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BRITISH BRICK SOCIETY

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DECEMBER 2000

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The British Brick Society website address is: http://www.britishbricksoc.free-online.co.uk/index.htm

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Cover Illustration:

Header Bond in grey brick with red brick window surrounds on an eighteenth-century house in Lewes.
The society visited Lewes as part of its Spring Meeting.

Editorial:
A Bonus for Members

This issue of *British Brick Society Information* has been produced as a bonus for members at Christmas 2000, to accompany the revised index to our journal, covering all issues up to and including *BBS Information,* **81,** October 2000, a suitable millennium present which it is hoped that members will appreciate.

The society's thanks are very much due to BBS mmber Pat Ryan for continuing to compile an index to our periodical.

The previous issue of *British Brick Society Information* contained the results of our Chairman's researches into the use of brick in the 1930s in what is the town in which both he and the editor were educated. Terence Smith has provided a much appreciated account of Luton and its brickwork in what R.H. Tawney called "the years which the locust devoured between the great depression and the tragic farce of Munich", *sc.* 1931-1938. Some of the information provided in the article was a revelation; it shows just how much detail can be discovered about brick and its uses in one place in a single decade of twentieth century. By taking over as editor for an issue, Terence has allowed me to re-charge batteries. It is a pleasure to thank him.

Work on *Brick Society Information,* **83,** is virtually complete and the issue should appear in late February 2001, containing the first article in the series on `Brick and its Uses in the Twentieth Century' covering `Britain 1895-1919: The Public Sphere'; the second article on `Britain, 1895-1919: The Private Sphere' will follow in *BBS Information*, **84,** June 2001.

Notes submitted on visits from the `Heritage Open Days, 2000' will also be included in *BBS Information,* **83,** February 2001. Many thanks to all who returned their proofs early so as to make it possible to produce two issues of *BBS Information* in relatively quick succession.

As this issue of *BBS Information* goes to press, the society has concluded the series of visits and meetings for the year 2000. On the way to the very successful visit to the Brighton sewers and the walk round Lewes, reported in this issue of *BBS Information,* the Editor stopped in Midhurst, West Sussex, where there are the remains of the mid-sixteenth-century stone- and brick-built Cowdray House and on the exterior of the Post Office in the main street a Jubilee Plaque commemorating sixty years of Queen Victoria's reign, a feature which continues to excite members as the brief note opposite illustrates.

DAVID H. KENNETT
Editor, *British Brick Society Information*
7 December 2000

Book News

Martin Hammond writes to say that the fifth edition of his *Bricks and Brickmaking,* published in the Shire Albums series by Shire Publications, will be coming out in Spring 2001.The book will be twenty years in print.

Jubilee Plaques

Further jubilee plaques (see *BBS Information*, **81**, October 2000) have been reported.

Roger Kennell reports one in a front gable of a pair of semi-detached houses on Agate Road, Clacton-on-Sea, Essex, close to the sea front.

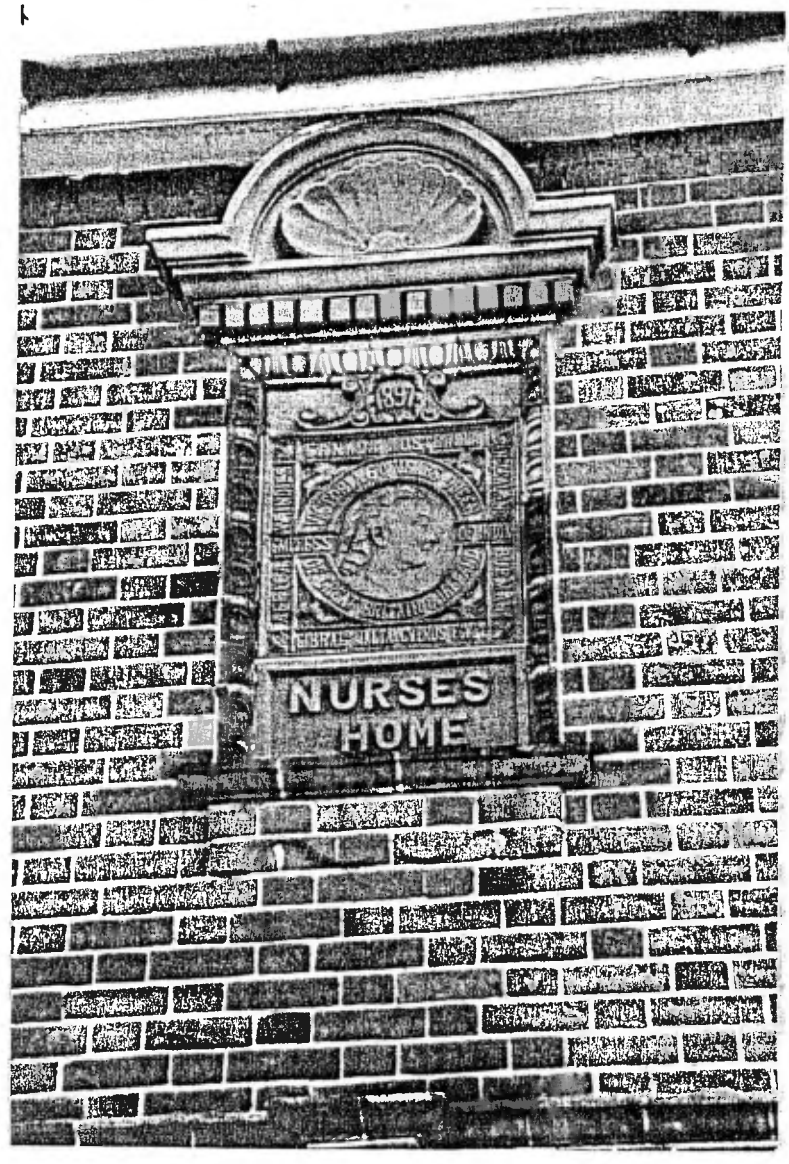

Fig. 1 The Jubilee Plaque on the former Nurses Home at Beccles, Suffolk.

