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# BRITISH BRICK SOCIETY

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## EDITORIAL: BRACKEN HOUSE

A topic pursued in the national press over recent months has been that of the sale by the Financial Times (appropriately, one might think, for a huge sum of money) of their headquarters building at Bracken House, built on a plot bounded by Canon Street, Queen Victoria Street, Friday Street, and Distaff Lane in London EC4. What has made the matter newsworthy, and disturbing, is that the Japanese company which purchased the building plans to demolish it and replace it with a building of their own.

Bracken House is one of the largest and most important works by the late Professor Sir Albert Richardson. Richardson was perhaps best known for his writings on Georgian architecture and for active work in preservation as well as for architectural work in a Georgian style. He chose to live, indeed, in a Georgian house in the Bedfordshire town of Ampthill, and it is in Bedfordshire that some of his work is to be found, including at Cardington a memorial to the victims of the R101 disaster. At St Christopher's Church in Luton, he broke away from the Georgian style to design a splendid little building in a simplified Gothic style, using brown brick. At Bracken House, which was building between 1956 and 1959, he adopted a more modern style, though one which yielded nothing to the dominant glass-and-concrete manner which was fashionable in the mid- to late 'fifties; the building, too, is far more serious (but not sombre) than so much of the post-Festival of Britain whimsy, which today seems so tawdry and insubstantial - as if it, like the Festival itself, was a temporary letting down of the hair after the austerities of war-time, but not meant to last. In fact, just because its idiosyncracies do not fit snugly into our convenient categories, critics and historians have had word-juggling difficulties in placing it stylistically. Sir Nikolaus Pevsner described it as being designed 'as if it were a self-conscious revival of a forty-year-old "Modern", and Edward Jones and Christopher Woodward have written of it as 'difficult to date. It is a mixture of Arts and Crafts and Milanese art nouveau detail'. Built on a plinth of red sandstone, it continues upwards using strong brick piers framing deeply-set gilded metal windows. An upper storey, one might almost say an attic storey in the classical sense, is of copper and glass-brick piers, set back slightly above a simply moulded cornice. The angles, with their set-back circular turrets, are a particularly felicitous touch. Inside is a large octagonal hall. With its symmetrical façades, piers on a base-storey, cornice, and a kind of attic storey, the building is undeniably classical in feeling. And above all it is a wonderfully civilised building.

Not only because it contrasts so well with so many of its neighbours, but also because it is a fine and impressive building in its own right, it would be a great pity if this building were lost. It has now been listed as a building of special architectural interest, the first major post-War building to be so treated. If there is a public inquiry, it is to be hoped that it will result in the only humane and sensible verdict. In the present climate one can be none too sure that civilisation will indeed triumph over Mammon, but one hopes. Bracken House should be there for our children's children to see and enjoy - and indeed beyond that.

Terence Paul Smith  
Editor

# ARCHITECTURAL TERRACOTTAS AT SUTTON PLACE AND HAMPTON COURT PALACE

*Richard K. Morris*

As the Society visited Hampton Court Palace for the 1986 AGM, I thought that members would be interested in the interim results of some research that I have been carrying out recently into architectural terracottas at the Palace and at Sutton Place near Guildford in Surrey.<sup>1</sup> The architectural history of the Palace under Wolsey and subsequently under Henry VIII is well known (see further Information, 39, May 1986, 2-5), and it is sufficient for this paper to note that Sutton Place is a contemporary courtier house in building after 1521.<sup>2</sup> My objective here is to discuss the terracotta components used to create the windows at Sutton Place and their relationship to the fragments of terracotta windows excavated at Hampton Court in the 1970s; I am not concerned with the better known decorative reliefs or medallions in terracotta at these two sites. The comparisons are based on the moulding profiles of the components, and it is my contention that these tell us more about the relationship of the terracottas and their authorship than does the 'antique' Renaissance ornament moulded on them in low relief.<sup>3</sup> The ornament could be derived from a number of sources by the 1520s, including early printed books, but the moulding profiles are more distinctive, especially the sections of the mullions.

Three groups of material are compared:

- (1) Sutton Place, as observed on the three surviving sides of the courtyard, with my drawings made from features on the ground floor of the west range (fig.1, SP).
- (2) Hampton Court Palace, items excavated in June 1976 on the south side of Clock Court, re-used for foundations and considered to have been made for a building of Wolsey's period, 1514-29 (information, Daphne Hart). These pieces are still at Hampton Court, and I have drawn them (fig.1, HC); the reference numbers given to them by AMHB Section, Hampton Court, are given in '< >' parentheses.
- (3) Hampton Court Palace, two pieces excavated in 1977 on the site of the former Queen's Gallery, built by Henry VIII (1534-7). The pieces had been re-used and pre-dated the Gallery; they were briefly published by David Batchelor in Post-Medieval Archaeology.<sup>4</sup> It has not been possible so far to locate them at Hampton Court for inspection, and so one must rely on the illustration in Batchelor's article (Batchelor, fig.8), which unfortunately has no scale, so that exact comparisons with the other materials cannot be made.<sup>5</sup>

To commence by comparing the materials from (1) and (2), two conclusions can be drawn. First, none of the items are from the same moulds. Second, there are nonetheless a number of specific parallels which indicate that these terracottas are by the same designer or workshop. These parallels are as follows:

# SUTTON PLACE AND HAMPTON COURT (CLOCK COURT)

## ARCHITECTURAL TERRACOTTAS MOULDING PROFILES 1/4-SCALE

SP = SUTTON PLACE (W. RANGE, COURTYARD)  
HC = HAMPTON COURT (EX SITU)

