambers and the bay window are each defined by a screen with two Ionic columns. The long west wall is filled by sash windows, whilst the east wall has a central fireplace flanked by five bay bookcases, the larger central bay with a scrolled pediment (Fig. 21). The delicate plaster ceiling was executed by Joseph Bromfield of Shrewsbury. The coved frieze is decorated with portrait medallions of writers admired by Hurd, alternating with classical motifs, and non-classical items such as a crozier and mitre. The Ionic wooden columns are marbled, the walls white and the plaster bookcase surrounds are grained light brown. The intention was to paint the walls pale green and the bookcases white. The kingpost roof over the library has neat chisel-cut carpenter's numbering.

The library lives up to its description as a 'noble room'.[20] It is the outstanding surviving feature of the castle: Bishop Hurd's intact 18th-century library in the room especially designed for it.[21] Hurd was a close friend of the royal family and in 1788 he entertained King George III to breakfast in the library. In 1807 the Prince of Wales paid a brief visit to the castle. The bedroom fitted out for that occasion (but not used) retains some of the furniture. The bed has the feathers of the Prince of Wales painted on the tester (canopy), and repeated on the window pelmet.

Fig. 21
The Hurd Library, detail of the bookcases
Photograph, author

MODERN TIMES

Hartlebury Castle became the only official residence of the bishop in 1846 when the Worcester palace was sold to the dean and chapter for use as the deanery. The furnishings in the castle were then imported from Worcester. The papier mâché frames flanking the fireplace in the saloon might have been designed to contain the portraits of George III and Queen Charlotte which now hang there. However, they came from the Worcester Palace. They were first hung flanking the chimneypiece in the hall, above which there is an associated marble oval tablet. The Chinese Chippendale chairs in the library (Fig. 20) can be seen in a drawing of about 1820 at Worcester. The two 17th-century refectory tables in the hall, said to be those made for Bishop Morley, but since shortened, were probably at Worcester.

The glass in the east window of the chapel by William Pearce of Birmingham was inserted in 1898 as a memorial to Bishop John Perowne's fifty years as a clergyman (Fig. 10). In 1901 it was regarded as an improvement because the earlier window was installed at a not 'very happy time for church decoration'.

Consideration was given in 1860 to moving the bishop to Worcester, the first of many occasions when this subject was discussed. A century later, in the 1960s, a positive decision was made to retain the castle. The bishop's lodgings were reduced to the south wing: the drawing room was partitioned to form offices, the breakfast room converted to an entrance hall and the long gallery divided into smaller rooms for the bishop. The management of the state rooms was passed to a Trust and the service end of the house became the home of the County Museum..

In 2006 Bishop Peter Selby recommended that no future bishop should continue to live at the castle. Thus in 2008 the new bishop was installed in 10 College Yard, Worcester, purchased for him as his sole residence. At the time of writing the castle's future is uncertain, in common with Rose Castle (see of Carlisle) and Auckland Castle at Bishop Auckland (see of Durham). However there is an active campaign to keep it in public hands and the Hartlebury Castle Preservation Trust has been formed with the aim of raising funds to purchase the property.[22]

NOTES

1 This is an abridged and adapted version of N. A. D. Molyneux, 'Hartlebury Castle, Worcestershire: an architectural history of a bishop's residence', *Worcestershire Archaeological Society Transactions*, 3rd ser. 22 (2010), 129-65 [hereafter Molyneux, 'Hartlebury Castle' (2010)]. All the documentary sources are given in that article.

2 The Old Palace was visited by some AMS members in the morning before the Hartlebury AGM.

3 Acquired by the bishopric in 1547.

4 Worcestershire Record Office (hereafter WRO) BA2636/10, no.43697, 13-15, Class 009:1.

5 Parliamentary survey, WRO BA2636/50 no.44004, fos 20v-22v, Class b009:1. Accounts, WRO BA2636/7 n.43682, fos 76v-94, Class b009:1.

6 *Cal Patent Rolls, 1266-1272*, 632.

7 Habington, however, describes it as of five lights; see J. Amphlett ed., 'A Survey of Worcestershire by Thomas Habington, vol.1', *Worcestershire Historical Society* (1895), 277-9.

8 M. W. Thompson, *Medieval Bishop's Houses in England and Wales* (Aldershot 1998), 65, argues that an undercroft to the chapel was a key component of an episcopal residence.

9 F. R. H. du Boulay, 'A note on the rebuilding of Knole by Archbishop Bourgchier', *Archaeologia Cantiana*, 63 (1950), 135-9; P. A. Faulkner, 'Some medieval archiepiscopal palaces', *Archaeological Journal*, 127 (1971), 140-6.

10 For a summary list of the buildings in the 1647 survey, see Molyneux, 'Hartlebury Castle' (2010), 140-1.

11 H. Colvin, *Biographical Dictionary of British Architects 1600-1840*, (4th edn, New Haven and London, 2008), 1144.

12 W. Hawkes ed., 'The Diaries of Sanderson Miller of Radway together with his Memoir of James Menteath', *Publications of the Dugdale Society*, 41 (2005), 60.

13 E. H. Pearce, *Hartlebury Castle: with some notes on bishops who lived in it, etc* (London 1926), 264; recorded in a photograph in the Hurd Library, Hartlebury Castle (the window was reglazed in 1898).

14 Removed in the 1960s; see C. Hussey, 'Hartlebury Castle, Worcestershire: the Palace of the Bishop of Worcester', *Country Life*, (7 February 1931), 160, pl.9.

15 B. Langley and T. Langley, *Ancient Architecture Restored and Improved, by a Great Variety of Grand and Usefull Designs, entirely new, in the Gothick mode for the ornamenting of Buildings and Gardens*, (London 1742), pl.XXXII.

16 The architectural use of the material is outlined in J. Thornton, 'The History, Technology, and Conservation of Architectural Papier Mache', *Journal of the American Institute for Conservation*, 32 (1993), 165-176, and H. Hawkes, 'Papier Mâché', *The Building Conservation Directory 2002* (2002).

17 'Plan & Elevation for building a Library over the long Gallery at | the Right Reverend the Lord Bishop of Worcester's Palace at Hartlebury'; 'Executed in 1782 & 1783' added in another hand. Dated November 1781 and signed 'James Smith'. In the extra-illustrated of T. Nash, *The History and Antiquities of Worcestershire* (London 1781), in the Hurd Library. The plan is probably based on a plan which he had been sent because it shows the main staircase at the south end still with its winders which had been removed by this date.

18 In the Hurd Library, Hartlebury Castle. '*SECTION FOR LIBRARY | AT | HARTLEBURY CASTLE*', signed 'James Smith' and dated November 1781. Illustrated in colour in Molyneux, 'Hartlebury Castle' (2010), col. pl. I.

19 '*CEILING FOR LIBRARY | at | HARTLEBURY CASTLE*'. Signed 'James Smith' and dated 'Shifnal July 1782'; in the Hurd Library, Hartlebury Castle. See Molyneux, 'Hartlebury Castle' (2010), fig.10.

20 W. Camden and R. Gough, *Britannia: or a chorographical description of the flourishing kingdoms of England, Scotland, and Ireland, and the islands adjacent* ..., 2, (London 1789), 359.

21 For the significance of the library, see C. Penney, 'A Bishop and his books: Richard Hurd and his library at Hartlebury Castle', *The Book Collector*, 60 (2011).

22 The Trust submitted an application to the Heritage Lottery Fund for a grant to purchase and repair the castle in partnership with the adjacent County Museum. The application was refused later in 2011, but there is every expectation that the Trust will re-apply.

A Tale of Two Barns: Paston and Waxham

by

Anthony Rossi

The great 16th-century barns at Paston and Waxham near the north-east coast of Norfolk were falling into disrepair by the closing years of the 20th century. This article discusses their context, significance and decline, and describes their rescue, in which the author was closely involved.

The late 16th-century manorial barns in the villages of Waxham (north of Great Yarmouth) and Paston (south-east of Cromer) are two of the finest agricultural monuments in Norfolk and this author had the privilege of undertaking the repair of both in the 1990s, extending in the case of Paston until 2008. The complex at Paston is listed grade II* and the barn itself is also a scheduled monument; Waxham barn is listed grade I. Paston barn is dated 1581 and Waxham was until recently thought to be earlier, but tree-ring analysis in 2005 established a timber felling date of 1583/4.[1]

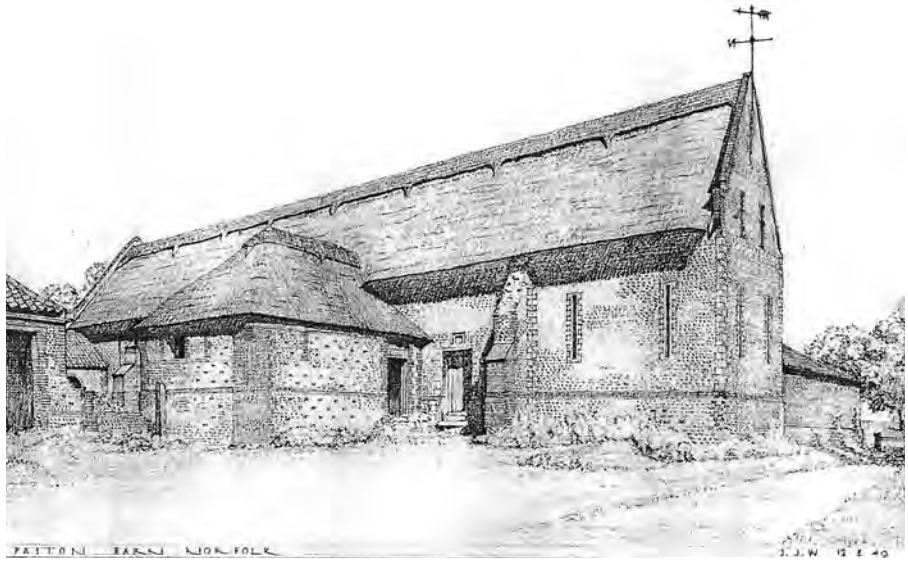


Fig. 1
Paston barn from the south-west; drawing by the late Stanley J. Wearing, August 1949.
S. J. Wearing, Beautiful Norfolk Buildings, *III (Norwich 1960), 21*

Anthony Rossi has run a small private architectural practice in Norfolk since 1985. He has been a member of the AMS Council since 1975, latterly as deputy chairman. In 2008 he was awarded a CBE for services to conservation and heritage.

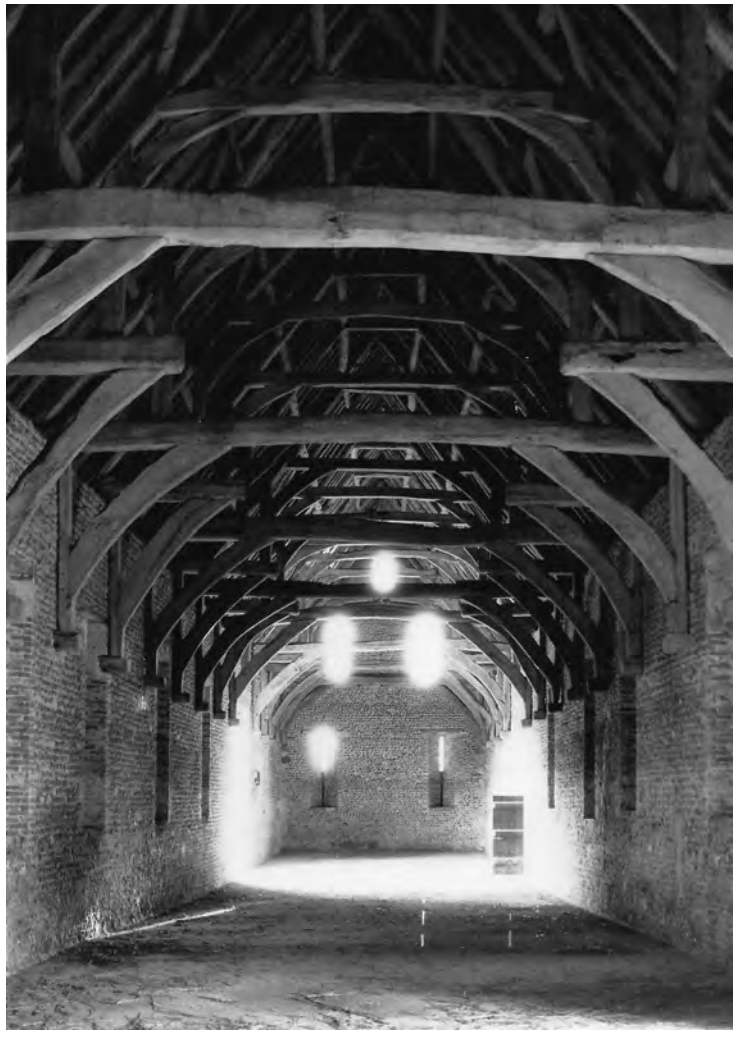


Fig. 2
Paston barn, the interior looking south, in December 1989.
Photograph, David Watt

Both barns are constructed of local flint with freestone and brick dressings, and have fine oak roofs with alternating hammerbeam and tie-beam trusses covered with thatch (Figs 1, 2). Waxham at approximately 180ft (55.4m) is marginally longer than Paston, which is about 164ft (50.5m) long.[2] At the lost village at Godwick, south of Fakenham, is a smaller brick barn of similar age with a similar roof structure. This is the surviving agricultural wing of a late 16th-century house that has disappeared and it includes a domestic element at one end and a pseudo-domestic architectural treatment on the side, which originally faced the house and forecourt.[3]

These great barns with their majestic roofs (Fig. 3) are obviously for display as well as function and the families who built them were members of the Tudor nouveau riche, whose wealth derived at least in part from the dissolution of the monasteries earlier in the century. There was probably some rivalry between the builders of two such barns a short distance apart and so close in date. They appear to continue the tradition of the pre-Reformation monastic tithe barns, while their roofs in particular echo the carpentry of the late medieval church roofs which are such a feature of East Anglia, including two fine hammerbeam roofs at Trunch and Knapton just a few miles from Paston, and a number with alternating hammerbeams and tie-beams further afield in the county.[4]

Waxham barn retains a recognisable though compromised manorial setting, including hall, gatehouse, boundary walls and church (Fig. 4). At Paston the barn is near the church and the site of the hall, but the original hall has gone and the barn remains more of a stand-alone monument, though with considerable accretions as a result of changes of ownership and later developments in agricultural practice. At Waxham there are also developments but they are less extensive and this barn remained in limited agricultural use until the late 1980s. Paston had ceased to be used for agriculture some years previously and alternative uses had been considered. Towards the end of the 1980s it was acquired by a local industrialist who approached the author regarding its conversion to a prestigious company headquarters. However, his company failed in the recession of the early 1990s and the buildings were subsequently acquired from the receivers by the North Norfolk Historic Buildings Trust. Following this a colony of rare bats took up residence and this led to a repair programme both protracted and intermittent.

Fig. 3
Paston barn. General view of the roof timbers with alternating tie-beam and hammerbeam trusses regularly spaced; also partly visible at top left and right is one of two arch-braced trusses which occur opposite the threshing doorways.
Photograph, author

HISTORICAL CONTEXT

It has already been stated that the families connected with both barns were prosperous and had benefited from the acquisition of monastic property following the dissolution.

Sir Thomas Woodhouse (or Wodehouse) of Waxham had purchased the property in the mid-16th century and was high sheriff of Norfolk in 1553. In 1546 he had acquired the wealthy Cluniac foundation at Bromholm further up the coast (near Paston) and he or his successors also acquired nearby monastic properties at Ingham and Hickling. He died childless in 1571 and was succeeded by his brother, William, followed by his nephew, Henry, who lived until 1624 or 1625.[5]

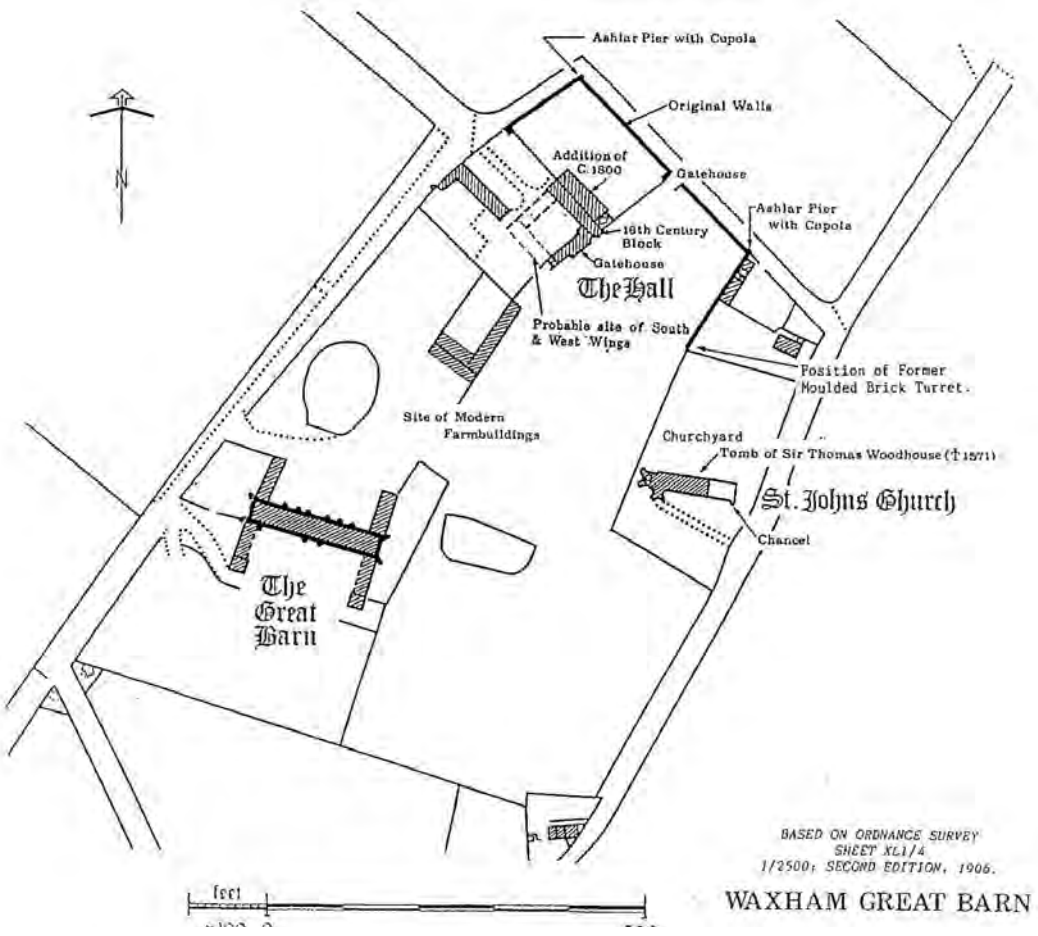


Fig. 4

Waxham. Map showing the barn within its surviving though compromised manorial context of church, hall, gatehouse and boundary walls; also the four later wings attached to the corners of the barn, and the walled yards which relate to them.

After S. R. Heywood, public inquiry proof of evidence, February 1989

The Pastons, authors in the previous century of the famous Paston letters, had risen over the generations from local yeomanry to one of the most influential families in Norfolk, with connections at court. Commemorative tablets on their barn record that it was built in 1581 by Sir William Paston (1528-1611), who founded the grammar school which bears his name at North Walsham, a few miles from Paston.[6] In 1597 he inherited from his cousin, Clement Paston, the grand house at Oxnead near Aylsham which Clement had built and which became the main seat of the family until William, second earl of Yarmouth, died bankrupt in 1732 – an event described as echoing 'through Norfolk like the fall of an ancient oak'. Oxnead and Paston were subsequently sold to Admiral (later Lord) Anson (1697-1762), who in the 1740s had circumnavigated the world and subsequently defeated the French at Finisterre, amassing a considerable fortune. Later the hall at Paston was described as standing 'near the church' and having had two courts, with a well in the inner court; the description continues that 'the buttery hatch, with the hall, is standing, but the chambers over it, and the chapel, are in ruins'. The decline of the Pastons was hastened by sequestration of property on account of their support for the royalist side in the Civil War and of some branches at least being Catholic recusants. Lord Anson evidently acquired these properties as a speculation and it was probably under his ownership that extensions to the barn complex were built, coinciding with agricultural improvements pioneered by the second Viscount Townshend of Raynham ('Turnip' Townshend, 1675-1738).

THE BUILDINGS

There are many similarities between the two barns, but also significant differences which have influenced the way the structures have behaved over the 400 years of their existence. Their sites are also different. Waxham is low lying and adjacent to the coast, and the tide is said to influence the water table; at Paston the coastline has cliffs and the barn is further inland, although less far from the sea than when it was built, due to coastal erosion. Waxham is oriented approximately west to east and Paston south to north.

Although the barn at Waxham is marginally larger, the walls at Paston are thicker and are continued on its east side above the two threshing doors, which have lintels. There are buttresses on each side of both openings, with a fifth buttress between them and three more equally spaced on the west side (Fig. 5,A). Waxham has three threshing doors on its south side which are full height, the wall plates acting as lintels. Originally there were eight buttresses as at Paston, but since four of these are diagonal at the corners of the barn, the others are widely spaced and on the south side midway between the adjacent threshing doors and some distance from them (Fig. 5,B).

Dressings at quoins, openings and buttresses are of either brick or recycled stone. At Paston the surviving original dressings of the ventilation loops are brick rendered to simulate the more prestigious freestone, but stone was used for surviving original dressings of doorways and buttresses. At Waxham stone was used sparingly, except on the original buttresses, and brick is something of a feature, the north side (facing the hall) and both gables incorporating a brick diaper pattern, with only the south side, to the farmyard, of plain flint; the gables also have brick copings. In both buildings the stone

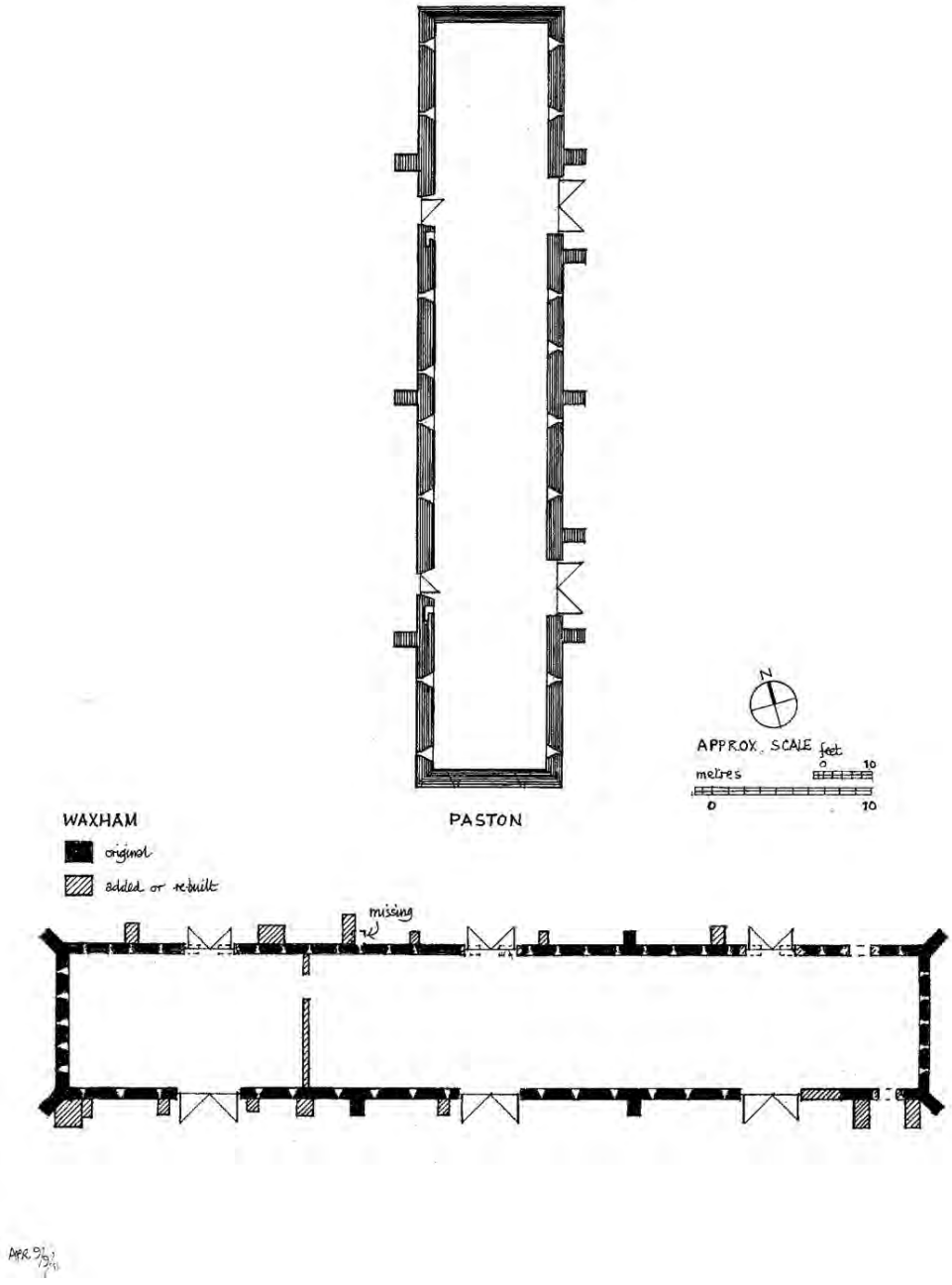


Fig. 5
Ground plans of the two barns, showing their orientation, principal openings and buttressing.
(A) Paston has benefited from its thicker walls, fewer large doorways and a better distribution of buttresses.
(B) Waxham, where significant structural deformation has occurred, especially to the south wall and west gable, and over its life no less than fourteen extra buttresses (hatched) have been added; its plan also shows the widened north doorways and inserted cross wall.
Drawing, author

used is recycled and probably monastic, and considerable quantities of worked stone were incorporated into and even buried within the general walling. Also, carved heads, evidently label stops, were built into the external wall-faces at high levels. At Waxham the west (and more prominent) gable has a pair of such heads and at Paston there is one head above the north threshing doorway and another in the north gable.[7]

Both barns have a significant number of tall narrow ventilation loops regularly spaced on their long sides and set in tiers on the gables, and with splayed internal reveals and wood lintels. Small doorways opposite the threshing doors survive at Paston and probably represent the original arrangement at Waxham, but there the opposite doorways have been widened (see below). The small doorways have niches alongside them, possibly to accommodate lamps. The threshing doorways at Paston (Fig. 15) are of considerable interest, with original frames consisting of jambs which are supported on and braced to extended ground sills, with moulded corbels supporting the heads, which have two more lintel members behind them. The door stiles extend upwards into metal loops fixed to the heads of the frames (see below).

The design of the roofs of both barns, especially the sequence of alternating hammerbeam and tie-beam trusses, is essentially similar, but again there are variations which have affected subsequent performance, and the roof at Waxham is weaker. This barn has twenty trusses and Paston twenty-one, in both cases with a tie-beam truss against each gable (Fig. 6). At Paston the truss spacing is consistent, with five common rafters in each bay, and above the centre of each set of threshing doors there is an arch-braced truss with shorter wall-posts with a tie-beam truss each side of it, giving a total of eleven tie-beam and eight hammerbeam trusses. At Waxham twelve trusses had tie-beams and eight hammerbeams; there is a tie-beam truss on each side of each threshing doorway, but only between the doorways are the trusses closely spaced, with four rafters per bay. Above all three threshing doors the bays have nine common rafters and towards each gable is a pair of bays with seven rafters each.

The design of the actual trusses also differs (Fig. 7). In both cases there are braced wall-posts below the ends of the beams, but at Paston the lower ends of the posts are supported on built-in timber corbels while at Waxham they simply hang without the additional support. Both roofs have queen-struts carried up to the principals and a further horizontal member above, braced at each end. However, at Paston this member is less than halfway up the roof and there is a collar below the ridge: at Waxham it is at a considerably higher level and there is no collar.

Both roofs also have three purlins in each slope. The lowest ones are more substantial and mortised, with discontinuous rafters tenoned to them, the upper rafters being laid over the lighter upper purlins and jointed at the ridge. The middle purlins have small wind-braces at each end and, due to the variable truss spacing, seven of the nineteen bays at Waxham have longer purlins less effectively braced. The trusses in both roofs are numbered in the usual fashion, at Paston south to north and at Waxham east to west (Fig. 6). At Waxham many of the common rafters are also numbered but with scratched rather than chiselled numerals and in no particular order, suggesting that they are recycled from a medieval monastic building.

