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ST PANCRAS ISSUE



## OFFICERS OF THE BRITISH BRICK SOCIETY

<b>Chairman</b>	Terence Paul Smith BA, MA, MLitt E-mail: <a href="mailto:tsmith@museumoflondon.org.uk">tsmith@museumoflondon.org.uk</a>	Flat 6 6 Hart Hill Drive LUTON Bedfordshire LU2 0AX
<b>Honorary Secretary</b>	Michael Hammett ARIBA Tel: 01494-520299 E-mail: <a href="mailto:michael@mhammett.freemasonry.co.uk">michael@mhammett.freemasonry.co.uk</a>	9 Bailey Close HIGH WYCOMBE Buckinghamshire HP13 6QA
<b>Membership Secretary</b> <i>(Receives all direct subscriptions, £10-00 per annum*)</i>	Anthony A. Preston E-mail: <a href="mailto:anthony_preston@beeb.net">anthony_preston@beeb.net</a>	11 Harcourt Way SELSEY West Sussex PO20 0PF
<b>Editor of BBS Information</b> <i>(Receives all articles and items for BBS Information)</i>	David H. Kennett BA, MSc Tel: 01608-664039 E-mail: <a href="mailto:davidkennett@stratford.ac.uk">davidkennett@stratford.ac.uk</a> (term-time only)	7 Watery Lane SHIPSTON-ON-STOUR Warwickshire CV36 4BE
<b>Honorary Treasurer</b> <i>(For matters concerning annual accounts, expenses)</i> and Bibliographer	Mrs W. Ann Los	"Peran" 30 Plaxton Bridge Woodmansey BEVERLEY East Yorkshire HU17 0RT
<b>Publications Officer</b>	Mr John Tibbles	Barff House 5 Ash Grove Siggleshome HULL East Yorkshire HU11 5QE

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## OFFICERS OF THE BRITISH ARCHAEOLOGICAL ASSOCIATION : BRICK SECTION\*

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<http://www.britishbricksoc.free-online.co.uk/index.htm>

## Contents

Editorial: Brick and the Railway Station	2
Brick, Stone and Iron: Building Materials at St Pancras	
by Martin Hammond, David H. Kennett, Eric Robinson, John Sears and Terence Paul Smith	5
The St Pancras (Somers Town) Goods Station and its Bricks	
by Terence Paul Smith	21
Brickwork of the Great Central Railway	
by Martin Hammond	27
Brick in Print	29
Brick and the University of Oxford: The British Brick Society Visit	32
Brick Queries	34

### *Cover Illustration:*

The Midland Grand Hotel, St Pancras, prior to the beginning of work for the conversion of St Pancras Station into the London *Eurostar* terminal.

## Editorial: Brick and the Railway Station

"One entered the city like a god" to quote Vincent Scully's magnificent phrase. Thus, the complex at London St Pancras, both the railway station and the former Midland Grand Hotel is fixed in my mind. Until I was thirty-five, it was the London terminus I used the most often, commuting into London from Luton as I did for several years. Walking beneath the carriage arch in the body of the Midland Grand Hotel to go into the sunlight or the rain of London was uplifting. Walking into the station from the Euston Road was equally uplifting and this long before the façade was cleaned and restored to how George Gilbert Scott intended it to be seen. For a young man going to catch the old five minutes past midnight, all principal stations to Bradford, seeing the great bulk looking so magnificent in moonlight was welcoming.

The late 1960s were so different to the present day.

For much of my adult life, on undergraduate journeys to Cardiff or during my two sojourns in Bristol and occasionally now from Moreton-in-Marsh, the terminus is London Paddington, where equally one approaches the city like a god, if for no other reason than the grandeur of Brunel's great train shed, especially when seen as one crossed the over bridge from the Metropolitan Line.

"One now scuttles in like a rat" was how Vincent Scully completed his sentence about Penn Central in New York. Certainly London Liverpool Street produced that impression at ground level when I ventured to London in the 1980s or crossed the metropolis on a weekly basis in 1990-91. It was very much the feeling the station gave on Sunday afternoons in Autumn 1991 when I was working in Rochester.

Brick and transport is such a wide field that this issue of *British Brick Society Information*, concentrating as it does upon railways and specifically upon the use of brick and other building materials at the Midland Grand Hotel and the adjacent station, London St Pancras, can only scratch the surface of a vast topic. It is a topic which would repay further investigation. A year ago, in *BBS Information*, 93, February 2004, BBS member Peter Hounsell illustrated the use of canals to transport bricks from brickworks in west Middlesex to the basin at Paddington for use at building sites in London. More investigations of this type are needed: for instance, one wonders about the source of blue brindle bricks used in building houses at both Warwick and Leamington Spa. The gardens of these houses either back on to or are very close to the Grand Union Canal. Blue brindle bricks are also used for the lodges of Warwick Cemetery, which is across the road from the canal.

As already noted, much of this issue of *British Brick Society Information* considers brick and the other building materials used at St Pancras, both the former Midland Grand Hotel and the railway station. The society held two very successful visits to St Pancras Chambers, the former 'Midland Grand Hotel', in November 2001 and in February 2002. In connection with this, various members of the society sent me informal notes, individual illustrations or even more formal pieces about the construction of the railway station and the adjacent hotel. These have been put together as the first piece in this issue.

The paper on the bricks used at St Pancras includes work by the late Martin Hammond and Martin also submitted a piece about bricks used on the Great Central Railway a generation later than the Midland Railway's drive into London which we are happy to include here. Before his death Martin was able to read the proofs of his contributions.

Space has been at a premium in this issue of *BBS Information*, so the editor has held over three pieces of his own, the first two touching on the uses made of brick by railways and other

forms of transport. One seeks to examine the contrast between the red brick viaducts of the 1830s and 1840s with the late-nineteenth-century use of blue engineering bricks. Strictly speaking, this is work in progress for a future issue. More examples, particularly of red brick viaducts, have been noted and need to be added to the text. Completed, however, is the examination of 'Britain, 1919-1939: Brick for Transport and Power' in the series on 'Brick and its Uses in the Twentieth Century'. It is hoped that this will form the main article of a future issue of *British Brick Society Information*. The exact issue in which this appears will depend on what else has been submitted for publication and on an editorial decision as to the exact order in which to publish other articles on the use of brick in Britain between the two world wars, one covering the use of brick in the urban centre and a second entitled 'Britain, 1919-1939: Brick and the Human Spirit' examining the use of brick in churches, cinemas and theatres, buildings for other forms of entertainment, and schools. The third item held over is a review article covering brick, terracotta and transport in London on which several new books have recently been published.

We congratulate long-standing BBS member Gerard Lynch on being awarded a Ph.D. degree by De Montfort University Leicester on 15 November 2004. Gerard was awarded the degree for a thesis entitled 'English Gauged Brickwork: Historical Development and Future Practices'. The research explored not only traditions of British brickwork since the medieval period but also what is needed to sustain the craft for the future. As he explained,

Part of my Ph.D. was focused on looking to the future and trying to address the whole problem of craft education and training. The problem is that there is a lot of maintenance and restorative work that needs to be done and not enough craftsmen trained in the techniques need to do it.

Gauged brickwork involves special bricks being hand-shaped and positioned with joints as fine as 1mm to create decorative features. As part of his Ph.D., Dr Lynch designed, set out, cut, and built a miniature brickwork niche (Fig. 1), considered to be one of the most difficult features a bricklayer can make, in order to demonstrate the practices used in gauged brickwork. The Honorary Secretary of the British Brick Society, Michael Hammett, was a referee and assessor for the practical aspect of Gerard's Ph.D.

Gerard Lynch had been awarded an M.A. with Distinction in the 'Conservation of Historic Brickwork' by De Montfort University in 1999. He dedicated his Ph.D. to his late father James Lynch, of whom Gerard said,

He inspired me and I know he would have been very proud. He was a master mechanical engineer and once told me, "If you are going to be a bricklayer, be a good one".

Gerard Lynch has paid tribute to his university, saying, "I thank DMU very much for putting their trust in a mature craftsman. It means an awful lot to me. I hope it will be an inspiration to lots of young people who are thinking of coming into the building craft in the future."

Professor Peter Swallow of DMU, also a BBS member, who was Dr Lynch's internal assessor for his Ph.D. said:

Gerard's Ph.D. thesis not only fills many gaps in our knowledge, and can be considered a definitive work on the subject, but it also points the way forward to the implementation of effective training programmes for tradesman and built environment professionals alike

to ensure that our rich brick-built heritage is sympathetically repaired and conserved.

Dr Gerard Lynch was dubbed 'Dr Brick' on one of his many television appearances where he has demonstrated his craft. Gerard often gives masterclasses on different aspects of the bricklayer's craft and he has written several important books on traditional aspects of bricklaying.

Gerard Lynch was awarded a Winston Churchill Travelling Fellowship to study in the Netherlands and Belgium in 1997 and the Viscount De L'Isle Award in the same year.

A keynote speaker at the International Trades Preservation Workshop in Alabama in 2004, Gerard's other work in the U.S.A. includes giving advice on the restoring of George Washington's home, 'Montpelier', at Mount Vernon, Virginia, and being retained as consultant in 2002 by the architects, Mesick, Cohen Wilson and Baker, on the rebuilding of St Mary's Church, at Historic St Mary's, Maryland. Here is known as 'The Red Mason'. In Ireland, Gerard is working with Dúchas and the Board of Works on the conservation and restoration of the palatial ruins of 'Jigginstown House', Naas, Co Kildare, one of the earliest brick houses in Ireland, constructed in the seventeenth century. His work in England includes giving advice on many buildings including Hampton Court Palace, Kirby Muxloe Castle, the Royal Albert Hall, and Windsor Castle.

As remarked above, London Liverpool Street at ground level appears so unwelcoming. But over the past two years, I have examined the station more than once in connection with a proposed British Brick Society meeting in the east part of the City of London and the adjacent part of East London. The brickwork of the surviving retaining wall can be appreciated, as can the brick plaques at street level on the station side of the Great Eastern Hotel. The surviving iron trusses of the north side of the station are also a wonder when viewed at arch level, as is now possible to do from a street-level walkway.

The society's Autumn Meeting is due to be held in London. Before that we have a Spring Meeting in Sussex, including a visit to the Ibstock works at West Hoathly. By request, a further visit has been arranged to Lambeth Palace in July and we venture to see Errol Brickworks, Perthshire, in Scotland in August. Earth bricks are made at Errol. This meeting, on Saturday 20 August 2005, is the society's first ever meeting in Scotland, and it is to be hoped that it will be successful and well supported.

Details of these three meetings are in this mailing.

The society's Annual General Meeting is to be held at Thoresby College, King's Lynn, on 18 June 2005 with a visit to East Barsham Manor and the former Great Snoring Rectory in the afternoon.

Unfortunately, plans for a second Spring Meeting in Boston, Lincolnshire, have been postponed, partly due the fact that the society's visits co-ordinator broke his wrist and was out of action for some weeks.

DAVID H. KENNETT

Editor, *British Brick Society Information*,  
2 April 2005

# BRICK, STONE AND IRON: Building Materials at St Pancras

**Ronald Firman, Martin Hammond, David H. Kennett, Graham Lott,  
Eric Robinson, John Sears, Terence Paul Smith**

## INTRODUCTION

In November 2001 and again in February 2002, the British Brick Society was able to arrange for members to visit the interior of the former Midland Grand Hotel, St Pancras, London, which since its conversion to offices in 1935 has been known as St Pancras Chambers. This article uses contributions submitted by the various authors as a means of providing a more permanent record in the pages of *British Brick Society Information* of the bricks and other building materials used both at the hotel and at the adjacent railway terminus of St Pancras Station.<sup>1</sup> In a separate article, T.P. Smith considers the adjacent St Pancras (Somers Town) Goods Station which is now largely demolished (see pp.21-27).

John Sears, the late Martin Hammond and Terence Paul Smith contributed material on the bricks used at St Pancras. In 2001, Eric Robinson had published an article entitled 'St Pancras celebrates the Midlands' in *Mercian Geologist* and in the same issue of that periodical is an article by Graham Lott on 'Geology and Building Stones in the East Midlands', from which comments on Red Mansfield stone have been taken. These have been edited for use in *British Brick Society Information*, with some emendations provided by Ronald Firman. David H. Kennett notes the use of iron and wood in both the hotel and the railway station.

T.P. Smith also contributed material on the heraldry; members were able to see the company's coat of arms at the head of the principal staircase of the Midland Grand Hotel.<sup>2</sup> The historical background to the building of St Pancras was compiled by David H. Kennett, who also wrote the introductory and concluding material. Other than the last-named, authors of the individual portions of this article are credited at the end of their contributions.

## THE MIDLAND RAILWAY

As the name implies, the Midland Grand Hotel was built by the Midland Railway, a major railway undertaking of Victorian England, based not in London but in Derby, the city whose emblem occupies the central place of the upper row of the coat of arms which the company adopted in the early 1880s. On this coat of arms, in the top row Derby is flanked by Birmingham and Bristol, with Leicester, Lincoln and Leeds on the lower row. The heraldry is considered in greater detail below.

By its coat of arms, the Midland Railway was proclaiming the major cities already served by its network of railway lines. It had been formed in 1843 by the amalgamation of three existing companies all centred on Derby: the Midland Counties Railway from Derby to Leicester, the North Midland Railway, then running from Derby to Leeds via Sheffield, and the Birmingham and Derby Junction Railway joining these two places with running powers over and, later, a financial stake in the Birmingham and Gloucester Railway which extended, in fact, to Bristol. The company's lines reached Lincoln via Nottingham in 1846.

Even before 1865, when parliamentary approval was obtained for the building of a direct line from the east Midlands to London, the company had extended its network well beyond the cities shown on its coat of arms. The company originally ran trains to London via a line from Leicester to Rugby and thence used the tracks of the London and North Western Railway from Rugby to London Euston; this, however, proved unsatisfactory to the undertaking, and in 1854, the company obtained an Act of Parliament to build a line from South Wigston Junction, south of Leicester, through Market Harborough, Kettering, Wellingborough, and Bedford and thence south-east to Hitchin to join the Great Northern Railway's line. This route served as its mainline access to London for a decade. Naturally, the Great Northern Railway gave preference to its own trains and it was this which prompted the Midland Railway to promote the parliamentary bill to enable it to construct a new main line into north London. From the outset, the more structure of the railway station was to be hidden at the front on the Euston Road by a new, and very grand, hotel. The latter was the symbol of the growing prestige of the Midland Railway.