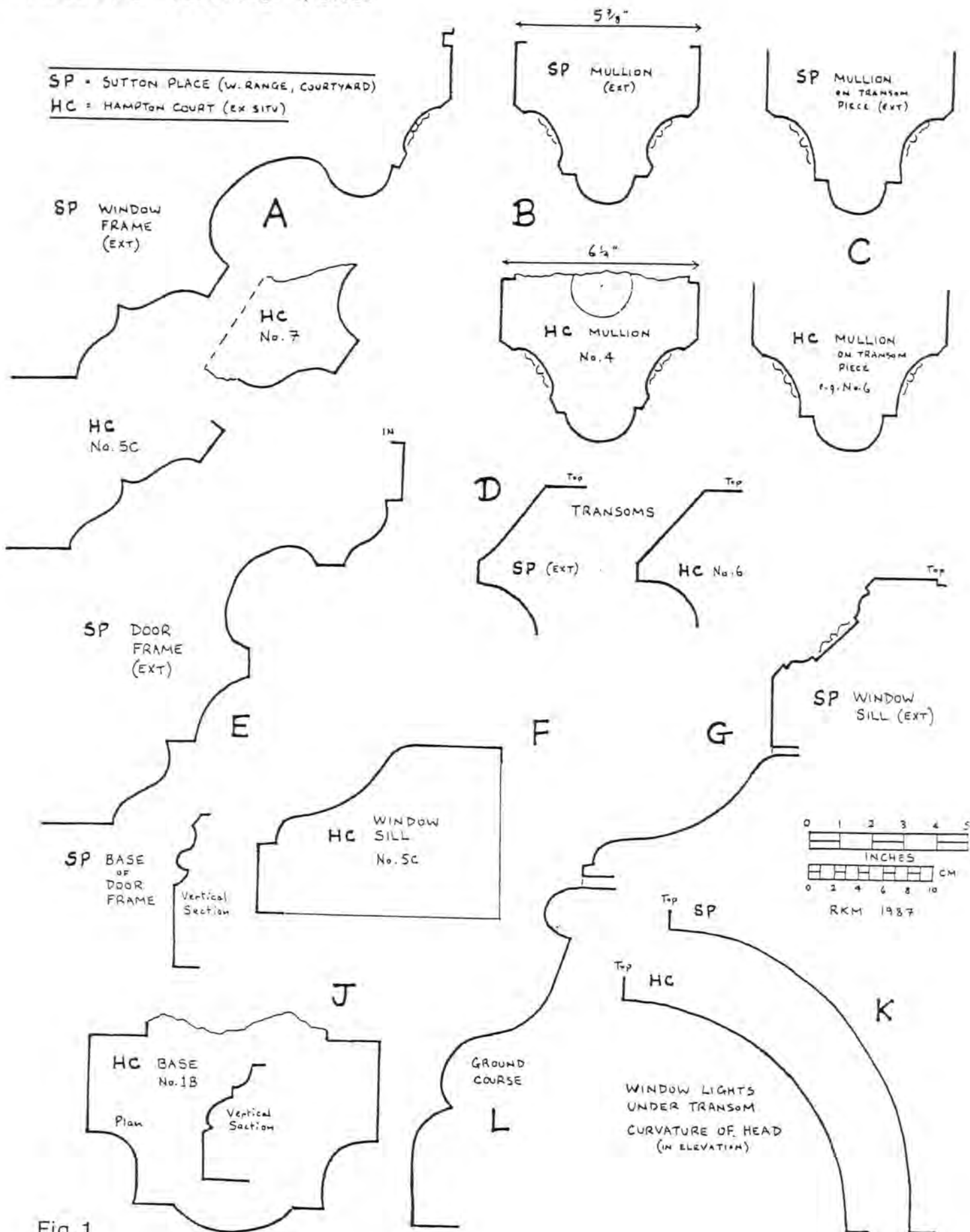


Fig. 1


- (a) The window mullions employ the same distinctive moulding profile, and are very close in size, those from Sutton Place being slightly smaller (fig.1, B). The variation in size may possibly be caused by differential shrinkage during firing because a different earth or clay was used, but I think this unlikely. Rather, they are from different moulds, because from the evidence available the combination of 'antique' patterns used to decorate the hollows of the mullions is different.<sup>6</sup> Also, the limited evidence available suggests that the standard length of each section of mullion was longer at Sutton Place (12½-12¾ in.) compared with Hampton Court (the longest piece, No.2, if it is complete, is only 11 in.). <Hampton Court Nos. 2, 4, 12, 14>.
- (b) The heads of the window lights incorporate two moulding profiles: one for the mullion and one for the transom. In both buildings, the mullion profile is different from that used in (a) above, and this represents a very specific link between Hampton Court and Sutton Place. The design of the mullion is the same at both sites; the profiles are virtually the same size, although they cannot be from the same mould because of differences in overall form of the window-head pieces (fig.1, C).<sup>7</sup> With regard to the transom profiles, these are the same at both buildings (fig.1, D). <Hampton Court No.6 and a large unnumbered piece in a box>.
- (c) The mouldings of the window-frames are of the same design, including a distinctive double-ogee moulding with its inner fillet set diagonally to the window plane (fig.1, A). These profiles are very close in size, but on the basis of the limited evidence available from Hampton Court, they are not from the same moulds.<sup>8</sup> <Hampton Court Nos.5A-C, 7A-B>.
- (d) Another important similarity is that the width of the window lights is the same, based on measurements of the window-heads on the transom pieces: Sutton Place is 20¼-21 in. between the centre axes of the mullions; the only complete Hampton Court piece gives 20½ in. (2 x 10¼ in.).
- (e) The one complete piece of window-head from Hampton Court <the unnumbered window-head from transom-level> is moulded on the front but flat on the back. Therefore, this part of the window was constructed with two pieces of terracotta back-to-back (presumably with one of them containing a slot for the glass), rather than being in one piece, as would be the case for a window-head carved in stone. Judged on external appearance, it looks as if the same technique was employed at Sutton Place, and it would be worth checking if the opportunity should arise to dismantle any of the windows there during any restoration work.

There are two major differences in the overall form of the windows but these represent design alternatives and are not indications of a change of workshop. First, the one surviving piece of window-head from Hampton Court suggests that the lights were uncusped (see note 7). Second, the window-sills must have been treated differently. At Sutton Place, the sections of sill adjacent to the glass have fussy mouldings and arabesque patterns (fig.1, G, and see note 8), and the window mullions sit directly on these sills without the use of bases. At Hampton Court, no sections of this part of the sill have survived, but a modified design for it is implied by the fact that the mullions had bases (fig.1, J) <Nos.1A-B>.

In passing, it should be noted that there are two other architectural usages of terracotta at Sutton Place which are not represented in the surviving pieces at Hampton Court. These are the door-frames and

the ground-course moulding (fig.1, E and L).

Turning to consider the pieces of terracotta from the 1977 excavation at Hampton Court (3, above), one of these is so close in appearance to the Sutton Place windows that there can be no doubt that we are again dealing with the same designer. This is a length of mullion from a window-frame section (Batchelor, fig.8,B). The moulding has the same distinctive profile as those already discussed (fig.1,B, and see (a), above), but is a closer comparison to the equivalent pieces at Sutton Place because the 'antique' ornament appears to be very similar: in particular the use of a lozenge shape with a small bead at each corner. Also, the fragment of terracotta with an antique baluster pattern (Batchelor, fig.8,A) may relate to the baluster designs used in the friezes at Sutton Place (e.g. over the bay-windows).<sup>9</sup>

With regard to the manufacture of the window components, some of the pieces from Hampton Court Clock Court excavation bear marks made in the terracotta by the craftsman before firing, and hidden in the joints when the window was assembled. Two pieces (Nos.5A and 5C) of the outer row of window-sill mouldings are each stamped three times on their base with a small rectangular stamp with a cross incised in it: . These marks are most likely intended to identify the output of each of the 'brickmakers', either for the purpose of piecework remuneration or for quality control. More puzzling is the fact that two of the mullion pieces Nos.4 and 12 have a circle about  $\frac{15}{16}$  in. radius (1 in. before shrinkage?) inscribed on the end surface, in about the centre point of the profile (fig.1, B). If the mullion were made of stone, one would interpret these as guidelines for carving, but it would seem redundant in a moulded process like terracotta, and its purpose is hard to explain.

With regard to assembly, at Sutton Place the transom pieces fit awkwardly with the window-frame pieces in some of the ground-floor windows. The problem is that the moulded ends of the pieces are not in alignment, and therefore it appears that a rectangular chunk had to be cut out of each window-frame piece during assembly to accept the transom piece, producing a 'joggled' joint. This occurs in all the ground-floor windows of the west range on the courtyard side (except for the three-light window at the north end), the four-light bay-window at the south-west corner, and in the two-light window at the south end of the east range. It indicates problems with co-ordinating production and assembly on a large scale, and suggests that perhaps this was the first time that this workshop had tried transom-windows in terracotta: but the survival of so few pieces from Hampton Court makes it impossible to check whether similar problems existed there also.