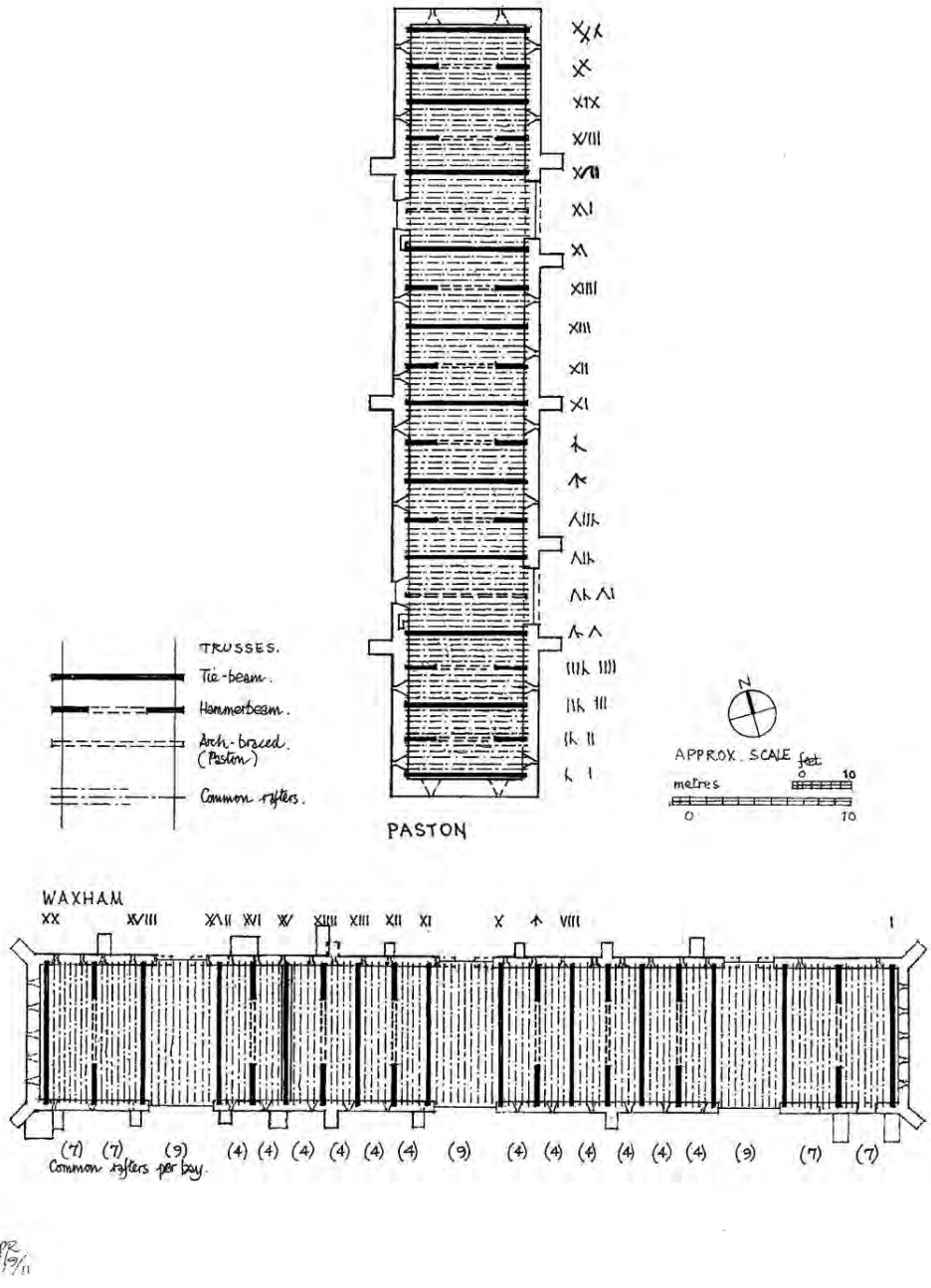


Fig. 6

Plans of the barn roofs: (A) Paston, showing the regular spacing of alternating tie-beam and hammerbeam trusses, with the two arch-braced trusses centred on the large doorways and five common rafters in each bay. (B) Waxham, showing the varied bay widths, with nine common rafters at the doorways, four in each of the bays between them, and pairs of bays with seven rafters at each end of the building.

Drawing, author

While the dating and authorship of the barn at Paston is known from the plaques built into its walls, the date of Waxham remained more conjectural before the timber felling date of 1583/84 was established in 2005. Previously a date of c.1570 had been assumed on stylistic grounds, mainly relating to the brickwork diapering.[8] It is not impossible, of course, for the building campaigns to have extended over a period: there is a telling vertical line of freestone on the internal face of the west wall at Paston, and at Waxham the death of Sir Thomas Woodhouse in 1571 could have disrupted plans.

LATER DEVELOPMENTS

At both locations there were later developments which illustrate changes in agricultural practice. At Paston, although the later developments are extensive, the original barn remains almost unchanged, apart from alterations to buttresses and the insertion and subsequent blocking of an opening in the west wall to provide a link to a later attached building. At Waxham, however, some significant alterations were made to the barn itself, including the insertion in the 19th century of three wide openings in the north wall, opposite to but lower than the threshing doorways (Fig. 5,B). These openings were evidently to permit loaded carts to be driven in from the south, unloaded within the barn and driven out unloaded, probably because of the use of larger carts which could

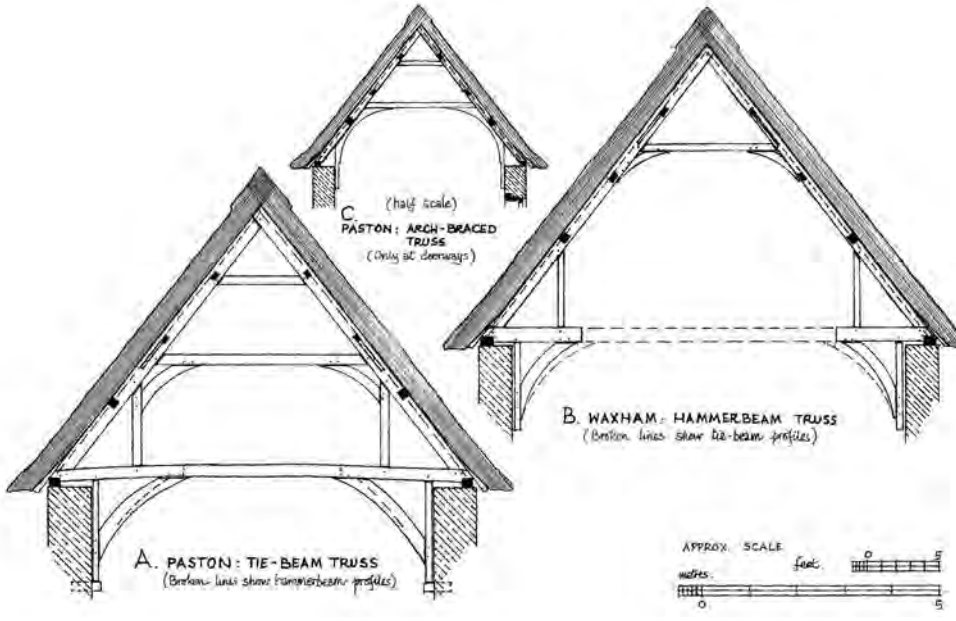


Fig. 7
The roof truss types. Both barns have alternating tie-beam (A) and hammerbeam (B) trusses with pairs of queen-posts and a braced horizontal tie. At Paston (A) this member is lower and there is a high level collar, while the wall-posts are supported on built in timber corbels, resulting in a stronger roof. At Paston there is also an arch-braced truss (C) opposite the centre of each threshing doorway.
Drawing, author

Fig. 8
Paston, the farm buildings from the south-east, December 1989, prior to repair. The original barn with its long roof is behind, the 18th-century thatched fodder shed in the foreground and the slightly later open fronted shed behind it. The open-fronted sheds at each end are late 19th-century, with their gables raised above the enclosing walls of the earlier yards.
Photograph, David Watt

not easily be turned around within the barn. A brick cross wall was also constructed, coinciding with the sixth roof truss from the west (truss 15; Fig. 6,B), and a larger, probably pitching, opening was inserted in the west gable at high level.

Other alterations at Waxham were made for structural reasons, with the construction of additional buttresses (Figs 5,B and 17) and the rebuilding of one section of the south wall. These were of various dates, the most recent probably dating from the mid-20th century, and were the consequence of structural movement especially to the south wall, caused by the southern aspect, high water table and shallow foundations.[9] This instability was reflected in movements elsewhere which had to be addressed when the building was repaired (see below).

Earlier repairs to the roof had included the renewal of three tie-beams in pine, at truss 15 above the inserted cross wall and at trusses 8 and 13, using slightly tapered circular poles which are probably recycled ships' masts (Fig. 10). At truss 19 the south hammerbeam was missing and a pine member had been inserted spanning to the hammerbeam opposite. During the repair programme this inserted member was removed and the missing hammerbeam reinstated.

Later developments at Waxham included the construction of four low wings extending northwards and southwards from the east and west ends of the original barn,

with walls linking the ends of the wings to form enclosed yards (Fig. 4). On the south side each wing ended in an enclosed and roofed space with access from outside the yard, and the remainder were also roofed but open-fronted, an arrangement clearly relating to fodder storage and over-wintering of cattle, and probably dating from the mid-18th century. It is less clear whether the wings to the north were similar in date and purpose, but they have additional enclosed areas on their outer sides which extend past the ends of the barn.

At Paston additions to the agricultural complex are considerably more extensive than at Waxham and show clear evidence of successive phases (Figs 8, 9). On both sides of the barn enclosed yards and fodder stores were added and this seems likely to have occurred following Lord Anson's acquisition of the Paston properties in the mid-18th century, reflecting the changes in agricultural practice then being introduced. To the east, twin yards were created with a detached fodder store which had an opening to each yard (Fig. 9,B); the yards themselves were also linked. To the west was a single yard with another fodder store built against the west face of the barn (Fig. 16). The north and west enclosing walls of this yard were subsequently encapsulated in later buildings, but the coping line can be clearly seen, on the west side following the slope of the site. The roofs of both these fodder stores were hipped and thatched.

Two further phases of development can be identified on the east side of the barn (Fig. 9,C). First, back-to-back covered open-fronted sheds were provided with a shared roof spanning over the dividing wall between the yards, and a hipped end forming a valley with the fodder store. The dividing wall was raised and the opening within it blocked, and above the wall a row of rather flimsy studs was added to support the ridge of the new roof, which at its western end encapsulated the central buttress of the barn. Either at the same time or later, the twin openings from the fodder store to the yards were blocked. This and all later roofs were covered with pantiles, laid over reeds and battens. The final phase was the provision of two more open-fronted sheds on the south side of the south yard and the north side of the north one, the end walls in each case being raised to form gables. The roof structures are late, and in softwood – one truss has a painted date of 1880, which there is no reason to doubt.

To the west, the north and west walls of the open yard were incorporated in a long, low L-shaped building which may have been constructed in stages and contains remains of stable fittings (Fig. 9,C). It seems this was associated with the provision of a horse gin in the former fodder store, perhaps in the early 19th century. This explains the opening made in the wall of the barn and subsequently blocked, and two of the tie-beams within the barn have a series of notches possibly associated with the installation of a threshing machine which was later removed. The external openings in the fodder store have been altered but this was done much more recently, as Stanley Wearing's drawing of 1949 shows the original arrangement (Fig. 1).

One other building, on the southern boundary of the site completes the complex at Paston. This is a long narrow range, the larger eastern section of which is open-fronted, the shorter western portion having two cart sheds above which is a loft approached by a stair within the open-fronted section. The roof is pantiled and has a relatively shallow pitch, but some timbers in the western section are substantial and of oak and the individual

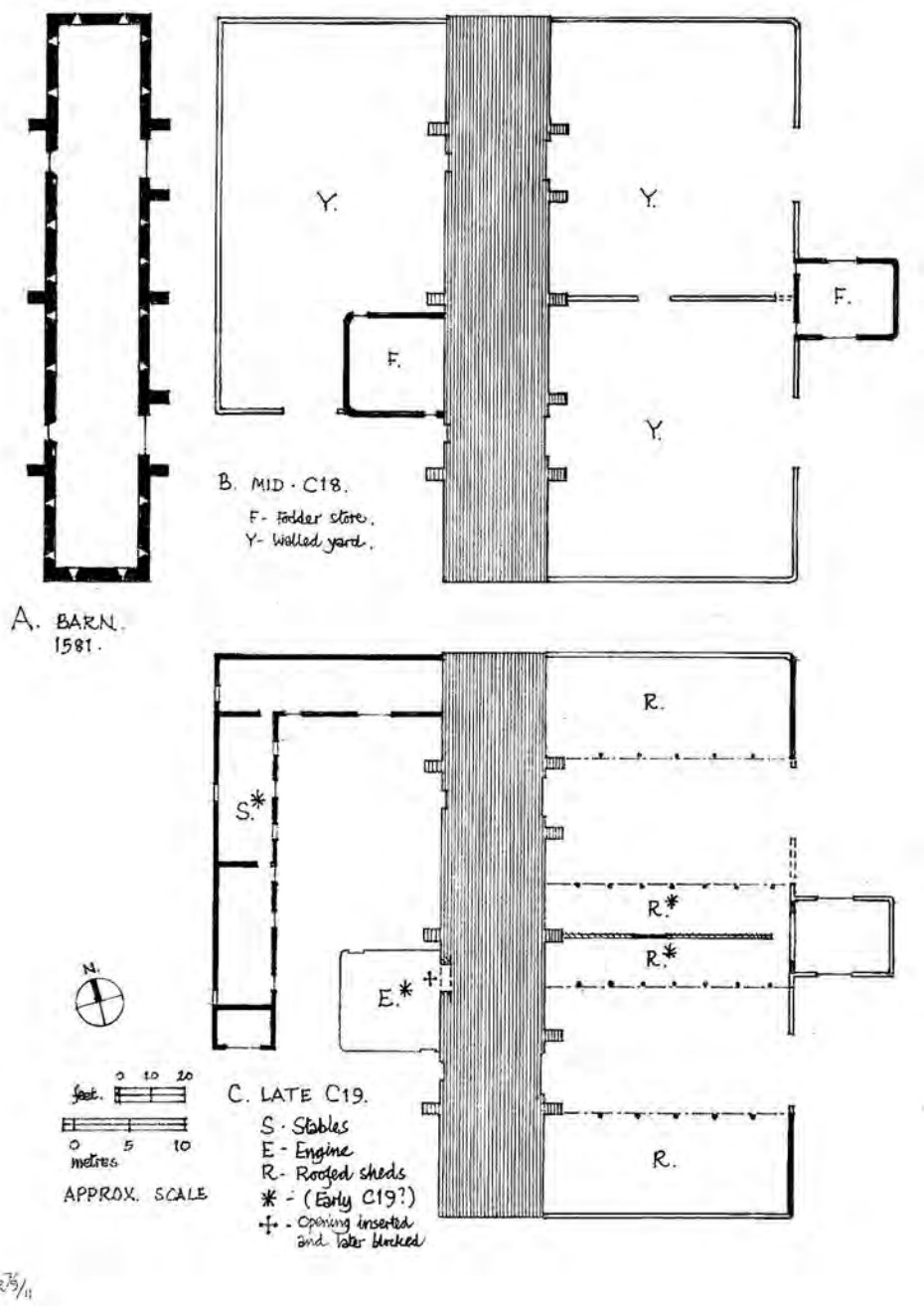


Fig. 9

Paston, the development of the farm buildings: A, the original barn; B, the (assumed) mid-18th-century additions of walled yards and winter fodder stores; C, the 19th-century provision of covered sheds on the east and the L-shaped stable block to the west, probably coinciding with the provision of a horse-gin in the former fodder store. (Note: this drawing omits the separate building on the south boundary of the site).

Drawing, author

steps of the stairs are worked from the solid; all of which tends to suggest an earlier date than some of the other buildings. On this building the open frontage had been supported by piers of faced Fletton brick linked by pre-cast concrete beams, probably an alteration after the second World War and perhaps representing the last stage of agricultural use of the complex. However, when the barn roof was under repair two renewed principals were found in its west slope, dated 1975, only just prior to its complete cessation.

Fig. 10
Waxham barn, interior in January 1989, looking west from the collapsed east end, following the great gale of 23 October 1987. The truss in the foreground (truss 8) shows an earlier repair with a slightly tapered pole, probably a ship's mast.
Photograph, David Watt

DECAY AND REPAIR

In the autumn of 1987 the writer was asked by Norfolk County Council to undertake a feasibility study regarding the repair and potential for use of the barn at Waxham, including its likely cost. The building was still in use for calf rearing by the farmer owners, who had a prize winning herd of Ayrshire cattle, but its structural condition had deteriorated to the extent that the County Council was considering compulsory acquisition. There had also been a number of years of fruitless negotiation involving English Heritage and their predecessors. About a year earlier the County Council had served an urgent works repairs notice, involving sheeting of the roof where the thatch had seriously deteriorated, and some propping.

Within days of the writer's appointment came the great gale of 23 October 1987. The wind got under the temporary sheeting and lifted the eastern third of the roof more or less bodily, also bringing down sections of walling including part of the east gable (Fig. 10). As a result the project was almost abandoned, but after careful inspection and sorting of timbers the writer considered that reinstatement was possible with a comparatively small amount of new material and that the historic integrity of the barn would remain. English Heritage were prepared to grant aid both the acquisition and the repair and the County Council bravely, and not without some opposition, decided to proceed. The farmer applied for consent to demolish the barn and appealed against the purchase order, but a public inquiry was held in February 1989 and the decision went in favour of the County Council.

One fiction which emerged from objectors was a suggestion that the hammerbeam trusses had originally had tie-beams and that these had been cut to improve headroom. In fact the bracing of the hammerbeams is consistent and dimensionally different from that of the tie-beams, as it is at Paston (Fig. 7,A-B) and in most cases it is obvious that the grain of the timber between individual pairs of hammerbeams could not be from the same tree. The carpenters who constructed both these fine roofs were only a few generations removed from those who worked on the magnificent late medieval hammerbeam church roofs which are common to East Anglia.

Subsequent to the inquiry the writer advised full scaffolding of Waxham barn to enable a detailed structural survey and the propping of any unstable parts of the structure. The scaffolding was purchased and on completion re-sold, as it was thought, correctly as it turned out, that with an indefinite time scale this would cost less than hiring it.

Much of the walling, including added buttresses, was sound apart from localised cracking and face collapse, but as mentioned above the south wall had over a long period become seriously distorted and the roof, and to a lesser extent the north wall, had followed it. The roof was also racked from west to east and had dragged the gables with it so that their upper parts were seriously out of the vertical, in addition to which the recent gale had brought down some of the east end including part of the gable.

An opinion was sought from a sympathetic structural engineer, Brian Morton, who broadly agreed with the writer's diagnosis and advised the insertion of reinforced brick beams to aid stability. In most cases it was possible to insert these by cutting pockets in the internal wall faces and building the beams in short lengths, which were subsequently linked by the reinforcement, leaving the external wall faces undisturbed. Thus a complete

Fig. 11
Waxham barn. Insertion of a concealed brick beam within the wall thickness of the barn, with overlapping reinforcement to permit installation in small sections; this forms a continuous ring around the building and includes short piers to anchor the wall-plates (seen above).
Photograph, author

Fig. 12
Waxham barn. The interior of the barn after repair, looking west towards the inserted cross wall; note the wall-posts floating clear of the wall face, the varying numbers of rafters in individual roof bays, the widened north doorway and the previously replaced tie-beam near the cross wall.
Photograph, author

ring was provided just above the heads of the ventilation loops, with short piers at intervals rising to the wall-tops and anchoring the wall-plates (Fig. 11). The beams were inserted at this level as it was considered that if they were higher and movement continued, they would be less stable, though the wall-plates had to be tied over the full height south openings. The leaning upstanding sections of the east and west gables were additionally reinforced with grids of beams, including raking ones following their triangular shapes, and when the roof was repaired this too was braced with diagonal boards between the thatch underlay ('fleaking') and the main covering. All of this work was invisible on completion. While strengthening the walls, significant quantities of recycled and worked stone were found built in and are now on display at the site.

The dragging of the roof as a result of the distortion of the south wall had left most of the wall-posts on the north side hanging clear of the wall face and some of the dovetailed tie-beam bearings on the wall-plates much reduced, while the south side wall-

plates were seriously out of line. The replacement or insertion of four tie-beams has been mentioned, but only that at truss 19 (a hammerbeam truss) was removed. Otherwise general strengthening was undertaken, including blocking the hanging posts off the wall-faces (Fig. 12). In some ways, once the fallen timbers had been sorted, re-erection of the collapsed third of the roof (from the east gable to truss 8) was more straightforward than the repair of the standing section, and although some renewal was necessary, it remains substantially original.

Repairs to the main barn at Paston, also generously supported by English Heritage, were similar but less extensive. Nevertheless, as work proceeded, considerable strengthening and some renewal of roof timbers was needed due to decay, mainly from death watch beetle, in sapwood and in timbers which had been in contact with masonry or beneath defective thatch (Fig. 13A-B). In both barns original jointing, generally with mortices, tenons and oak pegs, was replicated, but where new timber was joined to old in the same structural member, the scarf joints were made rigid by the use of stainless steel bolts. At Waxham the bolt ends were pelleted with raised pellets to distinguish them from original pegs, but at Paston it was decided, in view of the low light levels, that bolt ends could simply be left exposed without being obtrusive.

The structural walls at Paston were so sound and stable that virtually no repair was needed except to the buttresses, although previously lowered ground at the south end of the barn was reinstated to its original level, which was a visual improvement as well as structurally stabilising. However, the buttresses needed quite extensive repair and some localised rebuilding. Generally these have three stages with a plinth: the upper stages appeared mostly original with stone quoins and cappings and were sound (Fig. 14); whereas the lower stages, for reasons that were not apparent, had been rebuilt or re-faced with later work, generally of brick, and in some instances also to a different profile. This work was not all of one period, but in most cases appeared 19th century and included re-capping the offsets with slabs of Welsh slate, which could have been transported by sea or rail. There was considerable instability and vegetation growth so that re-facing or more radical reconstruction was needed, replicating what was there rather than attempting any 'restoration'; except that where the slate cappings were either missing or unserviceable the offsets were capped with brick, which was felt to be more sympathetic. The slate slabs were not the only evidence of the railway age, since the posts on one of the open-fronted sheds were recycled railway sleepers. It proved possible to obtain additional ones for use in repair.

The threshing doors at both locations consisted of large hinged pairs of doors above lift-out panels, and were probably considerably later than the buildings. However, at Paston, besides the original frames already mentioned, the south set of doors was less recent and of interest with ledges that were nicely tapered and chamfered (Fig. 15). They were in poor repair, but as a result of the skill of the joiner it proved possible to salvage much of the framing and replicate missing members; the interesting door frames were also repaired. The presence of the extended stiles and iron hoops at Paston suggests the possibility of harr-hung doors originally,[10] but as found the hanging arrangements at the lower ends were very makeshift, with inadequate hinges. These were replaced with

Fig. 13
Paston barn: A, decay in the roof timbers; B, roof repairs in progress. Despite appearing superficially sound, the roof timbers needed quite extensive repair because of pockets of death-watch beetle attack in sapwood and where timber had been damp due to leaking thatch or contact with masonry.
Photographs, author

full width double hinges made by a local craftsman blacksmith, Bill Cordaroy, who also supplied the ironmongery for Waxham.

The later buildings at Paston presented different challenges, though only in the L-shaped stable block was extensive masonry repair necessary, requiring complete rebuilding of one section of external wall, rebuilding a number of small face collapses and tying across cracks. The repair of the most recent roof structures, generally softwood, was relatively straightforward, and necessary only where decay had resulted from disrepair or poor design.

The two earlier roofs of the thatched fodder stores presented different problems. That attached to the west wall of the barn was, as already referred to, an insubstantial and incomplete survival but nevertheless of interest. The pitch was also somewhat inadequate for thatch, which had probably hastened decay. The solution adopted was to construct a new roof with a steeper pitch (Fig. 16) above the surviving original members and to suspend the originals from the new using stainless steel cable. The fully hipped roof of the detached fodder shed was virtually intact and serviceable but needed a modest amount

Fig. 14
Paston barn, the north-west buttress following repair. Original stone dressings at offset cappings survived in part on most buttresses but there had also been much brickwork repair, generally of poor quality, necessitating considerable rebuilding. Note the original purpose-made brick plinth capping continuous along the main wall-face and round the buttress, and the stone dressings of the internal angle and doorway (right).
Photograph, author

of strengthening, for the most part achieved with stainless steel angle inconspicuously inserted. The numbering of the timbers in this roof is most interesting, the south-west hip being designated 'W' and the north-east 'E' with the other timbers, whether principal or subsidiary, numbered consecutively, one series along the north and west sides and another along the east and south.

In the later roofs there were places where trusses were too widely spaced and purlin spans consequently excessive. In these cases supplementary support was provided by additional trusses, using oak principals and stainless steel cables to distinguish them from the originals – an elegant solution designed by local structural engineer, Alan Gentry, who advised throughout on general structural matters, including calculating the adequacy of all twenty-one trusses in the main barn.

Neither of these challenging and important repair projects could have been brought to fruition without the skill and dedication of the local craftsmen who worked on them. The senior bricklayer at Waxham took such a pride in his work that if a piece of walling had to be rebuilt, he would make a sketch before taking it down in order to ensure that he reinstated it correctly. The foreman carpenter at Paston, who had previously worked with the author on another project, was a quiet, thoughtful Norfolk man who could be relied upon to foresee problems before they arose, and would respond to suggestions that he considered unacceptable with a protracted silence which was a signal that one was obliged to think again. And some of the best carpentry repairs on this site were achieved by a young man who had spent time in prison and had subsequently found his vocation.

Fig. 15
Paston barn, a threshing door and frame before repair. The jambs have a sill and curved brace at their lower ends and corbels at the upper; the doors, which are probably later, appear to have been harr-hung originally and their hinge stiles extend upwards at the heads into iron retaining hoops.
Photograph, author

The barn at Waxham (Fig. 17) is now periodically open to the public, the Norfolk Historic Buildings Trust having repaired the wings, one of which houses some modest visitor facilities. At Paston, however, public access is restricted because the maternity roost of rare barbastelle bats discovered in 1998 resulted in the designation of the site as a nature reserve of European significance. The presence of the colony also permitted only intermittent phased winter working and led in places to revisions of proposals to facilitate their access and maintain moisture levels and vegetation. Natural England, who now have a lease on the site, also have obligations to maintain the buildings.

The extended programme of repair, which had commenced in the winter of 1997/8, led to the author retiring from the project prior to the repair of the south boundary building and he regrets that the brick piers along its open frontage were subsequently replaced with oak posts. These piers were obviously inappropriate but they represented the final phase of agricultural use and were also structurally stabilising. Their replacement appears to be a case of conjectural restoration which had previously been studiously and deliberately avoided. It does not, as William Morris might have opined when founding the Society for the Protection of Ancient Buildings, leave 'history in the gap'. The oak posts are without doubt more in keeping but every previous decision relating to the repair of both barns had been made with the aim of preserving all the phases of their historical development, unless there was a combination of structural necessity and clear evidence of a previous arrangement.

Fig. 16
Paston, the barn and attached fodder store from the south-west, after roof repair and rethatching but before the completion of masonry repairs. The original small doorways, which have been adapted for carts at Waxham, survive here, and the later fodder store is attached and thought at one time to have contained a horse-gin.
Photograph, author

Fig. 17
Waxham barn, the south side of the barn after repair, seen from one of the later wings; two original buttresses can be seen along with four added brick ones.
Photograph, author

ENDNOTES

1 The result of the tree-ring analysis is given in *Vernacular Architecture*, 36 (2005), 75.

2 There is an earlier barn at Hales Hall in south Norfolk , the length of which is given as 184ft (56.6m) in N. Pevsner and B. Wilson, *Norfolk 2: North-West and South Norfolk*, Buildings of England (2nd edn, Harmondsworth, 1999), 378.

3 Ibid., 361, gives a date of 1586. The east wing at Blickling Hall, which is early 16th century, has a similar relationship to the house and evidently served a similar purpose.

4 The introduction to N. Pevsner, *North-West and South Norfolk*, Buildings of England (Harmondsworth, 1962) 39, includes a list of church roofs (generally in west Norfolk) with alternating hammerbeam and tie-beam trusses, but this appears to be omitted from the second edition.

5 These historical details are largely taken from evidence given by S. Heywood on behalf of Norfolk County Council at the public inquiry in February 1989. F. Blomefield and others, *An Essay towards a Topographical History of the County of Norfolk*, IX (1807), 352-5, includes an incomplete pedigree of the Woodhouse family.