In 1914, nearly half a century after the Midland Railway had reached London on its own lines, when the company was at its greatest extent, there were Midland Railway lines to Carlisle, Heysham, Peterborough and Huntingdon, and it was the joint owner of a series of lines, known as the Midland and Great Northern Joint Railway, stretching to the east coast of England at Great Yarmouth, Lowestoft and Cromer, and other joint ventures to the south coast at Bournemouth and the north Somerset coast at Burnham-on-Sea. Additionally, the Midland Railway had running powers to Abertawe (Swansea) in south Wales and to Liverpool (Fig. 1). Three attempts to amalgamate with one of its partners in Scotland, the Glasgow and South Western Railway, at the same time as the Midland Railway was building the complex at St Pancras were thwarted in parliament.<sup>3</sup>

The extent of the company's activities was such that a generation later than the construction of the new station and hotel in London, the Midland Railway was the largest public limited company by market capitalization in the United Kingdom.<sup>4</sup> At the same time, it has been seen as the fourth largest employer of labour in Edwardian England, with 66,839 employees in 1911.<sup>5</sup> A decade before, 8,500 were employed in manufacturing locomotives at Derby, making the Midland Railway the twenty-first in a list of the largest manufacturing employers of the time and a considerable increase on the 4,350 workmen and others at the Derby locomotive works in 1895.<sup>6</sup> The Midland Grand Hotel is thus a fitting symbol of the economic position of the company which caused it to be built.<sup>7</sup>

## **THE MIDLAND RAILWAY: HERALDRY**

It was common for railway companies to proclaim their importance and respectability by the adoption of a coat of arms, although hardly any of them bothered to obtain a grant of arms from the College of Arms.<sup>8</sup> The Midland Railway did not do so when it adopted its arms in the 1880s.

As noted above, the arms show the major cities served by the Midland Railway: Derby as its headquarters occupied the central position on the upper row, flanked by Birmingham and Bristol, with Leicester, Lincoln and Leeds on the lower row. The supporters are a dolphin (*dexter*) and a salamander (*sinister*). The crest is a wyvern and the motto, in a surrounding garter, is MIDLAND RAILWAY COMPANY. The wyvern of the crest is the emblem of the plates and other dinnerware of the Midland Grand Hotel.<sup>9</sup> It also appeared, in iron, in the company's bridges, in the luggage rack supports in coaches, on buttons and cap badges of the uniforms worn by the company's employees, and elsewhere. The arms appear, as described, but without the supporters or the motto, at the head of the principal stair of the hotel,<sup>10</sup> and members on both visits were able to see this.



Fig. 1 The Midland Railway at its greatest extent.

Source: *The Railway Year Book for 1914*

By employing the arms of other corporate bodies, to which it had no entitlement, the company was guilty of *usurpation of arms*, and the six corporations, either individually or together, would have been justified in bringing a case against the company in the Court of Heraldry. That they did not do so perhaps reflects a willingness to be identified with such an important enterprise rather than mere indifference. By combining the cities' arms in two rows of three (*Quarterly of six*, in heraldic terms) and adding garter, supporters and crest, the company created a fairly complex and colourful shield.<sup>11</sup> It would take up too much space here to give descriptions (*blazons*) of the individual city arms.<sup>12</sup> But perhaps one may note that the company, inadvertently or otherwise, introduced some changes: 'Birmingham lacked it horizontal

bar [*fess*] of ermine [which bore a gold *mural crown*] and its second and third quarters are unaccountably reversed [that is, red (*gules*) for gold (*or*) and *vice versa*]; the stag of Derby looked backwards within a walled park [rather than the *park palings* of the original]; and the ship of Bristol looked rather odd riding upon natural as well as heraldic water!<sup>13</sup> In 1891, the company adopted its second design, although the only change was the wording of the motto, which now read RAILWAY MIDLAND COMPANY 'so as to bring MIDLAND above the shield'.<sup>14</sup>

TERENCE PAUL SMITH

## THE MIDLAND GRAND HOTEL AND ST PANCRAS STATION

The two structures, the hotel and the train shed, at the eastern end of the Euston Road are in reality quite separate constructions although both serve to emphasise the prestige of the company which commissioned them.

Unlike its two rival stations, Euston and King's Cross, where the railway tracks are both level with the road, the tracks of the Midland Railway were elevated above the Euston Road by almost 20 feet (6 metres). This enabled the trains of the Midland Railway to pass on level tracks over the Regent's Canal and the Fleet River, by 1865 one of London's principal sewers (Fig. 2). In contrast, the railway tracks approaching the adjacent King's Cross terminus of the Great Northern Railway run under the Regent's Canal, thus permitting the station to be built at street level. Unlike its rivals also, the train shed at St Pancras was designed from the first to be hidden at the front by an hotel. At Euston, the hotels were an afterthought. The Victoria and Adelaide hotels, named after the queen regnant and the queen dowager, were designed by Philip C. Hardwick to flank his father's Euston Arch. The Great Northern Hotel at King's Cross is a white brick building at the western side of the station.

Almost as soon as parliamentary approval had been granted in 1865 for the new railway line, the Midland Railway commissioned Sir George Gilbert Scott to design a basement layout for the hotel and to make the upper part of this level with the station concourse. The Midland Railway then held a limited competition for the design of the hotel, which Scott won with a design which was not only too expensive but also exceeded the competition brief. For example, there were more storeys than required and twice the number of bedrooms that the railway management had asked for. The result was that Scott modified his original design by removing one storey and reducing the height of the clock tower at the east end of the structure. Scott worked on the design between 1865 and 1867 and building work on the hotel took place between 1868 and 1874.

Construction of the hotel was later than the building of the train shed. Designed by W.H. Barlow, the Midland Railway's consulting civil engineer, in conjunction with R.M. Ordish, an experienced designer of railway stations,<sup>15</sup> the latter was erected between 1866 and 1868. Barlow and Ordish had a further serious practical reason to have a raised train shed. Fear of cholera had yet to die away in the minds of the working men of Victorian London and their principal drink was beer, as it was of their wives. Burton-on-Trent, Staffordshire, is firmly within the area covered by the Midland Railway, being one of the towns served by the former Birmingham and Derby Junction Railway. Burton-on-Trent was, and is, a major brewing centre, and in the 1860s was sending thousands of barrels of beer a day to London, so much so that a direct line was built from Burton-on-Trent to Leicester to facilitate the trade. Beneath the train shed is a vast storage area for beer barrels on a module of 14 ft 6 in (4.42 metres).

Three firms worked on the building of the station and the hotel. The contract for the work on the first 60 chains (1.2 km) of railway track north of Euston Road was ultimately let to the established firm of Waring Brothers at a price of £319,162 4s. 9d. This included the brickwork

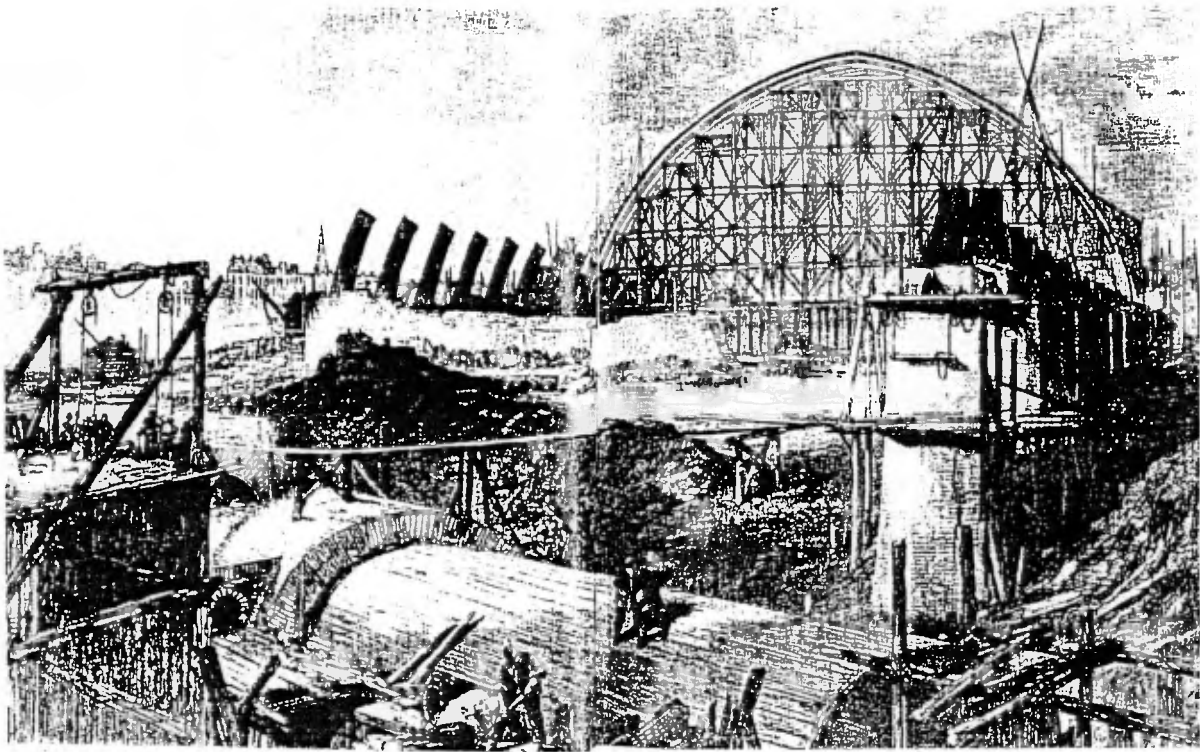


Fig. 2 St Pancras Station under construction showing the Fleet sewer (foreground) and the outer brick walls of the station, one almost completed wrought iron rib, with the wooden scaffolding used in its erection, and the lower part of several other ribs.

along the sides of the railway station which had to be completed by 1 June 1867. It also included the foundations of the hotel building. The contract for the roof of the station was let separately to the Butterley Company, for £116,720 7s. 9d.

Both these contracts have schedules which include wage rates. Bricklayers in Waring's contract were to be paid 7s. 6d. per day. The same wage was to be paid also to masons, smiths and carpenters. Butterley employed no bricklayers but they did employ slaters and glaziers, at 7s 11d for a ten-hour working day. The ten-hour day was specified in the contract between the Midland Railway Ltd. and the Butterley Company. Thomas Brassey had paid bricklayers 6s. 0d. a day for a ten-hour day for work on the northern middle level sewer contract in the early 1860s.<sup>16</sup> At St Pancras, generally the Butterley Company paid higher rates: 5s. 2½d. for a day's work as a labourer as opposed to 4s. 6d. paid by Warings.

The hotel was built in stages. The contract for stage one was let to Messrs Jackson & Shaw for £37,580, just below the architect's estimate of £38,090. Jackson & Shaw were a well-established London firm of building contractors with the experience to construct the hotel. The same firm was invited to continue work on Stage Two of the hotel, including the clock tower at the same level of prices. Scott estimated that this stage, including the clock tower, would cost £58,715. They completed the hotel, by building the west wing which curves down to the Euston Road, in 1871. A ten per cent addition to their prices was allowed, a reflection of the increase in the cost of building materials in the four years since 1867. When final costs of the hotel were given by the chairman of the Midland Railway to its shareholders in 1877, the company had spent £304,335 on the fabric of the hotel, exclusive of decoration and furnishings. A decade earlier Sir George Gilbert Scott had estimated that the revised, smaller version of his masterwork

would cost £296,000. To have built such a structure to within three per cent<sup>17</sup> of the original estimate during a ten-year period of inflation in building costs remains a remarkable achievement.

The hotel was closed in 1935 when the building became used as offices for the London Midland and Scottish Railway. The railway station has continued in use, with various threats of closure in 1935 and after the Second World War. In 2003, St Pancras Station was temporarily closed for its conversion into the terminus for *Eurostar* trains from Paris, Bruxelles/Brussel and Lille.

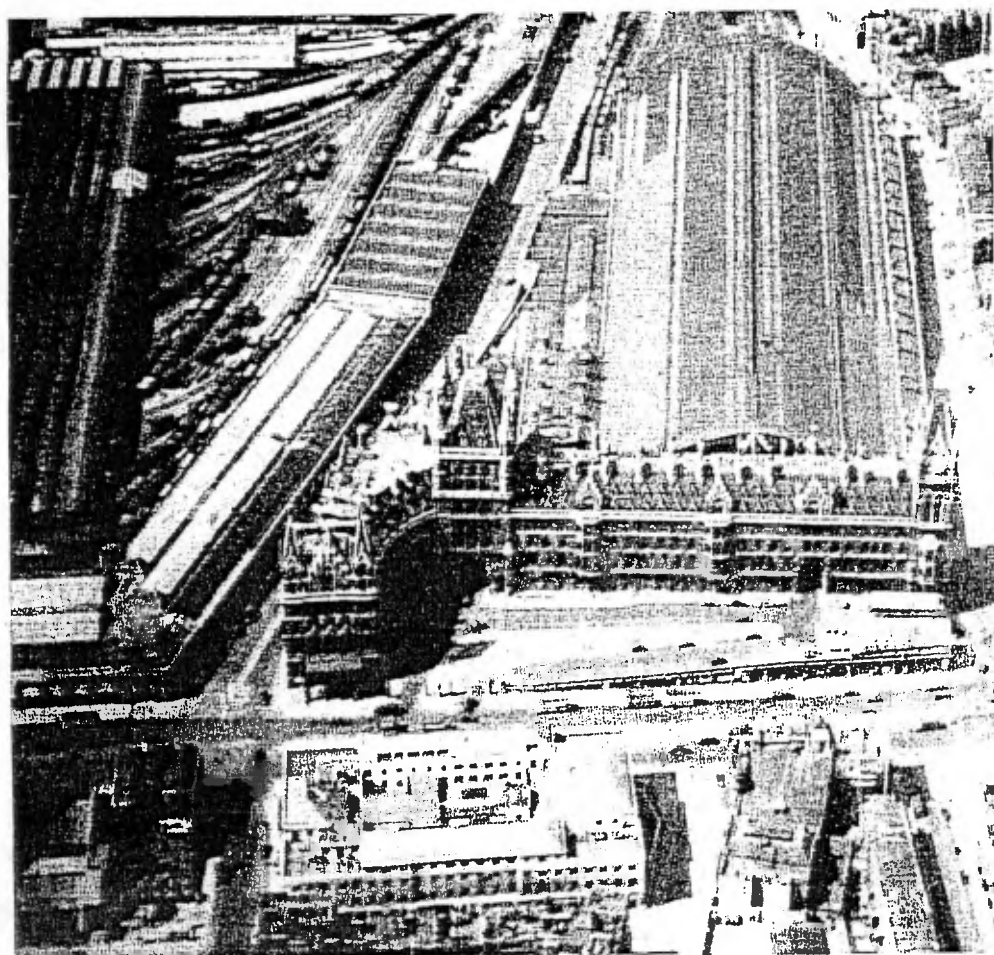


Fig. 3 The Midland Grand Hotel and St Pancras Station from the air, with on the left, the St Pancras (Somers Town) Goods Station.

## BRICK

Most of the bricks from the Midlands, which were used in the station and the hotel, appear to have come from one Edward Gripper, whose trading company was the Nottingham Patent Brick Company and who possessed the exclusive rights to the patented Hoffmann kiln, then just developed in Germany in 1858 for continuous burning and production. So great was the demand that even he could not cope and had to turn to Tuckers of Loughborough for supplementary supplies. In the 1860s and 1870s the Nottingham Patent Brick Company was turning out around 27 million bricks annually from six Hoffmann kilns. It would have taken the best part of three

years production, allowing for moderate waste, to have provided the sixty million bricks that went into the station building during the contract period of 1868-69. Most of these in the early stages were used for culverts, tunnels and the huge foundations.