Both Roger Kennell and Verity Montagu have reported one on a former Nurses Home, now a private house, in Fair Close, Beccles, Suffolk, which is opposite the Bowls Green and close to the public library. This is in extremely fine condition; as the photograph shows (fig. 1).

Writing from memory, not from a visit to the city, the former Nurses Home on the Crescent, Salford, opposite to the main campus of the university, has a terracotta plaque proclaiming its function and date of construction, 1897, but not, as far as David H. Kennett can recall, this type of plaque. The building now houses the Working Class History Library, maintained by the City of Salford.

ROGER KENNELL
VERITY MONTAGU
DAVID H. KENNETT

Brick for a Day in 2000

The British Brick Society was exceptionally active throughout the spring, summer and autumn of the year 2000. Five meetings were held:: a Spring Meeting in Sussex on 20 May; the visit to Kew Palace after the Annual General Meeting on 10 June; a Summer Meeting in Essex on 22 July; an Autumn Meeting in Nottinghamshire on 22 September; and a Late Autumn Meeting at Glyndebourne, again in Sussex, on 11 November.

The thanks of the British Brick Society are due to those who organised these meetings: Michael Chapman and Michael Hammett in Nottinghamshire, Michael Hammett at Kew Palace, and David H. Kennett for the two meetings in Sussex and that in Essex. Thanks are especially due to BBS member Andrew Langridge who suggested both Brighton Sewers and Glyndbourne.

Reports are included in this issue of *British Brick Society Information* of the Spring, Summer and Autumn Meetings. It is hoped to include reports on the other two in a future issue.

BRIGHTON SEWERS

Our day began with use descending into the bowels of the earth to view the famous Victorian sewers ... brick-built, of course, hence the society's interest.

After a short video presentation, with hard hats and protective gloves donned, we were taken in groups to various parts of the sewers. Although quite cavernous, and at the time of our visit running sedately in the appointed channels, it was a little daunting to know that at times of great rainfall, these huge brick tunnels can fill with water.

All credit to the Victorian engineers who designed the system, saving the renowned bathing beach from the unfortunate doses of sewerage it was suffering as the town grew. Only comparatively recently has the system had to be upgraded again by the formation of a massive concrete relief tunnel.

I was interested in the yellower, harder-looking bricks which formed the floor of the old tunnels. Our Southern Water guide suggested that it was the result of water running over the surface for many years. He may be right but I can't help but doubt whether water, even with added effluents, would change a dark red brick to yellow *and* give it a gloss finish. My theory is that a salt-glazed paviour type of brick would have been used for the water courses. I would be interested to know what others thought.

We climbed a metal ladder at the end of our tour and emerged though a manhole into the sunlight (yes, we were blessed with a fine day) and walked back to the place where we started to remove our gloves and have a disinfectant wash. In fact the sewers were remarkably clean and free from the sort of aroma I for one had been dreading. A most interesting experience.

Rev RAY HOLLANDS

BRIGHTON SEWERS

On a very fine morning twenty-three members gathered outside a door under the Palace Pier, Brighton, to the surprise of arriving London day trippers. Having entered and seen a video, we donned helmets and gloves to ward off ferocious rats and entered the sewers proper. The system was built in 1874 and consisted of two elements: surface water sewers, flushed by the sea, that carried off storm water, and a foul sewer by which refuse was carried to Portobello near Newhaven for disposal. In recent years this has proved ineffective and a vast new concrete sewer