6 For comprehensive accounts of the rise and fall of the Paston family and the life of Sir William Paston, see R. W. Ketton-Cremer, *Norfolk Portraits* (London, 1944), 22-57; *A Norfolk Gallery* (London, 1948); and *Norfolk Assembly* (London, 1957), 17-40 and 212-22. The description of the ruins of Paston Hall is in F. Blomefield, op. cit., XI (1810), 58.

7 There is another fragment of carved stone at high level on the south gable of Paston barn but it is too weathered to be identified. Waxham barn also has a small terra-cotta plaque built into the east gable internally but this appears later than the barn. The purpose of the label stops is not known – decoration, superstition, warding off evil, crop protection or Catholic devotion? Branches of the Paston family were certainly recusant.

8 N. Lloyd, *A History of English Brickwork* (London, 1925), describes and illustrates a range of examples of diaper patterns in brickwork with widely differing dates. Diapers and other patterns of bricks set in flintwork are relatively common in Norfolk.

9 The east-west orientation at Waxham, resulting in the relatively unrestrained long south wall, appears to have been a critical factor in the behaviour of the structure, since the sub-soil beneath the wall would have been subjected to wetting and drying, and consequently shrinkage and expansion, aggravated by a high water table and shallow foundations.

10 Surviving harr-hung doors are now rare. The hanging stiles were extended downwards to pivot on a bearing surface as well as upwards to be housed in iron hoops. This would appear to preclude the lift-out boarded panels below the doors being part of the original arrangement.

Cardigan Castle: Rescue and Regeneration

by

Edward Holland

This paper outlines the heritage regeneration project at Cardigan Castle which will rescue a site at the heart of Cardigan and of particular significance to the history of Wales. It explores the special interest of the medieval castle, sets out the project development process and demonstrates how public investment in heritage can be repaid through the economic, social and educational benefits that can follow.

Cardigan Castle is prominently and strategically sited at the lowest bridging point on the River Teifi in west Wales (Fig. 1). It is an iconic medieval site within the town of Cardigan and is central to the historic development of the area, and indeed, of Wales as a whole. The castle has important cultural associations as in 1176 it hosted the very first Welsh eisteddfod. The site was acquired in a state of severe dereliction by Ceredigion County Council in 2003 and is in the process of being transferred to Cadwgan Building Preservation Trust. In the meantime a major regeneration project is well under way to renovate the castle's site and buildings, guided by The Prince's Regeneration Trust (hereafter PRT). The outline plan for new uses includes a Welsh Language and Learning Centre and a visitor destination to the historic site, as well as the generation of income through the creation of holiday cottages, business and craft units and a café/restaurant. The Heritage Lottery Fund has supported the project throughout, with one of the highest awards ever given to a project in Wales. Support of various kinds has also come from many sources, particularly Cadw, the Architectural Heritage Fund, the Welsh Government and the European Regional Development Fund.

The site encompasses the remains of Cardigan Castle, a Scheduled Ancient Monument, and the various listed buildings and structures that have been constructed within, and adjacent to, its original curtain walls (Fig. 2). The principal building is the grade II* Castle Green House dating from the early 19th century, and is associated with the laying out of the Regency Gardens. These are included on the Cadw/ICOMOS Register of Parks and Gardens of Special Historic Interest in Wales.[2] The flora and fauna of the site includes many rare trees and protected species and the cellar of the one remaining medieval tower is the roost for the rare greater horseshoe bat.

The significance therefore encompasses a medieval site, altered, raised and overlain by later buildings of various phases, a designed garden with some specimen trees, protected species and evocative historic associations. The site is in the heart of the Cardigan Conservation Area and had fallen into such extreme disrepair that local

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Edward Holland is the Senior Projects Advisor at The Prince's Regeneration Trust, focusing on heritage-led regeneration,and has been supporting Cadwgan Building Preservation Trust in the development of the Cardigan Castle project. Previously he has been Conservation Manager for Monmouthshire County Council, a Curator with the National Trust, and Inspector of Historic Buildings at Cadw.

Fig. 1
Cardigan Castle, the southern walls from across the River Teifi.
Photograph, author 2010

people had despaired of it ever being rescued. It is heartening to see the way so many individuals and agencies have got behind this project and at the time of writing there is now great optimism that the physical revival of Cardigan Castle is about to bear fruit.

MEDIEVAL HISTORY

Cardigan Castle has a long and complex history. Early records refer to a castle having been established in 1093 but it is uncertain whether this was on the present castle site or at the site known as Old Castle Farm. It was then rebuilt in 1110 by Gilbert Fitz Richard, earl of Clare, and excavations by Dyfed Archaeological Trust concluded the boundary of the existing castle site had been achieved by 1136, when the town of Cardigan was first recorded.[3] Rhys ap Gruffudd, prince of Deheubarth, captured the castle in 1164 and rebuilt it in stone in 1171. He is regarded as one of the most important Welsh historic figures and rulers of pre-conquest Wales. In 1154 he submitted to King Henry II, accepting the title, the Lord Rhys and the role of the king's justiciar.

The 'Chronicle of the Princes' (originally written in Welsh as *Brut y Tywysogion*)[4] recounts that the Lord Rhys held a great court in Cardigan Castle in 1176, and arranged two kinds of contest one for bards and poets, and the other for harpists, crowthers, pipers and other musicians. He had two chairs for the winners who also received lavish gifts. This gathering became known as the first eisteddfod and as such it has a very significant place in the history of Wales. An eisteddfod literally means a chairing

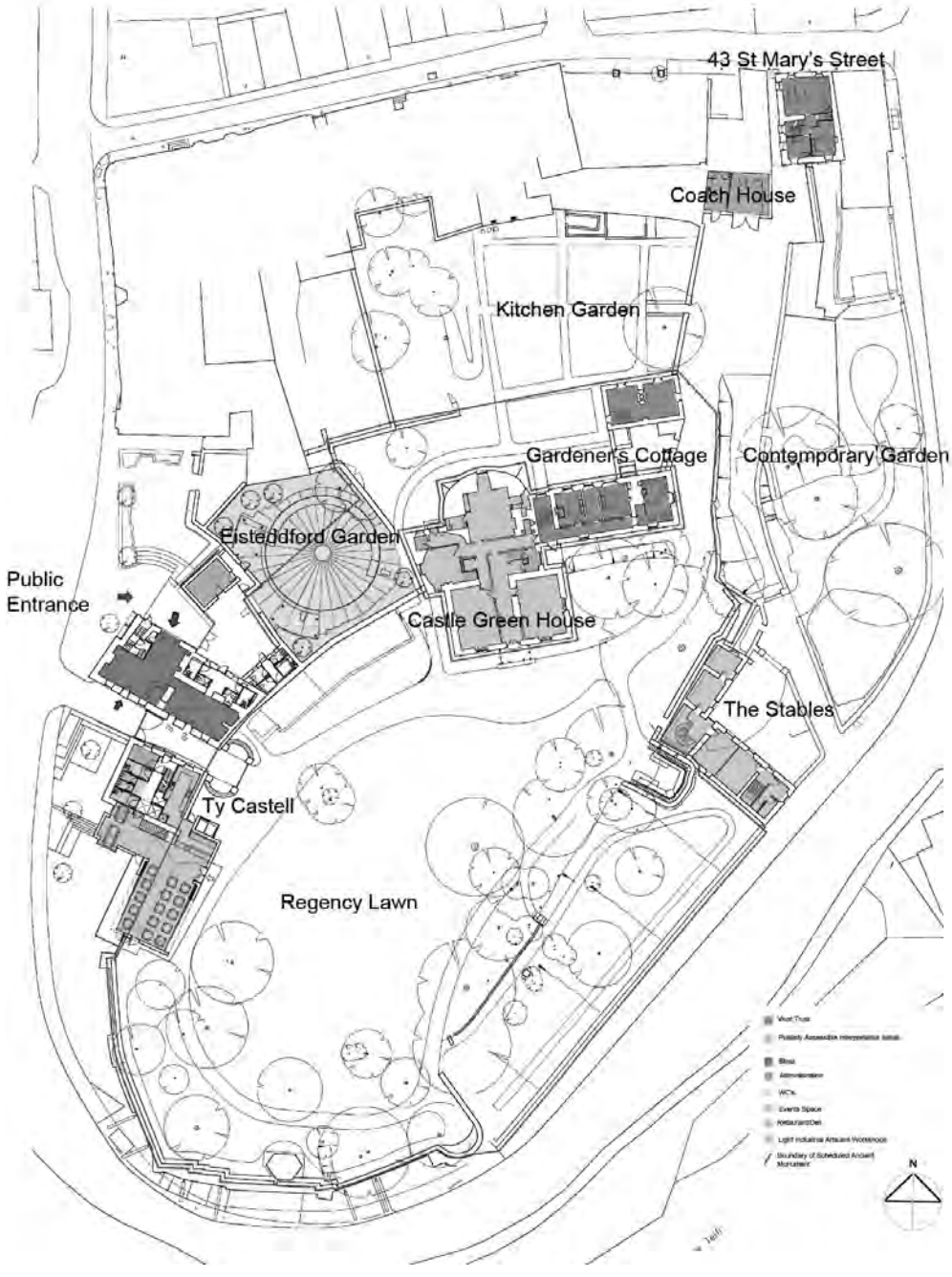

Fig. 2
Cardigan Castle, site plan as proposed.
© *Purcell Miller Tritton*

Fig. 3
John Speed's Map of Cardigan Town (1610), detail of the Castle.
Courtesy of Dyfed Archaeological Trust

place.[5] The 19th-century revival of the whole eisteddfod tradition by Iolo Morgannwg and his Gorsedd of Bards created an artistic genre in itself, carving exquisite chairs to be presented to competition winners each year. There are local eisteddfodau throughout Wales and the annual National Eisteddfod alternates between north Wales and south Wales.

The Lord Rhys died in 1197 and the castle changed hands many times, being critically sited between the Anglo-Normans to the south and the Welsh to the north. In 1240 it was captured by Walter Marshal, son of the prolific castle builder, William Marshal. King Henry III regained direct control in 1241 and refortified it at royal expense, including the construction of a new keep and, later, the town walls in 1261. Cardigan became the administrative hub of the new county of Cardiganshire in 1271. By 1279 it was a key royal base for King Edward I's campaigns against the Welsh and indeed it remained allied to the English crown for the rest of the medieval period. The medieval fabric that survives today, principally part of the curtain wall and the round north tower embedded into the Regency house, dates from *c.*1250. Despite the royal interest in the castle, by 1343 the curtain wall was already collapsing and by 1610 the north tower is shown in Speed's map as being ruinous (Fig 3).

The current state of knowledge of the medieval site is summed up in a report by Cambria Archaeology:[6] 'The layout of the earth and timber 12th-century castle remains obscure, although it is likely to have sat in the gardens in front of Castle Green house. This castle was rebuilt in stone in the 1170s, and repair, rebuilding and improvements were added periodically until a major period of rebuilding in the mid-13th century. Archaeological work has revealed something of this 13th-century stone castle, the boundary to which ran along the cliff-top. The cliff itself is now obscured by the high walls that were built around the site in the 19th century but there remains evidence of some of the medieval towers that projected outwards at the base of the cliff. Remains of a castle gateway or bailey entrance have been revealed underneath the Green Street cottages but evidence for some other buildings that would have stood within the castle ward has remained elusive. It is possible an outer bailey of the castle also extended to the north, up to the line of St Mary's Street.'

THE CIVIL WAR AND AFTER

During the Civil War the Castle was damaged by Parliamentarian forces. By 1713 it is recorded that Lewis Price, mayor, carried out landscaping works to create a bowling green – hence the later name of the house. The prints of 1741 and 1762 by Samuel and Nathaniel Buck show some buildings to the east of the tower but the first mention of

a substantial residence does not occur until 1799. On his travels in Wales in 1802 Sir Richard Colt Hoare commented: 'I returned to Cardigan by land, but how different is the appearance of the castle on the land side! It might almost be passed by unnoticed; whereas by water it forms the grandest and most pleasing ruin in South Wales, and cannot fail to leave a lasting impression on the recollection of every traveller who visits it'.[7] An engraving of 1804 shows the castle from the water at about this time (Fig. 4).

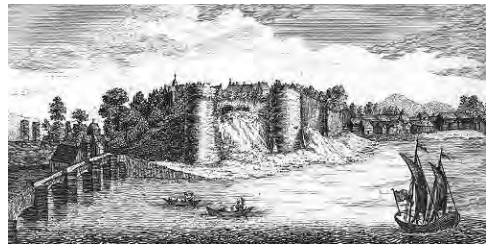

Fig. 4
Cardigan Castle, from the south in 1804 (engraving by Metcalfe, 1804)
Courtesy of Dyfed Archaeological Trust

Sir Samuel Rush Meyrick, the distinguished collector and antiquarian, noted in 1808 that 'the castle and the ground contained within its outer walls (called Castle-Green)... now belongs to John Bowen Esq who is erecting a house on the site of the keep, the dungeons now serving as his cellars'.[8] John Bowen, who was a local attorney, incorporated part of the north tower and is believed to have levelled the site by filling in the ditch and raising the ground within the former keep. In 1828, the then owner, Arthur Jones, solicitor and high sheriff of Cardiganshire, added the Regency front to the dwelling that we now know as Castle Green House and constructed the stables. In 1833 Samuel Lewis referred to it as 'a handsome modern villa'.[9] At some time between 1834 and 1836, the castle was acquired by David Davies and it remained in the Davies family until 1924. Eventually in 1940 it was sold to Mr and Mrs Wood and their daughter, Barbara, who introduced a multitude of cats (Fig. 5). During the Second World War the east wing of the house was requisitioned and was never reoccupied afterwards. The rest of the house became uninhabitable and, in 1984, it was declared unfit for human occupation, but Barbara Wood stoically continued to live on site, latterly in a succession of caravans. Floorboards were lifted to fuel the fires and the whole place was overtaken by vegetation. Following a survey by Ove Arup the castle walls were shored up with steel buttresses in the 1970s, but despite this, a part of the south-west curtain wall collapsed in 1984. By early this century Castle Green House was shrouded in scaffolding (Fig. 6), and in 2009 Miss Wood died in a local nursing home, aged ninety-one.

ARCHAEOLOGICAL INVESTIGATIONS

Over the last twenty years a significant amount of research has been carried out and any ground works, trenches or archaeological surveys have been well recorded. Nevertheless plenty of the castle site still remains to be investigated. Cambria Archaeology (now Dyfed Archaeological Trust) had a good opportunity for archaeological investigation following the acquisition of the Green Street cottages by the County Council. The rear yards were excavated and as well as confirming the line of the defensive ditch they also revealed structural evidence of the west side of the castle and perhaps a gatehouse. The excavation showed a wall projecting into the ditch which was clearly part of the outer defensive circuit of the castle.

Fig. 5
Miss Wood and the cats in Castle Green House, *c.* 1980
Courtesy of Cadwgan Building Preservation Trust

Fig. 6
Cardigan Castle, Castle Green House scaffolded.
Photograph, author c. *2008*

In 2010 two exploratory trenches were cut by Dyfed Archaeological Trust, one near the site of the former fernery and the other, outside the current castle walls below Ty Castell (Fig. 7). These trenches were opened up during the Castle Exhibition Week in September and volunteers were able to work alongside the archaeologists on site. The Trust also carried out a watching brief during the borehole investigations to prepare a methodology for the emergency works on the castle walls adjacent to the stables.

Fig. 7
Cardigan Castle, archaeological investigations in 2010 on the site of the former Fernery, near the main entrance. The early 19th-century gateposts relate to Castle Green House; the building behind is Ty Castell.
Photograph, Dyfed Archaeological Trust

The proposals for the repair, replacement and sustainable re-use of all parts of the site present archaeological challenges and it is anticipated that each stage of the project will involve evaluation trenching, building recording, targeted trenching and research and investigation. Some of this work is suitable for involving volunteers from the local community.

THE HISTORIC BUILDINGS

The brief account that follows is based on a full survey of all the historic buildings, their condition and proposed repairs carried out in 2007 by Niall Phillips Architects.[10] Detailed schedules of condition and repair were produced, including photographic evidence and a detailed description of the site, illustrating some areas that can no longer be accessed due to the dangerous and deteriorating nature of the main house, site and other buildings.[11]

Castle Green House is a two-storey, stuccoed villa completed in 1827, listed grade II*, of three bays with a hipped roof. It was designed by David Evans, an architect from the village of Eglwyswrw in Pembrokeshire, a few miles south of Cardigan. It was a remodelling and enlargement for Arthur Jones of a house begun by John Bowen, probably about 1808. We know that Bowen leased Castle House in 1799 but it is believed that this dwelling was demolished early in the 19th century for the construction of the new Regency house. Bowen landscaped the site by filling in the castle ditch and raising the level of the ground all around. He incorporated the medieval north tower into his new house, but the ground level changes meant that what appears now to be the base of the tower is in fact its second stage. The main façade of the 1820s, with its deep eaves and trellis porch suggests some knowledge of the work of John Nash, who practised in Carmarthen in the late 18th century and designed several villas in the region, such as that at Llanerchaeron, Ceredigion (*c.*1793-5).[12] Castle Green House has some echoes of Nash's 'box villas' but there is no evidence that he was involved in any way in this house. In 1832 sales particulars described it as 'a capital modern mansion' (Fig. 8). The main

Fig. 8
Cardigan Castle, Castle Green House, the main façade, 2004.
© *Crown copyright: Royal Commission on the Ancient and Historical Monuments of Wales*

Fig. 9
Cardigan Castle, Castle Green House, the staircase and Gothick window.
Photograph, author 2010

Fig. 10
Cardigan Castle, the Gardener's Cottage.
Photograph, author 2010

Fig. 11
Cardigan Castle, the wall-walk with 19th-century crenellations.
Photograph, author 2010

block is symmetrical with the main public rooms opening off a central corridor which leads to an especially fine cantilevered staircase lit by a picturesque gothick, small-pane sash window with intersecting glazing bars (Fig. 9). There is a simple classical elegance to the proportions and detailing throughout the building.

Other post-medieval buildings at Cardigan Castle include the gardener's cottage (Fig. 10) and the dairy beside the walled kitchen garden, once planted with fruit trees. Below the main castle site are the stables and beyond the main entrance are the Green Street cottages and Ty Castell, which at the outset of the project was in separate ownership as a fish and chip shop. The property at 43 St Mary Street, backing onto the castle grounds to the north-east, has also been acquired and retains a relatively unaltered 19th-century interior.

Much evidence survives of the original planting as does the layout of the 19th-century grounds with formal drive and gated entrances, one off Bridge Street and the other off The Strand, where the boundary walls have mock crenellations to perpetuate the impression of a castle (Fig. 11). The ward of the medieval castle was laid out as an ornamental garden in the 19th century, adapting the curtain wall to create a designed walk with view points. There are trees and shrubs of significance, including the enormous Turkey oak and some variegated hollies and yew. Along the wall walk is also a Second World War pillbox. To the west of the house are the remains of a glasshouse and to the far side of the main entrance once lay the fernery.

PLANNING FOR RESCUE FROM DERELICTION

Ceredigion County Council purchased the site in 2003, the year that it featured in the *Restoration* series on BBC television. Together with Cadwgan Building Preservation Trust, formed in 2000, the Council started a series of consultations to identify a viable and sustainable new use. In 2005 PRT was invited to facilitate a planning day, which gathered together all potential stakeholders to brainstorm the route forward; followed in 2006 by a visit by HRH The Prince of Wales and HRH The Duchess of Cornwall. Momentum was gathering and the County Council asked Cadwgan to carry out an options appraisal and Niall Phillips (now part of Purcell Miller Tritton Architects) was invited to lead this work.

The cost of this complex project, adapting to the site's diverse range of significance, increased to almost £10m and it was clear that funding would be a major challenge. The Heritage Lottery Fund (HLF) was approached at an early stage, with the successful outcome that a First Round pass was awarded in 2009, securing £295,000 towards the detailed development and planning work. The HLF has steadfastly supported the project throughout, culminating in the award of £4.7m in 2011, which was one of the highest awards ever given to a project in Wales. Similarly Cadw has been a key driver and supporter and its grant for the repair of the castle walls became an early symbol to the outside world that something positive was at last really happening at the castle.[13] Further support came early on from The Architectural Heritage Fund who provided not only the funding for the Options Appraisal but also the loan for Cadwgan to acquire Ty Castell when it came onto the market in 2008. Welsh Government ministers, in particular Elin Jones, Leighton Andrews and Huw Lewis, have lent their support to the project at the

highest level in the Assembly, and this has enabled the project to be successful in securing a further £4.29million from the European Regional Development Fund, through the Welsh European Funding Office. At the time of writing we are optimistic the balance will come from the Community Asset Transfer Fund, a partnership fund between the Welsh Government and the Big Lottery.

The scheme as now proposed, and for which Planning, Listed Building and Scheduled Monument Consents have been granted, is for a mix of uses. The PRT believes that with projects like this it is essential that the uses are first and foremost of benefit to local people and that it is not just focused on bringing in visitors. Those who do visit Cardigan in the future will arrive through a redesigned Brioude Gardens into a new visitor centre within Green Street Cottages and from there into the castle grounds where there will be events and activities and a chance to see the interior of Castle Green House. Here the principal rooms, dining room to the south and drawing room to the north, will be returned as near as possible to their original Regency character using the evidence of surviving detail. Similarly the kitchen to the rear will be presented as it might have looked originally. The fine staircase will be repaired and a lift will also need to be installed. Upstairs will be the rooms for the Welsh Language and Learning Centre which is a key element of the project, having already successfully begun classes in Ty Castell.

Fig. 12
Cardigan Castle, the Eisteddfod stone and temporary steel shoring of the castle walls.
Photograph, author 2010

These rooms will also be available for hire for other purposes and the apsidal room to the rear, within the north tower, allows for a 70-seater conference space. The north wing, formerly the service wing, will become a holiday cottage, as will the gardener's cottage and No. 43 St Mary Street. The stables will house workshops for traditional skills and small craft units. In the grounds, the croquet lawn to the west of the house will be an area dedicated to events such as weddings, and will include an inflatable marquee. From the river bridge to the south, the most striking evidence of change will be the removal of the unsightly buttresses, following stabilisation of the castle wall. To the west side, straddling the curtain wall to the west of Ty Castell, and with views out across the river, will be a new restaurant of consciously contemporary design; yet, in its timber-decked seating area oversailing the wall, it makes a reference back to the hoardings on the battlements of medieval castles.

The economic benefit to the town will be the creation of an estimated nineteen jobs as well as the construction jobs during the building phases. Visitor numbers to Cardigan will grow, which will in turn increase spend within the town, and the project has enormous potential for sustainable regeneration through heritage. At the time of writing, following completion of the very lengthy OJEU (Official Journal of the European Union) advertising process, required by European law, Cadwgan has just appointed Purcell Miller Tritton as its lead consultant for the implementation of the entire project and the appointment of a project director will follow. Repair of the castle walls and all other archaeological elements of the project will be within the first phase of work to start early in 2012. The moment when the walls are strengthened sufficiently to allow the removal of the first of the unsightly buttresses will be a momentous day for Cardigan (Fig. 12).

HERITAGE REGENERATION

Many people wonder why it all takes so long, why it costs so much money and whether it is all worth it. Indeed the path through options appraisals, business plans, conservation management plans, funding applications, planning consents and so on does seem interminable, and in the case of Cardigan it hardly seems credible that soon a visit there will be to discuss actual works in progress. In these economically challenging times we need to stick to our guns, confident that a good project will eventually be delivered and will in time pay for itself. On the question of whether it is all worth it, there are projects across the United Kingdom where the benefits of re-used historic buildings speak for themselves. For example, amongst PRT projects, at Sowerby Bridge Wharf in Yorkshire, a group of listed canal-side buildings has been brought back into use creating about 300 new jobs; or at Conway Mill in Belfast, a flax mill close to the most troubled part of that city has been reoccupied by community groups and offices.[14]

One example that well illustrates the potential of regeneration through heritage is Harvey's Foundry in Hayle, a former industrial town in Cornwall, where extensive data has been gathered to show why these projects are worthwhile to more than just historic building enthusiasts. With the aim of providing evidence to the Treasury of the economic sense of heritage regeneration, PRT monitored a range of issues between August 2003 and August 2010. The bare statistics are that 7333 sq.m. of historic buildings have so far

been regenerated, 743sq.m. of new build created, and forty-six business units installed. In the time the project has been running, thirteen of the businesses have expanded and 112 people are now employed on site; as well as the thirty-two jobs created during the construction works and the training in traditional building skills.

The key point is that it is not just the evident benefit in terms of preservation and enhancement of the historic environment and sustainable improvement of the social and economic well-being of local people, but it is that in the long run all this pays for itself. In the period under review, using the government's own figures, the contribution to the public purse was just over £3m.[15] On top of this are business rates, estimated at over £150,000. Another relevant yardstick in these climate-change conscious times is an estimated saving of 860,006kg of carbon by regenerating Harvey's Foundry using traditional materials as opposed to clearing the site and rebuilding from scratch.[16]

All this tells us that taking the long view, Harvey's Foundry has, over about eight years, largely paid back the investment made by the taxpayer. Rescue and adaptive reuse of historic buildings therefore can work, and though Cardigan Castle is a more costly project, there is no reason why the same outcome cannot eventually be achieved (Fig. 13).

Fig. 13
Cardigan Castle, an artist's impression of the completed project.
© *Richard Carman for Purcell Miller Tritton*

ACKNOWLEDGEMENTS

Particular thanks are due to Geraldine Delaney (formerly Project Officer for Cadwgan Building Preservation Trust) and to Ken Murphy (Director of Dyfed Archaeological Trust); to Niall Phillips for generously sharing information and the artist's impression of what Cardigan Castle might look like in years to come; and to Izaak Hudson and Sophie Hamilton-Grey of Purcell Miller Tritton. Thanks also to Cadwgan Building Preservation Trust and to its chair, Jann Tucker, and to Hayley Murphy at PRT for help in presenting the finished text.

NOTES

1 This paper is based upon the Conservation Management Plan written for the Round Two Heritage Lottery Fund application.
2 Cadw/ICOMOS, *Register of Landscapes, Parks and Gardens of Historic Interest in Wales: Part 1: Parks and Gardens* (2007)
3 Dyfed Archaeological Trust, 'Cardigan Castle: An Archaeological and Historical Survey' (unpublished report for Cadwgan Building Preservation Trust, 2009)
4 T. Jones ed., *The Chronicle of the Princes*, vol.1 (Cardiff, 1952); vol.2 (Cardiff, 1955); vol.3 (Cardiff, 1971)
5 'Eistedd' is Welsh for chair and 'fod' is a mutated 'bod' meaning place.
6 P. Poucher, N. Ludlow, and R. Edgar, *Aberteifi – Cardigan: 900 Mlynedd o Hanes Yng Nghartref Yr Eisteddfod – 900 Years of History at the Home of the Eisteddfod* (Gomer Press, 2009).
7 M. W. Thompson ed., *The Journeys of Sir Richard Colt Hoare through Wales and England 1793-1810* (Stroud, 1982), entry for Monday 5 July 1802.
8 S. Meyrick, *The History and Antiquities of the County of Cardiganshire* (1808).
9 S. Lewis, *A Topographical Dictionary of Wales*, vol.I (London, 1833).
10 Purcell Miller Tritton,'Cardigan Castle: Schedule of Condition', 2 volumes, unpublished report for Ceredigion County Council (October 2007). Niall Phillips Architects has become part of Purcell Miller Tritton.
11 These substantial documents have been appended to the HLF submission.
12 Illustrated in T. Lloyd *et al*, *Carmarthenshire and Ceredigion*, Buildings of Wales (New Haven and London, 2006), pl.60.
13 In total, so far the ancient monument and historic building grants from Cadw have amounted to £460,000.
14 Conway Mill won a 2011 Regeneration and Renewal award for the best use of a heritage building in a regeneration project. For more information on projects, go to the PRT website www.princes-regeneration.org
15 Taking median annual earnings in Hayle and calculating national insurance and income tax contributions, multiplied by the number of people working at Harvey's in this period.
16 Also included in the calculation is the estimated reduction in travel for people who can now work locally without needing to drive long distances.

The Monument in the City of London: Repair and Discoveries

by

Judy Allen

The Monument to the Great Fire of London, constructed between 1671 and 1677, is located near Pudding Lane in the City of London where the Great Fire started in 1666. A contract to conserve and enhance the Monument was undertaken between 2007 and 2009 at a cost of £4,500,000, funded by the legal custodians, the City of London Corporation. This paper discusses why such a sum should be spent on the Monument and the philosophical questions raised during the conservation design process. An account of the preparation works prior to the contract is given together with the attitude taken to repair work and new interventions. The new design initiatives are described together with discoveries made during the works.