In conclusion, there is no evidence at present that the same moulds were used for the window pieces in any of these three works, although some more checking needs to be done, particularly at Sutton Place, and it would also be useful to gain sight of the pieces excavated by Batchelor. However, it seems fairly certain that the various terracotta elements of the courtyard elevation of Sutton Place were mass-produced from a small set of identical moulds. Moreover, idiosyncracies of design and construction indicate that the same workshop was responsible for all three works, and overall the mouldings suggest that the designer was English. Most of the moulding profiles are typically Tudor Perpendicular (e.g. the double-ogee mouldings of the window-frame, fig.1, A). Only the mullion profiles show some adaptation of Perpendicular forms to accommodate the 'antique' ornament in a shallow hollow flanked by fillets (fig.1, B). Thus, the pieces from Sutton Place and Hampton Court demonstrate how far the ability of English craftsmen to produce decorative terracotta



had progressed by the second decade of Henry VIII's reign, in association with the development of moulded brickwork and stimulated by the presence of Italian specialist craftsmen such as Giovanni da Maiano.

\* \* \* \* \*

The author would be interested to receive comments from members about any technical or other points contained in this article (c/o History of Art, University of Warwick, Coventry CV4 7AL). For a consideration of this subject in a broader art historical context, see R.K.Morris, 'Windows in Early Tudor Country Houses', in Early Tudor England, ed. Daniel Williams (Proceedings of the Fourth Harlaxton Symposium, Boydell and Brewer, forthcoming, 1988).

### Notes

1. I am extremely grateful to Miss Daphne Hart at Hampton Court Palace for arranging access for me to study the pieces excavated in 1976 and for much background information relating to this article; and to Mr Christopher Turner of Cluttons, for the Sutton Place Foundation, for arranging permission for me to draw terracotta components on the exterior of the house.
2. For Sutton Place, see most recently The Renaissance at Sutton Place. The Sutton Place Heritage Trust, Sutton Place, 1983.
3. For illustrations of the ornament, see op.cit. in n.2, pp.22-3, or H.A.Tipping, Early Tudor, 1485-1558, English Homes, Period II, vol. 1, Country Life, London, 1924, fig.193.
4. D.Batchelor, 'Excavations at Hampton Court Palace', Post-Medieval Archaeology, 11, 1977, 36-49.
5. I am grateful to David Batchelor for trying to locate a measured version of his published drawing, unfortunately without success.
6. The 'antique' ornament decorating the windows of the courtyard elevations of Sutton Place is very regular in distribution, with a different pattern used for each of the four main elements - mullion pieces, jamb (or window-frame) pieces, sill pieces, and heads of window lights. Each mullion piece always includes the design of a spear and bellows arranged in an 'X' pattern. This design is also used for Hampton Court mullion fragment No.4, but the detail of the spear's head and of the bellows differs from pieces examined at Sutton Place; i.e. not the same mould, though a more extensive examination of all the mullion pieces at Sutton Place might be worthwhile. Another mullion piece from Hampton Court No.12 has an undulating ribbon pattern, which is not found in the exterior faces of the mullions at Sutton Place, though a version of it is used in the heads of the lights. However, as No.12 seems to be the other half of No.4 (see note 10, below), it looks as if different decorative patterns were used for the interior and exterior faces of the same mullion piece at Hampton Court. I have not had the opportunity to check the interior profiles at Sutton Place, and therefore I am not sure whether the same variety occurs there and whether the undulating ribbon pattern is used on the interior. At Hampton Court there are traces of limewash on No.4, perhaps indicating that there the 'trophies of arms' pattern was used on the interior and the ribbon pattern on the exterior.
7. The main differences are that the Sutton Place window-heads are cusped and each piece is about 12½ in. high, whilst the one complete piece from Hampton Court is uncusped and is 11½ in. high. However, a common point is that both employ semi-circular rather than pointed

arches for the heads (fig.1, K).

8. The window-sills at Sutton Place consist of two parallel rows of pieces - the inner row adjacent to the glass and decorated with arabesques, the outer one which adjoins the double-ogee mouldings of the window-frame and is undecorated (fig.1, G). Only pieces of the outer row survive at Hampton Court, and their sill profiles have different proportions from the equivalent pieces at Sutton Place, though their design is similar (fig.1, F).
9. The third item illustrated by Batchelor, *op.cit.* in n.4, fig.8, C, is actually of stone, and not of terracotta as the caption implies (personal communication to the author).

## RAILWAY BRICKS

*Martin Hammond*

### The Settle and Carlisle Railway

During the construction of this railway, the area around Ribbleshead Viaduct was a shanty town of navvies' huts; there was also a sawmill and a brickworks. Other possible brickmaking sites were noted at Crosby Garrett and just south of Lazonby Tunnel. Local stone was the principal material for the bridges and tunnels, but bricks were made from the boulder-clay drift and were often used for the arches. At Cumwinton, near the northern end of the line, the derelict remains of the Lonsdale Brick and Tile Company's works were seen: flooded clayspits, a large drying shed of brick and weatherboard construction, and a small rectangular draught kiln. The company manufactured bricks, tiles, and land drain pipes.

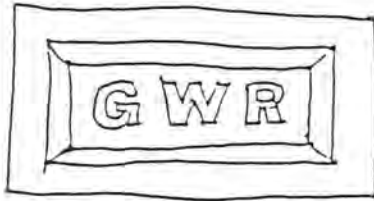
### Great Western Railway Bricks (fig. 1)

In the museum at Didcot Railway Centre near Oxford are three bricks stamped GWR. The style of the frog and the fabric is different in each case, so that, unlike the London and North-Western Railway at Crewe, the Great Western did not have its own brickworks; but contractors who were making their own bricks for use in GWR works had to have them stamped with these initials to prevent them being used on other jobs that they might have in hand. The Great Western Society would be interested to know more about this practice. The provenance of only one of the bricks is recorded, but the others would have certainly come from Great Western territory, basically South-West England and South Wales.

The engine-shed is built of brownish-pink bricks stamped EBBW / VALE and dates from 1932. This manufacturer was latterly the Beaufort Sanitary Pipe and Brick Company, Beaufort, Ebbw Vale, Gwent, Wales.

A fragment of blue plinth stretcher was seen, stamped M & P - that is, Mobberley and Perry, Stourbridge, West Midlands.

(Fig. 1 overleaf)



Re-pressed wirecut, orange fabric with small grey/white inclusions (Keuper Marl?)  
From Milcote Station, on the Honeybourne-Stratford-on-Avon line.



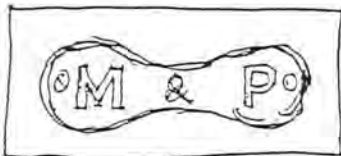
Two bricks of this sort in collection.  
Stiff-plastic pressed, dark red fabric.



Pressed, buff fabric.



Stiff-plastic pressed; used in building the engine shed, 1932.



Underside of blue plinth stretcher, by Moberley and Perry Ltd, Stourbridge, West Midlands

Fig.1 Bricks at Didcot Railway Centre

## BRICK IN CONTRAST: GENTRY AND MAGNATE IN BEDFORDSHIRE, 1400-1550 - a summary of research

*David H. Kennett*

These notes record some preliminary findings, based on recent research in the one county of Bedfordshire, concerning the different economic and social positions of those who built in brick in fifteenth- and early sixteenth-century England. It points to the contrast with their contemporaries who may be described as gentry.

