

Kentish ragstone ashlar masonry in London

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Background

Exactly 650 years ago, during the latter part of the very successful reign of King Edward III, the king decided that he wanted to add a series of new towers to his large palace of Westminster. One of these, the Jewel Tower, was to be at the south-west corner and near the privy palace; the other, which was to be a clock (and bell) tower, was to be in the north-east corner of the Palace and opposite the great north door of Westminster Hall. Work on both these towers started in the later months of 1365, and the main building work took place in the spring and summer of 1366.¹

Alas, the clock tower was demolished in 1698, but we know that it was about 25 feet (7.6m) square and 60 feet (18.3m) high, and there are several fine drawings (the most famous by Hollar) of it, before it was pulled down. On the other hand, the Jewel Tower still survives intact with its surrounding stone-lined moat. It is now a fine monument looked after by English Heritage, even if rather overshadowed by the new 1850s Palace of Westminster (Fig. 1).

Construction

The designs for the two towers were almost certainly drawn up by Henry Yevele, the royal master-mason or 'diviser of the King's works of masonry' as he was called, and he used another man called Thomas Hardegrey as his contractor for both the new towers. 'Hardegrey' is an unusual name, but in the late 13th or early 14th century we often read in contemporary building accounts of the 'greystone' or 'ragstone' of Aylesford (sometimes the 'grey stone called ragg').² From the middle of the 14th century, we also hear of the use of 'hard stone of Kent' and of 'stone called urnell' (or urnal or ornell), which was used for making walls, gutters, drains and paving. All this stone came from quarries near Aylesford and Maidstone, and there is now much archaeological evidence to show that in the 14th century the stone was being cut and shaped much more carefully for masonry work. It is possible, therefore, that Thomas Hardegrey was, in the 1360s, a local man from west Kent, who got his name from his particular ability to work and build with this hard grey stone of Kent.

During the 13th century, Reigate stone was being used in London in huge quantities for the masonry of most of its great buildings.³ Other stone, like Caen stone from Normandy was being imported, and was used most often for carved work, but towards the end of the century, we first hear of Kentish ragstone, or the 'greystone of Aylesford, called rag' being brought in in increasing quantities. In 1278, for example, 304 shiploads of the stone were brought up the Medway and the Thames to the Tower of London for Edward I's massive new outer curtain wall.⁴ Before this, Kentish ragstone had been used in many buildings (for example, the Roman city walls and the White Tower) as rubble. Now, however, the masons had learned to choose particular beds in the ragstone for stone facing, and it was not long before they were squaring up the masonry into blocks that were called 'urnel stone of Kent'.

By the early 14th century this masonry was almost being used as a form of ashlar masonry, and in 1338 we find that '400 stones of Maydenston (ie Maidstone) called urnal' were bought,



Fig. 1: the Jewel Tower, all the stone is Kentish ragstone, except the Portland stone window and door openings. View from the east (left); details of plinth and tower external face (centre) and details of the ragstone ashlar quoin and face on the north-west side (right).



Fig. 2: the Jewel Tower (left) from the north and the Westminster Abbey boundary wall

for 22 shillings, for the water-gate (now the 'Bloody Tower') at the Tower of London.⁵ This was at a time when the southern defences of the Tower, along the Thames, were being rebuilt and greatly strengthened against both man and nature.

In the late 12th and 13th centuries, the stone used to counter erosion by the rising river was a hard 'marble' (in fact a polishable limestone) that came first from the Weald,⁶ and then from the Isle of Purbeck. Most famously the tower in the west moat, which collapsed during construction in 1240, (and was excavated in 1995) had a fine plinth of Purbeck marble.⁷ Above this, Reigate stone masonry was used. By the early 14th century, however, ragstone was the material now used for the external wall-facings (Reigate was only used for dressings), and much of its use is well documented.

Recent building recording work at the Tower, is now trying to record this masonry in detail, and to differentiate the original medieval masonry from the many later restorations.⁸ When this work is complete, and all the masonry and stone-types are analysed, it should be possible to show how quickly the quality of Kentish ragstone ashlar masonry evolved during the 14th century. By 1389, when the great wharf in front of the southern moat

was being faced in high quality Kent Rag, we are lucky to have a detailed contract for the work.⁹

Examples in Westminster

From the 14th century, Kentish ragstone ashlar masonry was being used at many other places in London where, remarkably, it can still be seen. Most interestingly, this is at Westminster and, as discussed above, the finest visible example is the Jewel Tower, where the

beautiful ashlar masonry plinth of the tower, and the masonry walls of the moat, show the quality of masonry that Thomas Hardegrej could produce in the mid-1360s.

One can also see very good external masonry on the tower itself, while on the 'inside' faces behind (and only facing the King's garden), rough-coursed rubble is used.

Behind the moat, on the west, is the high stone boundary wall of the



Fig. 3: west front of abbot's house showing the break in masonry between the Jerusalem Chamber and College Hall; the Kentish ragstone is visible (right)



Fig. 4: west side of the Lollards Tower at Lambeth Palace

precincts of Westminster Abbey, which continues round the corner into College Street (Fig. 2). This wall, which is of the same date, also uses only ragstone rubble. However, immediately to the south of the Jewel Tower moat, one can see a small area of the lowest section of the Abbey's boundary wall at the bottom of the ramp leading down into the 1960s Abingdon Street underground carpark.¹⁰ This section of the wall, which is slightly battered (sloping), is also made with high quality ashlar masonry, as it, too, was originally built on the Thames foreshore.