The Monument represents an event in London's history which has captured the imagination of generations. The Great Fire of London began in a baker's house in Pudding Lane on Sunday, 2nd September, 1666, and was finally extinguished on Wednesday, 5th September, after burning thousands of buildings and destroying hundreds of streets in the City of London. King Charles II ordered the building of a monument to commemorate the Great Fire and to celebrate the rebuilding of the City[1]. An Act of Parliament in 1667 for the rebuilding decreed, 'To preserve the memory of this dreadful visitation…, a columne or pillar or Brase of stone be erected on or as neare unto the place where the said Fire soe unhappily began as conveniently as may be …'.

Over 150,000 visitors a year now climb the continuous flight of 311 spiral steps within the shaft of the great column of the Monument and admire the continually changing views over London (Fig. 1). The Monument is intriguing to visitors – a massive historic stone column amongst the high-rise buildings in the heart of the city. This is in contrast to the late 17th century when the newly constructed Monument towered above the surrounding streets of terraces, adjacent to the primary route of Fish Hill Street leading to the old London Bridge (Fig. 2).

The Monument itself is largely unchanged since its construction over 300 years ago. It remains the tallest isolated stone column in the world and has limited visitor facilities: no interactive interpretation, toilets, shop or lift. Its historic and architectural importance is nationally recognised by its grade I listing and registration as a scheduled ancient monument.

The City of London Corporation, who own and manage the Monument as a visitor attraction, receive a regular source of income from the paying visitors. This funds the management and staff, regular cleaning, maintenance and major repairs, which occur approximately every 80 years when the column is fully scaffolded.

Judy Allen is an Associate at Julian Harrap Architects and was project architect for the Monument Major Repair Contract 2007-2009. She has worked as project architect on many Grade 1 listed buildings, including Sir John Soane's Museum, the Farnborough wind tunnels and Cliveden.

Fig. 1
View of the top of the Monument against the City skyline, following completion of the repair contract.
© Sue Salton Photography, February 2009

Fig. 2
18th-century view looking south down Fish Hill Street towards the old London Bridge. The Monument rises high above the surrounding buildings; a simple balustrade encloses the viewing platform.

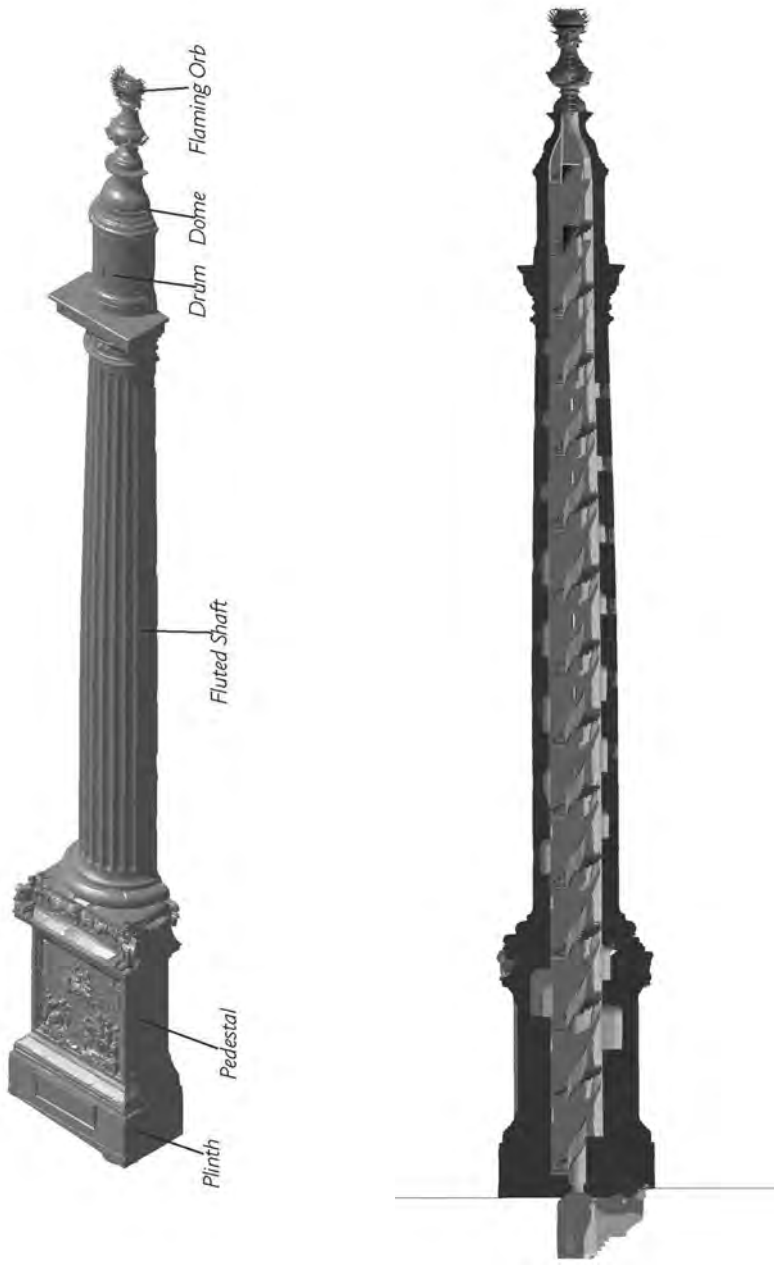

Fig. 3
Cut-away sections of the 3D computer model of the Monument showing the external west side of the Monument and the interior of the building.
© *The Downland Partnership*

PREPARATION FOR THE MAJOR REPAIR CONTRACT

Julian Harrap Architects were appointed in 1991 by competitive interview and financial bid as architects for the Monument, the first commission being a quinquennial inspection of the condition of the fabric. Over the next decade the practice worked for the City of London to understand the history and construction of the building and how it has responded over the years to changes in its environment. The Docklands Light Railway line has been built beneath it; tall buildings have arisen around it, drastically altering the local wind conditions; air pollution has greatly increased over its lifetime and the thousands of visitors have affected the structure, finishes and environmental conditions.

Measured survey and measuring verticality

A measured survey of the entire monument was commissioned from the Downland Partnership, who recorded the exterior from a crane. Their survey drawings are of such detail that every stone block and each step of the spiral staircase is individually measured (Fig. 3,A-B). The survey drawings were used as a basis for the contract drawings and quantified specification for the works. The verticality of the Monument was measured using a laser beam arising vertically through the shaft and measuring offsets from the laser beam to brass studs set into the walls at different heights. Four 10mm diameter brass studs were fixed with resin into the masonry inner face of the shaft, on the north, east, west and south points, at four levels: basement, ground floor, mid-height up the shaft and at viewing platform level. At 2005, it was seen from these measurements that the Monument leans from ground to the viewing platform level by 270mm (10⅝ in.) towards the south. Regular monitoring of the verticality is recommended using this system to see if the column is moving. The alignment of the Monument above viewing platform level (the drum and flaming orb) was not recorded.

Environmental monitoring

Ridout Associates were commissioned to monitor the internal and external environmental conditions over a whole year (April 2004-2005), allowing a full cycle of relative humidity (RH) levels and temperatures to be analysed. Interior RH was higher than external RH and the temperature inside the building was lower than that externally. RH increased the further up the building. Within the column shaft, below the viewing platform level, where the slot window openings had no glazing, the high interior RH resulted in surface condensation running down the gloss-painted massive stone walls, ponding on the steps. Above viewing platform level, where the slot windows were glazed, the condensation did not occur.

Recommendations were made to stabilise the internal environmental conditions in order to secure the long-term future of the fabric. The proposed strategy included background heating, to be activated during critical humidity conditions, removal of the gloss paint to restore the breathable, absorbent stone wall surfaces, fitting the slot window openings with glazed opening lights and reinstating a door at the top of the stairwell to control the internal environment. These recommendations formed part of the brief for the major repairs contract.

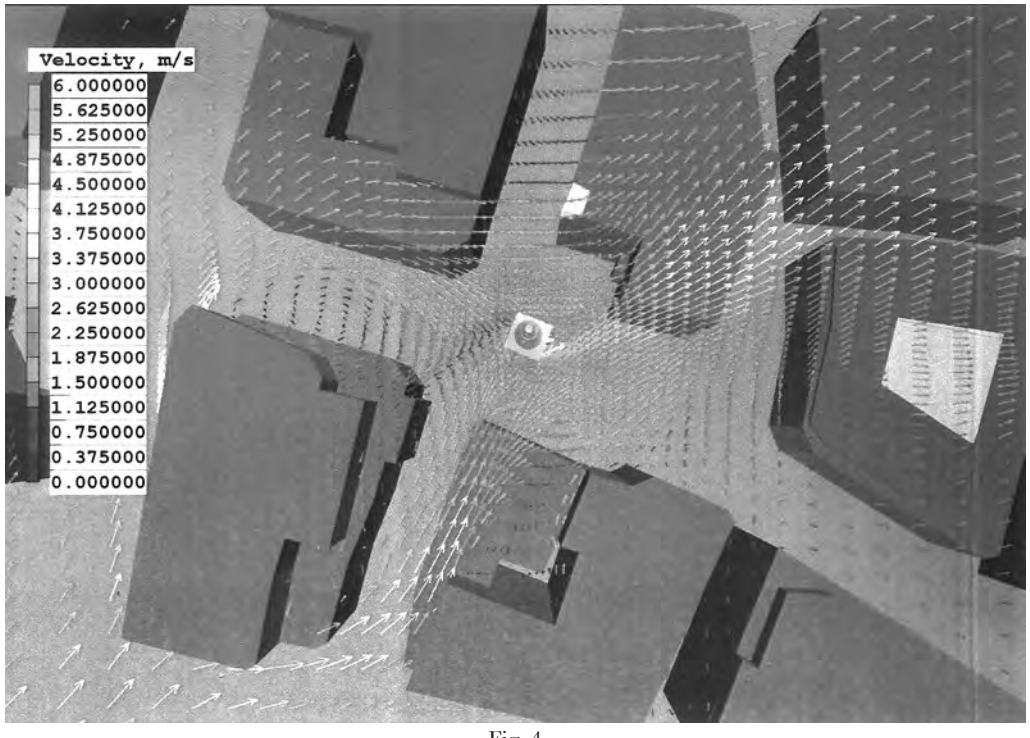

Fig. 4
Virtual wind tunnel model of the Monument and surrounding streets.
The figures are the wind speeds from the south-west at 2m intervals up the Monument, starting at velocity 0.0m/s at 1m from ground level.
© *Fulcrum Consulting Building Physics Group*

Local wind analysis

A local wind analysis was commissioned from Fulcrum Consulting to provide information for the design of the scaffolding and any objects to be fixed to the Monument. This allowed temporary and permanent additions to the structure to be designed with minimal intervention into the historic fabric. A three-dimensional computer model was generated of the Monument, together with the forms of the surrounding buildings, to which wind speed and direction data was applied and the local wind conditions calculated. Results revealed that the tall surrounding buildings caused turbulent local wind conditions and that hurricane force winds could be expected during a 1-in-50 years storm, as illustrated in Figure 4. Throughout the contract regular readings were taken from a site anemometer at the top of the scaffolding, with gusts of up to 101mph recorded.

Scaffolding

Scaffolding was at first designed as a structure independent of the Monument to avoid fixing to or stressing the historic column. The resulting scaffold design was like a pyramid, needing to be so wide at the base to resist the wind load that there was insufficient space around the Monument to accommodate it. For the redesign, the mass of the column was

used to restrain the scaffold so that the latter abutted the column without fixing to it. To keep wind resistance to acceptable levels, only the lowest third of the scaffold could be sheeted, and of the scaffold lifts, only every third lift could be boarded at any one time. The boards were moved as stonework accessible from each lift was cleaned and repaired.

ATTITUDE TO CONSERVATION

The conservation philosophy has been based on the internationally accepted standards laid down in the Venice and Burra Charters. This is within the context of the national conservation policies of the Department for Culture, Media and Sport for scheduled ancient monuments, and English Heritage for listed buildings. Some philosophical conflicts arose between the established conservation aim of minimal intervention and the need to design repairs for a very long lifespan, and some new interventions were required to continue use of the building as a public viewing gallery.

Longevity of repairs

The difficulty and expense of scaffolding the column, 202ft (61.5m) high, governed the approach to designing the longevity of repairs. Historically scaffolded approximately every 80-100 years, external repairs to the Monument must be designed for a very long lifespan. Friable stone blocks at high level were repaired with well-secured natural stone repairs, and a larger proportion of a damaged stone was cut out and replaced at high level than at the relatively accessible base. No mortar repairs were specified above the plinth of the column due to their short lifespan in relation to natural stone repairs. The gilded copper flaming orb at the very top of the Monument, with its riveted flames, was repaired and regilded with two layers of 23.5 carat gold leaf, the highest quality available for the longest lifespan, applied over the thoroughly prepared existing finishes (Fig. 5).

Fig. 5
The re-gilded copper flaming orb at the top of the Monument, with riveted flames representing the Great Fire of London.
© Sue Salton Photography 2008

Retention of original fabric and wear patterns

All original material of cultural significance has been retained, with particular attention given to surviving masons tooling patterns on the stonework and sculptural expressions of the very finest work in the relief carving of the Caius Cibber panel. A cleaning regime was devised for the Portland stone to achieve an 85% level of clean yet avoid over-cleaning and damaging fragile original stone surfaces. Ancient incised graffiti have been preserved while modern felt-pen scrawling has been removed. The corroded surfaces of metalwork have been respected together with the wear patterns of thousands of visitors over hundreds of years. Old paintwork has been preserved and encapsulated in modern protective finishes, while old gilding has been overlaid with new protective gold leaf layers to resist the weathering of the future.

Reinforcing rather than rebuilding the structure

The flaming orb at the top of the Monument is a massive urn constructed from deep bands of sheet copper riveted together to form an urn, with a bowl at the top. The urn is decorated externally with copper garlands and the bowl with many twisted strips of copper, all fixed with rivets. The urn sits on a circular stone cornice above the neck of the stone dome on the circular drum. The Portland stone 'drum' above the viewing platform is a continuation of the stairwell shaft below, with solid walls containing a doorway out to the viewing platform (Fig. 6).

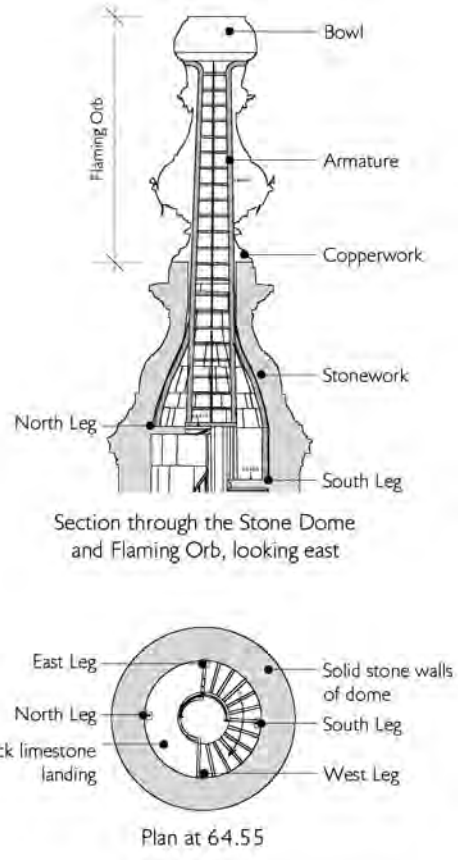

Fig. 6
Section through the top of the Monument and plan at the top of the spiral staircase, showing the four legs of the structural iron armature.
© *Julian Harrap Architects*

The copper flaming orb is fastened down to the stone mass of the dome and drum below by a structural wrought iron armature, the form of which is a circular ladder. The ladder gives access from the black limestone landing at the top of the drum, up into the copper bowl at the very top of the flaming orb. The circular iron rungs are bolted to four iron vertical legs, with bolted flanges riveted to the copperwork. When viewed from the high level scaffolding it could be seen that the structure above the drum, together with the flaming orb, was leaning over.

The four legs of the circular ladder continue down to the stone dome below, where they each curve outwards following the profile of the inside of the dome, to which they are fixed with bolted iron

flanges let into the stonework. The foot of each ladder leg rests on a step of the spiral staircase, therefore the legs are of uneven length and the longest leg had buckled under the load, pulling the whole armature to the south, as illustrated in Figure 7.

Two options were considered to prevent the armature continuing to lean over. The first, quickly discounted, was to disengage the armature and flaming orb from the stonework and lift off the whole orb by crane. The crushed stonework on the south side of the dome would then be repaired and rusting iron cramps cut out and replaced with stainless steel. The armature and flaming orb would then be craned back into position and the armature securely fixed to the stonework. This option was ruled out due to extensive disturbance to the historic fabric and the excessive cost. Aesthetically there was no good reason to straighten the flaming orb. The second option was to restrain the leaning flaming orb in its current position, making no attempt to remove or reduce the distortion that had developed during the life of the structure. The proposed solution was to stiffen the bottom portion of the armature by tying it to the masonry. The restraint design consists of four circular iron bands fixed at equal intervals to the interior of the stone dome, each bolted into the stonework and welded to the 17th-century wrought iron armature legs. A welded connection was proposed to fix the new pure iron bands to the original wrought iron, in order to avoid drilling into the historic ironwork and to produce a good looking, clean connection.

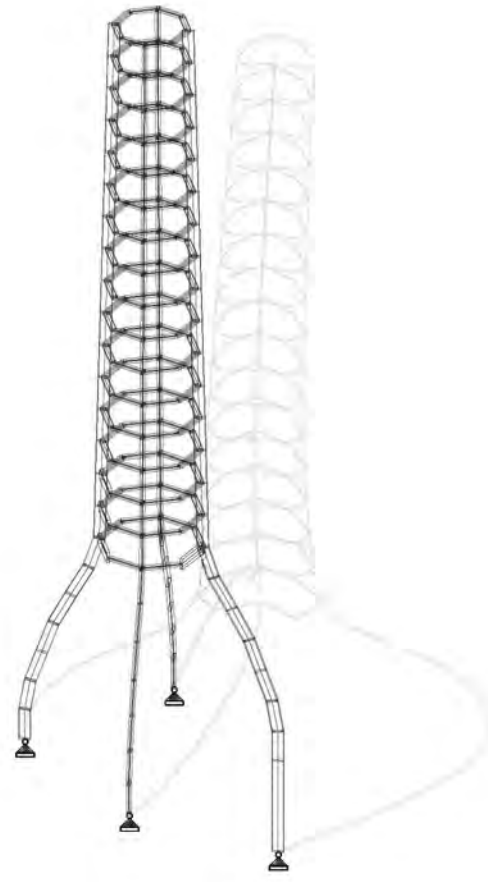

Fig. 7
Computer model of the iron armature of the Monument, illustrating distortion of the structure under load.
© Hockley & Dawson Structural Engineers

An architectural approach

In designing the repairs an architectural approach was taken rather than an archaeological one. A purely archaeological approach would give each change to a building an equal status: all colours, finishes, additions and neglect are retained as a record of change over time. Little account is taken of the appearance of the addition or how it affects the architectural composition. Modern felt pen graffitti would be retained alongside historic incised graffitti, new materials would be retained where they replaced the original, regardless of their appropriateness.

Fig. 8
The newly revealed black limestone floor of the viewing platform of the Monument, with the new curved stainless steel balustrade and lightweight cage above.
© Sue Salton Photography February 2009

The architectural approach assesses the original building in terms of fabric, construction, composition and historic interest. The significance of each alteration to the building is considered and a decision made as to whether to retain or edit the addition, or to restore the original fabric or method of construction. The architectural approach is generally compatible with the widely accepted conservation policy of selecting materials and construction methods to repair the historic fabric which are as close to the original as possible.

The viewing platform had been covered with asphalt for many years, concealing the original black limestone slabs beneath, which had been partially revealed during pre-contract opening up works. The asphalt was judged to be unsightly and an inappropriate material for the repair of a 17th-century building, so it was removed. Six huge slabs of black limestone were revealed, with local cracks and damage that had previously allowed rainwater to soak into the structure below. Truncated sections of former iron and bronze balustrade fixings remained in the limestone together with the original drainage channel, drain pipe and spitter.

Overlaying the defective paving with new black limestone slabs was considered, to ensure a waterproof finish, but rejected. Slabs of the original size were unlikely to be available, to lift them into position would be very difficult, and they would alter the profile of the viewing platform and conceal the archaeology. So repairing the historic slabs was the preferred option. The bedded metal remains were retained and polished to indicate changes to the balustrade, whilst cracks in the slabs were injected with epoxy resin and colour-matched to the black limestone (Fig. 8). The poorly serving drainage channels and outlet were cut deeper and wider into the stonework, to discharge by way of a replacement lead spitter pipe.

Another opportunity to replace inappropriate former repairs to the building revealed some alarming structural damage to the spiral staircase. The stone treads, worn down by centuries of use, had been pieced in with Belgian black marble inserts (Fig. 9,A). The opportunity was taken to replace these with inserts of black limestone, matching the original material, and to improve on the appearance of the previous angular-shaped

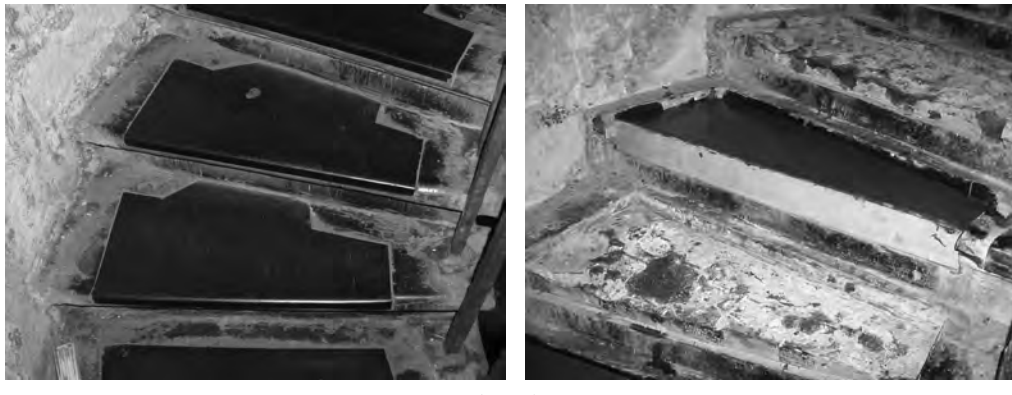

Fig. 9 A-B
The Monument.
A. Previous repairs to the black limestone steps used angular-shaped insets in Belgian black marble.
B. The previous deep excavation of the stair treads was revealed beneath the Belgian black inserts. Fischer epoxy resin was poured over reinforcing rods before new black limestone inserts were laid.
Photographs, Julian Harrap Architects

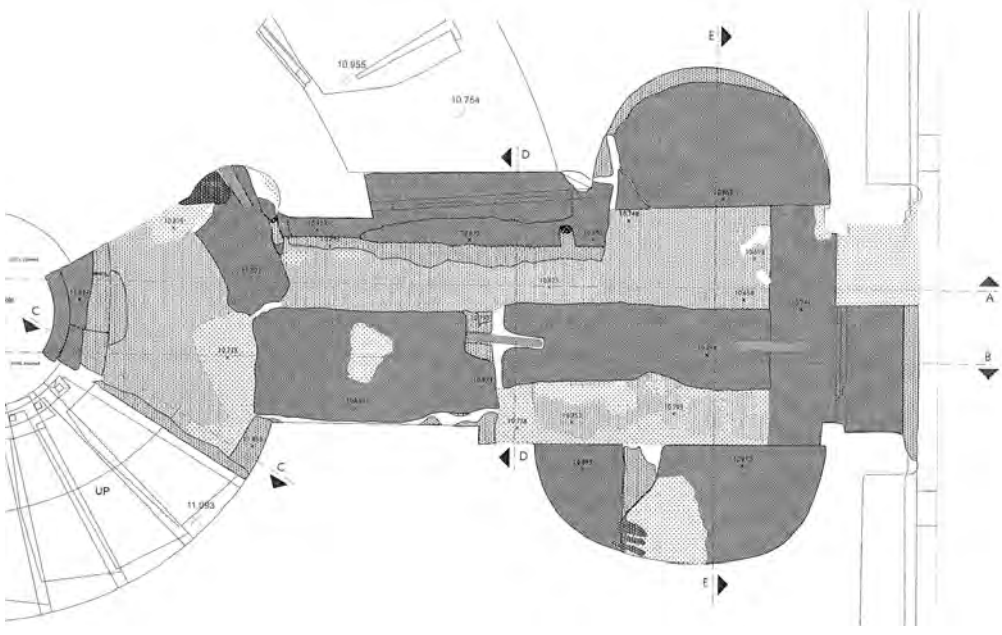

Fig. 10
Plan of the ground-floor entrance to the Monument recording the archaeology revealed following the lifting of the concrete floor slab. The dark grey represents stone slabs; the light grey represents sand and soil mixed with pebbles.
© Julian Harrap Architects

Fig. 11
View into the entrance of the Monument, showing the Victorian turnstiles on the new Purbeck freestone diamond patterned floor finish.
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insets with gently curved inserts reflecting the wear pattern on the treads. When lifting the Belgian black inserts, bedded on mortar dabs, the extent of former wear of the historic treads below was apparent. Hockley & Dawson, structural engineers, designed reinforcement for the treads using stainless steel rods, bedded in Fischer epoxy resin well bonded to the keyed surface (Figs 9,B). Black limestone inserts from the Pooil Vaaish quarry on the Isle of Man, believed to be the original source, were laid on top of the reinforced substrate. The new inserts were hand dressed to a lightly dished surface to soften their impact in the historic interior, an approach contrary to the philosophy of the Society for the Preservation of Ancient Buildings of ensuring that new repairs look new.

For the ground floor of the entrance lobby, the decision was again taken to restore (together with a little new design, where historic evidence was unclear), rather than retain the functional but inappropriate carpeted concrete floor slab. A thick concrete slab had been laid over the original stone floor raising the floor level, reducing the height of the first spiral step and increasing the height of the entrance step. Lifting the concrete revealed the archaeology of floor finishes beneath, the remains of which were beyond a conservation repair robust enough to receive thousands of visitors. Purbeck stone was found near the entrance door, but damage was extensive at the base of the spiral step and the type of original stone finish unclear. The archaeology revealed was measured, drawn (Fig. 10), photographed and overlaid with a thinner finish of stone slab on lime screed. The new floor design included curved black limestone paving at the base of the

Fig. 12
The Monument: The site agent holds in position a template of a missing part of a sculpted dragon's wing.
Photograph, Julian Harrap Architects

Fig. 13
The Monument: A sculptor completes the carving of one of the four new Portland stone paterae; the carvings are deeply undercut in order to be effectively viewed from a great distance.
© *Sue Salton Photography, 2008*

Fig. 14
The new carved stone patera with a swirling design for the south-west corner of the Monument, where the winds are strongest; the centre is removable to allow fixing.
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Fig. 15
The Monument: One of the new stone paterae fixed in the original location on the underside of a corner of the viewing platform.
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black staircase to complete the circle and Purbeck freestone, now only available in fairly small slabs, set out in a diamond patterned in the entrance hall (Fig. 11).

Re-establishing Architectural Profiles and Principal Decorative Features
Four carved dragons representing the City of London sit at each corner of the base of the column, clearly silhouetted against the sky. Their profiles are dramatic but much damaged, as stonework less than 1 inch (25mm) thick had eroded or been damaged by the erection of timber scaffolding in the past. A decision was taken to re-carve and reinstate missing dragons' wings, ears, tails and tongues to re-establish the silhouette originally intended (Fig. 12).

Beneath the viewing platform are four new, re-carved stone paterae some 900mm (36 in.) in diameter suspended by stainless steel bolts. Wren's carved paterae detached themselves in 1882 and were never replaced, so the architect researched the design of similar decorative elements on Wren's St Paul's Cathedral, which were being carved in the late 1660s. Proposals were then drawn up for individual designs related to the cardinal winds expected in a storm, which characterise the English weather (Figs 13, 14, 15).

An Archaeological Approach
An archaeological approach is taken where alterations are of interest, overriding the architectural approach. There are two instances of overriding historic interest. The first

relates to war damage. Wren's Monument and St Paul's Cathedral both survived the war, St Paul's becoming a symbol of Blitz survival. The Monument suffered slightly as bomb damage scarred the base and shrapnel pierced the copper urn notching several copper flames. The damage has not led to further deterioration and is therefore retained, unrepaired. The second example relates to the north inscription panel on the base of the column. It describes the destruction of the Great Fire and in the last line, added in 1681, blames Catholics for starting the fire: 'But Popish frenzy, which wrought such horrors, is not yet quenched'. The incised words were deleted in 1830 by crudely cutting out the incised lettering, leaving a damaged strip all along the bottom of the panel, which has been kept.