Among the other companies supplying bricks was the Butterley Brick Company, of Ripley, Derbys., an offshoot of Butterley Engineering Ltd., the contractors for the iron. The Butterley Brick Company were one of the suppliers of facing bricks.

JOHN SEARS

## BRICKS AT ST PANCRAS

Alongside the stone (see below) millions of red bricks all come from the Midlands. These were the special contribution of Mapperley, Nottingham, the product of the innovative Edward Gripper, an Essex farmer who moved to the Midlands to open up a brickworks which was well ahead of its times. Using a mix of Pleistocene clay and weathered Mercia Mudstone (then known as Keuper Marl), he produced at low cost a very hard surfaced red brick by using an adaptation of the Hoffmann kiln from Germany. In this process, hot gases from a fired kiln chamber preheat the next chamber containing 'green' bricks. This saves fuel, and it brought Gripper's rates down to £2 10s. 0d. per thousand for the best 'fronters' and £1 17s. 0d. per thousand for 'commons', very competitive prices indeed for the late 1860s.

ERIC ROBINSON (from *Mercian Geologist*, 15, 2, 2001) with emendation from RONALD FIRMAN

## THE ST PANCRAS STATION BRICKS

Facing bricks at St Pancras Station are known to have been supplied by a number of firms, including the Butterley Company, now Hanson Brick, of Ripley, Derbys.; G. Tucker & Son, of Loughborough, Leics., who were taken over by Butterley in 1963 and closed in 1969 after 119 years' production; and Edward Gripper, a founding partner in Nottingham Patent Brick Co. Ltd., now Ibstock Brick Nottingham.

Most of the common bricks appear to have been made at a temporary works just north of the Regent's Canal using clay from Belsize Tunnel and its approaches. Twenty years after the building of the terminus and the hotel, F.S. Williams<sup>18</sup> recorded:

After passing the churchyard [of Old St Pancras] we cross the Regent's Canal. Here during the construction of the works was a scene of the busiest activity. "Engines", said a writer at the time, "are flitting to and fro, dragging trains loaded with bricks to the station and returning laden with clay. Employed in the manufacture of the bricks are two machines that turn out 20,000 bricks each per day and two others that manufacture 10,000 each per day. These are dried and burnt by a new mode which is the invention of a German and while the bricks are being burnt the clay mould is drying. The building in which this is done is circular divided into 24 cells each capable of receiving 15,000 bricks. A chimney passage goes from the interior of each cell to a centre shaft and the roof of the cells forms the drying ground for the clay. Over the whole is a light tile roof."<sup>19</sup>

Figure 4 shows such non-facing bricks being manufactured by a machine at or near St Pancras Station in August 1867. From its appearance, it is clear what is being used is an extrusion machine made by Henry Clayton & Co at their Atlas Works, London.<sup>20</sup> The clay which has been

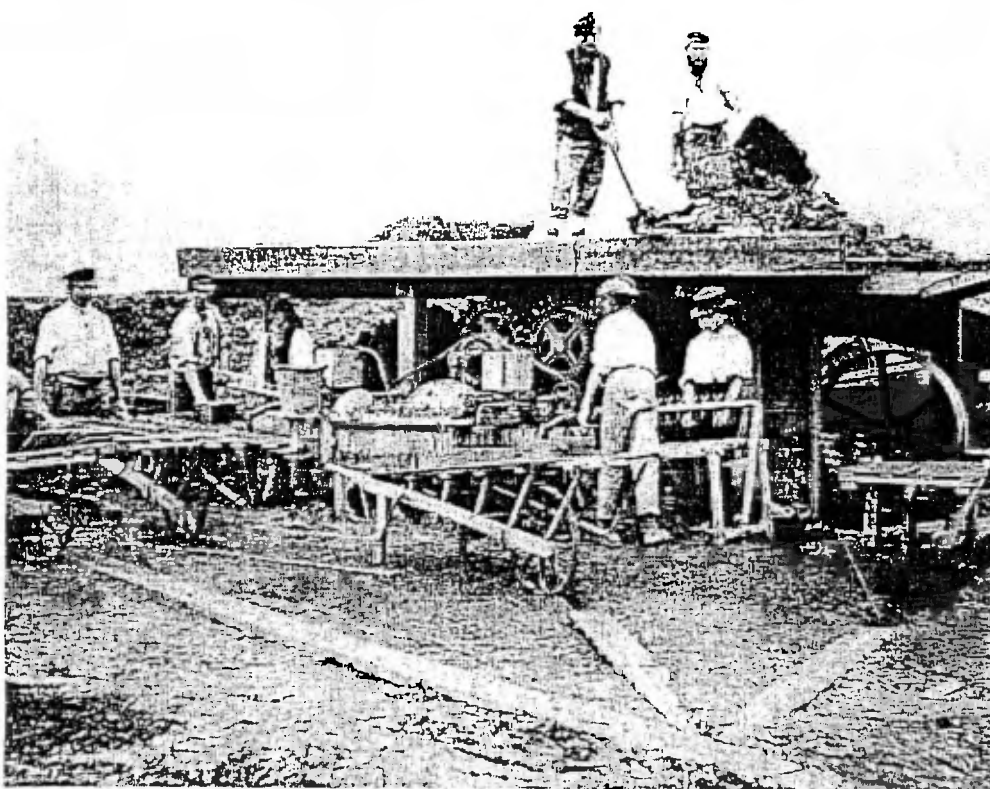


Fig. 4 Brickmaking at or near St Pancras Station, August 1867

delivered to the platform at top right would be shovelled into the hopper in the centre of the photograph. It would then descend between two crushing-rollers into the extruder and would be pushed out as rectangular blocks to both left and right. The two female workers would slice the blocks into individual bricks using wires held taut in hinged metal frames. The men at ground-level would load the bricks on to the hack barrows and wheel them away to the drying ground. MARTIN HAMMOND, T.P. SMITH

## BRICK PRICES

Edward Gripper was the main supplier of bricks to the project at St Pancras. He was not the only one asked to quote and at least one other quotation has been recorded, from T.H. Gray of Swannington, Leics. for bricks for the sides of the hotel.<sup>21</sup> Gray, however, declined to supply since the bricks he usually made were not of the size required. His quotation was significantly less and, unlike Gripper's, did not vary with the season:

Type of brick	Gripper		Gray
	Winter	Summer	
Best fronts	50s. 0d.	47s. 6d.	36s. 0d.
Cappers	37s. 6d.	36s. 0d.	
Commons	26s. 6d.	25s. 0d.	21s. 0d.

Winter for Gripper was from November to April; summer was the months between May and October, inclusive. Gray did not quote for cappers.<sup>22</sup>

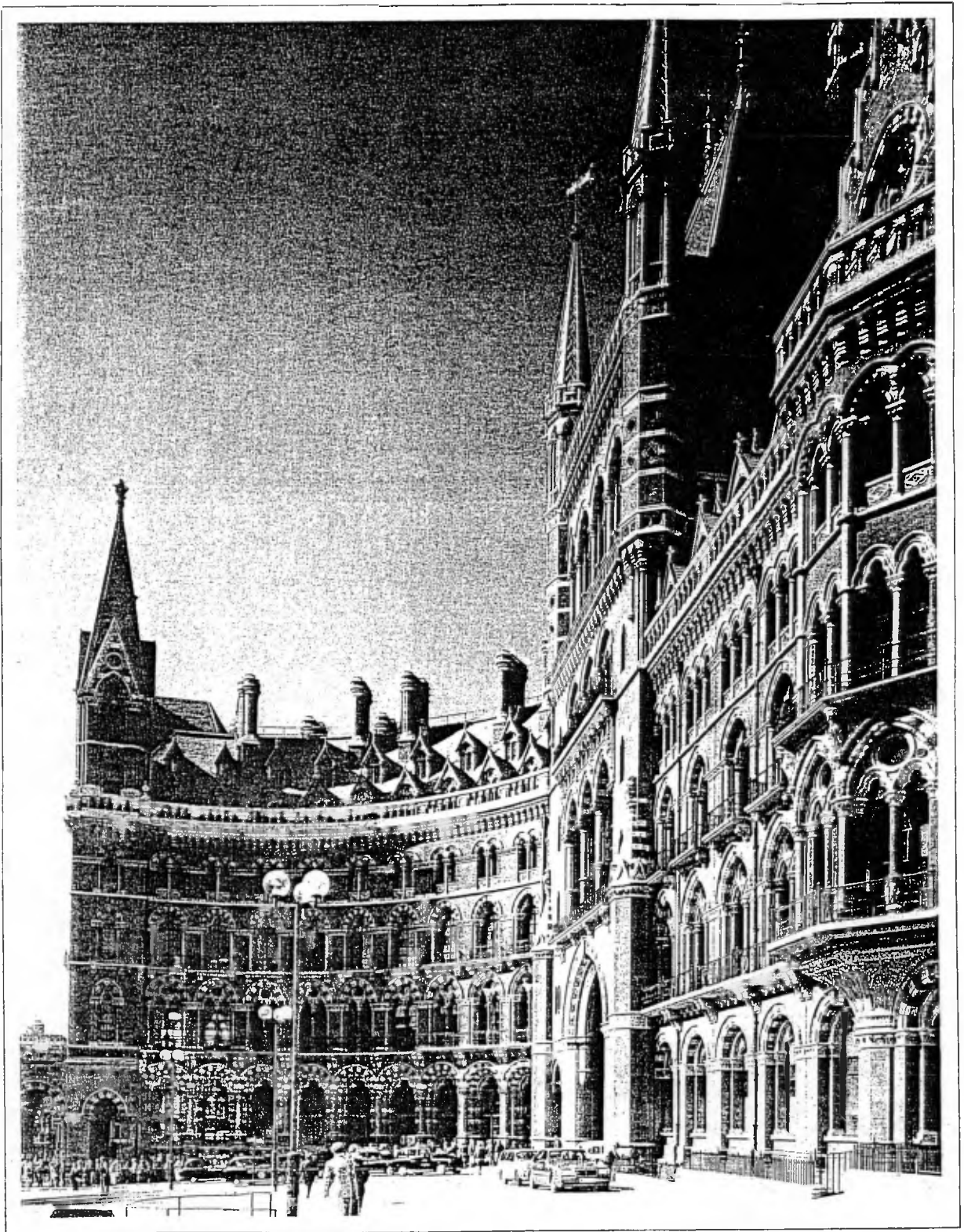


Fig. 5. The Midland Grand Hotel at St Pancras with from right to left, the oriel windows of a principal suite, the carriage arch for the departure platforms and the west portion of the hotel with the Coffee Lounge on the ground floor and the dining room above.

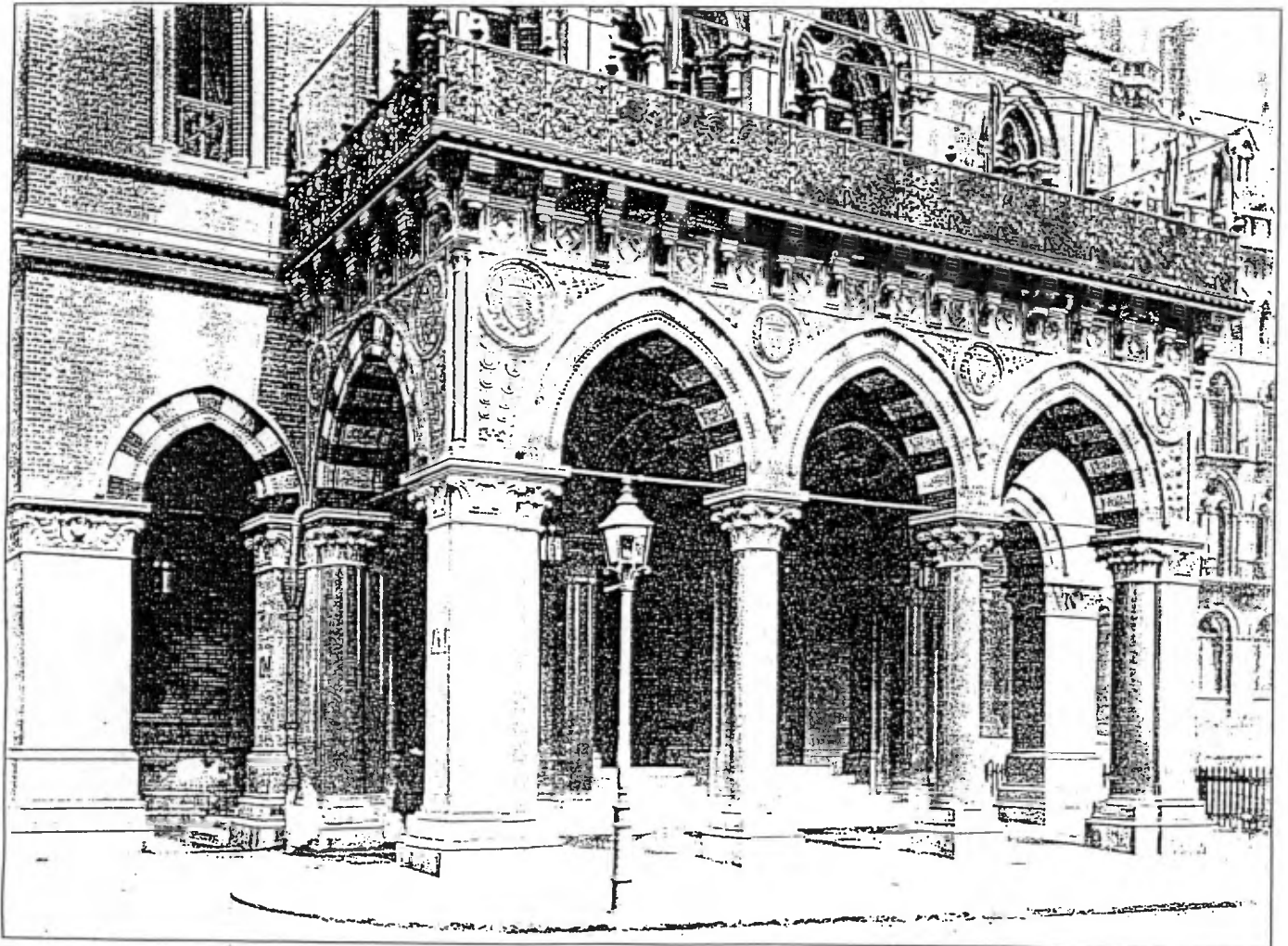


Fig. 6 The ornate entrance to the Midland Grand Hotel, on Euston Road. The round columns are single blocks of polished Shap Granite, standing on unpolished plinths of the same stone, while the square columns at the corners are stacked blocks of Red Mansfield Stone, supplied by William Sills from the Chesterfield Road quarries at Mansfield, Notts.,. Capitals of Red Mansfield Stone support arches of alternating dark bricks and light-coloured Ketton limestone.