From a list of all fifteenth-century memorials in Bedfordshire,

an attempt has been made to correlate the gentry commemorated with the houses in which they lived.' This has been more successful for those who are buried in the parish church of Luton than for elsewhere in the county. At time of writing (October 1987) the following correlations have been established:

Thomas Wydeville Bromham	d.1435	Bromham Hall	15 hearths
John Peddar Salford	d.1505	Salford Manor	10 hearths
Sir Thomas Waunton Eaton Socon	d. <u>c.</u> 1450	Basmead Manor (extended in C16)	14 hearths
Roger Hunt Roxton	d.1449	Palace Yard, Chawston	9 hearths
Isabella Conquest with husband and son	d.1493	Houghton Manor	13 hearths
Richard Conquest Houghton Conquest	d.1500		
Sir John Cockayne	d.1429	Cockayne	10 hearths
Reginald Cockayne	d.1433	Hatley Manor	
Elizabeth Brefield, wife of John Cockayne	he d.1492		
Edmund Cockayne	d.1515		
William Cockayne	d.1527		
Cockayne Hatley			
John Spitele, priest Luton	d.1416	Spittelsey Farm (parents' house)	4 hearths
John Hay Luton	d.1455	Great Hayes Manor, Stopsley	8 hearths
John Acworth Luton	d.1513	Biscot Manor (now Biscot Moat House)	7 hearths
John Sylam Luton	d.1513	Great Braming- ham Farm (exten- ded after 1578)	11 hearths

These various persons may be described as gentry. Wydeville, Peddar, Waunton, the Conquests, the Cockaynes, and the various people at Luton have a memorial brass; Roger Hunt has a tomb without an effigy. The surviving houses are mostly timber-framed: Salford Manor, Basmead Manor, Biscot Moat House, and Great Bramingham Farm (the last now encased in brick). Bromham Hall is of stone.

A contrasting group is known amongst the magnates:

John Lord Wenlock chapel at Luton	d.1471	Someris Castle	23 hearths
Sir John Gostwick chapel/church? at Willington	d.1545	Willington Manor	18 hearths
Grey family mausoleum at Flitton	d.at various dates	Wrest Park, Silsoe (C16 house replacing earlier one)	52 hearths

cont./

Sir John Maudaunt chapel at Turvey	d.1510	Turvey Hall	demolished by 1671
Lord Bray Eaton Bray	d.1539	Park House, Eaton Bray	32 hearths

These had much larger houses, as measured in the hearth tax; at Someries Castle,<sup>2</sup> Willington Manor,<sup>3</sup> and Wrest Park<sup>4</sup> the dwellings were also built of a much more expensive material: brick. A contrast in incomes may serve. Lord Grey of Ruthin, the grandfather of the first (Grey) Earl of Kent, had a declared taxable income of £693 in 1436; in the same year, Roger Hunt declared that his income was £68.<sup>5</sup> A contrast in the cost of the houses is also known. When Sir John Wenlock, as he then was, began to build Someries Castle in 1448, he set about raising the finance for his new house. On 18 December 1449 he was issued with royal letters patent granting repayment of a loan to the Crown of 1,550 marks (£1,033 6s. 8d.). The loan was to be repaid from issues of parliamentary and clerical subsidies. If repayment therefrom was not available, the debt was to be discharged at 500 marks per annum from the customs of Southampton. Unfortunately, the loan was not repaid even by 1459.<sup>6</sup> Other financial dealings of the Crown with Wenlock have been traced: a patent for the repayment of a loan of £200, issued on 15 June 1451, which monies were to come from subsidies and customs of London.<sup>7</sup> When All Souls College, Oxford built Salford Manor for their tenant, John Peddar, in 1504, they gave only 10 marks (£6 13s. 4d.) towards the costs together with 'the great timber' and the 'tile', with Peddar promising to 'build a new hall and a new parlour with lofts above and chimneys'.<sup>8</sup> The contrast between these two men in respect of their financial dealings is striking.

The economic position of brick builders in Bedfordshire between 1440 and 1540 is very much in contrast with that of the gentry, whose houses were built of stone or timber-framing and whose memorials were a latten slab, not a great chapel and an elaborate screen such as was John Lord Wenlock's place of burial.<sup>9</sup>

#### Notes

1. Sources for both lists are: memorials: N.Pevsner, The Buildings of England: Bedfordshire, Huntingdonshire, and Peterborough, Harmondsworth, 1968, and VCH Bedfordshire, vols. 2, London, 1908, and 3, London, 1912; houses: both works cited, with personal fieldwork; hearth tax: L.M.Marshall, The Rural Population of Bedfordshire, 1671-1921, being Publications of the Beds. Historical Records Society, 16, 1934, which prints the 1671 returns.
2. T.P.Smith, 'Someries Castle', Beds. Archaeological Journal, 3, 1966, 35-51; T.P.Smith, 'The Early Brickwork of Someries Castle, Bedfordshire, and its Place in the History of English Brick Building', Journal of the British Archaeological Association, 129, 1976, 42-58.
3. Willington Manor is demolished; the stone farm buildings survive. For an illustration of the portion demolished in 1736 see J.Godber, Willington Dovecote and Stables, pamphlet, n.d., on sale at the stables, unnumbered p.4.
4. Wrest Park is demolished and replaced to the north by the present house of 1835. The post-1573 house was engraved by Kip in 1705, after it had been faced in stone in about 1676. See P.Bigmore, The Bedfordshire and Huntingdonshire Landscape, London, 1978, pl.19. The fifteenth-century house was of brick and included a brick tower; some of this may have been refurbished (rather than completely

- rebuilt) after 1573.
5. H.L.Gray, 'Incomes from Land in England in 1436', English Historical Review, 49, 1934, 607-39, esp.616 for Lord Grey of Ruthin and 634 for Roger Hunt, who was assessed under Huntingdonshire. Bedfordshire return not extant, except as summary.
  6. J.S.Roskell, John, Lord Wenlock of Someries, Publications of the Beds. Historical Records Society, 38, 1957, 12-48, esp. 27 and 32.
  7. Ibid., 29.
  8. M.W.Beresford, History on the Ground, London, 1957, 87-92; VCH Beds., vol.3 (as note 1), 424-5.
  9. Note completed 5 October 1987; similar notes are in preparation for fifteenth-century Norfolk.

Bricks for the Martello Towers in Sussex. I am very pleased to be able to report that in their journal Sussex Industrial History, 17, 1987, 20-27, the Sussex Industrial Archaeology Society have another excellent article on bricks. It is written by our BBS member Molly Beswick, and complements the article in Information 19, November 1979, 7-9, by B.K.Pegden, also on bricks for Martello Towers.

Molly Beswick's article consists of five pages of very readable and interesting text; one map showing the sites of the Towers, the brickfields, and other main features; and one page of excellent references, the last showing how much lengthy research has been put into the article and indicating where details about other aspects of the Towers may be obtained.

The speed with which the bricks were made and collected in the areas where they were to be used is the main feature of the text. 1805 was obviously a very busy year in the county of Sussex! The article concludes that this 'was the first occasion on which bricks were produced in the county on a truly industrial scale.' Members may wish to report the earliest industrial production of bricks in their own counties. Perhaps Molly Beswick may be able to conclude her article '... in the country'.