There are many other examples where later alterations have been retained and repaired, where they are of significant vintage, value or use. The cast iron railings and gate to the east side of the Monument were added in the 19th century. Previously black, these have been repainted a Portland stone colour to diminish their impact against the stone column. The Victorian cast iron turnstiles, added at the entrance to count and control visitors, now have an attractive patinated paint finish and are of interest (and use) in themselves (Fig. 11). The small arched recess where the attendant sits is enclosed with some historic joinery with a surface build-up of paint finishes, which has been carefully retained. The discovery of a stone piscina, presumably for blessing oneself after the safe ascent and descent of the shaft, has been but one of several interesting archaeological discoveries.

Reducing the Rate of Deterioration

Two interventions were designed to reduce the rate of deterioration of the historic fabric. New bespoke bronze casements were fixed into the existing rebates of the slot window openings to control the humidity levels within the column shaft. Also the flat stone top of the base of the column was not adequately shedding water, which led to saturation of the stonework. During the contract the stonework, enclosed in scaffolding, dried out and was painted with a stone-coloured, breathable polymer membrane, Belzona, for protection.

NEW DESIGN INITIATIVES

Some modern facilities are required at the Monument, principally for the safety of the visitors. The philosophy for new interventions is that they should be reversible and can be readily replaced, as their lifespan is likely to be shorter than the stonework of the column. New interventions should not damage the fabric of the building nor detract from the enjoyment of the heritage. They are to be of high quality design, workmanship and materials. The ambition is for visitors to enjoy the necessary interventions, together with the historic fabric.

Fig. 16
Historic sketch illustrating a former cage over the viewing platform at the Monument. Punch, *January-June 1850, cartoon no. 64*

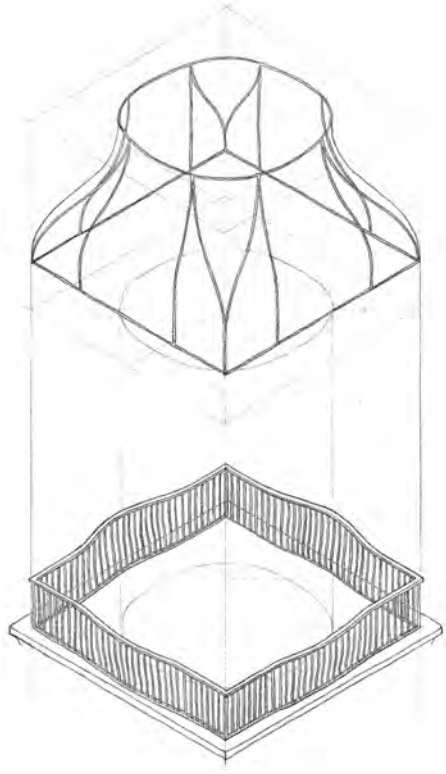

Fig. 17
The Monument: Initial hand-drawn design for the new balustrade and cage for the viewing platform.
© *Julian Harrap Architects*

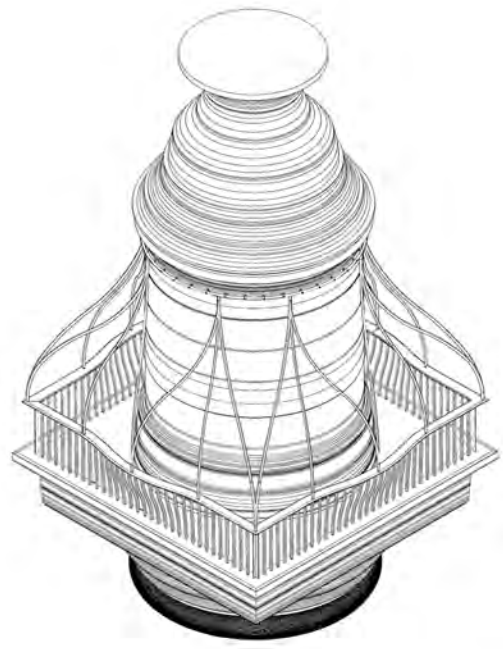

Fig. 18
Computer model of the top of the Monument and the new balustrade and cage, for fabrication purposes.
© *Littlehampton Welding Ltd*

Viewing Platform Cage and Balustrade

Early images of the Monument show an iron balustrade around the perimeter of the viewing gallery to reassure and restrain the visitors. Archives record six people having committed suicide by throwing themselves from the gallery between 1788 and 1842; in the latter year the building was temporarily shut and, to prevent further precipitations, the gallery was enclosed in an iron cage (Fig. 16).

The balustrade and cage were replaced in the 1950s with a basic steel bar enclosure, and the opportunity was presented to replace both in the 2007-2009 contract. Early design drawings and Roman precedents have informed the new balustrade design, of widely spaced square balusters, each appearing to be lead caulked into the stone platform. Only alternate balusters are actually structurally embedded to avoid inducing a crack along the edge of the black limestone. The intention for the cage above the heavy and reassuring balustrade was to create a lightweight birdcage hanging from the stone dome beneath the flaming orb (Fig. 17). The curved profiles of the slim structural members are cloaked

Fig. 19
The Monument: The new balustrade to the viewing platform with the lightweight cage above, made of curved stainless steel tubes and expanding mesh.
© Sue Salton Photography, February 2009

in fine stainless steel cable mesh, its diamond pattern distorting as it stretches over the bulbous lower frame and contracting at the slim neck beneath the dome. The curved form of the cage avoids reflecting blocks of light, whilst the mesh is almost invisible from afar and less obtrusive to the high level viewer than the former prison-like bars. The throwing of potentially lethal large objects, such as drink cans, has been prevented. To replace the former inelegant freestanding telescopes, new telescopes have been designed, integrated with the stainless steel handrail which is widened at the corners to receive them. The stainless steel tubes of the cage contain electric cables to the telescopes, lighting and discreet CCTV cameras surveying the viewing platform (Figs 18, 19).

INNOVATIONS, ART AND EXPERIMENTS

Panoramic Camera System

The client's brief called both for improvements to public access and for some interpretation of Robert Hooke's use of the Monument for scientific experiments, reputed to include a zenith telescope for observing the passage of one star.[2] In response to these requirements, and the desire for artistic input, Julian Harrap Architects commissioned Professor Christopher Meigh-Andrews, media artist, to design a panoramic camera system. A stills camera is mounted in a bespoke weatherproof housing beneath a conical lens, supported high above the urn of the flaming orb. The camera is programmed to take many frames per minute; the result appears as a 360° moving image of the breathtaking views from the top of the Monument, including sky and the tips of the gilded flames (Figs 20, 21). The artist has used data from a weather station above the camera, recording temperature, wind-speed and rainfall, to manipulate the camera images displayed on a dedicated website www.themonumentview.net. The images will in due course be displayed on a large screen in Monument Yard. Access to the views and the weather from the top of the Monument is thereby provided for the many who are unwilling or unable to climb the continuous flight of 311 spiral steps to experience both from the viewing platform.

Fireworks and Lasers

One purpose for which the Monument was originally designed was to serve as an elevated base from which fireworks were to be discharged. A written report given by Wren to the City Lands Committee on 27 July 1675 discusses the design for the proposed terminal of the column, describing the flaming orb as being of 'good appearance at distance, and because one may go up into it, and upon occasion use it for fireworks'.

The architects worked with fireworks company, The World Famous, to prepare designs to enable a pyrotechnics and flame display from the Monument on the occasion of celebration and commemoration. A fireworks and flame show has been designed to animate the architecture of the Monument, fired from twelve positions around the outside of the balustrade and from the twenty-two opening windows below the viewing platform. It starts with white and silver effects which illuminate the architecture, then moves into orange, yellow and red suggesting the Great Fire, and climaxes in gold sequences which create an image of a giant flame 61m high. Bespoke equipment has been designed to allow for safe rigging of the pyrotechnics and flames outside the Monument and balustrade structure.

A less expensive alternative is a laser display. The architects worked with LM Productions on its feasibility, whereby a horizontal laser beam display is projected centrally from all sides of the viewing platform. Four 16 amp exterior grade power points have been provided for laser projectors to be hired and brought to site for each display.

OVERVIEW

The approach of Julian Harrap Architects is to undertake works in the best long term interest of the building and to avoid detrimental works to the building in the short term interest of a particular client. A long term approach involves really understanding the

Fig. 20
360-degree image of the view from the top of the Monument, taken by the panoramic camera, showing the gilded flames of the flaming orb in the inner ring. This is a mirror image.
© *Professor Christopher Meigh-Andrews*

Fig. 21
The 360-degree image is 'unwrapped' to create a linear image of the view from the top of the Monument; the gilded flames are along the bottom. This is a true image.
© *Professor Christopher Meigh-Andrews*

building through research, surveys, site trials and tests. In this respect, the Monument was an exemplary project as we had seventeen years between our first inspection and the start of the contract to work methodically through all the pre-contract issues, access permitting. The brief was based on sound research and a detailed measured survey, which gave as much certainty on the scope of works and costs as can be achieved on a largely inaccessible building. The project was without the layers of bureaucracy which, in our experience, have been added to many historic building projects over the last twenty years, leading to more administration and a less direct relationship between client, architect and builder. At the Monument there was no external project management company involved: the City of London provided a competent client representative to manage the project on the client's behalf. The architect was lead consultant and worked closely with the principal contractor, who undertook works on site rather than having a purely management role. This resulted in a good and productive working relationship.

The practice remains involved with the Monument and has just been instructed by the City to prepare a conservation management plan for the future safeguarding and maintenance of the building.

ACKNOWLEDGEMENTS

The principal contractor for the Monument Major Repair Contract was Cathedral Works Organisation who undertook the stonework cleaning, carving and repairs, and managed all the specialist sub-contractors. Gary Collings, site agent for CWO, managed the works with expertise and good humour. Littlehampton Welding Ltd made the ambitious design for the new balustrade and cage a reality.

NOTES

1 For more detail on the history of the Monument, see J. Allen 'The Monument to the Great Fire of London: an Investigation of the Verticality of the Monument and the Resecuring of the Flaming Orb', *Journal of Architectural Conservation*, Nov. 2009, 27-40.

2 See further L. Jardine, *On a Grander Scale: the Outstanding Career of Sir Christopher Wren*, (London, 2002).

Vernacular Stone Architectural Details of the Cotswolds and the Stamford Region compared

by

Stephen Hart

This paper is based on field observations of architectural details in the Cotswolds on the one hand, and on the other a region around Stamford (Lincs.), Oundle (Northants.), and in the vales of the Welland and Nene rivers in Rutland and north Northamptonshire. The appearance of vernacular buildings in a particular locality derives largely from their use of local natural materials, and as these are the legacy of the geology of the area, one would assume that the buildings of different regions on comparable strata are likely to have common characteristics. We might expect therefore to find a similar architectural vocabulary in the vernacular houses, cottages and farm buildings with stone walls and stone slate roofs that define the character of whole towns and villages in the Cotswolds and, about sixty miles distant to the north-east, the Stamford region. Both regions lie on comparable limestone formations and the likeness of their buildings is widely acknowledged; nevertheless, despite the similarity of their indigenous materials, some distinctively specific architectural details have evolved in each. The predominance, scarcity or absence of such features within the otherwise matching vernacular styles of the two regions, hitherto not fully recognised in published sources, contributes to a subtle difference in their architectural ambience.

Situated on the Jurassic limestone belt that runs south-westwards in a sweeping ogee curve from the Humber to Dorset, the Cotswolds and the Stamford, Rutland and north Northamptonshire region are both richly endowed with deposits of oolitic freestones of grey, cream and golden honey shades. These and walling stone have been quarried locally from well-known Cotswolds quarries like Painswick, Guiting and Taynton, and in the Stamford area from those at Clipsham, Ketton and Weldon. Both regions also have localised strata of fissile limestone that yield the Stonesfield stone slates of the Cotswolds and the Collyweston stone slates from the Northamptonshire village of that name.

Other authors have, of course, discussed the architectural character of these regions. Clifton-Taylor, for example, in *The Pattern of English Building* ranks them as the two great areas for English oolitic stones, lying on the Great and Inferior Oolite.[1] However, although acknowledging geographical design variations in some features, he devotes more attention to the aesthetic aspects of the buildings in their environmental context and to the qualities of the stones from different quarries rather than to consideration of the architectural detail of the vernacular buildings. The Penoyres in their *Houses in the Landscape* relate architectural forms, materials and features to the geology of particular

Stephen Hart is a retired architect and is the author of several books, the most recent of which are *Medieval Church Window Tracery in England* (2010) and *Flint Flushwork: a Medieval Masonry Art* (2008). He has also published papers on the archaeology of individual churches in *Norfolk Archaeology* and *Church Archaeology*.

Fig. 1
Collyweston (Northants.). Two-story canted bay windows on a 17th-century house.
Photograph, author

geographical areas but, while recognising an affinity between the buildings of the two regions, also make no detailed comparisons of their individual features.[2] Brunskill's indispensable *Illustrated Handbook of Vernacular Architecture* is a tool-kit of basic information on vernacular architecture rather than an atlas of stylistic detail.[3] Its sections devoted to architectural details categorise certain elements of buildings such as windows, chimneys and ornament and summarise their chronological development, but some lesser details of specific styles that contribute to a building's regional character are unrepresented.

The vernacular buildings under consideration are mainly the smaller houses or cottages of the yeoman farmers or merchants' houses (Fig. 1). They would probably have been designed by local builders, whose names are now unknown, conservatively working within a tradition of regional practice. This tradition was fundamentally medieval, as expressed, for example, by informal elevations and mullioned windows, but it gradually absorbed Renaissance motifs, coalescing into the hybrid style now recognised as vernacular. Although their precedents can be related to the 16th century, the Cotswold and Stamford vernacular styles are essentially of the 17th century, though some features persisted through the 18th century and into the 19th. It is the particular association of certain features with each style that differentiates one from the other.

FACADES

A significant aspect of Cotswold domestic architecture is the expression of multiple gables as dominant features of a façade, sometimes as high, or nearly as high, as the main roof ridge (Fig. 2). Upper windows of two-story cottages are often set in small gables breaking the eaves line (Fig. 3) or are built as stone gabled dormers (Fig. 10). Continuation of the front wall into the roof zone in this way establishes the frontage gable as a characteristic feature of the Cotswold style.

By contrast, in the Welland-Nene region, in what may be called the 'Stamford style', large gables on house frontages usually only occur as the expression of a cross wing. Instead, major emphasis on façades is provided by stone canted bay windows extending through two stories (Fig. 1). They are often built in ashlar stonework, contrasting with the rubble used in the main walls, and typically are surmounted at eaves level by a small parapetted stone gable rising from corbels projecting rather uncomfortably over the splays of the angled bay window beneath. Stone dormers are less common than in the Cotswolds and windows at eaves level are more usually two-light wood-framed dormers with rendered cheeks and gables (Fig. 4).

Fig. 2
Barrington (Glos.). Cotswold twin-gabled house. 17th century.
Photograph, author

Fig. 3
Bledington (Glos.). First-floor windows in Cotswold gables breaking the eaves line.
Photograph, author

Fig. 4
Easton on the Hill (Northants.). Eaves dormer windows on an 18th-century cottage.
Photograph, author

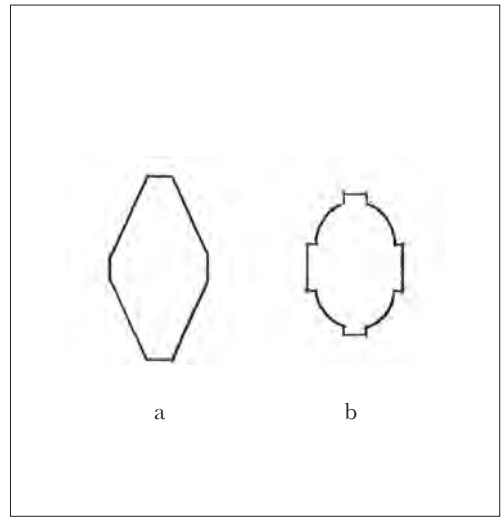

Fig. 5
Window mullion sections. a. Diamond; b. Ovolo
Drawing, author

WINDOWS

Stone mullioned windows are characteristic features of both regions but the differences of their detail give each their local signature. In general, Cotswold mullions have a diamond profile, being chamfered inside and out between the glazing plane and their inner and outer faces (Figs 5a, 6); the chamfer is continued on the lintel and jambs of the window. The equivalent detail on the mullions and outer jambs of most windows of the Stamford style is ovolo-moulded (Figs 5b, 7), i.e. having convex quadrants with a small flat fillet between instead of the plain chamfers of a diamond section.

Fig. 6
Bibury (Glos.) A Cotswold two-light window with diamond-shaped mullion and drop-eared undercut hoodmould. 17th century.
Photograph, author

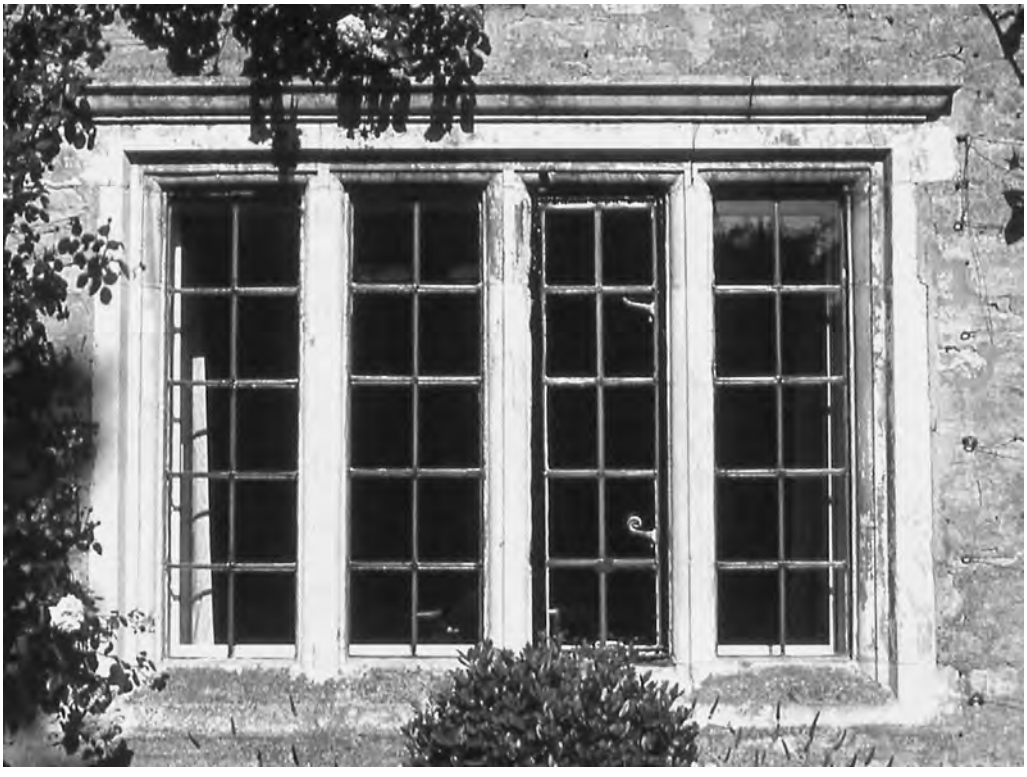

Fig. 7
Duddington (Northants.). A four-light window of the Stamford region with ovolo mullions and a straight cyma hoodmould above. 17th century.
Photograph, author

A hoodmould, or label, over the window is a feature common to both window types. The Cotswold hoodmould has short drops at each end terminating with label-stops and typically is of an undercut section which forms an effective drip-mould (Figs 2, 3, 6). The Stamford type of label is straight, without end-drops, and is usually a cyma moulding (Fig. 7). These different sections are of particular interest in that the undercut Cotswold section is essentially a detail of Gothic church architecture and is not found in Antiquity whereas the cyma is a classical profile, although also used in the later Middle Ages (the ogee moulding).

During the 18th century, with the general adoption of more vertically-proportioned windows, stone mullioned types in both styles were largely superseded by wooden casements; these usually had oak lintels though some were of stone in higher-quality buildings. Cotswold-style mullion windows became favourites in Gothic revival architecture of Victorian and more recent times and, with their drop-eared hoodmoulds, were often used throughout the country in secular 'polite' architecture.

DOORWAYS

No specific architectural details differentiate the doorways of the two regions, in both of which simple designs are often similar. Those with ashlar dressings may have just a single chamfer to the jambs and head, and in many the lintel may be of oak rather than stone. In doorheads of more ornamental design that have a low four-centred or Tudor arch of stone, a hoodmould above it usually echoes that of the windows – the Cotswold version with eared end-drops and the northern version with a straight cyma moulding.

Fig. 8
Taynton (Oxon.). Cotswold stone porch canopy.
Photograph, author

Fig. 9
Easton on the Hill. Stamford-style wooden porch canopy with Collyweston slate hipped roof. Probably 18th century on a 17th-century house.
Photograph, author

Some Cotswold doorways have a stone porch hood of a type not found in the more northern region. It comprises a flat stone slab supported on carved stone console brackets (Fig. 8). An equivalent in the Stamford style is probably a small Collyweston-slated hood with a hipped roof supported on cantilevered carved wooden brackets (Fig. 9).

GABLE PARAPET COPINGS

Parapetted gable walls, weathered with stone copings, are common to both traditions. Cotswold gable copings are usually plain square-edged stone slabs with a projection over the wall of about their own thickness and an apex stone at the top with crossed roll mouldings (Fig. 10). Stamford-style parapet copings differ in having a simple chamfer on the underside of their projection, and a single roll on the apex stone (Fig. 11). A minor difference is seen in the treatment of the kneeler stones at the lower ends of the copings. In the Stamford style the chamfered edge-profile of the coping continues unchanged across the kneeler stone at its

Fig. 10
Aston-sub-Edge (Glos.). Square-edged Cotswold parapet copings with cross-roll apex stone, on stone gable dormers. 17th century.
Photograph, author

Fig. 11
Stamford. Chamfered parapet copings of the Stamford style with single-roll apex stone on the gable of a canted bay window; date-stone 'AM 1663'.
Photograph, author

termination, but at the foot of the Cotswold type the underside of the coping's projection on the kneeler may be flattened and have a drip worked on it.

Where a parapetted gable wall supports a chimney, the square edge of a Cotswold gable coping is extended as a surface carving on the chimney's plinth stones, terminating in a small roll at the apex (Fig. 13). In the Stamford style, a chamfered moulding continues the edge-profile of the copings horizontally across the gable below the chimney plinth (Figs 12, 14).

CHIMNEYS

Ashlar chimney stacks of the Stamford tradition are usually more elaborated than their Cotswold counterparts. Set on the weather moulding of a wider plinth, ashlar stone slabs form square flue shafts that terminate with a simplified version of the three elements of a classical entablature – an architrave moulding, a plain frieze and a cornice (Figs 12, 14, 16). In double chimneys, the flue shafts above the plinth are formed as two separate elements with a clear narrow gap between, but unified at the top by their shared entablature motif (Figs 14, 16).

Where Cotswold chimneys have a plinth, it is normally the same width as the stack, but a moulding between them is not uncommon (Figs 13, 15). The stacks usually terminate with a single cornice moulding (Figs 13, 15, 17). In double chimneys the two flues are accommodated within a wider undivided stack (Fig. 13), although sometimes a narrow, shallow vertical recess worked on the surface of the chimney shaft expresses the duality within.

Fig. 12
Ketton (Rutland). Typical Stamford-style single chimney stack (1629); with wider plinth, entablature motif at the top, and a horizontal moulding beneath the chimney plinth.
Photograph, author

CHIMNEY WEATHERINGS

Where a chimney of the Stamford style penetrates the roof, weathering at the abutments of the slating to the chimney stonework is achieved by simple mortar fillets (Fig. 16), but in the Cotswolds, a more elaborate method is often followed. On each roofslope, the bottom ashlar stones of the emerging chimney have extended sloping skirts that overlap the slates (Figs 15, 17) and also projecting side weatherings similar to the square-edged mouldings on the outside of a gable chimney (Fig. 13). These details occur on gable chimneys (Fig. 15) and on chimneys emerging through the ridge at other positions (Fig. 17).

Fig. 13
Blockley (Glos.). Cotswold double gable-chimney stack, with the apex of the gable parapet coping carved on the stonework of the chimney plinth. Plinth and stack are the same width. 17th century.
Photograph, author

Fig. 14
Elton (Cambs.). Stamford-style double gable-chimney with a gap between the flue shafts. The horizontal moulding beneath chimney plinth matches the edge-profile of the gable coping. 17th century.
Photograph, author

Fig. 15
Willersey (Glos.). Stone skirt on its flank and a square-edged moulding on the inside face of a Cotswold gable-chimney provide weathering over the slating. 17th or 18th century.
Photograph, author

Fig. 16
Cotterstock (Northants.). Mortar fillet on a Stamford-style chimney (1720), to weather the slating to the stack.
Photograph, author

Fig. 17
Stanton (Glos.). Typical Cotswold single ridge-chimney with a cornice at the top and no plinth. Stone skirt and square-edged weather moulding to the slating. Probably 17th century.
Photograph, author

ROOFS

Stonesfield and a few other Cotswold quarries are the sources of the stone slates used for Cotswold roofs (Figs 10, 18, 20), and Collyweston near Stamford yields the material for roofs in the Stamford and surrounding area (Figs 4, 19, 21). In both regions the slates are laid in diminishing courses with the larger ones at the eaves and the smallest at the ridge. Since Collyweston slates are larger on average, the difference in slate size between eaves and ridge is more noticeable on a Collyweston roof than on a Cotswold one. Collyweston slates are also a little thinner and as, traditionally, their jointing is mortar-pointed, roofs of this material have a more even surface texture than unpointed Cotswold ones. Traditionally, Cotswold ridges are of freestone, cut to a V-shape (Fig. 20), whereas the ridges of Collyweston roofs are hog-back clay tiles, either buff or red (Fig. 21). Where roof-slopes meet at right angles, traditional valleys between them are formed differently in the two regions. On a Cotswolds roof, specially cut tapered valley slates are carried round the angle, forming a 'swept' valley in which continuity of the slate coursing of the two slopes is maintained (Fig. 18). By contrast, on a Collyweston roof, the junction between the two roof-slopes is formed by means of a 'laced' valley, locally called a 'turned' valley; near the valley, the horizontal courses on each roofslope curve slightly upwards, exposing the valley slates as diamond shapes at the junction (Fig. 19).

Regrettably, in many modern restorations these traditional techniques have been superseded in favour of the simpler method of a mitred junction over a secret gutter of lead.

Fig. 18
Bibury. A swept valley in a Cotswold stone slate roof.
Photograph, author

Fig. 19
Easton on the Hill. A turned valley in a Collyweston stone slate roof.
Photograph, author

THE INTERVENING AREA

No features perceived as indicative of each of the two regions predominate in the intervening area, and although architectural details of the two styles persist within it, the clarity of both idiomatic traditions becomes less emphatic.

North-eastwards from the Cotswolds, in an area comprehensively studied by Wood-Jones in his *Traditional Domestic Architecture in the Banbury Region*,[4] the paler limestones give way quite suddenly to the darker browns of the liassic marlstone of north-west Oxfordshire, making an abrupt contrast with the visual character of the Cotswolds. Stone slate roofs are rarer the greater the distance from the source of the material, and the characteristic Cotswold-style eaves and dormer gables are no longer typical features. Stone windows, usually with diamond chamfered mullions, are used less frequently, being superseded by wood casements beneath oak lintels; and simple square chimneys, many now rebuilt in brick, are more common than the usual Cotswold stone type. Nevertheless, certain Cotswold details persist, such as drop-eared window hoodmoulds and the apex of a raked coping carved on the plinth of a gable chimney stack.

Fig. 20
Bibury. Cotswold stone slate roof with stone ridges.
Photograph, author

Fig. 21
Collyweston. Collyweston stone slate roof with clay ridge tiles,
Photograph, author

South-westwards from the Welland-Nene region, change is less abrupt than at the northern fringe of the Cotswolds. Between Oundle and the Kettering area and across the Welland in Rutland, the warm brown ironstones of mid-Northamptonshire merge more gradually with the grey limestone villages of Lincolnshire limestone. South of Northampton, where cream Blisworth limestone and Northampton Sand ironstone outcrop close together, the two contrasting stones, laid in alternating courses, are found in some vernacular buildings as, for example, in Blisworth (Northants.). Collyweston stone slate roofs are fewer, and further southwards the characteristic features of the Stamford style become less definitive.