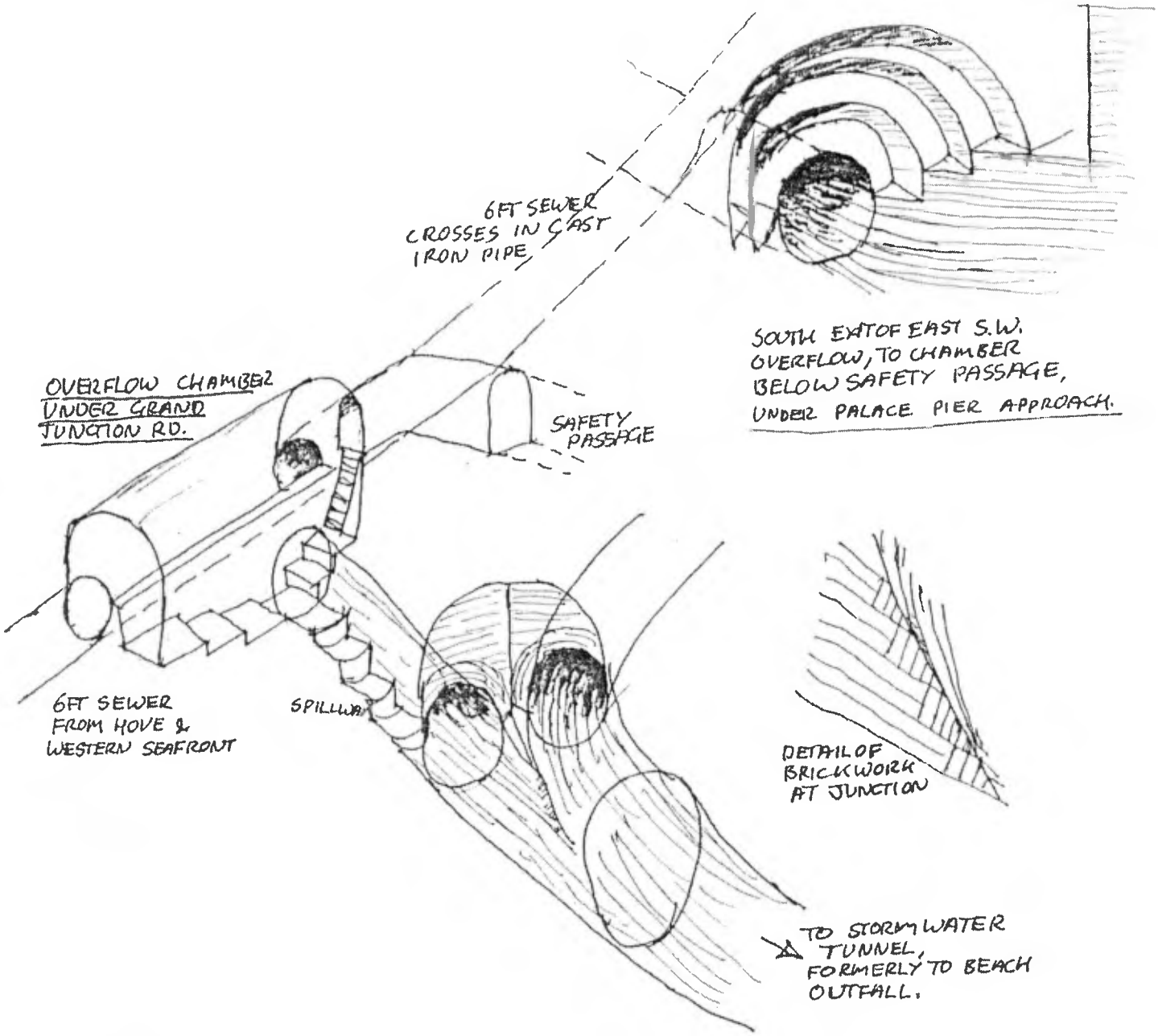

Fig. 1 Brighton Sewers
Left Overflow chamber under Grand Junction Road.
Right South end of storm water overflow to chamber below safety passage.
Drawn by Martin Hammond, June 2000

runs parallel to the shore, so the sea no longer comes in, though the barnacles remain. Firstly, we peered down shafts and tunnels to see the stream that once flowed through the town making its way to the beach, and also to see a delightful flow of brown material on its way to Portobello. We were told that Health and Safety regulations now prevent visitors from descending these shafts - and then we were taken in near darkness along a large brick tunnel ankle deep in water, ducking under a large iron interception pipe, whilst one of the guides put his foot in a hole in the wall to stop a jet of water that was sprouting in. No doubt he had Dutch ancestry. One began to wonder about Health and Safety. We emerged in a vast brick cavern where various tunnels and passages merged, resembling the early prints of the Metropolitan Railway at Baker Street. One small addition is the overflow from the Steyne Gardens fountain, an iron vertical pipe is a World War II fire pump, and a blocked archway is nobody knows what. The main structure is of narrow brown bricks laid end-on in courses, said to have been made locally. We left via a vertical iron

ladder to emerge from a manhole in Old Steyne, to public disquiet.

The pipeline to Portobello, incidentally, once had a pumping station at Rottingdean that was disguised as a brick bungalow. This has long gone.

EDWIN J. ROSE

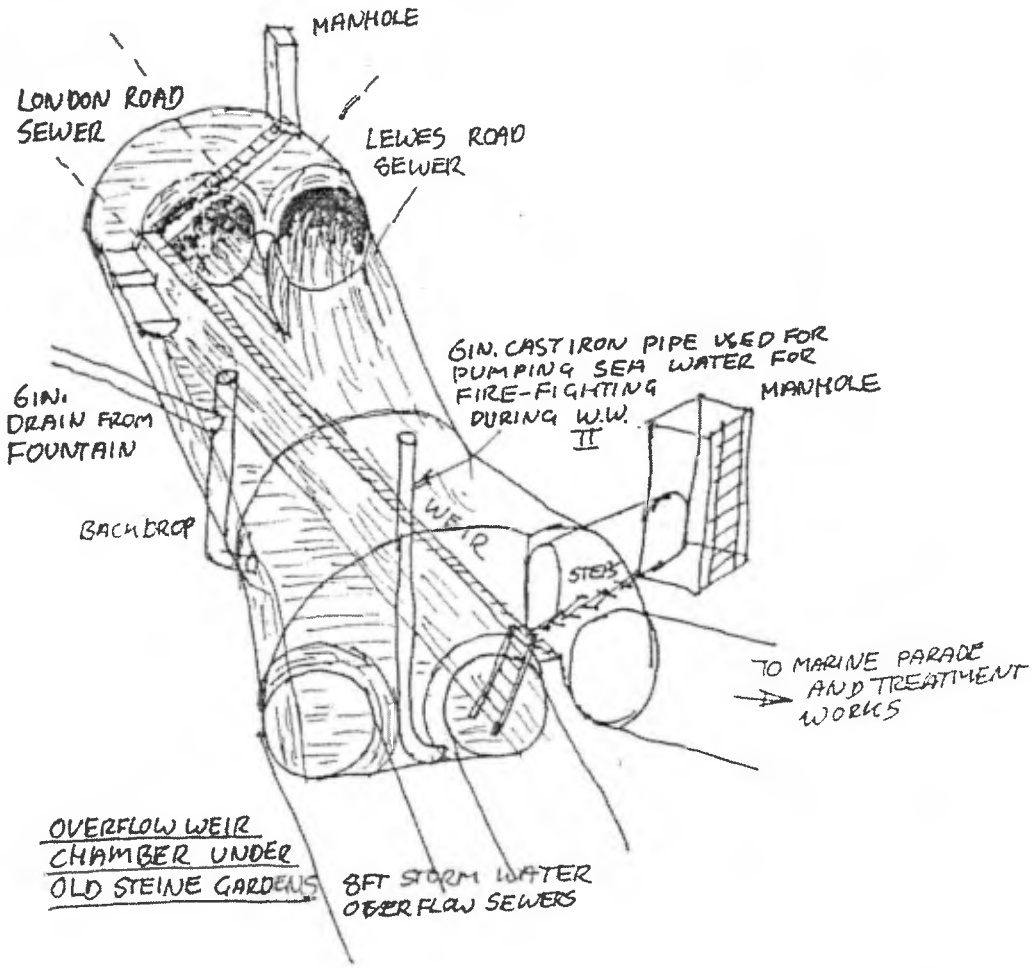

Fig. 2 Brighton Sewers; Overflow chamber under Old Steine Gardens
Drawn by Martin Hammond, June 2000