Copies of the journal may be obtained from: R.G.Martin, 42 Falmer Avenue, Saltdean, Brighton BN2 8FG. Members are reminded of other issues of Sussex Industrial History which contain items of brick interest and which are still available: vol.11, 1981, which contains an account of Ashburnham Brickworks; vol.12, 1982, which contains Piddinghoe Tile-Kiln, and Bakers, Brickmakers of Piddinghoe; vol.13, 1983, which contains Brick and Tile Making on the Dicker. The journals cost £1.50 each + 30p p&p per issue + 20p for each additional issue.

W. Ann Los

Molly Beswick has written to the editor, stating that since publication of the article detailed above, the existence of more material at the Public Record Office has been brought to her attention. 'This is in a War Office file (PRO WO 55/733) which,' she writes, 'in addition to details of defence works on the South Coast, contains a letter of 6 August 1807 giving a detailed description of brickmaking for the battery at Harwich. This is outside my field of research, which at present is confined to brickmaking in Sussex, but I mention it, as it may be of interest to East Anglian members or to members studying military installations.'

## MORE ABOUT KILNS

*Martin Hammond*

### Suffolk Kiln, Powerstock Common, near Bridport, Dorset

In April I was approached by the Dorset Trust for Nature Conservation for advice on interpretation of this kiln as part of a woodland nature trail. In early May I visited the site.

The kiln is a side-fired Suffolk, with a chamber 4.44 m. long by 3.74 m. wide; and with walls originally 3 m. high it would have had a capacity of 20,000 bricks. Under the floor are three arched fire-tunnels 0.6 m. wide by 0.9 m. high, set 1.4 m. centre-to-centre, running north-south, with hinged cast-iron firedoors facing north. In front of them is a stoking pit 6 m. square and 0.9 m. deep. There was probably a doorway or wicket into the chamber on the west side. South of the kiln is the claypit.

The kiln produced handmade and perforated wirecut bricks, as well as land drain pipes and a few roofing tiles, all light red to cream in colour. Handmade bricks were used to build the kiln, but the fire-tunnels were lined with firebricks by Rufford of Stourbridge, laid in fireclay.

The firedoors (fig.1) are unusual. Each tunnel has a pair of them hinged on a frame tied back into the brickwork. They are partly buried, but the top part of them has a spyhole 50 mm. (2 in.) diameter, and, lower down, a cutout 300 mm. wide. They are 20 mm. thick, but the inside face has a number of closely spaced spikes 75 mm. long. These may have been provided to hold a coating of clay to protect the iron from the fierce heat.

I hope to report further details of these unusual doorways as and when the site is cleared.

The kiln is believed to have been built in 1857, when the Bridport branch railway was opened. It is unlikely, however, to have been associated with the building of the railway, since its output would not have made a significant contribution to the number of bricks required.



Fig.1

### Scotch Kiln at Broadmayne, Dorset (fig. 2)

In July 1987 I was asked by the secretary of the Dorset Industrial Archaeology Society, following a request by the curator of Dorset County Museum, to examine a kiln at 'Conygar', east of Broadmayne village in Dorset. The late Donald Young had written an account of brickmaking at the yards at the other end of the village,<sup>1</sup> which were working until the outbreak of World War II; but he was apparently unaware of this kiln, which cannot be seen from the road. 'Conygar' was a house built c.1905 and its site included the brick-yard. The kiln was partly demolished and converted into a cow-stall with loft over, a shed, and a pigsty. One sidewall survives intact.

cont./

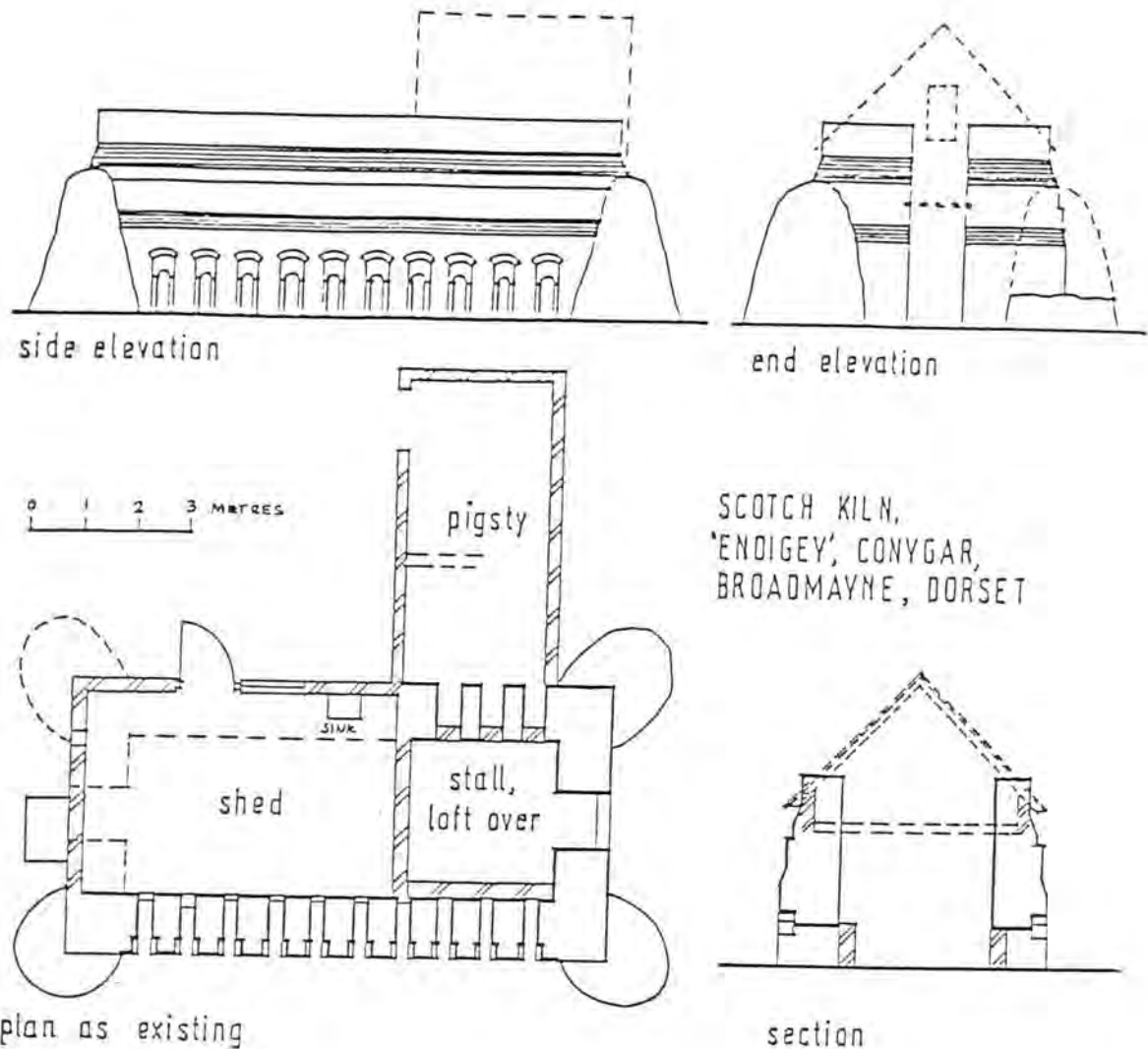


Fig. 2

One end wall and one-third of the other side form the cow-stall walls. The shed occupies the remaining two-thirds of the kiln area. The pigsty was added on. The kiln walls are in good condition and seem to have been repaired at the time of the conversion. The internal dimensions of the chamber would have been 8.13 by 2.89 by 3.67 m., giving an estimated capacity of 35,000 bricks. There were ten fireholes each side, at 0.82 m. centres, and the walls were 1.16 m. thick at the base. At the four corners were massive conical buttresses of flint and Purbeck stone rubble.