Because of the dilution of both vernacular traditions in this intervening area, there is no distinct boundary between the two styles and instances occur where elements of both are combined in the same building. For example, at Deddington (Oxon.), not far from the county boundary with Northamptonshire, we find a building in which a chamfered gable coping of the Stamford style terminates with a Cotswold-style apex, formed on a wide chimney plinth of Stamford style with a Cotswold-style weather skirt on its flank, supporting a Cotswold double chimney (Fig. 22).

Fig. 22
Deddington (Oxon.). A chimney that combines architectural features from the Cotswold and the Stamford traditions.
Photograph, author

DISCUSSION

Although certain stylistic features may predominate in each of the regions, they are not entirely absent in the other. Nevertheless the questions arise as to how the undeniable regional preferences for certain features became established and why they differ. It is likely that innovations based on precedents from the great houses designed by leading masons would in due course have been copied by lesser masons in the urban houses of the wealthier tradesmen and merchants, and eventually became adopted by local builders as ordinary elements of yeoman-class houses outside the towns. Possible origins of some of these features can be found at great houses of the 16th century in both regions.

An early instance of the gabled façade, perhaps the most characteristic feature of the Cotswold style, occurs on the late 16th-century west front of Stanway House (Glos.), where four ashlar-faced gables, with ridges the same height as the main roof ridge and each containing a window with drop-eared hoodmoulds, are dominant elements of the facade.[5] The mullions of the bay window on this elevation have the chamfered, diamond profile. Urban examples of the gabled façade include the almshouses built in 1612 for Sir Baptist Hicks in Chipping Campden (Glos.) with eight gables on the principal elevation,[6] whilst a row of gabled cottages in Coxwell Street, Cirencester (Glos.), built mainly of walling stone and probably dating from the second half of the 17th century, represents a more frugal expression of the theme.[7]

In the Stamford region, windows at Kirby Hall (Northants, 1570-75), like those of the slightly later great hall at Burghley House near Stamford, have ovolo mullions of

the type that became popular in the region's vernacular buildings.[8] Also, a prestigious, if rather eccentric, 16th-century precedent for the chimney-top entablature motif, one of the characteristic features of the Stamford style, is found in the fantastic roofscape of Burghley House (*c.* 1575-87), where clusters of two, three and four Doric columns forming separate chimney shafts are unified by the architrave, frieze and cornice of a complete classical entablature.[9]

Other than the possible architectural influences of great houses, it is not easy to find definitive answers as to why different features in the two regions became dominant. The reason may perhaps be no more specific than fortuitous preferences for particular details. Another factor may have been the availability from certain quarries or workshops of prefabricated 'standard' components such as parapet copings, hoodmoulds and mullions, distributed via the river systems. But the reason why, for example, Cotswold coping slabs should be plain-edged and those of the Stamford style chamfered, remains obscure.

NOTES

1 A. Clifton Taylor, *The Pattern of English Building* (London 1972), 76-86.
2 J. and J. Penoyre, *Houses in the Landscape* (London 1978), ch. 6.
3 R. W. Brunskill, *Illustrated Handbook of Vernacular Architecture* (2nd edn, 1978) ch. 4.
4 R. B. Wood-Jones, *Traditional Domestic Architecture in the Banbury Region* (2nd edn, Manchester 1986).
5 Illustrated in D. Verey, *Buildings of England, Gloucestershire: the Cotswolds*, Buildings of England, (2nd edn, Harmondsworth 1979), pl. 60.
6 Illustrated in D. Verey and A. Brooks, *Gloucestershire 1: the Cotswolds*, Buildings of England (3rd rev. edn, Harmondsworth 1999), pl. 2.
7 Ibid., pl. 3.
8 For the Kirby Hall windows, see M. Girouard, *Elizabethan Architecture: its Rise and Fall, 1540-1640* (New Haven and London, 2009), pls 315, 338. The latter illustrates the continued use of the ovolo at Kirby Hall in the double bay windows attributed by Girouard to work of 1605.
9 Ibid., p.ii, for a photo.

The Society's Casework 2011
Some Ecclesiastical Cases
A Painting, a Butterfly, a Font and a (G. E.) Street

by

Matthew Saunders

ST STEPHEN WALBROOK, CITY OF LONDON

St Stephen's is acknowledged as one of the greatest of all Wren's City churches. It was built between 1672 and 1679, to a tighter timetable than many of the others (although the steeple was added long after, in 1713-17). It is renowned especially for the geometric purity of the interior, dominated by the full dome. The sculptor-architect, Canova, told Lord Burlington that 'we have nothing to touch it in Rome'. It has also become equally well known in more recent years for the cleansing of later work and the introduction in 1987 of the Henry Moore altar, with its Patrick Heron kneelers, largely under the initiative of Peter (Lord) Palumbo. Palumbo, the quintessential developer with a feel for architecture, not just the bottom line, exhibited a furious passion for Modernism and a lesser one for the Post-Modernism of architects such as James Stirling. He fought the conservation establishment for years to redevelop the triangular site just

Fig. 1
Benjamin West, 'Devout Men Removing the Body of St Stephen' (1776)

opposite St Stephen's, bounded by Cheapside (Poultry) and Queen Victoria Street and having lost his first choice with the death of the 'pure' Modernist, Mies van der Rohe, fell back on the more wayward genius of Stirling. So intimate was his connection with this part of the city that his office was based in the little house adjacent to St Stephen's. This must have given him a frisson of historical recall for Wren himself had lived in the parish at 15 Walbrook. The remodelling and restoration that he carried out between 1978 and 1987 was largely paid for from his own pocket. However, our story begins two centuries earlier.

In 1776 the then Rector, Dr Thomas Wilson, commissioned the American-born artist and President of the Royal Academy, Benjamin West, to paint a huge picture

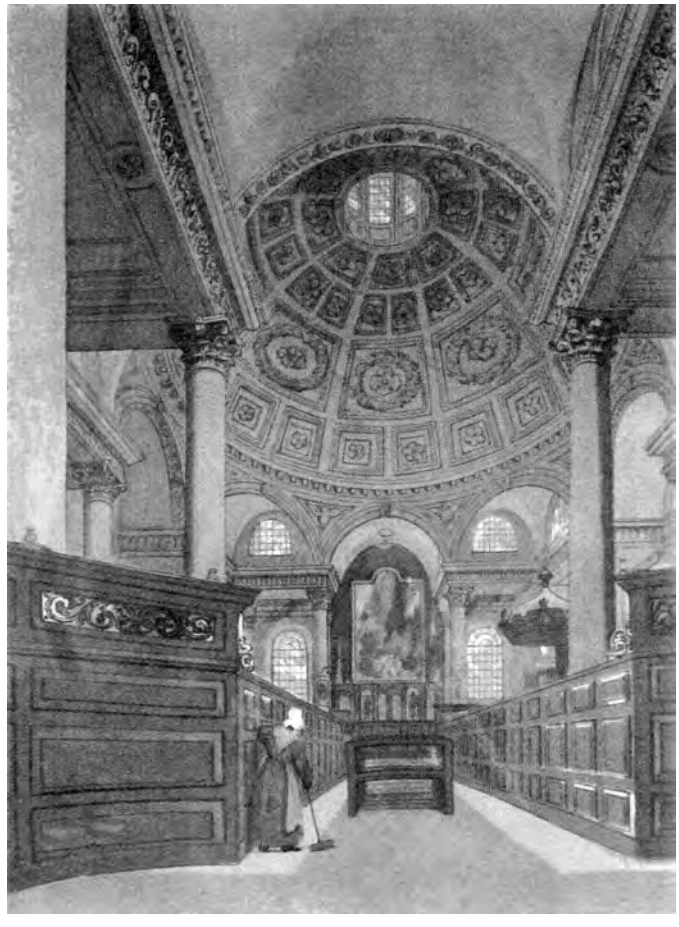

Fig. 2
St Stephen Walbrook: the Benjamin West painting mounted above the high altar; 18th-century view in the vestry.
Courtesy, St Stephen Walbrook

Fig. 3
St Stephen Walbrook: a photo-montage showing how the Benjamin West painting appeared between 1847 and 1978
Courtesy, St Stephen Walbrook

(5.6m high x 3.2m wide) entitled 'Devout Men Removing the Body of St Stephen' (Fig. 1). He placed it, without permission and amid controversy, over Wren's reredos, removing its crest (which was reinstated in 1847) and bricking up the window itself (Fig. 2). It was moved to the north side of the interior in 1847 where it occupied all the wall-space between Wren's panelling and the lunette window (Fig. 3). In 1978, at the same time as a large hole was created on the north side through which to introduce the Moore altar, the West painting was taken out without a faculty (although one was granted retrospectively) and it has been in storage at Sotheby's ever since. The Reverend Chad Varah, high profile rector of the church and founder of the Samaritans, tried to sell it but was stopped the day before the intended auction.

The present PCC is now seeking a faculty not to reinstate the painting, having received an offer of some £500,000 from an American museum which intends it as the centrepiece of a new display on West. Sotheby's (who have the painting in store) had valued it at £100,000. The PCC are well aware that an Export Stop is certain given the value and importance of the painting. They say all the money raised would go on repairs, at a time when they claim that the habit of munificence towards the City churches is in perceptible decline among the present generation of bankers and financial grandees. The church argue in addition that the painting needs conservation and would have to be rolled up to get it through the present west door, which would damage it, although this risk is discounted by some conservators.

The Diocesan Advisory Committee of London has always been consistent in opposing permanent alienation and reaffirmed its objection to the present faculty just before Christmas 2011. The case seems certain to be fought out at a consistory court, the second time since the War that St Stephen Walbrook will have entered the legal history books – over an altar and a painting.

KING EDWARD VII SANATORIUM, NEAR MIDHURST, SUSSEX

The only possible overlap with Wren is the geometrical precision of the floor plan, but what a difference too! Here at the King Edward VII Sanatorium near Midhurst, of 1903-06, which Ian Nairn rated as 'one of the best buildings of its date in the country',[1] Adams, Holden and Pearson provided a chapel of memorable individuality.

'Butterfly Plans' were one of the leitmotifs of the Arts and Crafts Movement. They meant a lot to E. S. Prior in particular, but here Charles Holden in good lepidopterist fashion cut the butterfly in half, with two splayed wings, not four (Fig. 4). There is a long monastic tradition of divided worship areas – the nave for the people, the chancel for the monks, the latter one step nearer God – and two equal-height naves are what make up the hall church; but two naves set in diagonally aligned spokes is the rarest of configurations. One of the few obvious parallels in this country is the Roman Catholic Church of the Sacred Heart at Waterlooville (Hants.) of 1923 by Wilfrid Mangan, closed for worship in Summer 2011 and very much under threat. There two naves were provided, one for an order of nuns, the other for penitent women (i.e. prostitutes). Neither could see each other but they could observe the officiating clergy in a sanctuary common to both. Something similar occurs in the 1850s at Dalbeth in Glasgow and in 1901, at Staplehurst in Kent by Pugin and Pugin. This architectural apartheid was an obligation of the Sisters of Our Lady of Charity who, in slightly different incarnations, lay behind all three. At the Sanatorium, the two naves are for the men and women respectively, sent to recover from tuberculosis in the Sussex countryside (Figs 5, 6).

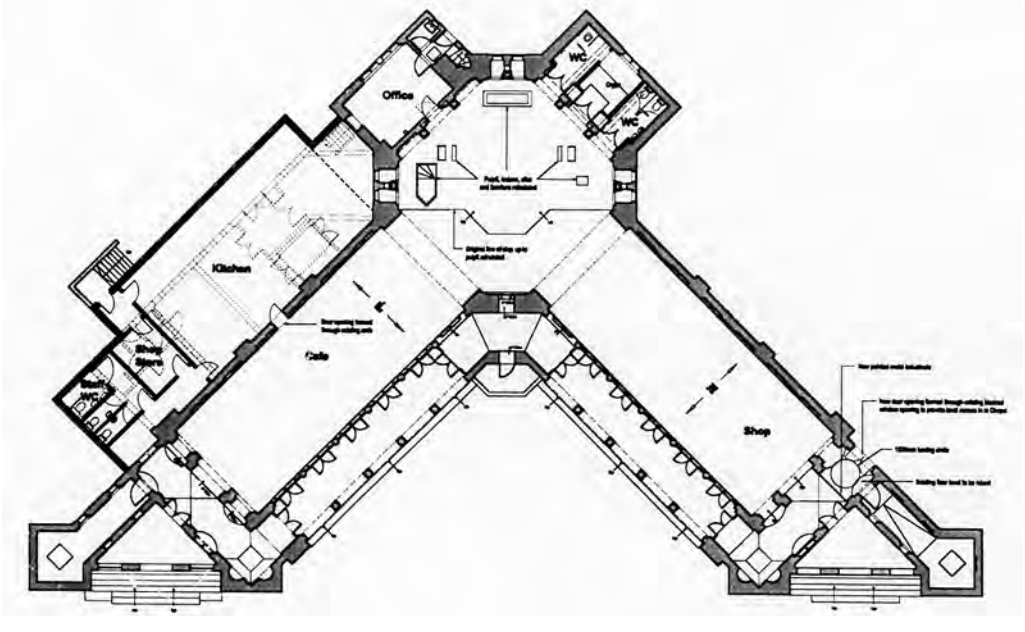

Fig. 4
King Edward VII Sanatorium: ground-plan
Courtesy, Purcell, Miller and Tritton

Fig. 5
King Edward VII Sanatorium: the chapel exterior from the south. The feature concealed behind the bush looks like an open-air pulpit
Photograph, author

Fig. 6
King Edward VII Sanatorium: the interior of the eastern nave
Photograph, author

The Sanatorium is now closed and has been purchased for residential conversion, after the bankruptcy of two previous developers, by City and Country, the firm behind a number of major conversion projects at Balls Park (Herts.), Bentley Priory and Bristol General Hospital. English Heritage and the AMS have agreed to a limited scheme of enabling development, carefully sited away from any key views and with terracing based on the historical precedent at Bucklers Hard at Beaulieu. It is pulled as far away as possible from the triple SSI which is 400 yards away; there will be a ban on cats in the conversion, to reduce the risk to the protected birds. The total cost of the scheme will be £100m and, with developer's profit of 25%, the enabling development is intended to plug a deficit or shortfall of between £6.5m and £12m. Some brutally utilitarian post-war extensions will be demolished, the gardens by Gertrude Jekyll will be reinstated, some limited plastic windows put in without permission will be expunged, whilst the chapel will be left undivided and adapted in all probability as a café. Whether it will be for the residents or the broader public is not yet decided. The fittings by C. R. Ashbee, like the lectern now in safekeeping, will be reinstated in the interior (Fig. 7).

Fig. 7
King Edward VII Sanatorium: the lectern by C. R. Ashbee in storage, but soon to be repatriated to the chapel
Photograph, author

ELY CATHEDRAL[2]

There is no firm evidence that there was ever a font at Ely Cathedral in the Middle Ages. Most baptisms were in the town's parish churches and where the cathedral was chosen, they probably took place using a large ewer and basin at the high altar. It was Dean Spencer who left £100 in 1693 for one to be commissioned. What resulted is one of the most exquisite of all 17th-century fonts (Figs 8, 9, 10), the equal of many of those designed by Wren for his City churches. It was placed in the south arcade of the nave, within the third bay east of the west tower. The 19th century regarded its size as puny and its classicism as inappropriate, and in 1866 it was transferred, minus the glorious cover, to the much lowlier surroundings of Prickwillow church in rural Cambridgeshire. This was at the instigation of the architect, Reynolds Rowe, who designed Prickwillow and worked alongside Sir George Gilbert Scott in the major repair campaign at Ely, where the principal triumph was to be the reconstruction of the Octagon. Rowe went

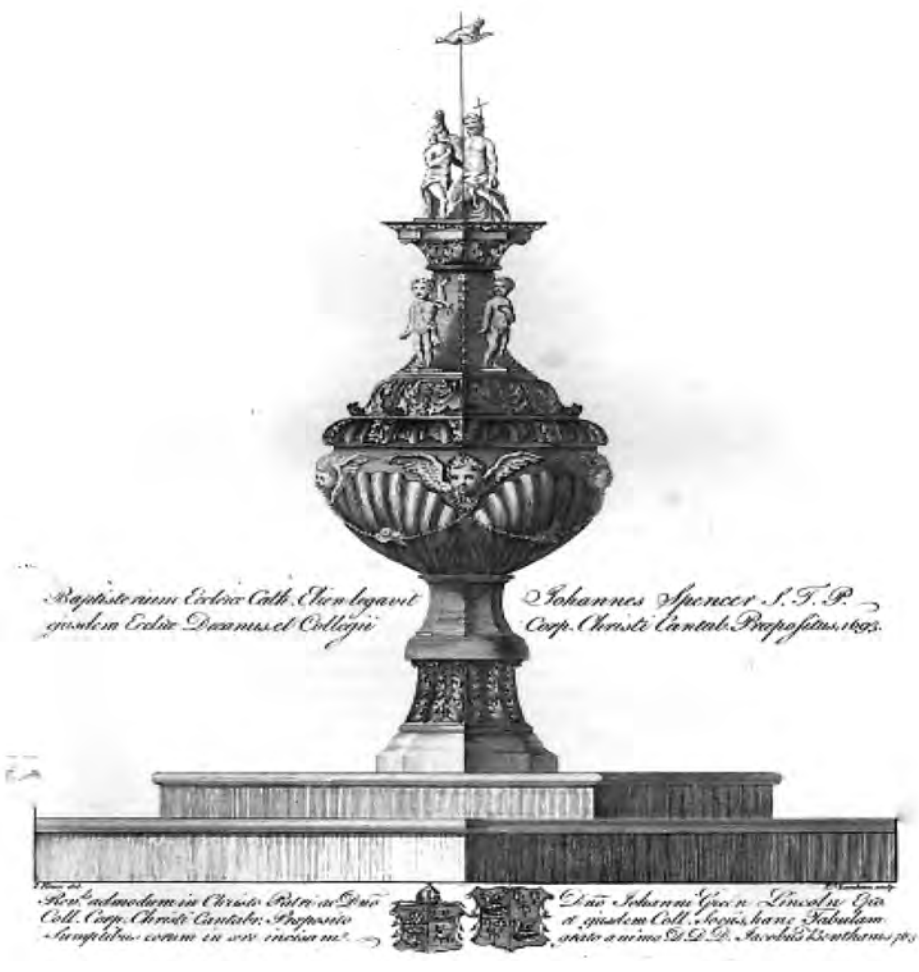

Fig. 8
Ely Cathedral: the Spencer font, as shown on a print of 1763
Courtesy, Purcell, Miller and Tritton

Fig. 9
Ely Cathedral: the Spencer font, details of the bowl
Courtesy, Purcell, Miller and Tritton

Fig. 10
Ely Cathedral: the Spencer font, details of the bowl
Courtesy, Purcell, Miller and Tritton

on to rebuild Stuntney church, where he re-sited some medieval choir-stalls ejected from the cathedral, and St Matthew's, Cambridge, where he relocated the angels from the cathedral's organ case. The latter were repatriated in 2010, as a memorial to Dr Thomas Cocke.

The present font was the gift of Canon Selwyn and dates from 1853 (Fig. 11). Scott's drawing for it, to a slightly different configuration, survives in the RIBA Drawings Collection. It is in a French limestone from Aubigny, which has yellowed and oiled somewhat over the years, with Purbeck marble for the columns. The scale is gargantuan compared with the delicacy of the Spencer font, the style being Early English Gothic at its most monumental. The craftsmen were from the firm of Myer and Sons, so favoured by Pugin. It lies at the west end of the south transept, which had been screened off until the 1840s, to serve as the cathedral works yard.

The present dean and chapter dislike the Scott font thoroughly. In the faintly Vitruvian condemnation of Jane Kennedy, to them it 'seems lumpen and lacks delight'. They say it is cumbersome and unsafe to use, given the number of steps. A local trust has offered to pay for the cost of its removal and reinstatement of the Spencer font, and the cathedral is presently consulting on the proposal. The thoughts of members would be appreciated.

Fig. 11
Ely Cathedral: the Scott font
Photograph, author

Fig. 12
Llanelli, St Alban's Church. The medievalising bridge adds a note of drama
Photograph, author

LLANELLI, CARMARTHENSHIRE

As local boy, the BBC newsreader, Huw Edwards, demonstrated in a recent book that Llanelli is a town of chapels – and extremely fine ones. He might also have been able to say the same about the Anglican churches. However, the architectural legacy of both traditions is under unprecedented threat.

The Church in Wales has decided, in effect, to retreat to the parish church of St Elli and St Peter, Paddock Street. St David's was sold off in 2006 – now All Saints by G. E. Street (1872-4), St Alban's by E. M. Bruce Vaughan (1911-15) and the less important Furnace Mission Room and St John's (1887) are all to go the same way. St Alban's, dramatically approached by a bridge (Fig. 12) has already been sold, as has St John's, where the Frank Roper east window of 1974 is to go to St Elli. All Saints, easily underestimated by its conventional unfinished exterior set a long way back from the pavement, is internally sublime (Fig. 13). At £11,000 by 1888, when A. E. Street gave up on the spire, it proved the most expensive 19th-century church in the region and it retains lavish fittings: stained glass by Clayton and Bell, more by R. J. Newbery, a reredos of 1879 (Figs 14, 15), and font and font cover of 1874 (Figs 16, 17), all by G. E. Street. The doors will finally close in 2012 – what happens thereafter? The arrangement under which highly graded listed Anglican churches in Wales can be passed to The Friends of Friendless Churches cannot apply to churches of such size in such heavily urbanised settings.

Fig. 13
Llanelli, All Saints Church, the chancel; G. E. Street at his most dignified
Photograph, Martin Crampin

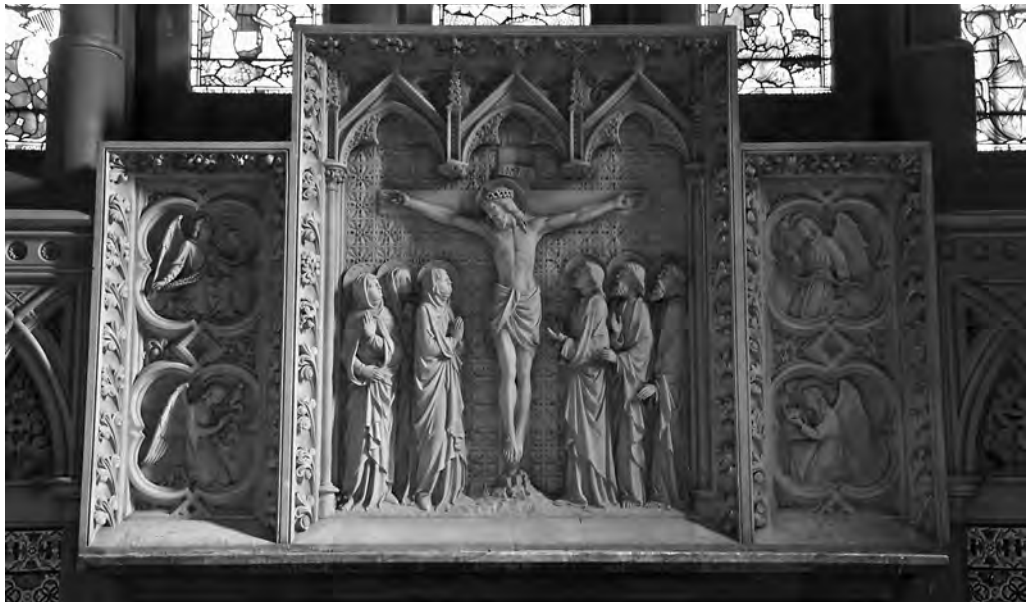

Fig. 14
Llanelli, All Saints Church, the reredos by G. E. Street
Photograph, Martin Crampin

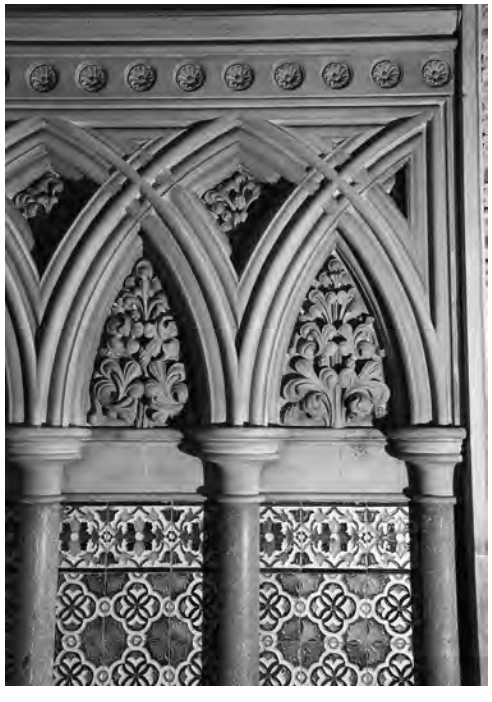

Fig. 15
Llanelli, All Saints Church, the reredos; Street's distinctive 'Spanish' tiles
Photograph, Martin Crampin

Fig. 16
Llanelli, All Saints Church, the font by Street
Photograph, Martin Crampin

Fig. 17
Llanelli, All Saints Church, the font cover by Street
Photograph, Martin Crampin

The story of the chapels shows some way forward. The Glenalla Calvinistic Methodist Chapel of 1909 is now the town's Civic Hall, whilst Zion Baptist Chapel of 1857 is about to reopen as an Arts Centre under the aegis of Trinity, St David (University of Wales), following a substantial injection of funds from the EU Convergence Fund. The magnificent Tabernacle Independent Chapel of 1873 by John Humphrey has received HLF grant aid. Yet Calfaria Baptist Chapel of 1887 and Park Congregational Chapel of 1864 remain derelict, as they have now been for some time.

Soon Llanelli will be drawing conservation plaudits as it reopens the extraordinary Llanelli House of 1714, immediately opposite St Elli, following a multi-million pound programme of repair. It is already being trumpeted as a leading example of Regeneration through Conservation. We hope that the spin-off effects ripple through to the town's significant legacy of places of worship. We shall be encouraging that process.

NOTES

1 I. Nairn and N. Pevsner, *Sussex*, Buildings of England (Harmondsworth 1965), 251.

2 I am very grateful to Jane Kennedy, Surveyor to the Fabric at Ely, for sight of her paper on the subject, from which all the illustrations (except Fig. 11) are taken.

Obituary

Judith Dorothea Guillum Scott OBE (1917-2011)

Secretary of the Church of England's Council for the Care of Churches and the Cathedrals' Advisory Committee from 1957-1971
Noted authority on Anglican churches and cathedrals

We are pleased to publish here the obituary of 15 June 2011 by Professor Peter Burman.

Judith Scott was born on 6 March 1917 at 4 Battersea Park Road, in the parish of St George's Battersea, London. Her father, Guy Harden Guillum Scott, was one of the founders of the Battersea Dogs' Home. In recent years Judith, who was a woman of immense dignity and presence, used to say to newcomers to her circle 'I was born in a dogs' home', and watch with delight the surprised expression on their faces. Her mother was Anne Dorothea, born Fitzjohn. The family lived in comfortable circumstances and her father, a barrister-at-law, later became a judge and in due course first Secretary of the Church Assembly. Judith's elder sibling, Sir John Guillum Scott, followed in his father's footsteps and became Secretary of the Church Assembly, then first Secretary-General of the General Synod of the Church of England. So they were a solidly Church of England family. In a short memoir about her early life Judith wrote that after she had published, at age 20, her book about the history and architecture of St Mary Abbots, Kensington, where her father was a churchwarden and had to wear top hat and tails when members of the Royal family came to church from nearby Kensington Palace, she decided on religious emancipation and took her loyalties to St Mary the Virgin, Primrose Hill. This church, under its distinguished liturgist Vicar, Percy Dearmer, became in the 1920s one of the leading Anglo-Catholic churches in London where everything was done with conviction and well. Percy Dearmer's *Parson's Handbook*, with its emphasis on beauty and dignity in every aspect of worship, remained always for Judith the gold standard of Anglican worship and the interior arrangement of churches.

The next important step in Judith's life was when, on 13 June 1936, she joined the Central Council for the Care of Churches which was run, by Dr Francis Eeles, her great mentor, from a small suite of rooms in the Victoria & Albert Museum, close to the office of the then Director, Sir Eric MacClagan, who also became a close ally. At first she was a volunteer as Dr Eeles's assistant. But in 1939 she became Acting Assistant Secretary and was paid a modest salary by the Central Board of Finance of the Church of England. In 1957 she became Secretary and by that time, and in no small way thanks to her advocacy and leadership, the Central Council for the Care of Churches and later the Cathedrals Advisory Committee had become well-established bodies that were proving their worth.