LEWES

For the afternoon part of the meeting in Sussex we met at Lewes Town Hall, an Edwardian building of ornate brick detailing, for a guided tour by the sometime mayor, local historian Dr Graham Mayhew. This writer thought he knew Lewes well but we found yet more buildings of interest, and even so in the limited time there were areas we could not reach. Amongst the brickwork, perhaps the most notable features were the use of alternate glazed and unglazed headers in end walls; the treatment of façades with silvery-grey bricks surrounded by red brick quoins and surrounds to the openings - a good example is Lewes House, which dates from the 1760s - and of bricks with horizontal skintlings; indeed the only diagonal skintling this writer saw in the town was in an area of recent repair where second-hand bricks had been used. The Market Hall is a brick bell tower of 1790; by Cliffe Bridge is a brewery tower of 1790 with an attached office of 1982 indistinguishable at a distance. By the side of the bridge is Fitzroy Hall of the 1860s by George Gilbert Scott, saved from demolition in the 1970s, and now accompanied by a new brick courthouse in similar style with a polygonal tower for a centre. We were not

restricted to brick buildings and visited also a timber-framed house of 1530 with a wooden Gothic window; a rare eighteenth-century wooden warehouse; the remains of the West Gate; a windmill bought by the novelist Virginia Woolf on impulse. All these were exceptionally explained to us amongst crowds of bemused shoppers (nobody bothers with the Cup Final in Lewes). And from almost every street, the surrounding downs can be seen looking over the rooftops.

EDWIN ROSE

Fig. 3 Brick and other Building Materials used for house fronts in eighteenth-century Lewes:
Left: Knapped flint, with red brick for the window surrounds.
Centre: Grey brick in Header Bond, with red brick dressings.
Right: Mathematical Tiles.

LEWES

Our excellent guide, Dr Graham Mayhew, quoted Nikolaus Pevsner as having said that Lewes has no *first-rate* buildings but *abounds* in excellent examples of the second order of outstanding buildings. Certainly the overall impression is of a lovely and varied mix of interesting buildings. We looked at many buildings: I will briefly mention a few.

Lewes House was a fine example of an eighteenth-century town house, with a superb walled garden. We noted how the house had been extended and, in more recent times, the garden had been much reduced, making way for a car park and other development.

The only building in the town by a famous architect is George Gilbert Scott's late-nineteenth-century Fitzroy House, quite modest but nicely proportioned. It was given to the town by Scott's wife, a Rothschild daughter.

Dial House was a fine example of an eighteenth-century house finished with stucco and with proud nineteenth-century doorways added, and still in their original colours.

The early-seventeenth-century Trinity House had been refaced in the eighteenth century using mathematical tiles, the new façade extending up to provide a false storey with a window into each of the three gables concealed by the new façade.

Modest, but not without interest was the Freemasons' Hall built of yellow London stock with a local red brick for the feature detailing. The style was likened to William Morris. The ornate rainwater heads added a dash of panache.

Fig. 4 A fine brick façade on High Street, Lewes

The town proliferates in timber-framed buildings which have subsequently been faced with mathematical tiles, tile hanging or stucco. We saw examples of black-glazed mathematical tiling. We also saw much use of `flared' headering. I put it in quotation marks because most of the examples were in fact polychromatic glazed bricks, and I am not sure that is strictly what flared means. My understanding is that flared headers are simply bricks burnt to a darker colour by virtue of their close proximity to the heat source in the kiln. Do any of our expert members know whether deliberately applying a glazed colour finish is properly called flared headering? We did actually find one example of a glazed/flared stretcher.

The town of Lewes is dominated by the castle and whilst we did not actually take it in as part of our tour, we did, towards the end of our walk around the town, reach a satisfying vantage point. Our visit ended with the elegant stone-built County Hall.

The day was interesting and varied an well worth the effort to attend.

Rev RAY HOLLANDS

BULMER BRICKWORKS

Approximately fifty BBS members enjoyed a memorable visit to the Bulmer Brick & Tile Co on Saturday 22 July 2000 due to the hospitality and enthusiasm of Peter Minter whose father established the current works *c.*1936. This unique works is located on a farm of 150 acres and produces traditional bricks, specialising in purpose-made bricks for restoration work.

After coffee, members visited the making-shed where Stuart and Janet demonstrated moulding techniques with different clay mixes. These included squint bricks for octagonal chimneys, and decorative bricks using a mould carved by Harry Douche *c.*1870 from the

terracotta Gothic Revival period. (By the time members read this, Janet's work will have been featured in a new TV series called *Trading Places* to be shown on Channel 4 in November 2000)

The clay on the Bulmer site is London Bed clay from the Eocene period (20-25 million years old) that has been dug from seams in this area since the early Tudor period. The clay is dug in September and left to weather over the winter in the traditional way. The clay is stockpiled in the open and needs minimum preparation after weathering. Approximately 800 tons of clay are used at the works each year. All preparation is done by hand. The clay is barrelled and tipped into chutes ready for the pug mill, an old converted brickmaking machine.

The brickmaking season runs from March to October. Brick production is variable but averages about two and a half thousand bricks a day. The bricks are air-dried in covered rows called 'skinks' in which the bricks are carefully stacked. The drying system is, however, weather dependent and new enclosed artificial drying sheds are planned for the future.

The single kiln at the works is a traditional down-draught kiln built in 1937 fired with coal brought from Nottingham. The kiln operates on a seven-day cycle, four days firing and three days cooling. BBS members were able to see the kiln in operation as it was the first day of the firing cycle. The kiln capacity is approximately 12,000 bricks, stacked diagonally. It takes two days to load and one day to unload the kiln.

One of the most fascinating parts of the works is the shed where the timber moulds are stored. Over 3,000 special moulds, both old and new, are kept at the works, including moulds specially made for many important and historic buildings. Traditional designs from original moulds are produced to meet an increasing demand for decorative brick. These include terracotta flowers, crests and swags, as well as tiles and small bricks for decorative indoor work.

The "high-tech" cutting shed is quite a contrast to the rest of this traditional works. It was established in response to English Heritage concern about the cost of carrying out cutting and rubbing of brick on site at Hampton Court. Bricks, such as voussoirs, are cut in the workshop to templates using sand with twisted wire in timber-frame saws. Air tools are also being developed for this kind of high status work, and such developments will undoubtedly ensure the successful future of the brickworks in the twenty-first century.