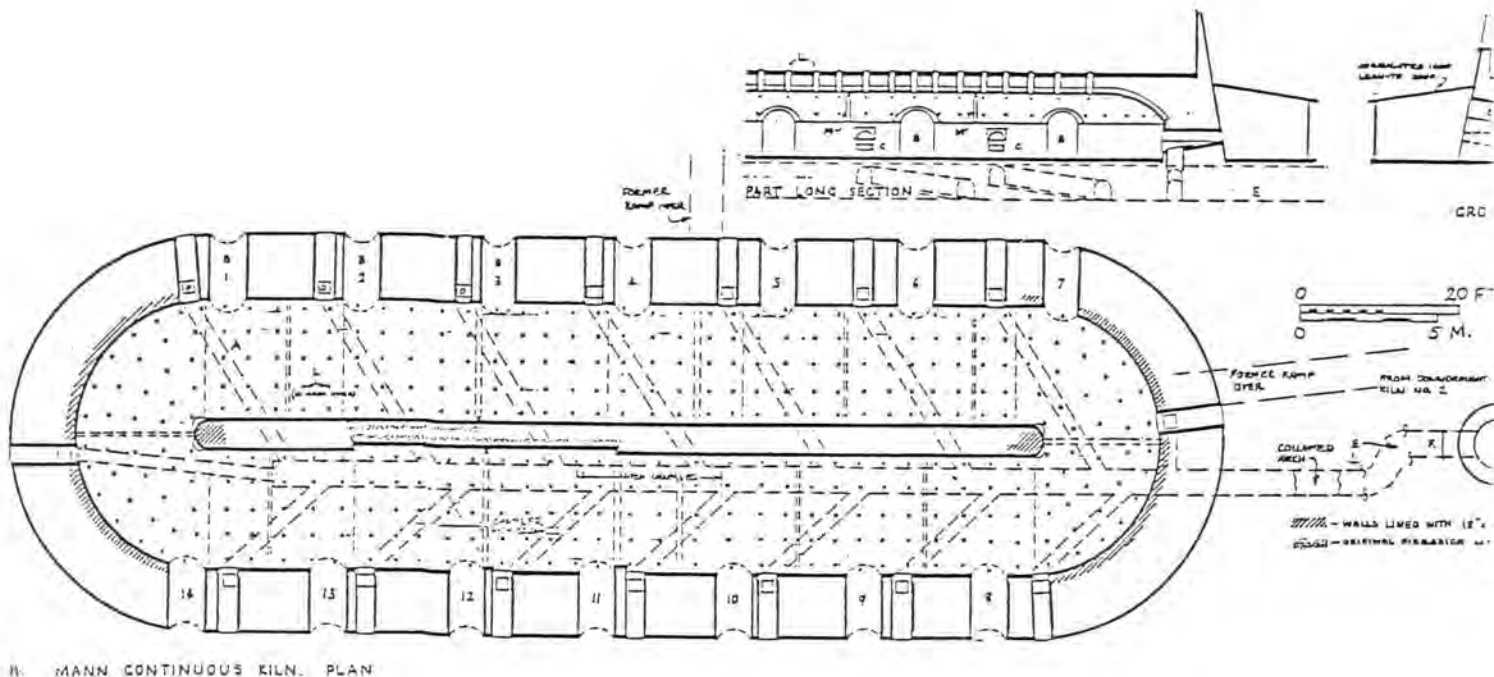
The products appear to have been the typical Broadmayne speckled bricks, with iron pyrites spots, similar to the Redland Crowborough Ashdown stock bricks. Land drain pipes may have been made as well. Two small water-filled claypits remain nearby, and the area between them and the kiln was used for moulding and drying. The site is now part of a smallholding owned by a Mrs Williams.

cont./



Kilns at Oakwell Brickworks, Icklestone, Derbyshire

A small Hoffmann kiln (fig. 3) and a rectangular draught kiln (fig. 4) survive on this otherwise vacant site (NGR: SK460411), and they may be preserved in a redevelopment scheme. I surveyed them in 1972 and the drawings were published in a study of kiln types,<sup>2</sup> but by August of 1987 weather and vandalism had taken their toll. The corrugated iron roof of the Hoffmann is badly rusted and the guttering and downpipes gone. The collapse of a section of the chamber arch and main flue has revealed the structure. I have amended the survey drawing accordingly. The kiln was probably built in 1910-13, following the demise of the Ilkeston Colliery Company, the original owners of the site. It is very soundly constructed, and the damage mentioned above is mainly due to deliberate vandalism. The filling above the chamber arch is solid brickwork instead of the usual sand. It is a typical design of its time, but the segmental chamber arch is very unusual. I also found that it had a simple hot-air flue arrangement. Moveable metal ducts could be used to link any two chambers to it via their



H. MANN CONTINUOUS KILN. PLAN

Fig. 3

feed-holes.

Draught kiln no.2 is virtually unchanged since 1972. Kiln no.1 has disappeared completely.

Pressed facing bricks stamped ICC (for Ilkeston Colliery Company, 1872-1910) and OAKWELL ILKESTON were collected from the site, and some spares are available for swapping.

Baumber Brick Kiln

In August 1987 I made my second site visit to inspect progress.<sup>3</sup> Restoration of the kiln structure was finished in June, and in September work started on rebuilding the firing sheds. Plans for the adjacent museum of brickmaking in a converted and extended barn have been drawn up by a local architect. There will also be an open-

sided drying shed, and a miniature scotch kiln similar to the one that I had at home.