During the second World War the office moved to Dr Eeles's country home in Dunster, Somerset, and one of their more ambitious projects was to find secure homes where the treasures from City of London churches could be safely stored during the war. The journey to Dunster became a regular pilgrimage for lovers of ancient churches and just after the war one such visitor was John Betjeman, researching for the *Collins Guide to English Parish Churches*. He wrote to Dr Eeles to say thank you and to propose another visit and said that next time 'I will take Miss Scott to the cinema so that she will be able to clear some of those rood lofts out of her mind'. Evidently he was not successful in that mission and Judith became one of the leading church antiquaries of her day. She became a Fellow of the Society of Antiquaries of Scotland on 14 February 1938; later she became a Fellow of the Society of Antiquaries of London and served on its Council. Her scholarship informed the innumerable advisory reports she wrote on behalf of the twin organizations that she served so well, and enabled her to take part in strenuous debates with confidence and skill. As was said by Duncan Wilkinson at the Service of

Thanksgiving for her at Wymondham Abbey on 10 June: 'Her sharpness of mind easily dissected the subject to which it was applied and she could always be relied upon for a unique perspective.'

After the war there was much debate about the extent to which the City of London churches should be repaired or rebuilt. On a Saturday afternoon, on the telephone, she took the courageous decision to assure the Archdeacon of London that she would somehow and personally raise the money for the restoration of All Hallows', London Wall, a most delightful building by George Dance the Younger (to whom Sir John Soane was apprenticed as a very young man), 1768. Not only was the church superbly put back together again but it and the adjoining church rooms of 1901 were sensitively remodeled so that the Council for the Care of Churches and its sister body could establish their offices there, along with a library which became and remains one of real distinction. The chancel could, however, still be used for worship and the church became a 'Guild Church' governed by a special Act of Parliament. Here Judith reigned, until ill health forced her to retire early in 1971.

Meanwhile she had made a signal contribution to the evolution of Church legislation and policy with regard to the care and supervision of churches, through the *Inspection of Churches Measure 1955*, the *Faculty Jurisdiction Measure 1964* and the *Pastoral Measure 1968*. She had an uncanny knack for discerning what would be the impact of new legislation and policy, and knew well how to challenge and to ask the right penetrating questions. Judith believed, following William Morris, that it was better to 'stave off decay by daily care' and that regular inspection by a suitably qualified architect or surveyor, followed by a careful and continuing programme of maintenance and repairs, and ceaseless vigilance would mean - and she was right – that churches would survive much better into the future, and with more of their integrity intact.

She was nevertheless by no means hostile to courageous liturgical experiment. Moreover, she did her utmost to encourage churches and cathedrals to commission innovative artists and artist-craftsmen in many fields: it was regarded, and still is, as an opportunity and a privilege to be invited on to the Council's *Register of Artists & Craftsmen* which she established. She welcomed and encouraged the establishment of treasuries in a good number of cathedrals. She maintained excellent relationships with the Worshipful Company of Carpenters, for whom All Hallows' London Wall was their 'Guild Church'. She sat on committees for major exhibitions of church art including the epoch-making *Victorian Church Art* exhibition at the Victoria & Albert Museum. At the same time she was a significant figure in encouraging conservators to regard themselves as a profession and a discipline in their own right. The confidence with which she was regarded, by the Pilgrim Trust and other foundations, meant that there was a new and regular flow of charitable money to conserve such aspects of churches as their monuments, wall paintings, brasses, stained glass, textiles, organs, books and manuscripts, bells and bell frames. There seemed no limit to her interests, her energy and her ability to make others see the importance of churches and cathedrals as great repositories of treasures from throughout the ages to which it was also our duty to add a layer of beauty, interest and significance of the present day.

Her advice was sought by many organizations and individuals. She first attended a committee meeting of the Society for the Protection of Ancient Buildings, as an observer,

on 17 September 1936. For many years thereafter she was an influential member of that committee and later a member of its august Council. She worked closely and in several contexts with its chairman, the Duke of Grafton, and with its long-time Secretary, Mrs Monica Dance.

In her retirement, following her return to reasonably good health, she was appointed a member of the Advisory Board for Redundant Churches which had the weighty responsibility of advising the Church Commissioners on the fate of churches which had been declared redundant under the *Pastoral Measure 1968*. Settled in north-east Scotland with her long-term companion Philippa Buckton, Judith became Secretary of the Banffshire Coast Conservation Society, aptly demonstrating that it was possible to act locally as well as nationally. They converted a former railway station and cottages into a most attractive and imaginative home and guest wing, and moreover created a beautiful garden. When later on they came back to England and established a home in Wymondham, Judith became a very active member of the local community and a faithful member of the Parochial Church Council of Wymondham Abbey.

Service on other committees (but there were many) included the UK committee of the International Council on Monuments & Sites (ICOMOS), which advises the government on protection and management of World Heritage Sites, heritage tourism, and cognate matters; the Standing Joint Committee on Natural Stone; trusteeship of the Historic Churches Preservation Trust; Council of the National Trust for Scotland; Council of the Architectural Heritage Society of Scotland. The list seems endless, her energy and enthusiasm boundless.

For her part in protecting the treasures of the City of London churches and in finding solutions for them in the post-war period Judith was made a Churchill Fellow of Westminster College, Fulton, Missouri, USA. She encouraged and advised on the translocation of a badly damaged Wren church from the City of London to Fulton. She was made an OBE in June 1970.

A service of thanksgiving in Wymondham Abbey followed her funeral and was attended by a large congregation, from among her many friends old and young (for she never lost the capacity to make new friends and could identify with people of all ages and stations in life) and by representatives of many of the organizations which she had served so faithfully during her long and active lifetime. She exercised her ministry of encouragement and support to others until very close to the end. She died on 22 May 2011, aged 94.

It is difficult to do justice to her personal qualities which included great elegance of appearance, a strong ethical backbone to everything she did and said, and a gift for the telling and original phrase. 'You strike me amidships', she once memorably said, when crossed in argument by a high official of the Church Commissioners. She was unfailingly generous, kind and loving. She was also immensely appreciative of the staff at Robert Kett House, Wymondham, who cared for her in her declining months. She kept the faith in which she was brought up and had a deep spiritual life. The word 'service' really meant something to her, and she gave her energy and time freely to all who asked it of her.

She is survived by her niece, Susan Guillum Jeffery, and by a group of devoted friends ranging from remotest Scotland to South Africa.

Review Article:
Paul Drury, *Hill Hall*

by

John Bold

Drury, Paul, with a major contribution by Richard Simpson, *Hill Hall: a singular house devised by a Tudor intellectual*, London: Society of Antiquaries (2009), 2 volumes, 534pp., 378 figs. £55. ISBN 978-0-85431-291-7.

The importance of Hill Hall escaped the RCHM(E) investigators who reported in 1921 on the 'modern' (i.e. post-1714) ornamental work of the courtyard.[1] Pevsner in 1955 challenged this perception, finding that the house 'has not so far found the attention it deserves', recognising the singularity of the 'remarkable motif of attached columns in two superimposed orders all the way round' the courtyard.[2] Eric Mercer questioned with some vigour Pevsner's dating of the remarkable mural paintings in the house to *c.* 1570, since this would be a freakishly early date for such a display and 'if placed in the early seventeenth [century] they can be fitted, with some reservations, into a coherent sequence of development'.[3] Pevsner, however, seems to have got it about right: Hill Hall is exceptional.

Paul Drury has been involved on and off with Hill Hall since 1981 when he was invited as Director of Chelmsford Archaeological Trust to become responsible for the study and investigation of the house, gutted by fire in 1969 and continuing to deteriorate before being taken into care in 1980 by the Department of the Environment. Excavations in the 1980s, with interim reports, followed, by which time Drury was an Inspector of Historic Buildings with English Heritage. He played no part in the beginnings of the restoration of the courtyard elevations from 1988, but was back a decade later when Wessex Archaeology undertook further evaluation and together with Drury were invited to complete the present report. Wessex, together with English Heritage are co-sponsors of this two-volume, laminated, wipe-clean, boxed set published by the Society of Antiquaries. The breaks in the continuity and consistency of excavation, investigation during repair work and archival compilation have made it 'painfully clear' to Drury 'that there are many questions which it was anticipated would be answered by further and better understanding of the fabric ... that will not now be answered at all'. However, since Paul Drury is the pre-eminent archaeological investigator of buildings of his generation, with an astonishing ability to visualise and reconstruct three-dimensional form from the smallest of physical fragments or archival hints, the reader's opportunity for indulgent regret is small. No one could have made a better job of analysing the architectural evolution of this house.

The focus of the book is firmly upon understanding the physical form of the house built and rebuilt in three phases by Sir Thomas Smith, a 'leading protestant humanist

intellectual' and sometime ambassador to the French court. In 1557-8 he replaced an earlier medieval house, possibly a hunting lodge, with a new one in brick and timber-framing on a courtyard plan. In 1568-9 he rebuilt the north and west ranges 'more solidly and splendidly' in brick, and the south and east ranges in 1574-5. The addition of a service range was in progress when he died in 1577. Later works included the reconstruction of the east range, creating a new baroque main front with a giant order, *c.* 1714; the addition of corridors in the north and west ranges as part of a general modernisation in 1789-1815; the rebuilding of the west front in 1844 and the damaging remodelling by Blomfield, more inclined to a William and Mary than Elizabethan style, from 1909, for Charles and Mary Hunter who first leased and then bought the house in 1923 from the last of the Smiths to be connected with it. The Hunters' money came from coal, Charles making a fortune which his wife, a leading society hostess, 'made it her business to spend'. Charles died in 1917 and Mary, impoverished, was forced to sell in 1925. Requisitioned during the Second World War and used first as a maternity home and then an RAF officers' billet, from 1952 it was home to a women's open prison until the 1969 fire left it in ruins. Now, restored, it comprises eight apartments, with another nine in the service courtyards: 'the design ingeniously managed to fit the apartments into the existing envelope with a minimal impact on the fabric' – a process which of course was helped by the loss of fabric which already had taken place. The architect for this ingenious phase unfortunately is not named. In fact this is a house which did not trouble Colvin at all,[4] the only significant mention of an architect in its entire history being the post-*Biographical Dictionary* Blomfield who does not come out too well. Sir Thomas Smith seems to have been his own architect, drawing on his period in the circle of Protector Somerset, on his direct experience of French architecture, which included accompanying the court on a tour of the provinces (here helpfully mapped), on his five copies of Vitruvius, and collaborating with Richard Kirby, the carpenter, whom he appointed 'cheefe Architecte overseer and M[aste]r of my works for the p[er]fecting of my howse according to the plott…'.

Although largely written by Paul Drury, *Hill Hall* is a collaborative venture with many contributions by others, generously acknowledged, most notably Richard Simpson who has contributed a substantial chapter on the wall paintings and the painted tiles and glass. There are also sections on window glass, objects relating to daily life (pottery, lockplate and keys), environmental and scientific studies (animal bone, marine shell, plant macrofossils and molluscs, tree-ring and ICP-AES ceramic analysis, pigment residues) and the restoration of the house and the paintings. Particular credit is due to Linda Coleman for the outstanding series of fold-out phase plans (in the ring-bound illustration volume which supplements the main text), and the reconstruction drawings of the outer and courtyard elevations. The placing together of these drawings is particularly helpful, contrasting with the division of the investigation, analysis and discussion of the phases of the house into seventeen 'period' sections which betrays the fact that this is really an enormous and rich archaeological report rather than an art-historical monograph on the house.

This is a volume which shows its working out in the accepted manner of archaeological endeavour, so that the process – of intervention and recording – often appears to be as important to those involved as any conclusions which may be drawn, and the various

types of evidence and investigation appear to be given equal weight. It is to the credit of the author of *Hill Hall* that he does not lose sight of the need for interpretations and conclusions, however difficult: for example, 'the resulting reconstruction might seem to be stretching interpretation to its limits, but equally, to show a skeletal elevation devoid of windows would be more misleading. It should be taken as expressing the likely general form of the elevation, within a framework of horizontal and vertical divisions which is not in doubt'. This is helpful and judicious; elsewhere we are cautioned: 'absence of evidence is not evidence of (original) absence'. But notwithstanding the elegancies of formulation, and the regular appearance of 'overviews', in which the significant points of the investigative process are made clear, the arrangement by periods (1,1.1 to 3.8) is irritating for those who prefer dates and makes this a difficult book to read. The reader with a short attention span, or pressed for time, would be well advised to go first to the half-page summary (which stops at 1923), usefully provided in French and German as well as English, and then straight to pages 247-282 for an overview and conclusions on Smith and his houses. There his career, his buildings and his French sources are explored, and the wider context of courtier houses is considered: this was 'among the most exceptional and personal, although not one of the largest, houses of its time'. Smith was in France on three occasions between 1562 and 1572, his longest stay, as ambassador, being from September 1562 until April 1566, during which time he travelled extensively throughout the country, staying in the houses of the great and taking due note of antiquities. He was, in the words of the title, 'a Tudor intellectual', seeming for Drury 'to have seen himself first and foremost as a scholar throughout his life. Intellect and reason could be bent to the service of politics and self-advancement, but only so far. He seems not to have doubted the rightness of his conclusions, even if everyone else did; a man of integrity certainly, but vulnerable to adventures which common sense rather than scholarly analysis might have avoided'. He applied himself to practical matters, not only architecture, buying a set of mathematical instruments and making drawings, but also gardening and chemistry, distilling potions and being conned into funding a scheme to produce copper by boiling iron in sulphuric acid. He wrote an account of English institutions and the legal system, and also 'the most impressive piece of economic analysis produced in the 16th century'. His approach to building led to problems for later owners of Hill Hall, for not only was he building in a period of transition and development in which buildings came and went with rapid, often not durable, piecemeal alterations and replacement, but he was himself given to an experimental approach to construction which resulted in structural weaknesses, notably in the roofs.

Following his return from his long embassy in France, Smith embarked on the rebuilding of the house which he had completed only ten years before. The new north and west ranges were conservative in plan, the intention being to create a continuous suite of first floor rooms to accommodate a sequence of wall paintings of Cupid and Psyche. The asymmetry of the north courtyard elevation is shown here to be a function of the creation of rooms to display the paintings: the architectural composition is sublimated to the demands of the interior. The orders are derived from Hans Blum but their superimposition is based on French examples. Also French is the designing from inside to out which was an expedient compromise rather than clumsy. As Monique Chatenet demonstrated in

an essay in this journal in 1999, there was a regular use of blind windows and variations in the rhythm of windows in 16th-century France, in order to accommodate the cross walls whose position was governed by the highly regularised placing of the bed, leading to symmetrical facades being applied independently of the internal layout.[5] As certain of the houses published by Du Cerceau show, however, symmetry was not always possible and 'when nothing worked out, one dispensed with symmetry'. So too did Smith at Hill Hall. In the new south and east ranges, away from the demands of paintings, Smith achieved a symmetry which for Drury suggests a 'much more accomplished architectural design', enabled in part by the shift to incorporating the fireplaces within the cross walls rather than projecting. The south and east courtyard facades both have three storey frontispieces with superimposed orders, and on the outer fronts of these ranges, the innovative use of the giant order suggests that Smith was paying attention to more than politics and the pursuit of peace when visiting Anne, duc de Montmorency, Constable of France, at Ecouen, a house known also through publication by Du Cerceau. Betrayed perhaps by a slightly too early dating for Hill Hall, Pevsner's nerve deserted him on the

Fig. 1
Hill Hall, the paintings of the story of Cupid and Psyche; main scene (left), the departure of Psyche's sisters.
Photograph, Tobit Curteis and Associates

employment of the giant order, Ecouen being 'not early enough to make influence on England at all probable', so he concluded that here we have not the experimental and innovative Smith but 'a very rustic echo from Wren'.[6]

Inside the house the ambitious sequence of Cupid and Psyche paintings, imitating tapestries and covering the full height of the walls with almost life-size figures and *trompe l'oeil* (Fig. 1) provides a further echo from Ecouen. There, this allegory of the human and the divine, the soul and love, was depicted in painted glass, based on the same series of thirty-two engravings by Michiel Coxcie as Smith was to follow for the paintings on lime plaster at Hill Hall by an unknown artist. This triumph of love over adversity was a popular theme in the houses of the European great – Raphael in the loggia of Agostino Chigi's villa (later the Farnesina) in Rome and Giulio Romano at the Gonzaga villa, the Palazzo Te, Mantua, providing the most celebrated 16th-century depictions.[7] The paintings at Hill Hall, analysed in great detail here by Richard Simpson, are datable to 1568-9, only two years after the publication of William Adlington's translation into English of *The Golden Asse of Lucius Apuleius*, which includes 'The Marriage of Cupid and Psyches'. Smith therefore was early, rather than unique, in England to celebrate a narrative which grew in significance over the next half century, finding particular favour at the Caroline court. The court dramatist, Shackerley Marmion, published a poem on the subject in 1637, with a second edition in the following year – *Cupid and Psyche; or an Epic Poem of Cupid and his Mistress* – and Jacob Jordaens was commissioned in 1639 to produce twenty-two paintings on the theme for the Queen's House, Greenwich – eight were installed (now lost). Four of the Cupid and Psyche paintings at Hill Hall survive and two more were dismantled in 1937 – fragments survive in the Victoria & Albert Museum. The rest have been lost through changes in decorative taste and structural alterations to the house (including the corridors inserted upon the advice of Repton who was here advising on the park in 1791), as well as through the devastating fire.

At Fontainebleau in 1563-4, Smith would have seen the integration of the 'latest architectural and decorative achievements of an international style' and at Ecouen during the same period would have seen the mixture of classical and Biblical stories derived from prints. At Hill Hall, in addition to Cupid and Psyche, he commissioned a sequence of paintings of Hezekiah, King of Judah (Fig. 2), whose radical religious reforms had a particular resonance for one who had been directly engaged in the Protestant reforms of 1548-9 which introduced a standard form of worship and established the first English language prayer book. Four panels survive, based on the woodcuts known to Smith in *La Sainte Bible*, 1554. Simpson provides an exemplary reconstruction and analysis of this *exemplum*. He then goes on to discuss the extraordinary ensemble of painted tiles and glass. In a thrilling piece of detective work he shows that a surviving fragment of tile with billowing drapery, an arm and sceptre, is identifiable as a fragment of *Magnanimity* as engraved by Cornelis Cort in 1560 (digital reconstruction makes the point), but not necessarily *after* Cort – tiler and engraver could have had a common Antwerp source (this is careful history). This surviving fragment offers a hint to the possibility that *Magnanimity* was one of a group of eight personified virtues, balancing the sequence of deadly sins on painted glass, two of which survive. Simpson's analysis and reconstruction entirely justify his conclusions on the exceptional qualities of the house: 'the more consistent

Fig. 2
Hill Hall, the paintings of the life of King Hezekiah; King Hezekiah about to open the doors of the temple in Jerusalem (detail)
Photograph, Tobit Curteis and Associates

with contemporary continental practice, the more exceptional Smith's house appears in terms of its English context'. Eric Mercer was right to recognise the 'freakish' quality of this ensemble for this time, 'outside of the normal sequence of development'. The whole decorative ensemble was perhaps intended as part of a state suite for Queen Elizabeth I, whose visit was anticipated in 1570, but in the event she did not arrive: 'hir Majesty meneth not to make hir progress into Essex'.

The final chapter of the book deals with the restoration of the house (Nick Hill) and the conservation of the wall paintings (Tobit Curteis). This was a lengthy saga, extending over thirty years, beginning with post-fire salvage and elementary consolidation and continuing with changes in sponsors, funding, philosophy and purpose. It could have provided an ideal opportunity to discuss with some detachment the evolution of ideas

about the conservation, restoration and reconstruction of historic buildings over this period. However, Nick Hill is principally concerned with the works of 1993-98 which ended with the house divided into private apartments. He considers levels of restoration, ownership and function in his conclusion, noting the developing 'process of defining the qualities and features which are of greatest significance to a historic building', but in basing his text on a journal article published in 1998,[8] his story is primarily the blow-by-blow account of a closely engaged participant rather than fully reflective, and I wonder how far it might have been better informed by taking into account *Conservation Principles Policies and Guidance* by Paul Drury and Anna McPherson (English Heritage, 2008). Even if this was published too late to inform *Hill Hall*, the ideas which it embodies have been developed over a long period and, given the identity of the author, we might expect the example of Hill Hall to have influenced the *Principles*. It is indeed in Drury's conclusion sixty pages earlier that we are told that the now secure house 'has been spared the blight of "enabling development" that has crowded out the setting of so many similar houses'.

As it is, we learn a lot from Nick Hill about the process of contracting, and sub-contracting, the excitements of architectural discoveries, the finding of evidence, the making of bricks and much more, with the deployment of many enthusiastic exclamation marks: 'Here was a challenge for replication indeed!' Full credit is given to named craftsmen and contractors, with the exception of the hapless steelwork subcontractor who, notwithstanding the fact that the issue had been 'flagged in the contract preliminaries', 'struggled with the concept of non-uniform steelwork' when required to fit the roof trusses to the building rather than the building to the trusses. Significance dictated that the restoration should lay emphasis on the parts of the Smith house for which there was good evidence for their appearance – the courtyard elevations and the south front. On the north and west elevations, 'where Smith's work was less fine and evidence not so clear', the later appearance, including the 19th-century Roman cement, has been retained. The east front, which from the photographs appears to have survived the fire quite well, remains Baroque. The reader would have gained a better understanding of the decision making and results of this commendable and extensive restoration described by Hill if someone had thought to include new photographs. This seems to be a very well illustrated book, but of the eight fronts, external and courtyard, only two – the two sides of the south range – together with an oblique aerial view of the east front, are shown. In view of the importance of the house, the significance of the restoration and the great care and attention which has been given to collecting archive illustrations and preparing reconstruction drawings, this is an extraordinary and damaging omission.

In discussing the conservation of the wall paintings, Curteis describes and illustrates earlier interventions (Ministry of Works men in suits, with brushes, 1951); considers the paintings' condition before their recent treatment and describes the process of analysis and conservation: 'Bird droppings were removed using water or IMS/acetone'. This section is one for the specialists. The end, of both chapter and book, comes quietly and bathetically with 'Future preventative conservation' (of the paintings), which seems to amount to making sure that the roof and rainwater disposal system are well maintained: 'serious and extremely costly short-term damage is more likely to occur from negligence in this area than from any other source'.

As noted above, and as acknowledged by its principal author, *Hill Hall* is a 'report'. It has the command of detail of the best reports and in its scattered 'overviews' and 'conclusions' it aspires to arrive at the condition of being a book which would justify its status as a handsome boxed-set. It is a tribute to the close observation and keen analytical intelligences of Paul Drury and Richard Simpson that the ostensible subject, Sir Thomas Smith and Hill Hall, and the wider issues relating particularly to Elizabethan international culture, are so very well illuminated. This is a model of what can be achieved through very detailed analytical recording and careful, time-consuming research, both carried out over several years in this case. However, the problem of dividing the subject according to architecture, paintings, and artefacts, and then further dividing these into a large number of periods, is that it is very difficult to gain an overall view on specific issues: there are mini-syntheses but no overall synthesis. One example of this will suffice: the corridors are discussed by Drury under Period 3.4 (p.310); Simpson tells us that 'later changes in the layout of the internal plan destroyed some material' (p.180), a subject to which Curteis returns at the end (p.405), but there does not appear to be a discussion of the impact of the corridors on the painted decoration. Could a greater synthesis and more coherent text, discussing such cross-over matters, have been achieved? Should all this material have been published at all, or would it have been better to produce a readable text and either archive the rest or make it available on-line for the obsessively committed searcher? Could the two authors now step back from the detail and produce a short, well-illustrated summary volume which lays emphasis on the significant? That would be a conclusion devoutly to be wished. More importantly in the current scare-mongering, economic situation, with its intellectually and socially destructive outcomes, when will such a spasmodically brilliant and exceptional endeavour as this report again be believed to be affordable?

JOHN BOLD

NOTES

1 Royal Commission on Historical Monuments (England), *Essex*, II (London 1921), 235-6.
2 N. Pevsner, 'Hill Hall', *Architectural Review*, 117 (May 1955), 807-09; see also N. Pevsner, *Essex*, Buildings of England (Harmondsworth 1954).
3 E. Mercer, *English Art 1553-1625* (Oxford 1962), 136.
4 H. M. Colvin, *A Biographical Dictionary of British Architects 1600-1840* (3rd edn, New Haven and London, 1995), in which the only mention of Hill Hall concerns one of Humphry Repton's 'Red Books'.
5 M. Chatenet, '*Cherchez le lit*: the place of the bed in sixteenth-century French residences', *TAMS* 43 (1999), 7-24.
6 Pevsner, 'Hill Hall' (1955), op.cit.
7 Both of these sequences and the Ecouen glass, now in Chantilly, are described and illustrated in S. Cavicchioli, *The Tale of Cupid and Psyche* (New York 2002).
8 N. Hill, 'Hill Hall, Essex: the post-fire restoration', *Transactions of the Association for Studies in the Conservation of Historic Buildings*, 23 (1998), 29-49.

Review Article:
Goodall, John, *The English Castle*

by

Richard K. Morris

Goodall, John, *The English Castle 1066-1650*, New Haven and London: Yale University Press for the Paul Mellon Centre for Studies in British Art (2011), xix + 548pp., 362 ills, £45. ISBN 978-0-300-11058-6.

'As the darkness grew on the evening of 25 January 1377, a party of more than a hundred mummers passed through the streets of London…'. Dramatic historical openings to chapters are just one of the ways in which John Goodall woos the general reader in this long awaited blockbuster of a book on English castles. Another delight is the outstanding array of photographs. But this is no coffee table glossy, but a book with some serious themes about English medieval architecture. Goodall is concerned about the misrepresentation of the image of the castle in films, television and by the heritage industry – his recent debates about the National Trust's presentation of buildings are relevant here – so 'the principal object' of the book is 'to offer an accessible, updated overview of the castle in the light of recent research'.

Goodall's mission is to reclaim castles from archaeological and antiquarian studies and to integrate castle architecture into the mainstream of medieval architectural history, which traditionally has focused primarily on ecclesiastical architecture. In doing so, he is in effect writing his account of English architecture 1066-1650, seen primarily from the perspective of castles. An important feature of his history is to prioritise the study of physical remains and to draw attention to the significant evidence to be derived from technical details – music to this reviewer's ears. Obviously demonstrating architectural relationships of detail between church and castle is harder in the early part of his study, except in fortuitous cases like the geographically close works at Canterbury Cathedral (Trinity Chapel) and Dover Castle (great tower chapels) in the 1180s. Rather, Goodall has to turn to patronage and more general concepts, so that at the start of the 13th century he introduces a new category – 'the Gothic castle'. He proposes that the fundamental change in English castle design in King John's reign reflects an admiration for 'High Gothic' and French culture. Thus the round tower and the semi-circular wall-tower in military architecture are no less characteristic of English Gothic than the familiar pointed arch. The inference is that castles, for all their rugged fortified image in the popular imagination, are as susceptible to contemporary fashion as churches, an argument which is demonstrated more easily in the better documented later medieval period, which is the heartland of the book. From the 14th century on, the same 'creative dynamics' between the secular and ecclesiastical spheres of architecture becomes a familiar theme. A case in point is the significance of the works at Windsor Castle, under both Edward III and Edward IV, for various phases of Perpendicular architecture, or the remarkable use of a bay window design from secular architecture in Henry VII's Chapel, Westminster Abbey.

The later medieval period also provides the best evidence for one of the underlying themes of the book – the dominant role of the royal works department and London-based masons in the design of English medieval architecture. In effect, though not so termed, we are talking 'court style'. We are most familiar with this argument in the reign of Richard II, when Goodall notes the creation of what was in effect a single office of the king's works and its role in establishing the Perpendicular style across the kingdom: a style with characteristics – 'architectural logic', 'box-like volumes' and 'rich detailing' – which are as relevant to castles as to churches and other building types. The first king's mason was Master Henry Yevele (Goodall does not adopt John Harvey's preferred spelling of 'Yeveley'),[1] who is seen as having a 'centralising influence on architectural practice across the country', acting as a consultant and providing designs for local masons. This is relatively familiar ground to readers of John Harvey,[2] but what is new here is the evidence Goodall gleans from the design and detail of castles to demonstrate this 'centralising' hypothesis in other periods. For instance, he convincingly shows that twin 'ear turrets' (one of a number of new terms in the book, see Plate 132) and other features of the De Clare gatehouse of *c.* 1250 at Tonbridge Castle are derived from Henry III's aborted works at the Tower of London in the 1240s, and that the 'Tonbridge-style' gatehouse was copied at Caerphilly (*c.* 1270) and widely imitated elsewhere well into the 14th century. Distribution patterns of this kind are most obviously explained, argues Goodall, by buildings 'designed by masons with a common training and access to an archive of architectural drawings', namely in the king's works. Related to this is his novel suggestion that the evidence from their castles indicates that the dukes of Lancaster also maintained a works department 'with a corporate architectural memory informed by a collection of architectural drawings'. He argues that the forms of earlier buildings are referenced, even copied, in later works. For instance, the great gatehouse of Lancaster Castle (1402) bears comparison with that of 1313 at the Lancastrian castle of Dunstanburgh, or, in the context of the royal works, the façade and plan of Hengrave Hall (1520s, by an unknown mason 'based in London') show knowledge of works of the 1440s at Herstmonceux Castle and Henry VI's Eton College. For Goodall such connections present 'clear evidence' of masons 'leafing through' collections of drawings and 'cherry-picking ideas from old designs'. Though it would be foolish to deny some use of architectural drawings in the later Middle Ages in England, despite the dearth of surviving examples before the 16th century, his argument appears to undervalue the visual awareness and memory of the master masons, their tactile skills honed on cutting stone and their knowledge of other buildings through extensive travel. Many of the 'very distinctive details' listed by Goodall – such as spur bases and clasped turrets – could be easily memorized by a professional eye and reproduced elsewhere.