Thanks to Peter Minter and his team for generous hospitality. On a personal note, I would like to thank everyone who made my first BBS visit so enjoyable, and to local BBS members, Roy and Penny Berry, for providing their lovely garden for lunch before the afternoon visit to Cressing Temple and Faulkbourne Hall.

SUSAN ROUNDTREE Dip Arch, M Litt (TCD)
BBS member from the Republic of Ireland

CRESSING TEMPLE

After eating our picnics in the garden of BBS members, Penny and Roy Berry, we then enjoyed Penny's fruitcake and Roy's brick collection before making our way to Cressing Temple. Here we gathered under a spreading chestnut tree to meet Mr Elphin Watkin, our excellent guide for the visit.

The Manor of Cressing was given to the Knights Templar by Queen Matilda in 1137. It was their first settlement in England. In 1312, the manor passed to the Knights Hospitaller and subsequently to various private owners. During the Tudor period a great house was built. This house and the knights' chapel sadly no longer exist above ground. What does remain is a large farmhouse, (in part dating to the sixteenth century), ancillary farm buildings, a sixteenth-century brick-walled garden, and two large and exceptionally fine barns. Until the 1980s, these had been dated to the mid fifteen and mid sixteenth centuries respectively. Now the estimates are for the

140 feet long Wheat Barn, the late thirteenth century; and for the Barley Barn, the early thirteenth century.

Mr Watkin shone light, metaphorically and literally, on the complex timber joints, the main changes to the structures over the centuries and the benefits of medieval forest management. We had time to study static displays about the barns and their owners. One section contained examples of local bricks and tiles. Today both buildings' great sweeping half-hipped roofs are tiles and brick is present as wall and post cills and as in-fill to the external walls. the soft orange-reds of the Wheat Barn glowed in the afternoon sunshine. Mr Watkin thinks that they were probably rejects from the great house.

The tranquil "Paradise Garden" is protected by walls with bricks from the sixteenth century onwards. The central feature is a Gothick fount whose water flows through a narrow rill flanked with herringbone brick paths to a circular brick fish pond.

Cressing Temple is owned by Essex County Council is open to the public on Wednesdays, Thursdays, Fridays and Sundays (Tel. 01376-584903).

DICK BOLTON

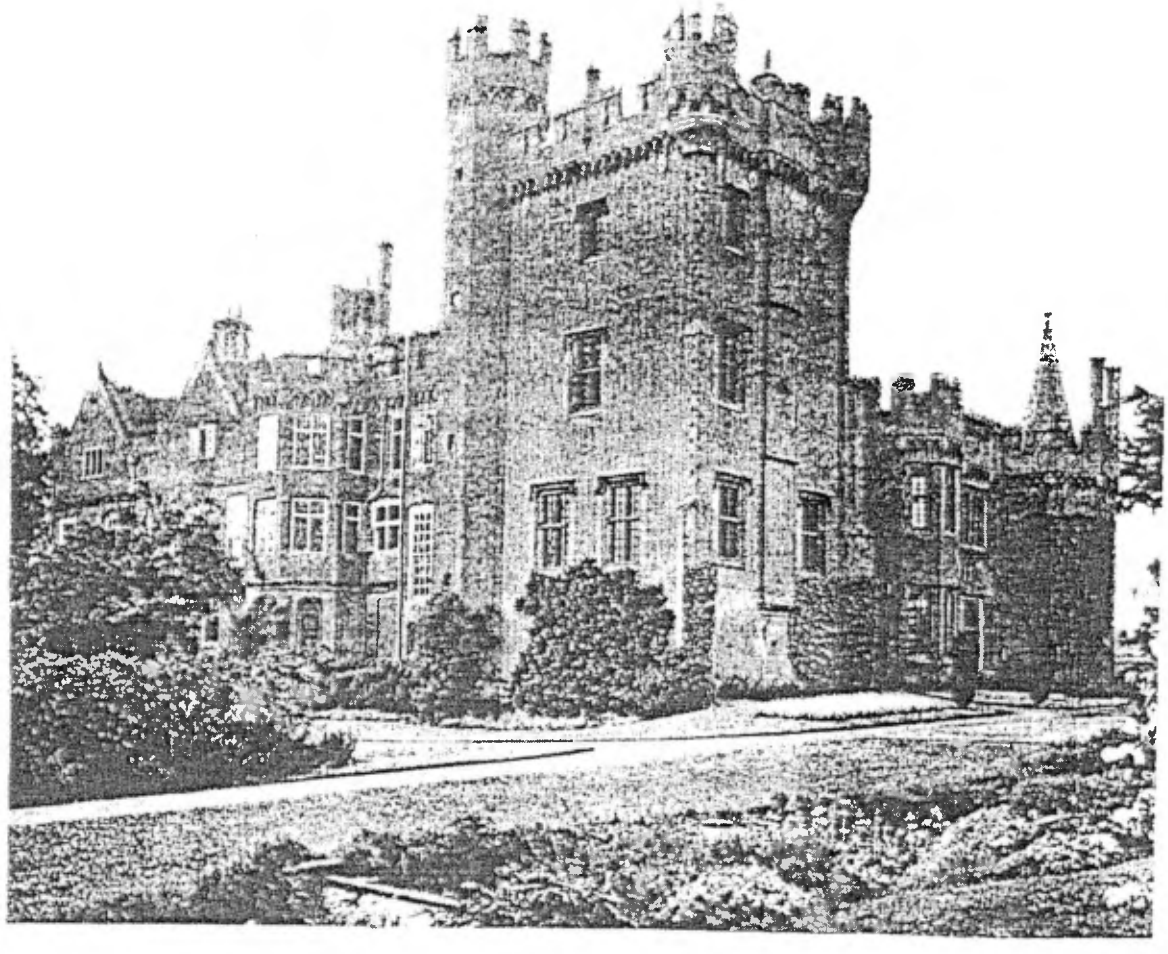

Fig. 5 Faulkbourne Hall, Essex, from the garden, showing the solar tower.