If one goes round to the west front of Westminster Abbey, now faced almost entirely in post-medieval Portland stone, though with a little original Reigate stone still visible, it is possible to see the upper walls of the abbot's house on your right, above the modern Abbey Book and Gift shop¹¹ (Fig. 3). Remarkably this was built from c. 1365–70 for Abbot Nicholas Litlington at exactly the same time as the Jewel Tower. The construction of the grand house for the abbot probably started with the abbot's great chamber (now called the Jerusalem Chamber) on the north. Its west wall (and windows) can be seen above the low modern shop roof, and the facing is done with rather rough masonry using Caen stone and rubble (perhaps reused). However, immediately to the south of this, one can see that the continuing and neighbouring wall of the abbot's great

hall (now College Hall) is made with Kentish ragstone ashlar masonry, so the abbot was using the services of Thomas Hardegrey, or one of his competitors, as well.

Finally, if one goes through the 19th-century archway into Dean's Yard and turns left, towards the arched entrance into the cloister, the south wall of the kitchen to the abbot's hall will be seen.¹² This was restored and repointed in the 19th century, and for many years was mostly covered in Virginia creeper. However, it too is also faced with Kentish ragstone, but this time it is in

the 'cheaper' ragstone rubble. To the right of the kitchen wall, and just beyond the archway into the cloister, is the late 14th-century *cellarium* building,¹³ and beyond this again are the restored front-walls of other late 14th-century monastic buildings, with ragstone rubble masonry walls, but Reigate stone dressings originally.

Elsewhere in London

During the 15th century, the quarrying and carving of Kentish ragstone reached a new high point, and there are several places in London where one can still see fine examples of this. On the other side of the Thames at Lambeth Palace, for example, it is possible to see (over the wall from the very busy Lambeth Palace Road) the west side of the five-storeyed Lollards' Tower, also faced in Kentish ragstone (Fig. 4). The lower three storeys were built by Archbishop Chichele in 1435, and then the tower was heightened in c. 1490 by Archbishop Morton. The break between the two phases of masonry (and the use of red brick in the side walls of the later phase of work) is still visible.¹⁴ Another fine early 15th-century building with high quality ragstone masonry is the Guildhall in the City (Fig. 5).¹⁵ Though heavily restored, one can still see this from the courtyard to the left of George Dance's 1788 porch.

A final phase of the use of very high quality Kentish ragstone ashlar was



Fig. 5: the London Guildhall with Kentish ragstone to the left of the 18th-century porch

reached in the reign of King Henry VII. In London, perhaps the best example of this to be seen easily, is the wonderful 1504 gatehouse to St. John's Priory in Clerkenwell (Fig. 6).¹⁶ However, if one returns to Westminster Abbey, and goes to the extreme eastern end of the Abbey opposite the main entrance to Parliament, one can peer through the railings at the plinth (really a Roman-type podium!) of the Henry VII Chapel (Fig. 7). This was built in 1503, and where the faces of the ragstone blocks, with their very fine mortar joints, are not eroded, one can still see the beautifully cut original faces of the blocks with a 'drafted margin' around the end of each stone.



Fig. 6: gatehouse of St John's Priory, Clerkenwell

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- 1. A.J. Taylor *The Jewel Tower, Westminster* (1965) 7.
- 2. L.F. Salzman *Building in England down to 1540* (1952) 128–9.
- 3. T. Tatton-Brown 'The quarrying and distribution of Reigate stone in the Middle Ages' *Medieval Archaeol* 45 (2001) 189–201.
- 4. *Op cit* fn 2, 128. This account also mentions freestone from Folkestone, an East Kent variety of Kentish ragstone, which was already being made into ashlar, and shipped from Folkestone beach to Dover Castle. For more on the geology and use of the stone, see B.C. Worssam & T. Tatton-Brown 'Kent Rag and other Kent building stones' *Arch Cantiana* 112 (1993) 93–125.
- 5. *Op cit* fn 2, 129.
- 6. The plinth of the Bell Tower, on the south-west of the tower, uses a Wealden marble. See also T. Tatton-Brown 'Medieval building stone at the Tower of London' *London Archaeol* 6 (13) (1991) 361–6.
- 7. G. Keevil, *The Tower of London Moat: archaeological excavations 1995-9* (2004) 54–78.
- 8. See various unpublished reports by Pre-Construct Archaeology (2015).
- 9. Fully published in its original Norman French, with phrases like 'assheler de Kent bon' in *op cit* fn 2, 469–76.
- 10. To see this, you might have to fight your way through all the TV cameras filming MPs on the Green!

- 11. Best seen from near the Crimean War Memorial where you also have to get through all the tourists!
- 12. Still in use as the Westminster School kitchen after more than 700 years.
- 13. Inside it has a very fine rib-vault, which you can see in the new restaurant.
- 14. See T. Tatton-Brown, *Lambeth Palace, a history of the Archbishops of Canterbury and their Houses* (2000) 111.
- 15. See C. Barron, *The Medieval Guildhall of London* (1974) 25 and pl 6a.
- 16. R.C.H.M. *London 2: West London* (1925) 19 and pl 16. See also the masonry at the nearby Charterhouse.



Fig. 7: plinth of the Henry VII Chapel, Westminster Abbey (left) with the detail of the ragstone masonry (right)