### GRIPPER'S BRICKS

The buildings at St Pancras, both the railway station and the hotel, have a remarkably uniform appearance. In no small measure this is due the uniformity of the facing bricks. Both Waring Brothers on the walls of the station and Jackson & Shaw on the outer walls of the hotel used Gripper's bricks, even though Warings, certainly, and possibly also Jackson & Shaw experienced difficulty in maintaining a constant supply.

## STONE AT ST PANCRAS

At some point after the opening of the railway station and the hotel, the leading architectural magazine of the 1870s and early 1880s, *The Builder*,<sup>23</sup> hailed St Pancras as

a powerful piece of showmanship and that was just what the company required. It made Euston appear the old-fashioned muddle that it was, and King's Cross a very ordinary piece of austere engineers' building. The Midland Board were businessmen, making their choice on commercial grounds.

It is interesting to examine these commercial grounds.

Any traveller from Nottingham to London coming out on to the terrace above Euston Road and pausing to look back at the hotel should still feel at home. There are columns and capitals in buff and pale pink sandy dolomitic limestone with up to 50% sand (most of which is quartz) known commercially as Red Mansfield Stone. There are capitals carved freely in Ketton and Ancaster Stone. Some kerbs are green-grey Swithland Slate from Charnwood. The granites are not from the Midlands, but like the other stones in the visible building fabric, they are, in effect, proclaiming:

If you like it we can supply it over our network of lines from the quarries to the Somers Town goods yard alongside the station.

It was a brilliant advertisement, promoting their goods service at attractive rates.

The use of many different colours and textures was an integral part of Scott's design, just as it had been in the Albert Memorial ten years earlier. He loved to feature columns of polished granite. The grandest of these flank the station entrances with Shap Granite, so easily recognised by its large feldspar crystals. Smaller columns are of Peterhead Granite, pale pink, lighter than the Shap and non-porphyrific.

The Midland Railway's claim to Peterhead relied on its working agreements with Scottish railway companies, including the Caledonian Railway and the North British Railway. Shap lay well within the territory of the London and North Western Railway, but the supply lines had been engineered by the Midland Railway itself. The company's role in the discovery and exploitation of Northamptonshire Sand Ironstone is well known. Their venture eastward from the main line to Stamford allowed them to tap the stone traffic from sources in the Welland Valley, thanks to the diversion of the Great Northern Railway's line by the Burghley estate.

ERIC ROBINSON (from *Mercian Geologist*, 15, 2, 2001), with emendations from RONALD FIRMAN

## RED MANSFIELD STONE

The ornate main entrance to the Midland Grand Hotel, level with the Euston Road, is a portecochere, whose building materials include Red Mansfield stone (fig. 00). While the round and half-round columns are of polished Shap Granite, the square columns at the corners are of stacked blocks of Red Mansfield stone, supplied by William Sills from the Chesterfield Road quarries in Mansfield. Capitals of the same Red Mansfield stone support arches of alternating dark red bricks, supplied by Edward Gripper, and light Ketton limestone. On one of the capitals dragons are carved.

From near Mansfield, Notts., the Cadeby Formation produces two distinctive sandy dolomitic limestones, known as Red Mansfield stone and White Mansfield stone. Both are very

durable and are the only Nottinghamshire building stones to have been used to a high degree outside that county or in adjacent parts of Derbyshire. The white variety is best known from the capitals of the chapter house of Southwell Minster, a thirteenth-century building. Much of the minster is built from Mansfield White stone. Lithologically, both White Mansfield stone and Red Mansfield stone are dolomitic limestone, with a high quartz and sand content (up to 50% siliciclastic sand grains) and contain 40-45% dolomite [ $\text{CaMg}(\text{CO}_3)_2$ ].

The quarries producing the Mansfield Red stone are now long worked out but Mansfield Red stone had great popularity for decorative work in the nineteenth century and earlier, particularly in Nottingham but also in Newark. A notable eighteenth-century building in Nottingham using it is the former Shire Hall, now the Galleries of Justice Museum, where Mansfield Red stone is used for the pilasters on the front to High Pavement. This building of 1770 was designed by James Gandon.

The use of Red Mansfield stone at St Pancras gave the stone a national prominence. Half a century earlier, the quarries producing Mansfield Red stone had been described by the pioneer geologist Adam Sedgwick:

On the east side of the glen, which descends to Mansfield, is a quarry which lays bare a system of beds, about 50 feet thick, of very extraordinary character. The bottom beds are about 20 in number and vary from less than 1 to 3 or 4 feet in thickness; but the planes of separation are extremely irregular, and not continuous. They are of dull red colour, and might, without close examination, be mistaken for New Red Sandstone. The thin beds are much used in building, and the thickest hewn out into large troughs and cisterns, and in that state are conveyed to neighbouring counties.

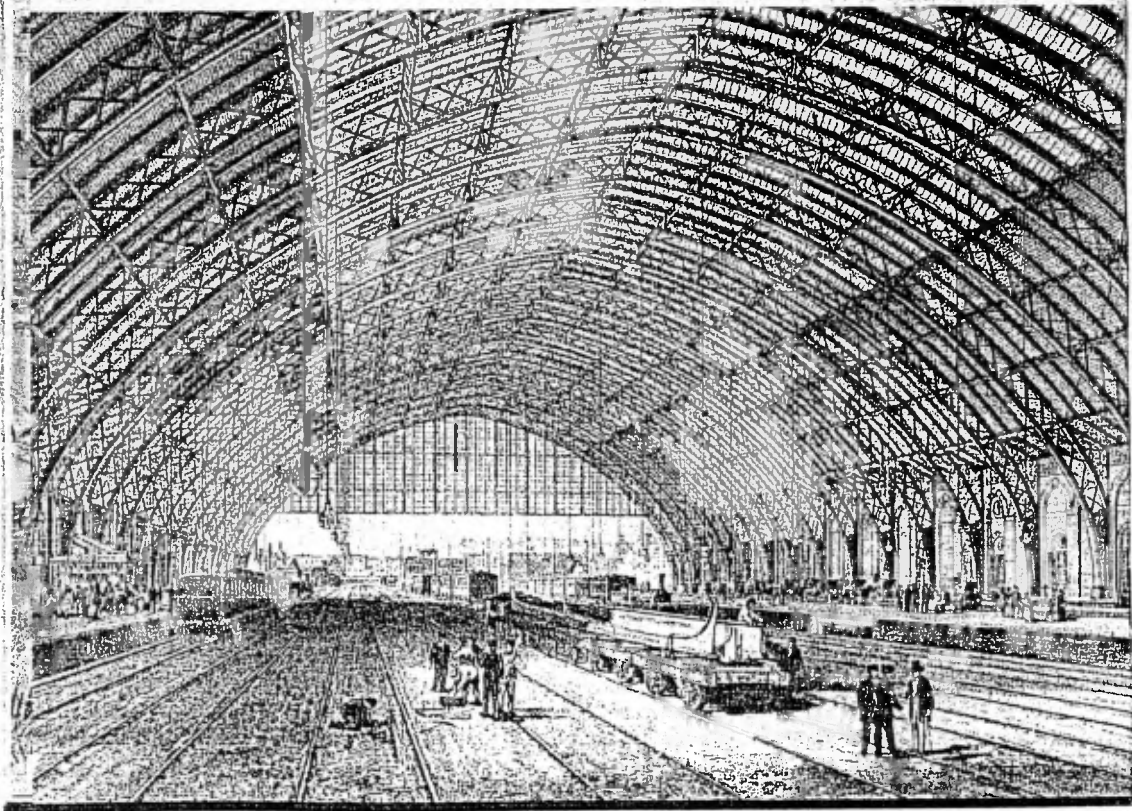
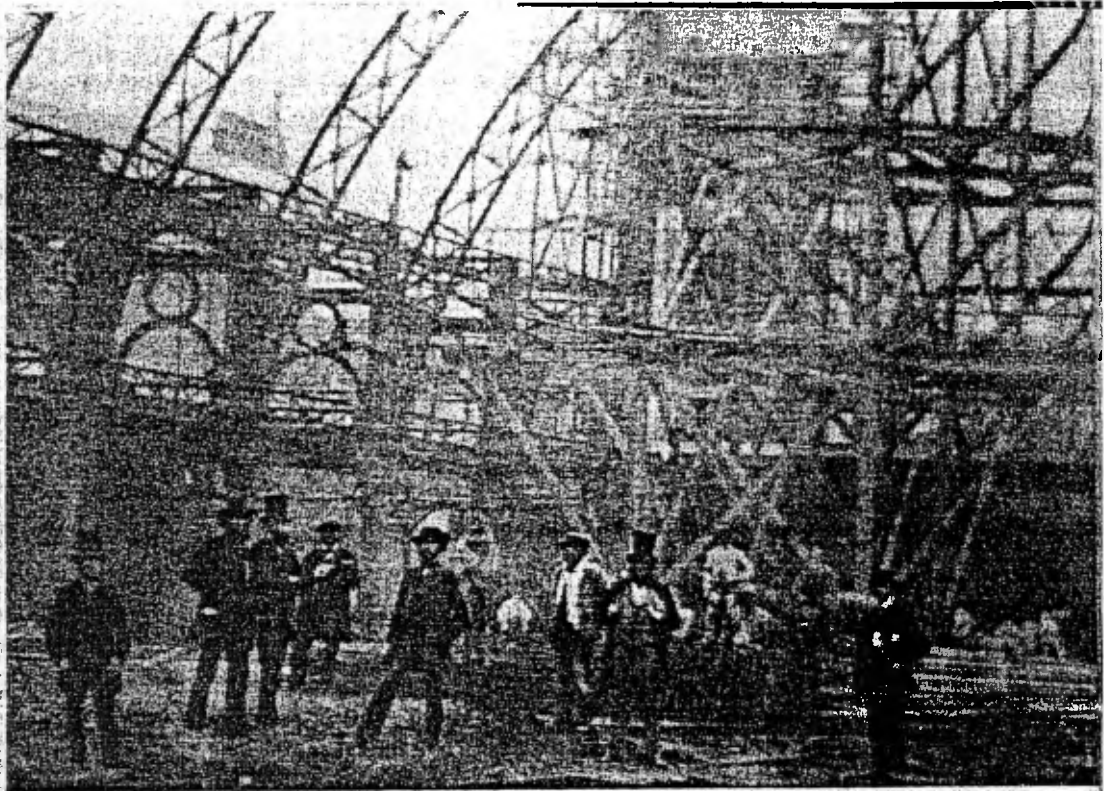
The Geological Survey in 1860 described the situation in 1856, a decade before the building of St Pancras. The three Mansfield building stone quarries of Charles Lindley produced Mansfield Red stone at 9d. per cube foot for random-sized blocks; annual production was about 5,000 cube feet, while approximately double this quantity was produced of the White Mansfield stone. In 1861, the Lindley family had three quarries at Chesterfield Road and Rock Valley and there was another quarry at West Hill, Chesterfield Road, Mansfield, by 1866 recorded as in the ownership of William Sills.

Even before he had received the commission for the Midland Grand Hotel, George Gilbert Scott had described the Mansfield Stone as "one of the best building stones in the kingdom".

GRAHAM LOTT (adapted) [from *Mercian Geologist*, 15, 2, 2001]

Fig. 6. (opposite: top)                      The iron ribs of St Pancras Station during construction, showing the wooden scaffolding partly in place and before the glazing of the roof.

Fig. 7 (opposite: below)                      the complete train shed before the construction (in wood) of two additional platforms in the centre. The iron ribs are clearly visible.



## SLATE

Clause 59 of the contract made by the Midland Railway with the Butterley Company specified that the slate to be used on the roof of the trainshed should be 'best Welsh' and that it was to be of four sizes. Large slates were to be laid at the base of the roof and smaller ones towards the apex. The design approaches the use of the traditional scheme whereby each course is slightly smaller than the one over which it is laid.<sup>24</sup> In contrast the Swithland slates from Charnwood, Leics., on the hotel are laid in the traditional manner. In the course of renovations and maintenance, this roof has been replaced with one of green Cumbrian slates.<sup>25</sup>

## IRON

No account of the building materials at St Pancras would be complete without reference to the train shed.

The train shed is 240 feet (73.2 metres) wide and 690 feet (210.45 metres) long. The train tracks and platforms tie the single-span. There are twenty-five wrought iron lattice ribs rising 105 feet (32 metres) above the level of the platforms. These iron ribs were supplied by the Butterley Company. They meet at a slightly pointed apex. The company also supplied the cast iron columns which support the track deck from within the undercroft.<sup>26</sup>

## WOOD

The contract made with the Butterley Company had specific instructions as to the wood to be employed in constructing the station roof.

The timber to be Memel, Riga or Dantzic red pine, except for the planks and battens, which were to be best yellow Christiania or Petersburg deals.<sup>27</sup>

With the exception of the deals from Norway - Christiania is modern Oslo - the eastern side of the Baltic was to be the source of the timber used in the station roof. Memel is modern Klaypeda on the Baltic coast of Lithuania, Riga is the capital of Latvia, Danzig (used in its anglicised version Dantzic) is modern Gdansk; the former imperial Russia capital, Petersburg, has reverted to its traditional name after spending much of the twentieth century as Leningrad. In the hotel, oak was used for the floors, but in the basement areas deal was substituted.

## NOTES AND REFERENCES

1. The classic account of the building of the station and the hotel is J. Simmons *St Pancras Station*, London: George Allen and Unwin, 1968; 2nd edition, revised with a new chapter by R. Thorne, [London]: Historical Publications, 2003. Citations in this collaborative piece are to the second edition. There are a number of general accounts of both the railway station and the hotel. B. Cherry and N. Pevsner, *The Buildings of England: London 4 North*, London: Penguin Books, 1998, 362-365; G. Stamp and C.

Amery, *Victorian Buildings of London 1837-1887*, London: The Architectural Press, 1980, 79-81; and E. Harwood and A. Saint, *Exploring England's Heritage: London*, London: HMSO, 1991, 238-239, are easily accessible accounts. More recent and more detailed is the account in his chapter 6 by D. Cruickshank, *The Story of Britain's Best Buildings*, London: BBC Worldwide, 2002, 172-201. London and Continental Stations and Properties Ltd., the present owners of the hotel building, have issued *St Pancras Chambers*

formerly the Midland Grand Hotel, London: London and Continental Stations and Properties Ltd., guidebook, no date, and a single page leaflet with the same title, dated August 2000. Material not otherwise given specific reference is taken from one of these sources.

2. Cruickshank, 2002, colour photograph on p. 198. Unfortunately in this photograph, the arms are partly obscured by a light fitting.

3. These attempts were made in 1867, 1872 and 1873. Simmons, 2003, 140.

4. P. Wardley, 'The Anatomy of Big Business: Aspects of Corporate Development in the Twentieth Century', *Business History*, 33, 2, April 1991, 268-296, esp. Table 3 on p.278 which notes comparative capitalization of British businesses in 1904/5.

5. P. Wardley, 'The Emergence of Big Business: The Largest Corporate Employers of Labour in the United Kingdom, Germany and the United States, c.1907', *Business History*, 41, 4, October 1999, 88-116, especially Table 1 on pp.102-105 with a listing of the number of employees in large businesses.