FAULKBOURNE HALL

We ended our day at Faulkbourne Hall, the most impressive and one of the earliest fifteenth-century brick mansions in Essex. As we arrived the evening sun lit up the north and west fronts of the house. Sir John Montgomery was given licence to crenellate in 1439 'in stone or brick'. Sir John made a wise choice. The hall, part mansion, part castle, encloses an early-fifteenth-century timber-framed dwelling. Despite additions in the seventeenth and nineteenth centuries, the great tower (fig .5), the north front and the unusual angle towers of the west front are original.

The brickwork is of good quality: even courses, precisely laid in English bond and wide mortar joints that enhances the uniformity of the bricks. Some of the roof features such as the brick crocketted spires reminded me of Château Chambord but the decoration I enjoyed most was the trefoil corbel frieze, deeply mounded, casting fine shadows and linking feature to feature at first-floor level.

Faulkbourne Hall is a private home and we were able to look at the exterior by kind permission of the owner, Lt.Col. C.W. Oxley Parker, but the house stands in open parkland and can be seen from the road, about 400 yards away. The two park gatehouses are of nineteenth-century brick, one having very tall chimney stacks. By the road and near the house is the little Norman church, dedicated to St Germans. It has an early-nineteenth-century vestry and crow-steeped gabled porch.

DICK BOLTON

IBSTOCK BRICK FACTORY, DORKET HEAD, ARNOLD, NOTTINGHAMSHIRE

Twenty-two members and guests were greeted with coffee on 22 September 2000 by the Works Manager, BBS member Mike Chapman. Before the factory tour we viewed a display of nineteenth-century pressed bricks by Nottingham manufactures, legal documents, share certificates, and old photographs from the company archives. The writer provided a copy of his survey drawing of the circular Hoffmann kiln at Nottingham Patent Brick Co., Mapperley Middle Yard, Woodborough Road, Nottingham. and an old street map of Nottingham showing the location of brickworks long since closed.

The Nottingham Patent Brick Company (NPB) was founded in 1867 by two established local manufacturers, William Burgass, who was also a coal merchant, and Edward Gripper, who had previously farmed at Layer Marney, Essex, and had supplied some of the facing bricks for St Pancras Station, London. The first of the Hoffmann kilns at Carlton Hill (Thorneywood) works was lit by the Lord Mayor of Nottingham after a luncheon in the kiln on 12 May 1868. The ceremony had been delayed by a week while final preparations were made.[1] Brickmaking was semi-dry pressing using machinery by Platts of Oldham until 1879 when the first extrusion (wirecut) machines by Richard Bennett of Derby (formerly a brickmaker at Melbourne, Derbys.,) were installed. Insufficient pressure on the bricks led to the semi-dry process being abandoned, and wirecuts have been made ever since. They were solid until the mid-1960s.

The Dorket Head site was bought by Nottingham Patent from Robinson & Sykes of Arnold in 1895, probably as a replacement for their Mapperley Lower Yard, which was by then worked out. The Great Central Railway was being built though Nottingham in 1894-99 and demand for bricks was expected to be heavy. Dorket Head was equipped with a 14-chamber circular Hoffmann to the same Humphrey Chamberlain design as at their other works. Probably built in 1895 to what was then an obsolete design: it was the last circular Hoffmann to be built in Britain. I have no knowledge of Robinson & Sykes applying to use the design, to which NPB

had exclusive local rights. Other Nottingham manufacturers got round this by building their own variations. Nottingham Builders' Brick Co. under Edwin G. Loverseed built two kilns to Herbert Guthrie's design, patented in 1877. They were the first fender-fired continuous chamber kilns. NPB had a dispute over patent rights with another local manufacturer, the Bulwell Brick Co.

Once lit, a continuous kiln can be kept going for decades if supplied with fuel and green bricks. By the early 1960s Dorket Head still had sufficient clay reserves (still twenty-five years at current production rate) and the other works were antiquated and their claypits hemmed in by development. So the Mapperley and Carlton Hill works were closed. Since then, the history of NPB has been that of Dorket Head, as follows:

Phase 1 Started in 1963. The first tunnel kiln was lit in March 1964 with a flame carried from the Hoffmann kiln. The old works was then demolished and the clay under it extracted.

Phase 1 and 2 kilns 291 x 14 x 12 ft. Firing temperature 1065°C. 37 cars each holding 2820 bricks. 1 car in/out every 1 hr 40 min. 250,000 bricks per week.

Phase 2 Started 1965, commissioned in February 1966: a mirror image of the Phase 1 layout, with a second kiln with sprung arch, also by Gibbons & Dudley, and set of drying offices.

Offices, kitchen and canteen Completed January 1970. Heating was by waste heat from the kilns via a heat-exchanger. The terrace outside the main entrance incorporates hexagonal blue quarries as used in the crypt of Coventry Cathedral, and blue brindle rustic facings, both from the Haunchwood works at Stockingford, Nuneaton, Warwickshire. One of NPB directors, Tony Knox, was associated with that works, which closed at about that time.

Early 1971 Conversion from fuel oil to liquid petroleum gas firing. Two tanks each holding one hundred tons of gas were installed.[3] The oil tank spillage bund is now a fish tank.

Phase 3 1973-October 1974. 'Liptak-Bradley' flat arch kiln 305 ft long with flat arch by Gibbons & Dudley. Total works output 300,000 bricks per week.

February 1976 'Patent' dropped from the company's title, following the death of Les Bennett, the last of the "old guard" of directors. His grandfather was the first NPB works manager.

Phase 4 1977-November 1978. Fourth kiln, built by Wellman Engineering to a design by Gibbons & Dudley, 1985-86.

1979 Maltby Metallic Brick Co., based near Rotherham, acquired. Their engineering quality facing bricks complemented the Nottingham Brick Range;[4] Also a works near Thurmaston, Leics.

1985-87 Works re-equipped and modernised.

1987 Nottingham Brick acquired by Marley, and traded as Marley Brick Ltd.

October 1993 becomes part of Tarmac Brick in an asset swap with Marley.