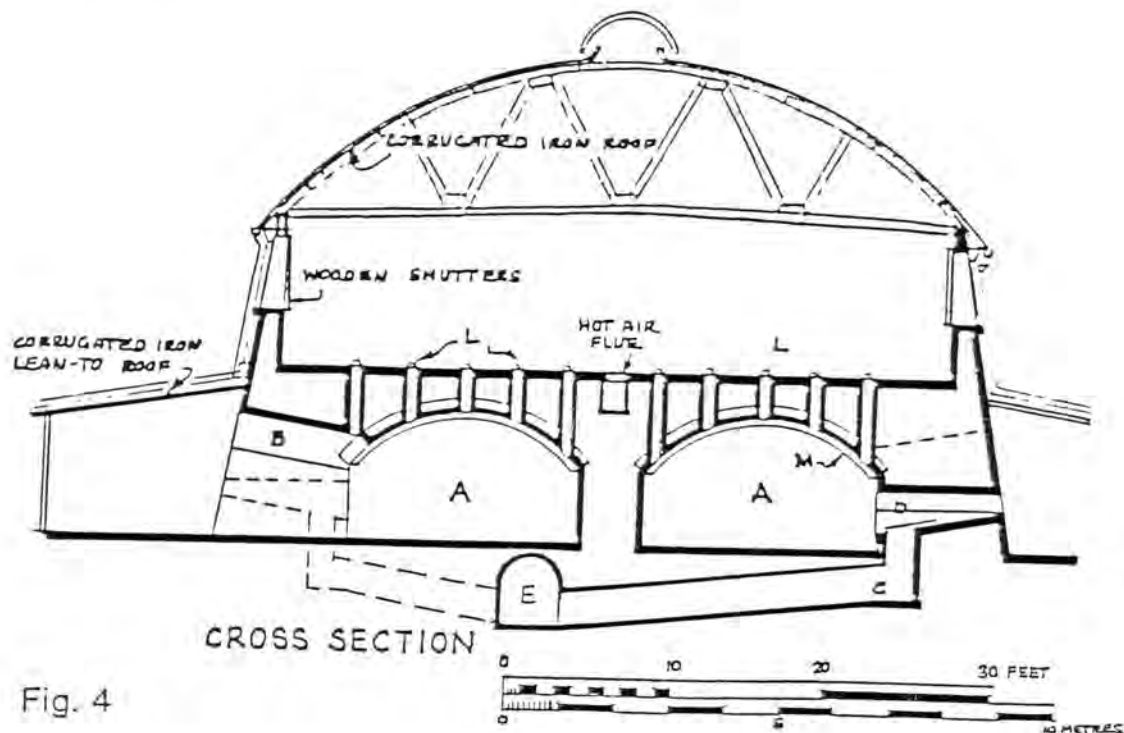


Fig. 4

#### Notes

1. D.Young, 'Brickmaking at Broadmayne', Proceedings of the Dorset Natural History and Archaeological Society, 89, 1967, 318-24.
2. M.D.P.Hammond, 'Brick Kilns: an Illustrated Survey', Industrial Archaeology Review, 1, 1977, 171-92.
3. See M.D.P.Hammond, 'Baumber Brick Kiln, Lincolnshire', BBS Information, 42, May 1987, 16.

## TUILERIE BRIQUETERIE FRANÇAISE

*Martin Hammond*

In April 1987 I was one of twenty-five architects and others who visited this works at Roumazières, near Limoges, in central France. The works was founded in 1907 by a local priest, and has since become the highly sophisticated works of today. The main output is interlocking roofing tiles, but expanded clay aggregate is produced in a rotary kiln and made into building blocks in a separate plant. Quarry tiles will be made in a new plant, starting this year. Brick production ceased in 1974. Different patterns of tiles are made, including single Roman, flat interlocking, and Spanish tiles, together with their accessories: eaves, ridges, verges, soakers, and ventilator tiles. Chimney cowls are hand-thrown on a potter's wheel and the holes

cut when the clay is in a leather-hard state.

The brownish-yellow clay is dug three miles from the works and brought in by lorry. 20% sand is added in the box feeder and the mix stored in huge maturing pits for three weeks. From there it passes through a clay-shredder, differential crushing rolls, and double-shaft mixer to a de-airing extruder. Extruded flat blanks are fed to the pressers. The moulds are in rows of four on the sides of a rotating hexagonal drum. The tiles are released by passing an electric current through the mould, and they drop on to a conveyor for placing on the pallets for the corridor dryers. All the plant so far is by Rieterwerke of Konstanz, West Germany, except for the mixer/extruder, which is by Pélerin of Soissons.

There are three blocks of dryers, one by Keller, the other two by Cério, of Paris, as are the two tunnel-kilns. The dried tiles are set automatically in U-shaped fireclay cassettes, by Ferro, 15 tiles to each one. On the kiln-cars the cassettes are set 10 wide by 5 high by 2 deep, with flame-channels between. Each car takes 7,000 tiles, and one goes into the 150-metre kiln every 75 minutes, and passes through in 35 hours, at a maximum temperature of 1,000°C. Firing is by natural gas from Lac, or from Salvar, Algeria. Fuel oil was used until twenty years ago; coal was last used thirty years ago, and wood fifty years ago. A return to wood-firing has been suggested, but there are problems with smoke, ash, and fuel storage.

The burnt tiles are sorted and wrapped in banded pallets. The whole package is dipped in a silicone solution for 5 minutes to prevent moss-growth.

The natural colour of the tiles is orange-red. The nearest equivalent in this country (where the firm is hoping to open up a market) are the products of the Bridgwater tileries in Somerset. 240,000 tiles a day are produced, and exported to twenty countries. Some of the tiles are brushed with a cream-coloured slip, or spray-glazed in booths by Toussaint-Devilbiss before firing. The firm makes moulds in its own workshop. Metal moulds, which will last for one million pressings are copy-milled from a master-mould. Plaster moulds used for the accessories will last for two thousand pressings.

Most of the vernacular buildings of the neighbourhood are of rendered rubble-stone. Smooth orange-red wirecut bricks are used for chimneys and for quoins and dressings to window-openings. The format is 250 by 125 by 65 mm. Tile wasters are frequently used for out-buildings and garden walls, and are laid in clay or mortar.

Medieval Bricks in St Nicholas' Chapel, King's Lynn. The church of St Nicholas, King's Lynn (formerly Bishop's Lynn), Norfolk was founded in 1146, not as a separate parish church, but as a chapel of ease of the growing town, originally centred on the church of St Margaret. In the early fifteenth century, all but the south-west tower (of c.1210) was rebuilt, and St Nicholas' was described as de novo edificato in 1419. It is a striking building, especially in the fact that there is no structural division between nave and chancel, resulting in a large, open single space, 191 feet long internally. This type of plan has been seen by the late Sir Alfred Clapham as due to the influence of the friars' churches. It may well be so, since all four of the major Mendicant Orders were represented in Lynn. Including the vestries at the north-east and south-east corners, there are twelve bays; on the south side the earlier tower and a fine porch occupy the first and second bays respectively.

Some years ago, Dr Ronald Brunskill informed me that the north

wall of the church is of rendered brickwork. On a recent visit with Dr Helen Clarke, we noticed that rendering on other parts of the church has fallen away, revealing that other walls too are of what David Kennett, in these pages, has termed 'structural brick' - that is, brick used for structural work but never intended to be seen. Indeed, the five easternmost bays of the south aisle, the whole of the east wall, and the whole of the north aisle are of brickwork, though with stone used for all the window and doorway dressings. All the brickwork is rendered. The west wall, the porch and the five bays immediately east of it, as well as the earlier tower, are all of stone. The clerestory walls are of stone rubble with a fair number of bricks included and with brick relieving arches above the windows.

The bricks are of a red colour, laid irregularly, though approaching English Bond. They differ slightly in size. Those in the east wall measure  $9\frac{1}{2}$  by  $4\frac{1}{2}$  by  $2-2\frac{1}{4}$  in.; those in the north wall 9 by  $4\frac{1}{2}$  by 2 in. It is not clear what significance this has: it may indicate no more than that batches of bricks were purchased from different makers/suppliers. Lynn is an important town for its surviving medieval brickwork, and this building now takes its place amongst the others. So too, though in a minor way, does the principal church of St Margaret, which has a complex building history, including the internal rebuilding of the nave (following damage when a spire collapsed onto it in 1741) in a kind of Gothic of 1745-6. A small portion of the north wall at the east end is in red bricks, rendered and with stone dressings, measuring 9 by 4 by 2 in.

Terence Paul Smith

## THE SNARK WAS A BOOJUM INSTEAD! - a correction concerning the brick at Fulton Mill

*Geoffrey Hines*

Barely had Information 43 been distributed before Peter Minter put me right over my attribution to the Brick Tax of that 10 by 5 by 3 in. brick at Fulton Mill.<sup>1</sup> Later G.C.J. Lynch also wrote to me on the same subject. I now combine their notes with some other sources - and my apologies - in order to have things (I hope) right.