6. C. Shaw, 'The Large Manufacturing Employers of 1907', *Business History*, 25, 1, 1983, 42-60, especially Appendix 1, pages 52-53, and note 21 to the Appendix, citing S.B. Saul, 'The Market and Development of Mechanical Engineering Industries in Britain', *Economic History Review*, 20, April 1967, p.115.

7. The Edwardian statistics have been included in the absence of published material known to the writer of comparable statistics for the mid-Victorian period when the station and hotel were actually built.

8. A. D[ow], 'Heraldry', in J. Simmons and G. Biddle (eds.), *The Oxford Companion to British Railway History from 1603 to the 1990s*, Oxford and New York: Oxford University Press, 1997, 204.

9. London and Continental Properties, n.d., illustration on unnumbered page 5.

10. Cruickshank, 2002, coloured illustration on p. 198.

11. One of the best colour illustrations of the shield, though in this case without the garter and with the single-word motto MIDLAND on a scroll beneath the shield, is on the front cover of C. Heap and J. van Reinsdijk, *The Pre-Grouping Railways: their Development and Individual Characters*, Part I, London: HMSO for the Science Museum, 1972.

12. They may be found, for example, in G.

Briggs, (ed.), *Civic & Corporate Heraldry: a Dictionary of Impersonal Arms of England, Wales & N. Ireland*, London: Heraldry Today, 1971, pp. 58, 74, 134, 228, 230, 234.

13. G. Dow, *Railway Heraldry*, Newton Abbot: David & Charles, 1973, 40. This may be seen in the cover illustration of Heap and Reinsdijk, 1972, and in those parts of the painted shield which are visible in the colour photograph of the grand staircase vault of the hotel in Cruickshank, 2002, 198. For a colour photograph of the complete arms, but seen at an angle, see B. Bergdoll, *European Architecture 1750-1880*, Oxford: Oxford University Press, 2000, pl. 96 in top right-hand corner. The upper part of the staircase with the company coat of arms visible top left was the photograph to accompany D. May, 'Last chance to see Grand opulence', *The Times*, 16 September 2002.. The individual arms are, however, correctly depicted in the modern version at the entrance to the new station at Derby, except that the water in *dexter base* in Bristol's arms is shown heraldically (*barry wavy argent and azure*) rather than as *water proper* of the blazon; colour photograph in D. Ross, *British Steam Railways*, Bath: Paragon, 2003 edn., 58, and online at Chris Tolley's 'Photo Gallery - Railways 1': <http://web.ukonline.co.uk/cj.tolley/cjt-770r.htm>. In 1977 Birmingham's *fess ermine* was replaced by a *cross ermine*, the *cross* being taken from the arms of the Borough of Sutton Coldfield, which Birmingham absorbed in 1974, although the Sutton Coldfield cross was *sable* (black) rather than *ermine*; at the same time, the gold *mural crown* was replaced by a *mitre*, reflecting the fact that Birmingham became an Anglican cathedral city in 1905; the Roman Catholic diocese was established in 1840.

14. Dow, 1973, 40.

15. Simmons, 2003, 33-34 makes clear the relationship between Ordish and Barlow.

16. S. Halliday, *The Great Stink of London Sir Joseph Bazalgette and the Cleansing of the Victorian Metropolis*, Stroud, Glos.: Sutton Publishing, 1999, 89.

17. The actual percentage (to three decimal places) is 2.816%.

18. F.S. Williams with *The Midland Railway: Its Rise and Progress* (1st edition, 1876) was the first of five authors to write a history of the Midland Railway. The others are C.E. Stretton, *The History of the Midland Railway*, (1901); C.H. Ellis, *The Midland Railway*, (1953); E.G. Barnes, *The Rise of the Midland Railway, 1844-1874*, (1966); and J. Gough, *The Midland Railway: a Chronology* (1989). For a succinct account see J.S[immons], in Simmons and Biddle, 1997, 321-323.

19. F.S. Williams, *Williams's Midland Railway History: its Rise and Progress: a Narrative of Modern Enterprise*, 7th edition, 1888, re-issued with a new introduction by C.R. Clinker, Newton Abbot: David & Charles, 1968, 262. The quotation in Williams has not been traced. There was a long tradition of brickmaking in the St Pancras area and this was particularly active in the nineteenth century: L. Clarke, *Building Capitalism: Historical Change and the Labour Process in the Production of the Built Environment*, London and New York: Routledge, 1992, 94-104.
20. An engraving of Clayton's brickmaking machine is reproduced in M. Hammond, *Bricks and Brickmaking*, Princes Risborough: Shire Publications, 2th edn., 2001, p.16 bottom. There is a model of the machine, London: Science Museum: photographs of this model are on: <http://www.scienceandsociety.co.uk/results.asp?image=10319335&wwwflag=&imagepos=7>. An engraving of an earlier version of the machine is reproduced in J. Woodforde, *Bricks to build a House*, London: Routledge and Kegan Paul, 1976, p.121.
21. Simmons, 2003, 64 with note 91.
22. Simmons, 2003, 64 with note 91 (on p.95). The prices are recorded in the endnote to Simmons' Chapter III.
23. An attempt to trace the quotation in *The Builder*, checking the years 1860-1878 failed to discover the quotation. It is assumed that it dates to some point after the opening of the hotel. *The Builder*, 24, 1966 has noted on the competition: p. 33 (13 Jan 1866) details of the competition; p. 67 (27 Jan 1866) description of Scott's original designs; p. 105 (10 Feb 1866) letter from Somers Clarke. *The Builder*, 26, p.744 (10 Oct 1868) has a note on the opening of the station.
24. Simmons, 2003, 44.
25. Simmons, 2003, 172.
26. There are details of the supply of iron work and its use in the train shed in R. Christian, *Butterley Brick: 200 Years in the Making*, London: Henry Melland for Butterley Brick Ltd., 1990, 117-119.
27. Simmons, 2003, 44.

# THE ST PANCRAS (SOMERS TOWN) GOODS STATION AND ITS BRICKS

Terence Paul Smith

Until the establishment of the Railway Clearing House in 1842, goods traffic developed only slowly on the British railway system, and it was not until a decade later that revenue from freight overtook that from passengers.<sup>1</sup> At important stations, including termini, it was common to provide both sidings and separate goods depots or stations.<sup>2</sup> Because of the nature of the construction of the St Pancras train shed, there was goods accommodation in the spacious undercroft beneath the tracks, although this was reserved for the Midland's important beer traffic from Burton-on-Trent. Indeed, it was the size of the beer barrels which determined the module on which were set out the 688 cast iron columns supporting the track-deck.<sup>3</sup> Hydraulic lifts were provided to lower the barrels from track level to the undercroft. Barrelled beer constitutes a relatively clean commodity. Clearly, it would have been inappropriate to bring other goods – coal, for example, or meat or fish, let alone live cattle! – into what was essentially a space for passengers. Accordingly, a separate goods station was built to the west of the hotel and train shed, between Midland Road and Ossulston Street, facing Euston Road (fig. 1). It was designed

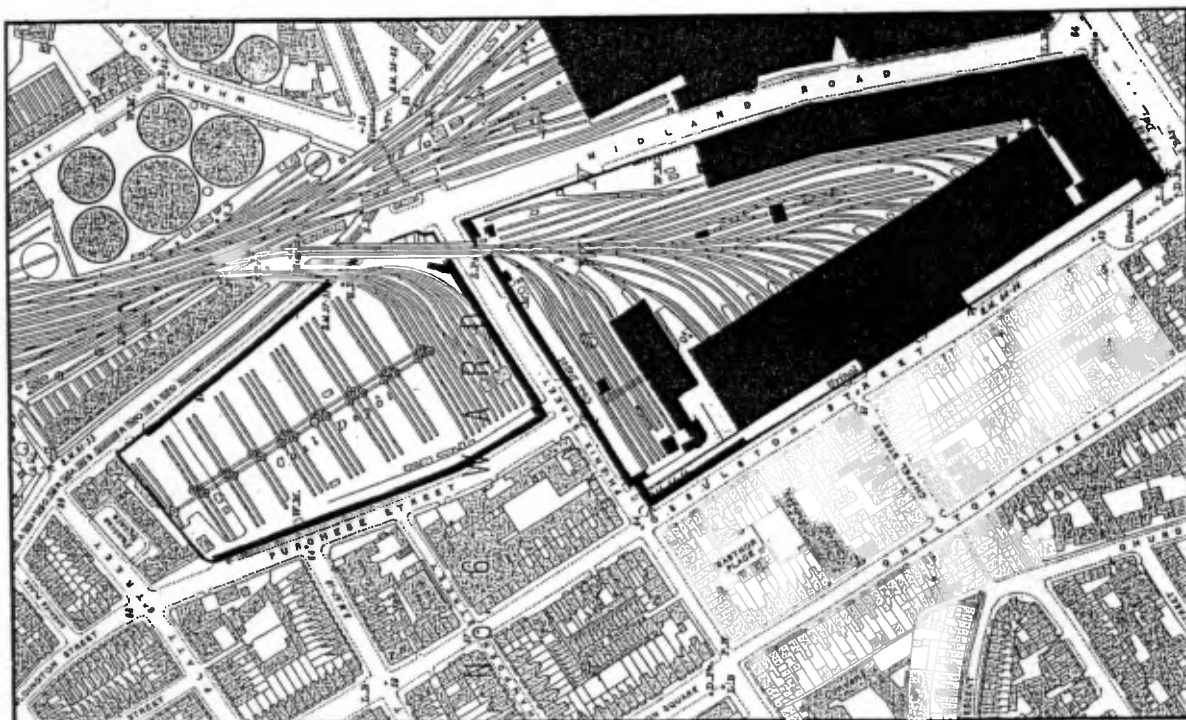


Fig. 1 St Pancras (Somers Town) Goods Station on the 6-inch Ordnance Survey map of 1913. The station fronted Euston Road, which cuts across the bottom right corner. The passenger and goods station buildings are shown in black. Portions, sometimes only plinths, of the screen wall surviving in January 2005 are shown by the thicker lines, demolished sections by the thinner lines.

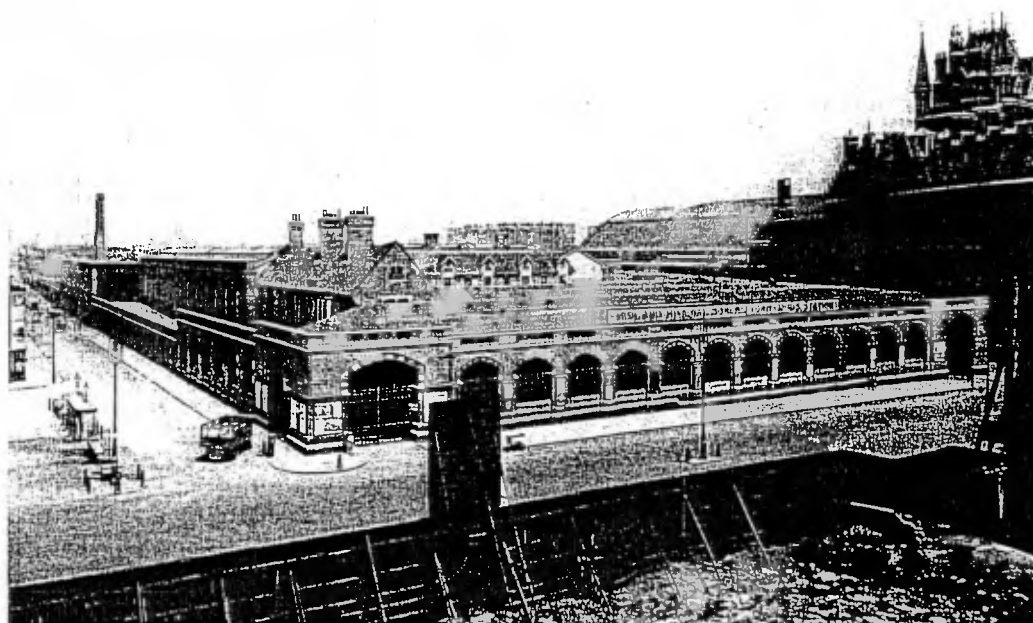


Fig. 2 The St Pancras (Somers Town) Goods Station from the south-west, showing the Euston Road frontage and the side along Ossulston Street. The photograph dates from before 1935, when Clifton House [Richardson & Gill], 83–117 Euston Road, was built on the empty site in the foreground.

by the company's own Engineer for New Works, John Underwood, and was begun in 1883, with Joseph Firbank as contractor.<sup>4</sup> The seventh edition of Frederick Williams' history of the Midland Railway (published in 1888 but prepared a little earlier) commented that a 'vast extension of the St Pancras Goods Station is now in course of construction'; this, which included a lengthy surrounding screen wall, was in fact opened in 1887; the St Pancras Goods Station was renamed Somers Town Goods Station in 1892.<sup>5</sup>

To reach it, the tracks branched from the main line just north of the train shed of the passenger station, crossing Pancras Road and the eastern end of Phoenix Street (now Brill Place) by bridges. There was a large area for coal, a milk shed, and extensive accommodation for other goods, including fruit and vegetables, cheese, wine, spirits, and other bottled goods (including medicines), paper for newsprint, meat, fish, and live cattle.<sup>6</sup> Most of the buildings were demolished in the 1970s, and the site of the original goods station is now occupied by Sir Colin St John Wilson's British Library (1978–97).<sup>7</sup> At time of writing (final revision: January 2005), portions only of the screen wall remain, few of them to their full height, and only here and there, notably along the west side of Pancras Road north of the junction with Midland Road, is it still possible to capture *something* of the 'unemphatic red bricks and hypnotic arcading' which so impressed Ian Nairn and reminded him of 'bricky Leicestershire' – appropriately enough in view of where the bricks came from (see below).<sup>8</sup>

The frontage on Euston Road (fig. 2) was long and low: centrally was a range of twelve segmental-pointed arches and at each end was a slightly projecting pavilion-like section with a larger segmental-pointed arch; the 'pavilions' formed corner-pieces with matching arches in the return faces on Midland Road and Ossulston Street. There was a parapet along the full length. Williams described the frontage as 'tastefully ornamented with Mansfield stone, and the brilliant Oxfordshire red brick for the "gauged" work in arches and quoins'.<sup>9</sup> The side walls were in a

related style, giving the whole a Gothic appearance, consonant with, though simpler than and thus not competing with, Scott's hotel. A similar style, though without the gauged work, was adopted for the screen wall around the rest of the large site. The red bricks from Oxfordshire will have been of a homogeneous and fairly soft type, suitable for cutting and rubbing: they were probably from the Vale of Oxford, the centre of the county's traditional brickmaking industry.<sup>10</sup> Most of the facing of the buildings and screen wall was in much harder red bricks, entirely unsuited to cutting and rubbing. Williams described the screen wall as 'about 30 feet [9.1 m] high by nearly 3 feet [0.9 m] thick, and nearly 3,250 feet [990 m] in length. It is faced with Leicestershire red brick, the inner portion being of Staffordshire blue [engineering] bricks set in cement [rather than lime mortar], about 8,000,000 bricks being used'.<sup>11</sup> Blue engineering bricks are indeed used for the inner faces of the extant portions, although occasional features, such as the backs of niches, are (or were) of red bricks; engineering bricks are also used in various locations in the predominantly red external face. In all extant portions, both red and blue bricks are laid in English Bond.