August 1996 Takeover by Ibstock Building Products of Tarmac Ltd's brickmaking interests completed. The works had fallen behind in cost-efficiency and product yields, but it had enough clay reserves, a skilled workforce, suitable planning permissions, and a product it could sell, mainly to the mass-housing market in England and Wales.[5]

1999 Company re-organisation. Ibstock Group clay products and Forticrete Ltd, architectural masonry and stone products, owned by Dublin-based CRH.

The Plant Today One hundred thousand cubic metres of clay a year is quarried from the pit east of Calverton Road and moved to the plant by conveyor though a 250 ft (87.5 m) tunnel under the road. Worked out areas are used for domestic rubbish landfill by the local authority, Gedling District Council. The raw material is from the Gunthorpe Beds of Middle Mercia Mudstone, formerly known as the Middle Keuper Marl, laid down in the arid heart of a large continent, with transient inland seas and salt lakes, around 250 million years ago. The clay has a high lime content, which gives it a pale colour when fired. There are also bands of "skerry", a green-grey impure limestone, which either has to be removed or crushed very fine. the vitrification range is short for the clay is all right at 1050°C, but at 1100°C it has turned to

purple-brown slag. Two-three percent of coke breeze is added for multicolours. While this practice is widespread in the stock brick industry, it is not as risky as it was with such a fusible clay with close control of firing now available. The breeze comes from Coal Products, Derbyshire, (the `Coalite' plant) and from Sweden; it has a calorific value of 14000 BTUs/lb.

The clay preparation plant has an incoming feed of 75 tonnes/hour, either from the quarry conveyor or from a buffer store, via loading shovel and box feeders. The Craven Fawcett (C-F) Series 2000 Delta 45 wet-pan grinding mill can process 100 tonnes/hour. The slots in the floor grids are 100 x 25-30 mm: the castings last a year and cost £20000 to replace. Water is added at the pan mill by a Novatronic auto doser to adjust the moisture content to 14.5 percent, about half that required for hand-moulding. The primary ground clay passes through refurbished C-F Mk 1 1200 x 1000 mm medium rolls (4 mm gap) and C-F Series 200 1000 x 1200 mm high-speed rolls with auto-reset facility (1.2 mm gap). Horizontal rolls were first used in Nottingham in 1830 and are essential for reducing the skerry to a fine powder to avoid lime blowing.

This plant is housed in the eastern end of the 1960s factory, where it has always been. The kilns have been demolished and the space, along with the original drying chambers, each 40 ft x 11 ft 6 in x 7 ft, used for storage of breeze, facing materials - oxides, sands and colouring oxides - and some finished bricks. There is also an engineers workshop. Materials are mixed here in one-ton batches in a small ex-Marley concrete batching plant for application to the faces of the bricks, and include Singleton-Birch chalk from Norfolk, Breedon limestone from Leicestershire, Mansfield sand, oxides from Cooksons, Stoke-on-Trent, and organic matter to prevent separation during sandblasting.

The prepared clay passes on conveyors into the 1970s building via an intermediate box-feeder to a C-F Series 1900 screen feeder, which supplies the re-furbished two C-F Centrim 410 extruders. Each of these incorporates a double-shaft mixer, de-airing chamber and extrusion auger of 12,500 bricks an hour, output at 280 lbf/sq in at 26 in vacuum. The clay columns pass though a sanding and texturing machine by AJ Engineering of Macclesfield, Cheshire, and guillotine slug cutters. The double slugs are cut into two rows of twelve bricks each by a cutting frame and the offcuts from the ends re-cycled. The cut bricks are processed through the wet- side handling system into the dryer car loading frames. Each car carries 2,592 bricks, twenty-four to a pallet, six pallets wide by eighteen high. There are two twin-track tunnels divided into six temperature and humidity-controlled zones; each tunnel holds thirty-two cars. Hot air from the kiln supplemented by gar-fired air heaters is ducted into the tunnels using ceiling-mounted Rotomixair units. The principle is to start drying with cool moist air and finish with hot dry air to prevent cracking and warping. This is known as inverse drying, and takes 30 hours, during which time it is continuously monitored by computer.

After drying the bricks are set on the kiln cars by a C-F setting machine which handles 30,000 bricks an hour. The standard setting pattern is eleven `headers' on four `stretchers', but other patterns are possible. Each kiln car takes four blades of eight 4-brick x 4-brick x 16 courses high packs, with gaps between each eight-pack blade to line-up with the burners in the kiln roof. A total of 22,528 bricks per car.

Cars of dry bricks are unloaded using two Combi-lifts feeding rows of pallets into a single line and under a de-palletising head which feeds an eight-lane setting chain bed. Single rows are split into groups of eleven, with every other row being lifted, inverted and turned through 90° to achieve the eleven over four pattern. The double layers are then spaced into pairs and moved under the setting head. This takes eight packs to the kiln car at each operation.

The kiln like the dryers, is a Walter-Craven design, by Karl Walter, kiln-builders of Germany, and Craven-Fawcett of Wakefield. the outside dimensions are 115.5 x 9.8 x 4.04 metres, with a suspended flat-arch roof. The walls are one metre thick incorporating a 225 mm high-alumina hard firebrick lining, ceramic fibre insulation, and an outer casing of facing-brick

cavity wall with stanchions to support the roof beams. The high-alumina lining is resistant to leucite,* a corrosive gas evolved when this type of clay is fired. The roof is of special high-alumina blocks individually suspended from a grid of steel beams in the firing floor which is paved with concrete slabs. the kiln takes twenty-three cars, each weighing 90 tons loaded. The firing time is 55 hours, with six hours at the top temperature of 1030℃. Ten cars a day pass into and out of the kiln, giving a design output of 75,000,000 bricks a year. Loaded cars pass through a separate preheater for "water-smoking" up to 100℃ then through a vestibule into the kiln proper, which is divided into a 30-metre preheat zone, a 50-metre firing zone, and a 35-metre cooling zone. The movement is intermittent because each time the gaps between the blades of bricks have to be aligned precisely with the rows of ten burners in the kiln roof, or the bricks would be melted, resulting in a 'wreck'. Mains natural gas has been used since 1996, and the kiln is fired with thirteen groups of 1.6 therm high-velocity recuperative burners. Kiln gas pressures and flows are constantly monitored, the main fans having variable-speed drives for optimum control. A flue-gas scrubber removes the hydrogen fluoride, and the gases are discharged under pressure to the atmosphere at 124℃ via a 25-metre stack. The whole process, both drying and firing, is controlled through a Siemens S5 plc unit with a host computer providing a management system though a Windows-based Fix D Macs programme. It runs itself most of the time, replacing twenty-four kiln-burners previously employed.