TLB is the frogmark of Thomas Lawrence of Bracknell, established in 1857 and still making bricks at Gough's Lane, Warfield, Bracknell, Berks. RG12 2JR. This firm claims to be the finest finisher of 'red-rubbers' in the land. And a 'red-rubber' is what 'my' Fulton find turns out to be.

Rubbers are made from special clay, in this case the Swinley clay from the Bagshott seam in Berkshire. Before moulding it is sieved to remove inclusions, a high proportion of sand is added, and it is baked rather than burnt at a temperature just short of complete vitrification. This process yields a comparatively soft basic prism that can be sawn with a wire-bar saw or otherwise cut to the approximate shape needed. Jane Wight's glossary states that this shaping is generally done 'on-the-site'.<sup>2</sup>

For the cruder dressings finishing could stop at this stage. The nicer process of gauging is where the real 'rubbing' is done, in

John Woodforde's words, 'to make the finest possible joint'.<sup>3</sup> This, however, is not all. Mr Lynch writes, 'The "finished" brick is then "dipped laid" in a lime putty matrix giving a joint of 1 mm. to 2 mm. thickness.' An illustration included by Woodforde shows an early (1631) example of such work in the Dutch House, Kew Palace, London.<sup>4</sup>

What then is a 'rubber'? The first point to note is that the vernacular usage 'in the yard' transposes agent to subject; that which does the rubbing (thus OED: '2. An implement of metal or stone used for rubbing, esp. in order to smooth or flatten a surface 1664') becomes that which is rubbed. Better to say 'cut and rubbed' unless the context calls for fruity vernacular words.

OED does not mention bricks when defining 'rubber'; when, however, it treats of 'Gauged, gaged' it offers: '2. Bricklaying. Of bricks: cut or rubbed accurately to size 1823' - almost two centuries after the Dutch House, so far does the printed word lag behind usage! This context of 'Bricklaying' supports Miss Wight's assertion (above) that gauging was done on site. The word 'gauged' should therefore be confined to this fine work and, perhaps, 'cut and gauged' is more explicit. Brunskill and Clifton-Taylor's glossary heading, 'GAUGED BRICKWORK (RUBBED BRICKS)' is ambiguous.<sup>5</sup>

Unless these distinctions are observed, ambiguity can obfuscate the best descriptions, as in Alan Cox's statement: '... the earlier tradition also persisted of frequently using the [Luton] greys with rubbed red brick dressings.' Were these just rubbed or rubbed and gauged?!<sup>6</sup>

I am sorry for my error, but hope that this 'hunt' may earn a 'felix culpa'.

#### Notes

1. See G.Hines, 'Old Brick: New Site', BBS Information, 43, November 1987, 8-9.
2. J.Wight, Brick Building in England from the Middle Ages to 1550, London, 1972, p.429.
3. J.Woodforde, Bricks to Build a House, London, 1976, p.82.
4. Ibid., illustration 69, facing p.129.
5. R.Brunskill and A.Clifton-Taylor, English Brickwork, London, 1977, p.82.
6. A.Cox, Survey of Bedfordshire: Brickmaking, a History and Gazetteer, Bedford and London, 1979, p.34. [I think Alan Cox is correct on this point, that is the bricks were not gauged; certainly one would not expect such fine treatment in the particular context of nineteenth-century housing. TPS]

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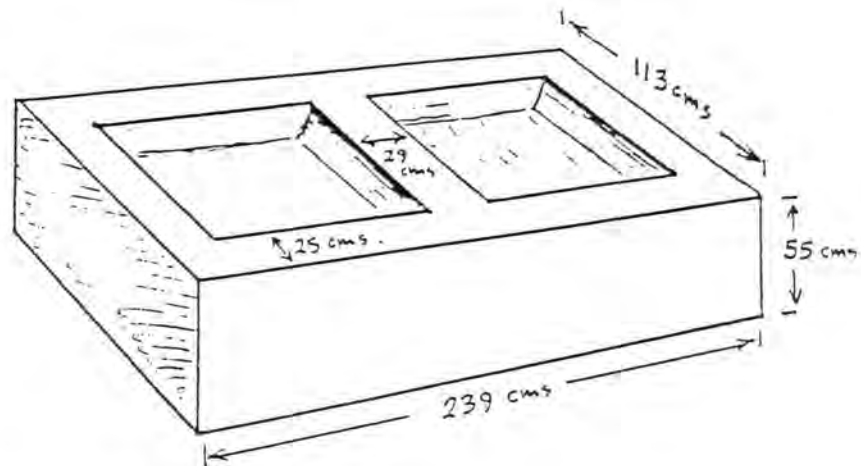
Dransfield Bricks. At an auction held at Ettington, Warwickshire on 6 November 1987 several lots were offered for sale relating to the Dransfield family, who appear to have managed brickworks in North-West England (probably Lancashire) in the late nineteenth / early twentieth centuries. Quoting from the sales catalogue, lot 141 was a smokers' cabinet, dated 1907, inscribed 'Presented to Mr Frank Dransfield by the employees of the Thomas Mellojews Company Ltd, Beesham [sic] Hill Brickworks'. Lot 529 was a selection of Thomas Wraggoner glazed pottery miniature

drainage samples, including examples signed by 'Dransfield'. Most interesting, lot 379 was a large collection of plans and drawings relating to the clayworks and mining of 'the late William Dransfield of William Dransfield & Sons, Neesam [sic] Hill Brickworks'; and this lot was withdrawn at the sale for family reasons. The sale was mainly of household effects, on instructions from the executors of the estate of the late Mrs K.M.Carr of Ettington. If any members of BBS are interested in finding out more about the plans and drawings, I suggest that they write in the first instance to the auctioneers: Messrs Locke and England, 11 The Parade, Leamington Spa, Warks.

Richard K. Morris

## QUERIES

**Netley Abbey Brick.**  
In 1986 I retrieved a broken brick which was about to be thrown away by the garden staff at Netley Abbey, Hants., a former Cistercian monastery converted by the Paulet family at the Dissolution into a country house, the ruins of which are now in the care of English Heritage. As far as I could tell on site, the dimensions and appearance of the brick suggest that it belongs with the brick walls in the south range of the cloister, which are usually attributed to the Paulets' conversion in the mid-sixteenth century. However, as my drawing shows, the brick has a double frog. Are frogs as early as this, or is the brickwork at Netley more likely to belong to a later period in the site's history? Comments to: Dr R.K.Morris, History of Art, University of Warwick, Coventry CV4 7AL.



Max. depth of frog - 15 cms.

Width of frog (header face) - 62 + 64 cms.

Length of frog (stretcher face) - 76 to 78 cms.

**Brick Marks.** Information is sought concerning some yellow bricks found at Bitton, near Keynsham, Avon during fieldwork connected with the Bristol coal industry. One brick is stamped JS.NI. The other (shown in Martin Hammond's sketch) has an imperial crown over a letter B, the whole being surrounded by an oval. There was a succession of structures on the site from the mid-eighteenth to the mid-nineteenth century. Are the bricks of local manufacture? Any guidance which members may be able to give will be most welcome. Replies to: Owen Ward, 77 Hansford Square, Combe Down, Bath BA2 5LJ.