The late Professor Jack Simmons stated that the red bricks of the goods station walls are 'of an unusually small size'.<sup>12</sup> In fact, those on the south side of Brill Place (formerly Phoenix Road) measure  $9 \times 4\frac{3}{8} \times 2\frac{1}{2}$  in ( $229 \times 111 \times 63$  mm) whilst those in Purchase Street are slightly thicker at  $9 \times 4\frac{3}{8} \times 2\frac{3}{4}$  in ( $229 \times 111 \times 70$  mm), both of these being fairly standard sizes at the time and certainly not 'unusually small'. But perhaps he was thinking of the now lost bricks in the gauged-work portions of the main goods building, which would have been rubbed to a smaller than normal size. Rather more perplexing is a remark in an essay by (Sir) John Betjeman, which contains a number of slips and in which he first misattributes the goods station to Sir George Gilbert Scott and then adds that 'he had bricks specially made of varying sizes. You may see in the screen wall of the building ... that the bricks grow smaller as they go higher, giving an effect of solidity to the wall'.<sup>13</sup> This is, of course, inherently unlikely – indeed, it would be unparalleled so far as I am aware – and in any case is certainly not true of the sections of the wall in Ossulston Street, Pancras Road, Phoenix Road/Brill Place, and Purchase Street. Betjeman was perhaps misled by an optical illusion – possibly by looking at photographs rather than at the wall itself.<sup>14</sup> With the slightly thinner bricks five courses take up 1 ft  $1\frac{3}{4}$  in (350 mm); with the slightly thicker bricks five courses take up 1 ft 3 in (380 mm); the engineering bricks are of the same dimensions as the *thicker* red bricks.

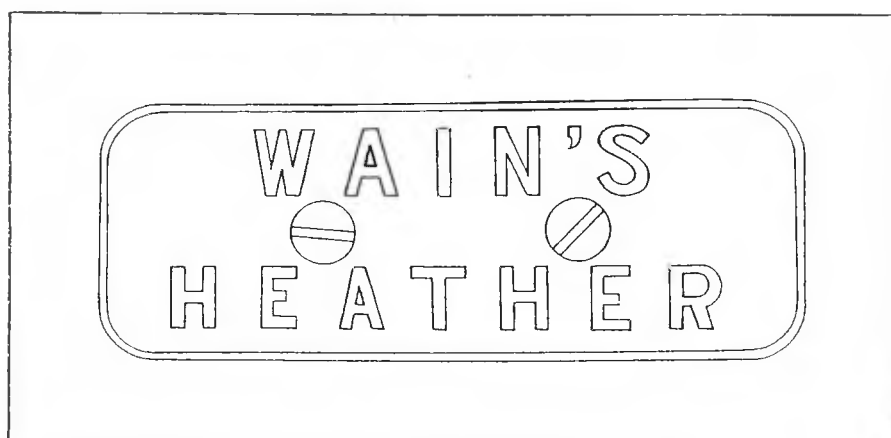


Fig. 3 Red brick made by Wain's of Heather, Leics.: measured drawing (scale  $\frac{1}{2}$ )

The late Martin Hammond suggested that the red facing bricks were ‘most probably supplied by Tuckers of Loughborough’.<sup>15</sup> It was to this Leicestershire firm, G. Tucker & Son, that Edward Gripper turned to augment his own products when his brickyard at Mapperley, Notts. was unable to meet the huge demands for building the passenger station and hotel.<sup>16</sup> It may well be that Tuckers supplied *some* of the goods station bricks. But at least one other firm was involved in that supply. Where a section of the wall had been partly demolished in Purchase Street it was possible (in August 2002) to examine some of the bricks *ex situ*.<sup>17</sup> The red bricks observed, which were clearly machine-made products, have a shallow rectangular frog with rounded corners in each bed face. One frog is stamped **WAIN’S / HEATHER** in bold sans serif capitals (fig. 3). Between the two words are the marks caused by the heads of the screws holding the ‘kick’ (a negative of the frog) within the mould; the frog in the opposite face shows the screw-head marks but is not impressed with the name and place of manufacture. The bricks, then, were manufactured at Wain’s brickyard in the village of Heather, close to the better known (in brickmaking terms) Ibstock, Leics. The railway station, Heather and Ibstock, which served the brickyard was on a line operated jointly by the London & North Western Railway and the Midland Railway itself.<sup>18</sup>

Some of the engineering bricks have a shallow hourglass-shaped frog with a screw-head mark in each ‘bulb’ and, within the central constriction, a monogram in raised letters which appears to be made up of two conjoined Bs, one of them reversed, within a larger seriffed C (fig. 4). The frog measures overall  $6\frac{1}{2} \times 2\frac{3}{8}$  in ( $165 \times 60$  mm), with the constriction being  $1\frac{5}{8}$  in (41 mm) across; the monogram measures overall  $1\frac{1}{2}$  in long by  $1\frac{1}{8}$  in high ( $38 \times 27$  mm).

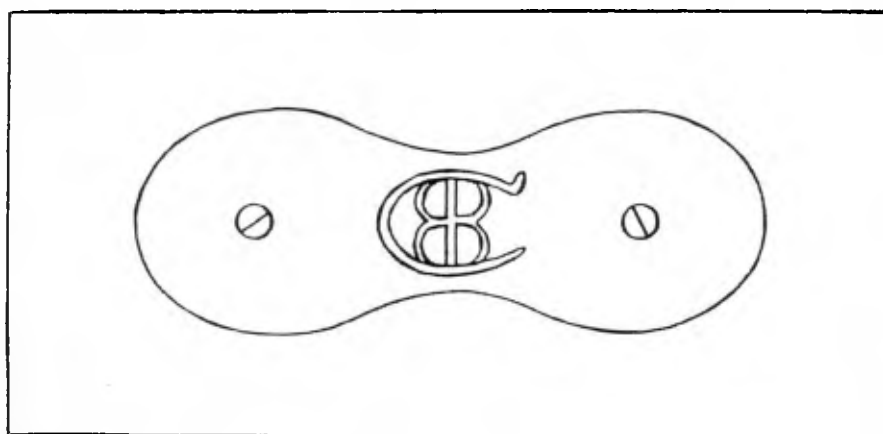


Fig. 4 Blue engineering brick with monogram, apparently BBC: measured sketch (scale  $\frac{1}{2}$ )

Presumably this stands for B—— Brick Company, and it is tempting to suppose that the first word is *Butterley*. The Butterley Brick Company was a subsidiary of the company which supplied the extensive ironwork for the train shed. Butterley certainly produced engineering bricks at a later date, although the official history of the company is not clear about when manufacture began.<sup>19</sup> Others of the engineering bricks have an off-centre rectangular frog,  $6\frac{1}{2} \times 2\frac{1}{8}$  in ( $165 \times 54$  mm) in one bedface filled with a diagonal lattice pattern; it is difficult to interpret this as other than a mortar key. The source or sources of the engineering bricks have not been identified, though they will have come from the Coal Measures, presumably in Staffordshire as Williams states. The Midland Railway’s lines reached close to this area, although it was actually served by different companies, principally the London & North Western and the North Staffordshire, both of whose lines connected with the Midland’s.<sup>20</sup> Such bricks were valued in engineering works because of their high crushing strength and low porosity. Their

strength also made them suitable for the angles of openings, particularly where there was considerable industrial or commercial traffic, which might sometimes knock against the angles. But they were also favoured by some for the colour contrast which they could provide, even where strength was not an important consideration.

Red brick specials in the extant walls of the goods station include bricks with roll mouldings, voussoirs with similar mouldings, and bricks with stops for the rolls. The hoodmoulds, which are returned at springing-level as strings along the wallface, are in places of quite elaborately moulded engineering bricks (though in other parts, for example along Ossulston Street, they are of stone). Engineering bricks are also used for the plinths of the walls.<sup>21</sup>

## Notes and References

1. G.A. B[oyes], 'Freight Traffic', in J. Simmons and G. Biddle, eds, *The Oxford Companion to British Railway History from 1603 to the 1990s*, Oxford and New York, OUP, 1997, p.169. For the establishment of the Railway Clearing House: P.S. B[agwell], 'Railway Clearing House', in the same volume, p.412. Britain took over from road and canal transport the term 'goods', in contrast with the Americans, who adopted the shipping term 'freight'. The American term has predominated in Britain since 1948, although the older term is still also used.
2. For a succinct treatment: J. Simmons, *The Victorian Railway*, corrected edn, London: Thames & Hudson, 1995, pp.42–5.
3. W.H. Barlow (1812–1902, the engineer of the train shed) in *Minutes of the Proceedings of the Institution of Civil Engineers*, 30, 1869–70, 79; as W.J. Gordon nicely put it, 'the unit of the whole fabric was really a barrel of beer': quoted in C. Hamilton Ellis, *The Midland Railway*, 4th edn, London: Ian Allan, 1961, p.35.
4. J. Simmons, *St Pancras Station*, revised edn with new chapter by R. Thorne, London: Historical Publications, 2003, p.91. The goods station replaced an earlier one slightly further north at Agar Town.
5. F.S. Williams, *Williams's Midland Railway: its Rise and Progress: a Narrative of Modern Enterprise*, 7th edn, 1888, reissued with new introduction by C.R. Clinker, Newton Abbot: David & Charles, 1968, p.467, together with 'Addenda and Corrigenda', unnumbered p.viii (counting title page as p.i).
6. Williams, 1888, pp.466–7.
7. B. Cherry and N. Pevsner, *The Buildings of England: London 4: North*, London: Penguin Books, 1998, pp.372–5. For a brief description of the goods station one has to go back to the first edition, which praises 'the good honest brick and glass architecture of the long side of the St Pancras Goods Station' in Ossulston Street: N. Pevsner, *The Buildings of England: London except the Cities of London and Westminster*, Harmondsworth: Penguin Books, 1952, p.370.
8. I. Nairn, *Nairn's London*, Harmondsworth: Penguin Books, 1966, p.106.
9. Williams, 1888, p.468.
10. A. Clifton-Taylor, 'Building Materials', in J. Sherwood and N. Pevsner, *The Buildings of England: Oxfordshire*, Harmondsworth: Penguin Books, 1974, pp.409–10.
11. Williams, 1888, p.468.
12. Simmons, 2003, p.91; the remark is taken over unchanged from the first edition: London: George Allen & Unwin, 1968, p.62.
13. J. Betjeman, 'London Railway Stations', in *First and Last Loves*, paperback edn, London: Arrow Books, 1960, p.88; apart from its inaccuracy, the phrase 'grow smaller' is peculiarly inept for a literary man. Betjeman's statement and his attribution of the building to Scott are followed in N. Welbourn, *Lost Lines: London*, Shepperton: Ian Allan, 1998, p.19; this latter includes, at p.21, a 1997 photograph of a remnant of the goods station.
14. This is less unlikely than one might at first suppose: the very essay in which the statement occurs begins, ominously, with the announcement that the author 'prefer[s] to *imagine* the station [at South Hampstead in this instance]' (p.81, my italics); he then goes on to 'describe' the station not as it was – on his own admission he had never got on or off a train there – but as he liked to think it might have been if he *had* seen it! But I do not want to be critical only: Betjeman did, after all, leave us all those delightful poems,

including one, in imitative and evocative trochees, which mentions a train, at Kentish Town, which must have just steamed out of St Pancras: 'Rumbling under blackened girders, Midland, bound for Cricklewood, / Puffed its sulphur to the sunset ...': 'Parliament Hill Fields', in J. Betjeman, *Collected Poems*, 4th edn, comp. The Earl of Birkenhead, London: John Murray, 1979, p.85, lines 1-2.

15. In an unpublished note sent to David Kennett and forwarded to me.

16. R. Christian, *Butterley Brick: 200 Years in the Making*, London: Henry Melland for Butterley Brick Ltd, 1990, p.180. K.U. R[atcliffe], 'Bricks, Use of', in Simmons and Biddle, 1997, p.44, states that the goods station bricks were made by Gripper's; but there seems to be no evidence for this, and the assertion is at variance with Williams' statement that the red bricks came from Leicestershire.

17.. Only the plinth of engineering bricks, now surmounted by a metal fence, remains of this section (January 2005). The wall bordered a public open space and it is hard to see why it had to be demolished: with its open arcading safely consolidated it would have

formed an attractive feature. I suppose demolition was cheaper.

18. W.P. Conolly, *British Railways Pre-Grouping Atlas and Gazetteer*, 5th edn, Shepperton: Ian Allan, 1967, p.16. Originally, the station was known simply as Heather: T. Dewick, *Complete Atlas of Railway Station Names*, Hersham: Ian Allan, 2002, map 16.

19. Christian, 1990, p.187.

20. Conolly, 1967, p.15.

21. This contribution is based in part on work initially carried out (in August 2002) in connexion with my duties with Museum of London Specialist Services for Museum of London Archaeology Service: A. Westman with T. Smith, *St Pancras Station, Midland Road and Pancras Road, and former Somers Town Goods Depot, Midland Road, Brill Place and Ossulston Street, London NW1, London Borough of Camden: a standing building survey report: Site code: PNC01*, unpublished archive report, revised version, Museum of London, 2005.

## BRICKWORK OF THE GREAT CENTRAL RAILWAY

Martin Hammond

### INTRODUCTION

The Great Central Railway was the last main line to be built in England. Built between 1893 and 1899, this was conceived as a link between the industrial north and the Channel Tunnel via London under the guidance of Sir Edward Watkin. It was built to continental loading gauge, the only British railway to be so constructed. The company name was changed from the Manchester Sheffield and Lincolnshire Railway in August 1897 in connection with its imminent main line status. The line was formally opened at Marylebone Station on 9 March 1899 although coal and goods traffic had started in July 1898.

The Great Central Railway became part of the London and North Eastern Railway in the railway reorganisation of 1922 following the First World War. A parliamentary bill in 1907 to amalgamate three of this company's future constituent parts, the Great Northern Railway, the Great Eastern Railway and the Great Central Railway, had failed to receive approval. With the nationalization of the railways on 1 January 1948, the Great Central Railway became one of three lines between Manchester and London. It was closed in 1957.

Parts have been re-opened as a preserved steam railway, named the Great Central Railway, running trains on the Leicester to Loughborough section. This has plans to reopen a further section north of this to Ruddington, just south of Nottingham. At the time of his death, the writer was the architect to the preserved steam railway.

These notes deal with the sources and uses of brick in the building works of the Great Central Railway. They are designed to expand the comments made by David Kennett in his more general account of brickwork in the public sphere between 1895 and 1914 which appeared in *British Brick Society Information*, 83, February 2001.

The discussion is arranged by type of structure: viaducts and permanent way structures precede stations and hotels. A north to south approach is taken as the original Manchester, Sheffield and Lincolnshire line was in northern England.