Given the emphasis of the book on art history, it will come as no surprise that there is very little coverage of fortifications. A good but brief summary of the types of weapons developed in the period ('the trappings of fortification') is given in Chapter 1, though significant features of castle defence (and pretence) like the drawbridge and portcullis hardly get a mention in the book. We are rightly cautioned that set-piece sieges were very unusual in English history, and thus we should not expect all English castles to have 'real fortifications' – the 'real castle' for military historians. The absence of convincing

fortifications saw the appearance in the 14th century of what have been previously termed castles of display or of chivalry – 'the *castrati* of castle studies', as Goodall delightfully terms them – and the continuum of the story of castles through to the 17th century was broken. Goodall's book sets out to rectify this situation: his working definition of a castle is 'the residence of a lord made imposing through the architectural trappings of fortification' (p.6). In the chapter on the Gothic castle, he explains the duality of these trappings, influenced by the development of chivalry and heraldry in the 12th century. Just as warfare was distinguished from tournaments, so features of functional fortification like temporary hourdes are to be distinguished from permanent features of potential display like crenellations. The latter led to a 'revolution' of 'fantastical decoration' and 'theatrical effects' in the castles of the reigns of Edward I and Edward II, exemplified by battlements with carved stone figures ('inhabited battlements') but also by a general superfluity of military details. This became the architectural vocabulary for castles right through to the 17th century and beyond, and it is crucial for Goodall's argument that these are regarded as credible status symbols of the political elite, not 'mock' castles. This may be the reason why he avoids the more speculative interpretations of the influence of Arthurian romance on castle architecture,[3] limiting himself to documented examples of Arthurian activity like Edward III's Round Table at Windsor (1344) and Queen Elizabeth I's entertainment at Kenilworth (1575). At Edward I's Caernarfon Castle, for example, which arguably celebrates in its architecture an association with the walls of Constantinople and thus with the Emperor Constantine, grandfather of King Arthur in legend, it suits Goodall's purpose rather to focus on architectural sources in Roman Britain and in royal works in south-east England. However, what he does add as background to understanding the 'trappings of fortification' in general are interesting sections on 'Ancestry and Literary Romance in Castle Architecture' (Chapter 10) and 'Heraldry, Ancestry and the Castle' (Chapter 15). The latter includes reference to the extensive display of family lineage at Lumley Castle, to which King James I responded after a tedious visit in 1603, 'I didna' ken Adam's ither nam was Lumley'.

One word in the title which will not have escaped readers' notice is 'English': this is not a book about British castles. Scotland (with the exception of a brief excursus to Bothwell) finds no coverage, as Goodall acknowledges, and the inclusion of certain castles in Wales and Ireland is explained as part of an English colonisation process, and as reflecting (and sometimes illuminating) English architectural developments. For another of Goodall's purposes is to extol the vigour and invention of English medieval architecture, and to counter the tendency to explain the development of English castle design primarily in terms of foreign models. This is to reclaim castles from the world of military function and repatriate them as aesthetic objects. Whilst recognizing the importance of the continent for the genesis of the great tower in the 11th century and the detailing of brickwork in the 15th, he rightly rejects French sources for features like machicolated parapets (first seen at Conwy Castle) and for buildings like the highly sophisticated great tower at Wardour Castle (1393). His case is generally well made, but how comfortably it sits with the thesis of 'the Gothic castle' (see above) is less clear.

After an Introduction and Chapter 1 dealing with generalities and noting that four castles feature regularly throughout the narrative (Fig. 1), the book is divided into

Fig. 1
Kenilworth Castle, seen from the south with the site of the great mere flooded. Kenilworth is one of four castles featured regularly in the book – Dover, Windsor, Durham and Kenilworth – representing respectively the great fortress, the royal palace, the prelate's castle and the magnate's castle. Three of the four survived the 17th-century Civil War and are still in use: only Kenilworth was abandoned, 'a ruin of breathtaking splendour to the present day'.
Photograph, R. K. Morris 2007

fifteen chronological chapters based on the reigns of monarchs or groups of monarchs. It commences with William I (Chapter 2, *The Castles of the Conquest*) and finishes with James VI and Charles I (Chapter 16, *The Stuart Castle*). Some monarchs like Edward III receive more than one chapter (*The Lion of England* and *The Genesis of the Perpendicular Style*), others are grouped together in a single chapter, for example Edward IV, Richard III and Henry VII (*The Yorkist and Early Tudor Settlement*). This narrative structure works pretty well as a framework on which to assemble such a potentially unwieldy mass of material. As Goodall explains, the advantages of doing so are that buildings appear in their historical context, that they are easier to match with the fundamental evidence from royal records, and that monarchs' names provide 'a comforting element of familiarity' for the general reader. Inevitably there are a few orphans. The feature on Conisbrough Castle, placed in Richard I's reign, appears odd separated from the discussion of Orford and polygonal great towers in Henry II's reign twenty pages earlier; and the section on 'The Midlands and South Wales' in Chapter 11 (Richard II's reign) is almost devoid of midlands' content because the most relevant buildings at Warwick and Kenilworth were discussed in the previous chapter.

It is impossible here to give even a brief résumé of the chapters, so a few extracts must suffice to give a flavour of the rich and varied contents. In Chapter 3, *The Castles of the Conquest*, the author manages to indulge himself in what one suspects is one of his

favourite castles, Richmond in Yorkshire, giving this rather forgotten site – 'perhaps the best preserved 11th-century castle in England' – justifiable coverage alongside the much better known Tower of London and Colchester. Chapter 4, *The Age of Magnificence* (William Rufus, Henry I and Stephen) includes re-assessment of the 'great tower' (aka 'keep' to traditionalists), leading off with two outstanding royal examples at Norwich and Corfe castles, and explaining that their appeal was more complex than just a stronghold in times of unrest. The great tower was the visual focus of a castle, the ultimate symbol of lordly power and living on a grand scale: the most sophisticated examples were 'prodigy buildings', every bit as complicated architecturally as contemporary great churches. The continuous attraction of living in a great tower, and its architectural descent from 12th century models, is a significant sub-plot of the book; whether new-built as at Caernarfon (the Eagle Tower), Knaresborough and Warkworth, or an older tower updated, as at Chepstow (modernised in the 1230s), Pontefract (in the 1370s) and Appleby (in the 1650s).

Chapter 7, *The King's Works and Wales*, is enlivened by coverage given to castles outside Edward I's well-known big six in north Wales: less familiar castle works of the same period, such as the gatehouses at Leybourne (Kent), Barnwell (Northants.) and Bungay (Suffolk). All of these, Goodall argues, are indebted in their architectural details to previous royal works. The appearance of brick as a fashionable building material is the outstanding feature of Chapter 12, *The Lancastrian Age*, transforming secular architecture in the first half of the 15th century. Here Goodall acknowledges especially the work of the late Nicholas Moore, whose early death extinguished his own plan for a monograph on English medieval brickwork and who bequeathed his research archive to the author. A particular focus of the chapter is on the influence of Henry VI's Eton College (founded 1440), where brick walls decorated with displays of diaper patterns, continental in inspiration, were used in buildings designed and detailed in stone, in the English idiom: a combination which became the fashionable style for castles and palaces in the south and east of England into the Tudor period. Amongst the progeny of Eton is Herstmonceux Castle, which is given its own section at the end of the chapter to illustrate 'the vigour and invention of castle building at this time', and the specific significance of its façade design ('the Herstmonceux-type façade'). Yet surprisingly there is no discussion or proper illustration of the façade's great gatehouse, surely one of the outstanding works of medieval castle architecture, with its theatrical play of shapes and texture and the many 'trappings of fortification' (Fig. 2).[4]

The closing chapters 14 to 16, covering the years 1509-1650, are especially concerned to counter the popular perception of 'the decline of the castle' as expounded, for example, in Michael Thompson's book of that name, which defined a castle as a fortified residence in which the fortifications predominate.[5] These chapters are the least coherent of the book because Goodall's main argument for the continued prominence of the castle is harder to illustrate, and the many sub-sections impede the flow of the main arguments. New-built castles and major remodellings of existing castles are relatively rare in these years and the names of the best-known are all too familiar from the writings of Mark Girouard[6] – Longford, Kenilworth, Lulworth, Ruperra and Bolsover. The fact that most privately owned castles were still lived in, maintained and improved, because they continued to represent the most appropriate symbol of military prowess and social status for the ruling

Fig. 2
Herstmonceux Castle, the great gatehouse (1440s), with echoes of the Eagle Tower at Caernarfon and Caesar's Tower at Warwick, in the playful changing shapes of the towers, and the turrets set back behind a boldly machicolated fighting deck. The use of bright red brick adds a texture and colour in dramatic contrast to earlier castles. Add to this an exuberant array of 'the trappings of fortification' – arrow loops, gunloops, drawbridge beam-slots and the menacing super-arch implying the presence of murder-holes – and this is one of the outstanding achievements of English castle design; but it is not featured in the book.
© History of Art Department, University of Warwick; photograph, Alan Watson

class, makes for unspectacular argument in the context of new buildings, particularly country houses. So resort is made to other, less familiar forms of evidence, such as the report of the 1617 visit of James I and leading courtiers to Warkworth Castle, where 'the lords were much moved to se it soe spoyled and soe badly kept'. For Goodall, these words, set against the exceptionally unfortunate circumstances of the Percy family, show 'just how admired castles remained' and 'how central they were to noble identity', rather than adding weight to the conventional view of castles being abandoned and falling into ruin. He also rightly brings into play the continued significance of the Perpendicular tradition in reinvigorating Elizabethan architecture, and forming arguably the main constituent of High Elizabethan style (though he does not use the term). Too much attention has been paid to the new Renaissance style, which tended to develop away from castles in town-houses and at former monastic sites, and which he dismisses as no more than cosmetic in the 16th century. However, considering that Kenilworth Castle is one of the four featured castles of the book, he misses the opportunity (pp.441-3) to point out that the Leicester Building there is surely the first influential exposition of High Elizabethan – a great tower of compact plan with huge windows, eschewing externally all traces of classical detail; and, to prove Goodall's point, it is built in the context of a castle.[7] Rather, he refers to Kenilworth after Leicester's works as an 'architectural hotchpotch'.

Turning to the format of the book, the visual apparatus is stupendous. Goodall draws on all his experience with English Heritage guidebooks and as the architectural editor of *Country Life* (rather like the lavishly illustrated publications of his distant predecessor, H. Avray Tipping). Apart from the superb modern colour photographs, many of them full-page, quite a few of the later buildings are illustrated by classic plate photographs of the late 19th and early 20th centuries from the *Country Life* archive. Moreover, he has assembled what must be the largest collection of recent English Heritage and Cadw reconstruction drawings published in one place. There are many coloured plans as well, some drawn specially but many others borrowed from English Heritage and Cadw guidebooks: Goodall notes that the intention had been to publish them all at a uniform scale, but that this proved to be impracticable within the confines of the book.

A distinctive feature of the book's design is the emphasis placed on interpreting the 362 plates by descriptive and analytical captions, sometimes in tandem with reference numbers superimposed on the images. The latter is a device associated with guidebooks, first used, I believe, by Cadw in the 1980s and brought to English Heritage by Dr David Robinson, where it is extensively employed in the new Red Guidebook series. Goodall is 'evangelical' about urging the study of physical remains, so that anyone with a careful eye and a modicum of knowledge can analyse the buildings for themselves, and this device is ideally suited to his purpose. It means that in one sense the book is like a giant guidebook. A reader may look through the plates, absorbing the captions, or read the main text as a narrative. To try to do both simultaneously is hard work, as this reviewer discovered, for each caption is 100-150 words long. In this arrangement lurks the danger that the contents of the captions may contradict the main text, but I found hardly any instances of this – a tribute to the high standard of proof-reading in the volume and the fact that the author wrote all the captions (an unusual circumstance).

However, though this is a stimulating book, it is also a physically challenging one. Yale need to think if there is a future for such large heavy tomes as *The English Castle* (3.2 kilos, measuring 290x250mm) and Girouard's *Elizabethan Architecture* (3.4 kilos). The sheer difficulty of sitting down and reading the former for any length of time potentially inhibits the full appreciation of Goodall's excellent narrative. In such circumstances, one must question a book design in which the full-page photograph which introduces each chapter is simply embellishment, not given a plate number and therefore not referred to in the text. Thus, in Chapter 15, the photograph of Longford Castle (p.430) – one of the fine photos from the *Country Life* archive – is a much more appropriate illustration to judge his point about the 'solidity' (or otherwise) of the castle than the distant view of 1680 (pl.348).

The book is very much John Goodall's personal account of English medieval architectural history and the story of the castle. His interpretation of buildings and their dating is not always incontrovertible, sometimes selective to suit his arguments. For example, this reviewer still disagrees about the date of the 14th-century gatehouse at Caldicot Castle (Monm., p.334), but that is beside the point; alternative viewpoints are usually referenced in the notes. The book is full of unusual insights and observations, like the convincing attribution of the problematical Spy Tower at Warwick Castle to the tenure of George, duke of Clarence (1471-83). No review can do justice to all of these, except to guarantee that all castle-buffs will be similarly rewarded in their reading.

In 1979, I introduced a course entitled 'The Englishman's Home [is his castle]' in the History of Art degree at the University of Warwick; as a matter of fact John Goodall taught for a term on it in the 1990s. It covered very much the same material and time-span as the book under review, and in its time it was a pioneer course for an art history department. Had I written a course-book, this would have been the book. So I am delighted to welcome it after all these years: indeed envious that I did not write it. John Goodall is the finest scholar of English medieval architecture of his generation, and *The English Castle* is an exceptional achievement.

NOTES

1 J. H. Harvey, *English Mediaeval Architects: a Biographical Dictionary down to 1550* (rev. edn, Gloucester 1984), 358. John Harvey adopted the extra 'y' in his later writings to stress that Yeveley hailed from Yeaveley (Derbys.).

2 J. H. Harvey, *Henry Yevele c. 1320-1400: the Life of an English Architect* (London 1944).

3 For example, R. K. Morris, 'The Architecture of Arthurian Enthusiasm', in M. Strickland (ed.), *Armies, Chivalry and Warfare in Medieval Britain and France*, Harlaxton Medieval Studies VII (Stamford 1998), 63-81; for Caernarfon, see 71-2.

4 Goodall references his article, 'A Medieval Masterpiece: Herstmonceux Castle, Sussex', *Burlington Magazine*, 146, no. 1217 (August 2004), 516-25, where the gatehouse is illustrated in Figs 3-4 and described as 'this magnificent structure'; but its omission from the book is unfortunate.

5 M. W. Thompson, *The Decline of the Castle* (Cambridge 1987), 1.

6 Most recently, M. Girouard, *Elizabethan Architecture* (New Haven and London, 2009), ch.8; reviewed in *TAMS*, 55 (2011).

7 R. K. Morris, ' "I was never more in love with an olde howse nor never newe worke coulde be better bestowed": the Earl of Leicester's remodelling of Kenilworth Castle for Queen Elizabeth I', *Antiquaries Journal*, 89 (2009), 299-301. Goodall includes reference to this article in his bibliography.

Book Reviews

Fawcett, Richard, *The Architecture of the Scottish Mediaeval Church 1100-1560*, New Haven and London: Yale University Press, published with the Paul Mellon Centre for Studies in British Art (2011), 456 pp., 400 pls. £50. ISBN 978-0-300-17049-8

As the author explains in his *Preface*, medieval church architecture in Scotland has not received anything like the attention it has received in other countries, notably in England. This is partly down to the poor survival rate; just 37 cathedral, monastic and collegiate churches remain wholly or partly in use and there were only ever 1136 parishes. Add to this the complexities of post-Reformation alterations (which are not without their own interest, of course) and the paucity of documentary evidence and the task of creating an overview becomes daunting. For those of us who have previously relied on the three volumes of MacGibbon and Ross (1896-7) and the growing number of *Buildings of Scotland* books, this single, weighty (2.5 kilos) volume brings a very welcome modern overview.

Richard Fawcett has become the public voice of Scottish medieval church architecture at many conferences. Although he fully acknowledges the contributions made recently by other scholars, in his typically self-deprecating way he omits to mention his own substantial contribution. The excellent bibliography lists thirty-seven of his own publications, the majority articles, but including many guidebooks for his former employer, Historic Scotland, and four books. He is therefore just the person to write this overview and the Yale University Press has once again given us a finely produced, well illustrated book. For Sassenachs, a map of Scotland and a chronology of its kings and principal events would have made it even better.

The book is organised in eight chronological chapters spanning 1100-1560, with a short *Introduction* covering the 500 years up to 1100 and a longer *Conclusion* on *The Impact of the Reformation*, a curtain raiser to another Fawcett article. There is also *A Note on building stones*. Almost half the text, chapters 5 to 8, covers the years 1300-1560, reflecting both the surviving material and the author's particular interest in the late medieval period. As he admits, the date divisions can be arbitrary and the eleven-page chapter 5 covering 1300-1370 is only really there to emphasise the point made by its title, *A Recession in Building Activity*. The main building described is not in fact a church, but the grand refectory at Dunfermline Abbey, a rare excursion into the 'secular' field, despite the author's clearly expressed view that 'any attempt to discuss Scottish ecclesiastical and secular buildings together and on equal terms before the 15th century must inevitably result in unbalanced treatment'. However, as he also claims that many of the foreign architectural sources must arise from patrons visiting buildings in other countries, some coverage of their 'secular' buildings is surely necessary. Indeed, the revived use of stone barrel vaults, with or without applied ribs, in churches in the later 14th century is only explained by their use in contemporary tower houses. Of course, the generally poor survival rate has no doubt contributed to the author's decision, but medieval architectural history has to take into account what is known to have been built as well as what happens to have survived.

This is very much an architectural account with some lengthy detailed descriptions of features that can get in the way of understanding the broader sweep. Chapters are divided into typological sections based on building function and monastic order and although each chapter begins with a very helpful historical summary, only chapter 5 has a concluding paragraph that draws together the main points covered. I would like to have seen a little more coverage of architectural sculpture – especially when the text tells me that Linton's figurative tympanum is 'a unique survival in Scotland' or the painting on the tomb recess at Inchholm Priory is 'a rare survivor of the painted decoration that must once have been common'. Only two tombs are illustrated and no furnishings, despite a number of mentions and the stated possibility that elements in their design might have been relevant to the understanding of the architecture. We must continue to rely on MacGibbon and Ross, which is referenced very frequently in the copious footnotes.

Scotland is not just more of England, yet identifying its own Scottish-ness in medieval churches and the ideas that formed that character can be elusive. Much of the book is about trying to discern where ideas have come from, what induced a patron or mason to take those particular forms and whether any distinctly Scottish architecture emerges (especially in the 15th and 16th centuries). There are two well known recurrent sources: Ireland for the west of Scotland and the Islands, and England, particularly for the Borders and Lowlands. The *Introduction* was presumably written before Tomas O'Carragáin's overview of the pre-1100 period in Ireland was published (also by Yale), so

references there to Irish parallels are more limited than might be expected. The links persisted, with an Irish mason even signing a capital at Iona Cathedral in the mid-15th century.

In the period 1160-1220 (chapter 2), 'lowland Scotland and northern England were essentially one architectural province', which the author attributes to the architectural homogeneity of the reformed Orders and their influence on more public buildings like York Minster. Frustratingly little is known about the Tironensians, a reformed order of Benedictines founded at Tiron, half way between Chartres and Le Mans, who may have been just as influential as the Cistercians in Scotland. The plan and remaining pier forms of their main abbey at Kelso, founded in 1128 by the anglophile King David I (also earl of Huntingdon), may have a superficial appearance to Ely and other East Anglian churches, but the three arms of its unique western transept are of equal height and all three open into the west tower, unlike the English examples. Perhaps more importantly, the architectural vocabulary being used is much more local, which raises the distinct possibility that there is a missing link (Dunfermline is postulated) and that Scotland developed its own version of early Gothic, just as it developed a distinctive late Gothic style.

Throughout the book, parallels are drawn with buildings beyond Scotland which can be superficially convincing, but are not always supported by some historical link. The Kelso Abbey elevation may look like St John's, Chester, but there is nothing else to link them (or to link the Lowlands with north-west England). I doubt that Devorguilla's ownership of land at Driffield helped to persuade the mid-13th-century masons at Sweetheart Abbey to use the moulding profiles of Bridlington Priory in their nave arcade. More probable is that Bishop Elphinstone liked the foliate bosses he saw on his frequent late 15th-century visits to Bruges enough to instruct someone in his entourage 'competent to record and transit such information' and so incorporate such details into King's College Chapel, Aberdeen.

How patrons and master masons picked their architecture and who had the upper hand when determining characterful details remains a constant conundrum in studying medieval architectural history. In this book, Richard Fawcett has worked hard to establish possible sources and to identify trends that contribute to ecclesiastical buildings of the Middle Ages in Scotland. He is most confident when dealing with the later period, when the use of details like tracery from the Low Countries is undoubtedly proven. More difficult, perhaps impossible given the losses of buildings and documents, is to explain why Scottish patrons and masons borrowed these particular details and what they were trying to express by using them in their buildings. Details of the late 14th-century east end of Melrose Abbey may have a number of exact parallels in Yorkshire and East Anglia, but surely it is the Lady Chapel of York Minster that is the principle inspiration and the (Scottish?) mason has worked out his own variations. The aim of the patron (the abbot?) could have been sycophancy – Scotland was in the province of York until 1472 – or emulation, even betterment, of the latest big architectural statement in the north. Unless something has been written down somewhere, we shall never know for sure.

Richard Fawcett remains hesitant in determining a truly Scottish style; he even dismisses that rare (but for many people, very Scottish) feature, the crown steeple, as an indigenous creation. He could only have been more assertive in claiming more Scottish originality by hypothesising on the form of lost buildings, not a new technique in architectural history of course, but not one that an evidence-based scholar like Richard Fawcett would naturally pursue. We must hope, then, that further studies of individual buildings over the next generation or two will enable him to speculate in the future. Meanwhile, this is the book to have if you need to know about the development of medieval church architecture in Scotland.

Richard Halsey

Grainger, Hilary J., *The Architecture of Sir Ernest George*, Reading: Spire Books (2011), 480pp., 332pls. £65. ISBN 978-1-904965-31-2

About forty years ago I bought a small etching by Ernest George (1839-1922), showing a picturesque group of medieval timber houses in a German city. Whenever I have looked at it since, I have puzzled over the man who drew and etched it. Why should his name be so familiar, yet his work so little-known? Like any reasonably equipped architectural historian of the 19th and 20th centuries, I knew him as the designer of W. S. Gilbert's lusciously iconic

house in Harrington Gardens, as a celebrity country house architect (whilst knowing hardly anything of the houses themselves), and as the only formal teacher Lutyens ever had. Nothing else.

At least part of the reason why Sir Ernest George's name and reputation have survived is because so many of the architectural stars of the next generation passed through his office and regarded him with such deep respect and affection. Not the least impressive aspect of Professor Grainger's comprehensive study of his life and career is the appendix describing the organisation of the practice and the astonishing roll-call of George's pupils and assistants: Herbert Baker, Guy Dawber, Edwin Lutyens and Weir Schultz among very many other talented figures. His office was easily as influential as those of Norman Shaw or, a generation earlier, G. E. Street.

On the other hand, his architecture has been neglected for much of the last century – the democratic century coloured by Modernism and collectivism – at least partly because of the very nature of his practice and client base. Ernest George has been remembered as one of the most prestigious country house architects of the late Victorian and Edwardian ages, and therefore someone who serviced the vanities of a minority culture as it amused itself on the very lip of a volcano. He perfectly caught the taste of that leisured, wealthy class which began slowly to melt away after the First World War, and which only managed to live in his houses the life for which they had been conceived for perhaps thirty or forty years.

This is a significant and valuable book because Sir Ernest George was undoubtedly an influential architect and, in the context of his time, an important one. He was not, however, a great one. In her admirably thorough study, Hilary Grainger reveals his weaknesses as well as his strengths. She explains the symbiotic relationship between his career as an architect and his passionate, but semi-private, commitment to picturesque topographical etching and painting in watercolour. As she admits, George is weak when dealing with the monumental. His architectural perspectives are often so persuasive, atmospheric and charming that the finished buildings can seem flat by comparison.

Indeed, charm is often the dominant characteristic of his work, and is probably the reason why so many of his smaller buildings – the village halls at Moreton-in-the-Marsh and Buscot, the garden pavilion at Batsford Park, even the startlingly tough early church and school at Rousdon – are so satisfying. But when it comes to designing buildings on an heroic scale, charm is not a robust enough quality to sustain them. Country houses like Batsford Park and Poles certainly have charm, but it has a good deal to do with what they evoke; their kinship with the great houses of the first Elizabethan age. Shorn of its mild asymmetries, Batsford would come perilously close to being repetitious and bland, and some of his later great houses have the look of being designed to become the institutions or hotels they now are.

When he cannot be picturesque – at which he excels – George is too often merely dull. This is particularly true of his classical buildings. It would take a good deal more than a display of heroic, Shavian chimneystacks to redeem the thinly-detailed elevations of the Royal Academy of Music – so much less interesting than other contemporary public buildings. Imagine what Edwin Rickards would have made of the same opportunity! Perhaps the best of them is Crathorne Hall, though even there the relationship between the bay windows and the portico on the garden front is equivocal without being interesting, and the awkward junction between the central bays and the flanking towers on the otherwise thrilling entrance façade is something his most celebrated pupil would easily have a avoided. He even manages to give his re-invention of the Oxford Wing at Welbeck Abbey a slightly institutional air, not quite redeemed by the consistently superb craftsmanship.

One rarely feels that Ernest George's designs are guided by principles much higher than a feeling for the picturesque and an instinct for decent proportion and massing. Although his houses are clearly of one build, they sometimes suggest in their materials and articulation that they might have mysteriously evolved over time. In this essentially Romantic attitude he is the heir to Devey, and his work can seem more fanciful than substantial; ultimately less satisfying than architecture which has some more abstract or universal basis. On a large scale, his detailing can become routine and conventional in a way that Webb and Lutyens never were, and even the famously relaxed Norman Shaw rarely allowed himself to be.

Yet there are also considerable triumphs. Probably because of his skill as a draughtsman, George has complete mastery of the artful balance of solid and void, of calm emptiness and busy pattern-making, that is such an important ingredient of the late Victorian design language. Its finest ecclesiastical exponent is Bodley, but George

is an easy rival in the domestic sphere – witness the weirdly eventful and irresistible entrance front of Buchan Hill, for example. Moreover, few urban ensembles anywhere can match the panache and ravishing excess of his splendid houses in Harrington Gardens and Collingham Gardens in London.

The Architecture of Sir Ernest George is an impressive study, lavishly presented and scrupulously researched, in which the author strikes a neat balance between the tone of a scholarly thesis and a sumptuous monograph in the tradition of fine architectural biographies established by Andrew Saint's magisterial, and recently re-issued, *Norman Shaw*. Perhaps treating each of the major projects in turn to its own few pages sets up a slightly plodding rhythm – surely unnecessary in a book which includes a rich chronological catalogue of works – and there would have been value in drawing out some of the larger connecting themes, as the author does effectively in the section dealing with terracotta (which, incidentally, is surely modelled rather than carved).

Professor Grainger has certainly served her subject and his otherwise elusive architectural partners (Thomas Vaughan, Harold Peto and Alfred Yeates) extremely well, and has at last enabled me to place my little etching of a German town in context. Her book fills a significant gap, and will be an important work of reference for years to come, but as I read it I grew to like and admire Sir Ernest rather more, and his buildings a little less.

PHIL THOMAS