Some earlier notes have appeared in the appendix on 'Edward Parry: Railway Bridge Builder' in an article on 'Masonry Skew Arch Bridges' in *British Brick Society Information*, 53, July 1991, an article which includes details of some of Edward Parry's other achievements.

## **VIADUCTS AND PERMANENT WAY STRUCTURES**

The Great Central Railway was built to continental loading gauge and designed for high-speed running: it was the first railway to offer trains at a mile a minute (60 mph). Most of the engineering structures designed by Edward Parry for the line were faced with blue brindle bricks. As with other lines this engineer designed the permanent way had an elegant well-proportioned simplicity. Viaducts and other structures were noted for their fine durable construction which has made their dismantling all the more difficult, with the result that many survived the shameful closure of this finely engineered line.

Edward Parry (1844-1920) was engineer for the northern section of the line from Annesley, 12 miles north of Nottingham to Rugby Central. The southern section to Marylebone, which includes the deep cutting at Helmdon, Northants., was engineered by Sir Douglas and Francis Fox, with H.W. Braddock as architectural consultant, who was involved in designing the stations including Marylebone.

North of Loughborough, on the eastern side of the town, is the Loughborough Meadows Viaduct, of eleven arches, crossing the River Soar. The line crosses the county boundary between Leicestershire and Nottinghamshire no less than five times as it followed the old winding course of the river. Along the county boundary the river course has been straightened.

Parts of the viaducts in the town centres of Leicester and Nottingham have been demolished. That which took the twin track of the Great Central Railway over the many lines at Midland Railway's Nottingham station can be seen ending at platform one on the north side of the Midland Railway's station.

On the viaducts the blue brickwork was only skin deep. The core of the viaduct was locally made common bricks. The brickwork is in English bond, the facing being alternate courses of headers and stretchers bonded into the common brickwork. It is my understanding that most of the blue bricks, which account for about a quarter of the brickwork in the engineering structures, came from the Nuneaton and Tamworth areas. These are areas producing blue bricks which are closest to the line; sources further away are the west Midlands and the Stoke-on-Trent area. Facing bricks on the northern section of the Great Central Railway were supplied by Nottingham Patent Brick Company, now Ibstock Brick Nottingham; by G. Tucker and Son, Loughborough, who like Nottingham Patent Brick also provided bricks for St Pancras. A third supplier to the Great Central Railway was Wains Heather, now Hanson Brick Heather works, Leicestershire.

## **STATIONS AND HOTELS**

On 24 March 1900, Nottingham Victoria, used jointly by the Great Central Railway and the Great Northern Railway, was formally opened. In the centre of the original front was a clock

tower, which still survives in the present day shopping centre. The station frontage is faced with Nottingham Patent bricks with Derbyshire gritstone dressings. A.E. Lambert has been claimed as architectural consultant for the building but Edward Parry's office seems to have had its own in-house architects.

As architect to the preserved Great Central Railway, in 2003, I was engaged in drawing up plans for the refurbishment of Loughborough Central Station. The booking hall/office building was built in 1898 in the Elizabethan style, using G. Tucker and Son's pressed facings and Derbyshire gritstone dressings. The plan, about 11 metres square and devoid of internal load-bearing walls, is covered by a slated double-pile roof supported at the valley by a pair of steel joists. The design would appear to be a continuation of a local tradition in the east Midlands, such as the house at Kingshaugh, Dalton, Notts., visited by the society in September 2000 (see the report of the visit in *BBS Information*, 82, December 2000, which notes other examples in the area ).

Marylebone Station, for which H.W. Braddock was architectural consultant, is faced with 'Redbank' pressed facings made by the predecessor of the present Redbank Manufacturing Company of Measham, near Burton-on-Trent, Staffs.

The Great Central Hotel, 222 Marylebone Road, London, was built by Sir John Blundell Maple and Co to the design of Col. Robert Edis, under an agreement with the Great Central Railway. The railway company could not afford to build it themselves. The London Extension was seriously over budget. After 1939 it became the headquarters building for British Railways. It was known to railwaymen as 'The Kremlin'. In 1989-93, the hotel was completely refurbished at a cost of £148 million and reopened as the Regent London Hotel.

## *APPENDIX*

### **BRICK ON THE GLOUCESTERSHIRE AND WARWICKSHIRE RAILWAY**

During the decade after the building of the Great Central Railway, one of the companies with which it co-operated to run long-distance cross-country trains, the Great Western Railway built a series of cut-off lines designed to shorten distances on the Great Western routes between major centres. One of these was the new line between Honeybourne Junction and Cheltenham designed to cut journey times between Birmingham Snow Hill and Bristol Temple Meads.

The line between Honeybourne and Cheltenham was opened in August 1906 but was closed in 1969. Part has been preserved as the Gloucestershire and Warwickshire Railway which has its headquarters at Toddington station, Glos.

The line has several major engineering structures including Greet Tunnel (693 yards) which is now the longest tunnel on a preserved railway. It is a double-track tunnel but has only a single track tunnel running through it. It has a gentle curve throughout its length so it is not possible to see through it. As on the Great Central the brickwork of the tunnel is of common bricks faced with blue brindle bricks, total thickness three bricks (70 cm). I am told that the commons were made at a works long since closed which was situated just north of the village of Greet (grid ref SP 025305). The works had a Hoffmann kiln and two beehive downdraught kilns.

Toddington Station is typical of the late-nineteenth-century house style of the Great Western Railway for country stations. Winchcombe Station was flattened when the line was closed. It has recently been rebuilt using stone from Mitchel Troy station in the Forest of Dean.

#### *Editorial Note:*

The late Martin Hammond read the proof of these articles prior to his death on 19 October 2003.

## BRICK IN PRINT

In Summer and Autumn 2004, the Editor and the Chairman of the British Brick Society received notice of a number of publications of interest to members of the society. This is a now regular feature of *BBS Information*, with surveys appearing usually twice in a year. Members who are involved in publication or who come across books and articles of interest are invited to submit notice of them to the editor of *British Brick Society Information*. Web sites are also included. Unsigned contributions in this section are by the editor.

DAVID H. KENNETT

1. Stewart Abbott, 'Dom Paul Bellot ORB, Twentieth-Century Monk Architect and Quarr Abbey, Isle of Wight',  
*Ecclesiology Today*, 33, May 2004, pages 15-25.

Quarr Abbey, on the Isle of Wight, was built in 1907 for a community of Benedictine monks, forced to flee their abbey at St Pierre de Solesmes in France because of the French anti-clerical laws of 1901. The architect, Dom Paul Bellot ORB, was a member of the community who, before joining it, had studied architecture at the École des Beaux Arts in Paris. His chosen material was brick, of a hard texture in pink, light red, pale yellow, and a richer red, specially imported from Belgium. The bricks used decoratively, externally and internally, to create such architectural features as corbel-tables, stepped gables, and the striking open-work ribbed vaulting over the sanctuary. In the church, the use of coloured-brick decoration increases from nave to chancel. In this article, the author emphasises the effect of Bellot's Christian faith and monastic vocation on the design. He also, taking his cue from a 1967 essay by Sir Nikolaus Pevsner, attempts to locate the architectural influences, which are found in northern France, Belgium and Spain. An endnote mentions the possibility of further influence from the brickwork of the Amsterdam School architects. Following Pevsner again, the author sees the building as forward-looking, for all its historical references. This is surely correct, although it would be a pity to follow Pevsner's Procrustean attempt to fit the building into a quasi-evolutionary scheme in which all such buildings are seen as 'Pioneers of Modern Design'. Quarr Abbey, and its architect, deserve more subtle analysis than that. The article is illustrated with six black and white photographs.

T.P. SMITH

2. Bryan Day, 'Brickmaking in Crondall before 1838',  
*The Crondall Society News*, Spring 2002, pages 10-15  
Bryan Day, 'Brickmaking in Crondall Part 2',  
*The Crondall Society News*, Autumn 2002, pages 17-29.

BBS member Bryan Day has produced an account of the brickworks of his own parish, Crondall, Hampshire, where nine brickworks operated at various times in the nineteenth century. The first article considers general developments in brick before 1838, the date when the London and Southampton Railway was built across the northern part of Crondall. The second article considers Victorian and twentieth-century developments, including the demise of local brickmaking due to increased competition from large-scale producers.

Early brick buildings in the parish include two demolished early-sixteenth-century brick manor houses and the tower of All Saints' Church in 1659 (see *BBS Information*, 77, June 1999). Itchel Manor was rebuilt in brick in 1680 and elsewhere, façades were reconstructed in brick in the eighteenth century.

The Basingstoke Canal reached Crondall in 1793: Zephon Common and Lowday House brickworks are both near it. However, the main spur to the development of a brickmaking industry was the arrival of the railway in 1838. Seven of the nine brickworks of Crondall are given extended treatment, including reference to the clay used and details of the operators, and in the case of the Heath Lane Brickworks, the names of employees also. This became part of Redland Brick because of the same scale of the works, primarily by then a tiler, the works had to close.

It is hoped that a future issue of *British Brick Society Information* will contain an article on these works.

BRYAN DAY kindly provided copies of these articles

3. Isle of Wight Industrial Archaeology Society, 'Isle of Wight Brickmaking'  
website available at: <http://freespace.virgin.net/roger.hewitt/iwias/bricks.htm>

A succinct account with many illustrations, this website has sections on brickmaking methods, dating bricks, some island brickmakers, examples of island brickwork, and list of brickmaking sites. The introductory section has useful notes on different kiln types with diagrams. The illustrations include brickwork at the Old Manor, Nettlestone, of 1580; mathematical tiles at Nunwell House; a downdraught kiln at Newport; and Quare Abbey.

Island brickmakers include the Pritchett family with brickyards in various places whose firm lasted from the 1760s to the closure in 1974 of the last remaining yard on the island, Rookley Brickworks. Among their products was a splendid dragon finial. Predecessors of the Downend Brick Manufacturing Company were working in 1861; this firm continued until 1959. There was a brick kiln shown on an estate map of Werrar made in 1812 but continuous activity there is noted from 1866 to 1958. Jacob Kent made bricks at Shanklin from 1869 until his death in 1913. Another brickmaking family who ceased working before the Great War was the Pragnall family at Newtown, who were indirectly the successors to the brickworks set up by the architect John Nash when he built his own house on the Lower Hampstead estate on Newtown Creek. The Brickfield Cottage of the Pragnall family and one of their barley twist chimneys are illustrated.

ALAN COX kindly provided a printout of the website.

4. Tim Knox, 'Strawberry Hill, Twickenham',  
*Country Life*, 12 August 2004, pages 35-39, with additional photograph page 26.

Strawberry Hill in Twickenham is an unsung gem. He began the place where the fashion for Gothick, the attempt to up-date a medieval ecclesiastical style into a workable domestic bliss for the eighteenth-century. After renting the place for a year, Horace Walpole bought the site in 1748 and recast and extended the existing small ordinary house into a "little Gothic castle"; there were three building phases to Walpole's work: the first from 1748 to 1753, the second between 1758 and 1766 and a final one after 1772 ending in 1776. Walpole lived there for another twenty years and the remarkable contents survived intact until they were sold over a thirty-two day period in 1842.

Frances, Countess Waldegrave, widow of the seventh earl, rejuvenated Strawberry Hill between then and her death in 1879. In 1923, it was bought by the Society of St Vincent de Paul for use as a teacher training college. St Mary's College was originally for men and now flourishes as part of the University of Surrey. Strangely, it is this later use which has preserved the interiors because the Vincentians could not spend their resources on the preservation of the building.

Now with a preservation group, the Friends of Strawberry Hill, one of the constituent bodies who formed the Strawberry Hill Preservation Trust, Horace Walpole's villa is to be

restored and opened to the public. Other areas of the building such as the service wing designed by James Essex and James Wyatt and the additions made by Lady Waldegrave are to be repaired in the second phase of the work. These will be leased back to St Mary's College.

Strawberry Hill has a high profile. Adopted by the World Monuments Fund in Britain as a major project and nominated as one of the World's 100 Most Endangered Historic Sites, it was one of three buildings from South-East England in the 2004 series of *Restoration*. A further account of Strawberry Hill can be found in Philip Wilkinson, *Restoration the story continues ...*, London: English Heritage, 2004, pages 60-67. There are tours, for pre-booked groups; the Visits Co-ordinator of the British Brick Society hopes to arrange a visit.

5. Peeyush Sekhsaria, 'Woodless Construction',

*Resurgence*, No. 227, November/December 2004, pages 59-60.

Niger is a landlocked country in west Africa, part of the semi-arid Sahel. Following the drought of 1968 to 1974, the International Union for the Conservation of Nature (IUCN) launched Woodless Construction in Niger. Since 1994 this has been funded by the Danish International Development Agency but this ten-year funding ended in 2004.

The first structure designed in 1980 was a primary literacy centre at Chical, which had to be rebuilt after a fire. It and the many successors use adobe brick, the local sun-dried earth brick. Since 1986, the majority of the buildings of Iferouane have been built by local masons using these techniques and materials.

By using adobe the local masons save money: a concrete block health centre with a galvanised sheet roof costs US\$9,000; in adobe the same primary care health centre costs half of that, only US\$4,500. In addition fire risk is minimised because adobe can be used to make domes and vaulted roofs which are cool in summer, and thatch is not employed. In contrast, the structures with galvanised sheet and concrete block walls are uncomfortable and unhealthy. A school principal in Agadez fled from concrete and sheet metal classroom to the cool of one of adobe and domes. Another advantage is that repairs can be done easily and by trained local masons.

As the name, Woodless Construction, implies, one of its aims is to conserve vegetation. One adobe house saves the equivalent of four hectares of vegetation. In nearly twenty years, the buildings of Iferouane have saved roughly 7,700 hectares of forest and in 2002, the use of woodless construction techniques throughout Niger saved 74,000 tonnes of timber, equivalent to 1,500 hectares of scrub and semi-forest, thus combatting desertification.

The forester, Salifou Mahamadou, who is director of the Woodless Construction Project understands all too well the link between the destruction of trees and the southward spread of the Sahara Desert.

6. Terence Paul Smith, 'Late Medieval Bricks and Brickwork of London Wall in Saint Alphage Garden, EC2',

*London Archaeologist*, 10, 10, Autumn 2004, pages 255-263.

In 1477, Sir Ralph Jocelyn, Mayor of London, ordered the repair of part of the wall around the City. He also ordered bricks to be made and lime to be burned (for mortar) in Moorfield for use in this work. Most of the resulting work has been destroyed, but a small section survives in St Alphage Garden, now within the Barbican complex. It is of redbrick with black diaper pattern on the inner (south) face and with stone copings to the embrasures and merlons. This article first discusses the defensive nature of the work, arguing against the view sometimes encountered that the primary function of English medieval town walls was to serve as expressions of civic pride.

The bricks, which are of quite large size are then considered the various characteristics - crease marks, strike-marks, squodge marks, and sunken margins - are explained and aspects of their manufacture are discussed. The article finishes with a consideration of the bricklaying, noting the thickness of mortar joints, the use of English Bond, and the fact that in this case the diaper pattern is created using accidentally overfired bricks. Throughout the article an attempt is made to view the various aspects against a wider background.

T.P. SMITH (Author's summary)

## Brick and the University of Oxford:

### The British Brick Society Visit

On Saturday 2 October 2004, members of the British Brick Society visited Oxford, and specifically the late-twentieth-century brick buildings of the University and its colleges. The walking tour was arranged by Michael Hammett and the society's thanks are due to the Hon Secretary for the hard work he put in to find so many hidden gems and examples of the use of brick in what is usually seen as the stone-built one of the two most senior English seats of learning.

We began in the nineteenth century with the earliest use of brick by the colleges. Keble College was a "middle class college", with no aristocratic pretensions, designed for the preliminary education of clergymen of the High Church variety in the Church of England. The original college and its chapel (Fig. 1) was designed by William Butterfield and his use of polychromatic brick contrasts with that of Sir George Gilbert Scott at St Pancras. The principal colour is red but the first late-twentieth-century extension to the college, the de Breyne and Hayward quadrangles of 1973-77 by Ahrends, Burton and Koralek uses buff brick. The two most recent buildings, both by Rick Mather - the Arco Building of 1996 and the Sloane Robinson Building of 2003 - return to red brick. Both make extensive use of stack bonding; both won awards from the Brick Development Association, the Sloane Robinson Building was 'Building of the Year' in 2003.

From the most recent use of brick, we turned to the earliest, the interior of the Natural History Museum by Benjamin Woodward of the Dublin practice of Deane and Woodward. Built between 1855 and 1860, the exterior is stone. Internally, there is a polychromatic sheen to the walls, blending brick and stone, with iron for the columns which hold up the roof.

Apart from the first building, the Dyson Perrins Laboratory of 1913-16 by Paul Waterhouse, and one non-university building, the garage built by Merton College on Longwall Street for its tenant, William Morris, in 1912, the afternoon was devoted to the exteriors of buildings of the last forty-five years, many still to achieve a decade of use.

From the early 1960s are Arne Jacobsen's original work at St Catherine's College in buff brick and Albert Richardson's work at St Hilda's College. A contemporary work is University Law Library by Leslie Martin and Colin St John Wilson who also use buff brick. Very much in contrast is the red brick and plate glass Florey Building of 1968-71, designed by James Stirling as an accommodation block for Queen's College but on the London side of Magdalen Bridge. Too much glass, insufficient privacy, the building is wretched in the extreme: it looks a mess when seen in the middle distance from the top deck of a bus let alone in close up. An external, non-structural timber frame characterises the near-contemporary Garden Building at St Hilda's College, the only all women's college surviving in Oxford. Despite the over use of glass, the building allows privacy for its undergraduates. Pater and Alison Smithson were the architects.

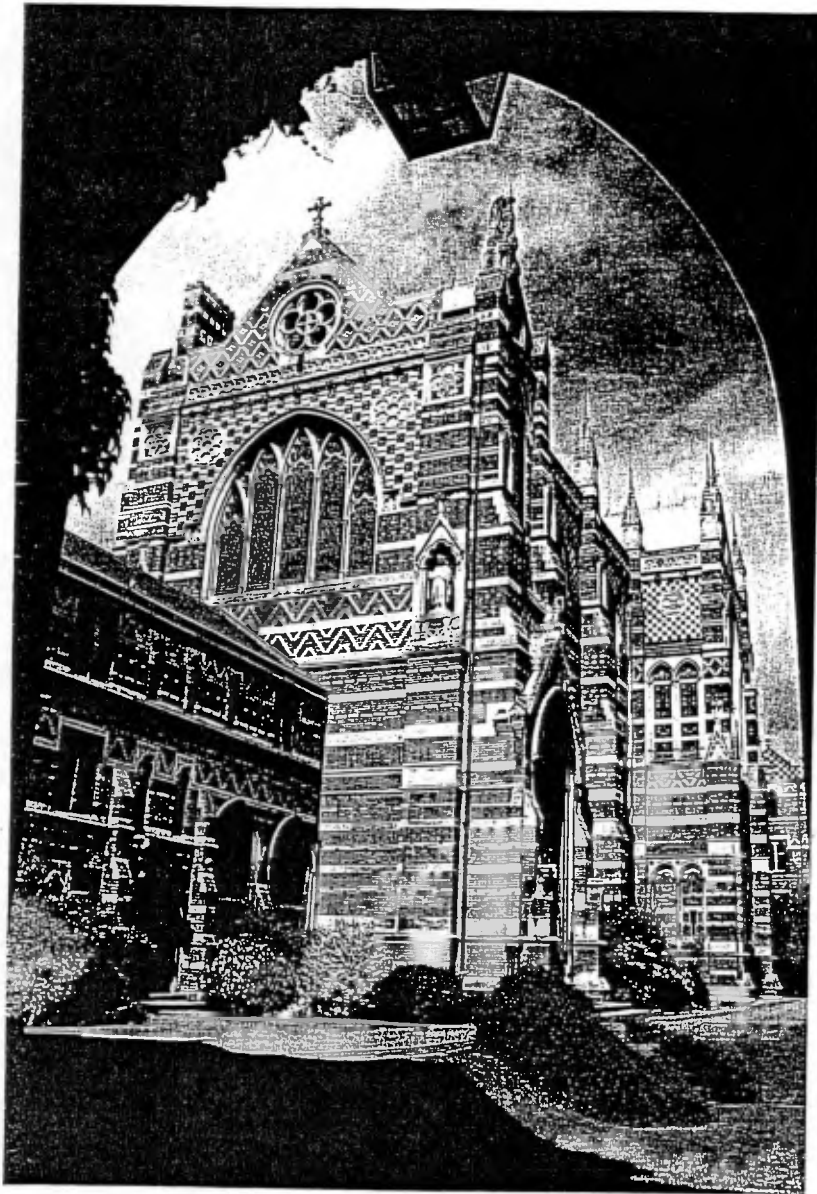


Fig. 1. Keble College, Oxford: the Chapel by William Butterfield, 1873-76.

Oxford has been building in the last ten years. The need to house an undergraduate body increasing in size, and a greater proportion of them, coupled with the growing dimension and promotion of Oxford as principally a research university, together with all that implies for an increasing number of research students, has meant that Oxford's individual colleges, who are the admissions authorities, have sought to expand their collegiate housing. Apart from the two red brick buildings by Rick Mather at Keble College, we saw no fewer than six buildings of 1995 or later. The new University Club by Robert Maguire Architects was in the process of completion but the structure of concrete blockwork was admired by some if not by all those present. Also in progress were the extensions to St Catherine's College by Richard Hodder Associates, using a similar buff brick to that chosen by Jacobsen. Just completed are the Jowett Building by MacCormac Jamieson and Pritchard for Balliol College, a street of residences overlooking the college's cricket ground. The street of the Bowra Building at Wadham College is an earlier exercise in the same idiom by the same architects, this time in yellow brick. On the other side of Jowett Walk is a further set of residences for Merton College, built as a street and

again using red brick. The Annexe for St Cross College and Brasenose College by Batterton Tyack Architects of 1996 has had time to bed down.

Similarly now very much part of its landscape is the Jacqueline Du Pré Music Building of 1995 at St Hilda's College by Joanna van Heyningen and Birkin Hayward, in buff brick, which was the last building to be seen.

DAVID H. KENNETT

## Brick Queries

From time to time, the British Brick Society receives enquiries about bricks, brickmaking, other ceramic building materials, and brick buildings. These are printed when space is available in *British Brick Society Information*. Responses are also included when these are forthcoming. Most of the present group have been sent to the Hon. Secretary, Michael Hammett.

DHK

### **GREAT CROSBY MACHINE BRICK COMPANY**

John Cochrane is compiling a history of Great Crosby, just north of Liverpool, and would be grateful for information about the Great Crosby Machine Brick Company (c.1885 to 1914), especially more precise dates, products, illustrations, interesting anecdotes, and examples of buildings built with their bricks.

JOHN COCHRANE  
6 Somerset Road  
Waterloo, LIVERPOOL L22 2BJ

### **WILTSHIRE BRICKWORKS**

Mrs Eileen Kenny's forebears were brickmakers in Wiltshire and she would like to receive information about the Hart Hill brickworks at Redlynch, south of Salisbury, and Crocketron brickworks, near Warminster.

Mrs EILEEN KENNY  
19 Poltondale  
Covingham, SWINDON, Wiltshire SN3 5BN

### **BRICKMARKS**

Queries about different brickmarks are frequently received. Can any member help with these so as to identify the manufacturers.

#### **1. G P B Co**

This enquiry comes from South Africa where this mark has been found on bricks used between 1860 and 1890 to build houses on the Durban waterfront which are now being restored. The lettering is in a rectangular, shallow, flat-bottomed frog. The pressed bricks are red, dense bodied and large, measuring 235 x 115 x 75 mm. They are thought to be from the United Kingdom, possibly Scottish in origin.

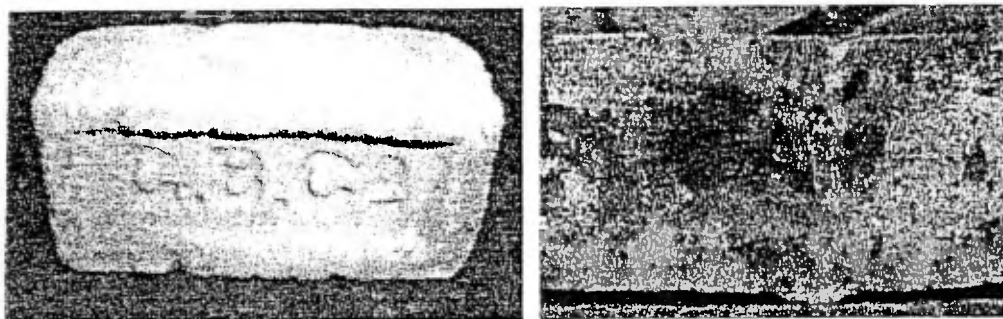


Fig. 1 a: Brickmark G.B.C° on a miniature brick from the U.S.A.

b: Brickmark G A ? or C A ? on a brick from High Wycombe, Buckinghamshire.

2. **G.B.C° (Fig 1a.)**

An American collector asks if we can identify the maker of this brick which he believes to be British. It is shown on a miniature examples and therefore the mark on a full-size brick might not be such a dominant design as in the picture. The brick is a consistent light buff colour, suggesting a fireclay material..

3. **G A ? or C A ? (Fig. 1b.)**

The owner of a house built in 1939 at Great Kingshill, near High Wycombe, Buckinghamshire, asks if we can identify this brick. It is a soft-mud stock facing brick typical of Buckinghamshire or Hertfordshire products. There seems to be only three letters, but they are indistinct. The first could be G or C; the middle one is fairly clearly A; but the last one could be B, P, R or another letter.

4. **LUCAS**

We have been asked about this mark before and two more enquirers are seeking help with identification. It is on a smooth buff bodied brick and in a shallow rectangular frog. The most recent findings have been on St Kitts and the Falkland Islands.

5. **---- Middleton, Leeds, England**

**--hionman Brick Co**

**SL 40% (impressed mark)**

The first and third of these were each on a firebrick and the second on an ordinary building brick. These two marks were found among others during the archaeological survey of the derelict site of a former limestone quarry and limeworks. The enquirer asks what the 'SL 40%' might signify.

**Replies to**

**MICHAEL HAMMETT**

9 Bailey Close, HIGH WYCOMBE Buckinghamshire HP13 6QA

## BRICKMARKS: SOME POSSIBILITIES

### 1. 'Woodwards Patent Pending'

A wording on Victorian grey-blue pavers (*BBS Information*, 95, November 2004, p.31) has been identified by Alan Cox as that used by the Tees Scoria Brick Company (c.1873 to 1966) of Middlesbrough. Its pavers were made from cast molten blast furnace slag. 'Patent Pending' suggests an early date. The molten slag was poured into cast iron moulds; when solidifies, the pavers were turned out and cooled slowly in a heated furnace. Made in various shapes and sizes, they are very hard and resistant to wear.

Slag pavers were developed as an alternative for stone setts for road surfacing and for many years they were widely used on Teeside and in other regions. They were also exported overseas. A few streets in Middlesbrough are completely surfaced with them and others exist beneath modern tarmac. They can also be found re-used as road drainage channels. Similar ones can be seen in Nottingham and York.

*Further notes are available from Michael Hammett.*

ALAN COX

### 2. 'S, B & T, Co Ltd'

These initials in a divided diamond imprinted on the bed of a dark red perforated brick found in a house in Bournemouth, built in 1902. (*BBS Information*, 95, November 2004, p. 31, with illustration) have been tentatively identified by Alan Cox as a mark of a Gloucestershire firm, the Stonehouse Brick & Tile Company (1891-1968). Its products were widely used and have been found as far distant as Bangor, Gwynedd, and High Wycombe, Buckinghamshire. Rail links from Stonehouse and Gloucester via the Somerset and Dorset Railway to Bournemouth and Poole were well used by brick producers.

Collaboration of this identification would be welcomed by the Hon. Secretary, Michael Hammett.

ALAN COX

## Changes of Address

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

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

## BRITISH BRICK SOCIETY MEETINGS IN 2005

Saturday 14 May 2005

*Spring Meeting*

Haywards Heath, Sussex

The meeting will include a visit to the Ibstock Works at West Hoathley and an opportunity to view the Ouse Valley Railway Viaduct, also known as the Balcombe Viaduct..

Saturday 18 June 2005

*Annual General Meeting*

At Thorsby College, King's Lynn, Norfolk

In the afternoon we hope to have the rare privilege of seeing the outside of East Barsham Manor at close quarters. The house was built in the reign of Henry VIII and has two versions of this king's heraldic device, including arms and supporters, in brick, one above the gatehouse and the other over the principal entrance.

Thursday 14 July 2005

*London Summer Meeting*

The Visits Co-ordinator of the British Brick Society has arranged a morning visit to Lambeth Palace for the benefit of those who were unable to come in 2004.

Saturday 20 August 2005

*Scottish Meeting*

Errol Brick Company, Perthshire

The Errol Brick Company make earth bricks. Errol, Perthshire, is on the north side of the Firth of Tay.

Saturday 15 October 2005

*London Autumn Meeting*

British Brick Society visits Brick Lane and other parts of East London and the eastern side of the City of London, beginning at Liverpool Street Railway Station and including buildings by Charles Harrison Townsend.

We also hope to organise a meeting in Leicestershire to visit the Hathern Terracotta Works and Loughborough in Autumn 2005.

The proposed *Northern Spring Meeting* in Boston, Lincolnshire has been postponed to a future date. Buildings here include Hussey Tower and Boston Guildhall, both built in the fifteenth century.

Details of the Spring Meeting, the London Meeting and the Scottish Meeting  
are in this mailing.

Papers for the Annual General Meeting will be sent out in May 2005

Full details and dates for future meetings will be given later in 2005.

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

*Suggestions of brickworks are particularly welcome.*

*Suggestions please to Michael Hammett, David Kennett or Terence Smith.*