The de-hacker selects at random from sixty-four kiln car packs to give the best blending of multis. It was manufactured by J.C. Smale & Sons of Notting Hill, Victoria, Australia. Two packs at a time are broken down, the bricks are fed though a selection process which simulates the monorail system previously used, and made up into 475-brick dispatch pack (11 headers x 4 stretchers x 9 courses) and bound together in a twin Signode MHT 80 strapping station. Polyester strapping replaced steel (Signode AK100) at Christmas 1999. The packs are shrink-wrapped and inkjet printed with the product description and date code before being removed to storage or dispatch by a Lansing forklift which can take four packs in line.

When empty the kiln cars are "hoovered" by a Hellmick EED 6000 vacuum system to remove all dust and bits of broken brick from the deck, which consists of hollow refractory blocks. The setting packs have to bed squarely to avoid possible collapse during firing.

All special shapes are made at the Ibstock Nostell works in Yorkshire, using Dorket Head clay.

This year BBS members have had the opportunity to see brickworks using centuries-old manufacturing methods at Bulmer (see above p.12) and state-of-the-art technology. At the present time there is a thriving market for each of their products.

This has been my fourth visit to this works in thirty-six years. The first visit was on St Martin's Day, 11 November 1964, in a class visit as an architecture student. Only *Phase 1* was in existence, but the old works had been demolished. Much of this account is based on personal observation, and on research into the Nottingham brickmaking industry conducted in 1970-74. For historical and technical information, I have referred to the following:

1. Robert Mellors, *Men of Nottingham and Notts.*
2. Arthur Brown, 'Brick manufacture', article in *Encyclopedia Britannica,* 1963 edition.
3. Nottingham Patent Brick Co. booklet, 1972.
4. Nottingham Patent Brick Co. booklet, 1984.
5. M. Chapman, 'Taking a patent brick into the 21st century'. *Clay Technology,* **53,** May/June 1997.

* Leucite: potassium aluminium silicate $KAlSi_2O_6$, grey or white from Greek *leukos* white, *Collins English Dictionary.*

MARTIN HAMMOND
26 October 2000

DRAGONS AT RUFFORD HALL, NOTTINGHAMSHIRE

Dragons at Rufford Country Park, in north Nottinghamshire, were an unexpected bonus during the society's Autumn Meeting. They were spotted in mid-conversation by the society's honorary treasurer, Ann Los, while members were eating lunch.

The stable block at Rufford is a mid-eighteenth-century quadrangular brick building of two storeys, which is now used for gift shops and exhibition space. At some point, probably about a hundred to a hundred and forty years after building, the structure was re-roofed. At each corner of the hipped roof a dragon was placed. The beasts were sat on the right-angled corner ridge tile, and face outwards to the world. The two most visible ones were those overlooking the space in front of the nineteenth-century coach house, now a self-service restaurant.

DAVID H. KENNETT

KINGSHAUGH, DARLTON, NOTTINGHAMSHIRE

The house chosen by Mike Chapman for the afternoon visit on Saturday 22 September 2000 was Kingshaugh, a five-bay, double-pile house. It has two parallel ranges, each with a gabled roof, the western one covered with slates, the eastern with tiles. The house occupies part of a complex of earthworks covering about 15 acres, which have more than one phase of construction, including a small, probably twelfth-century, motte-and-bailey with the castle mound inserted into pre-existing banks. Finds of prehistoric remains have been made and there are extensive traces of high status occupation in the Roman period.

The brickwork is artisan mannerist of the mid to late seventeenth century. Central to the house is a stone wall 7 feet thick, possibly reusing part of the structure erected there when the site was owned by King John, after 1211. The site remained royal property until a sale by King James VI and I in 1604.

When the present house was built, some time after this sale, extensive use for external walling was made of stones already on the site and most of the ground floor external walls are of stone. The upper floor is, however, of brick, with extensive use of rusticated brickwork at the corners. The windows are modern replacements in traditional style, all hand-made by the present owner, Aubrey Elliott, whose trade was that of high-class antique restoration. The brickwork surrounding the fenestration is primary.

The chimneys have been replaced, with a load of ten thousand bricks, the remains of a Tudor stack, unexpectedly discovered during demolition of a timber-framed property elsewhere in the county. Members were able to view parts of the remaining stock of these bricks, at the end of a tour of the 5 acres owned by Mr and Mrs Elliott.

Aubrey and Kathryn Elliott purchased the house in 1988 when it was almost totally derelict, and they have now recreated an impression of a house with a chequered history. The kitchen reminded the writer of either of his grandmothers' kitchens, if on a much larger scale. At Kingshaugh, this room would have been the original kitchen: extensive fitments for a spit were described to us. An original and the present main entrance was to this room: we were shown both the holes for securing a draw bar and the draw bar. With stairs and a still room with a raised floor, it occupied the west range. The stairs are interesting as having flat balusters. As with other double-pile houses, the two rooms of the east range, one either side of the main entrance passage, directly opposite the stair, were originally used as parlours. These are now a museum room and Mr Elliott's workshop.

The double pile plan is illustrated by Maurice Barley by a stone-built house at Brant Broughton, Lincs., the inventory of whose builder, William Garnon, is dated 1672, although the

house was built in 1658, and in *The English Farmhouse and Cottage* there is a photograph of another Nottinghamshire double pile house, Manor Farm, Radcliffe-on-Soar, built in 1715 of brick. BBS member, R.W. Brunskill in his book, *Houses*, illustrates The Leys, Willoughby Waterless, Leics., also of five bays and brick-built in 1740. This has a different roof plan, a steeply-pitched roof rising to a central flat area. The larger examples, which include The Leys and Kingshaugh, Professor Brunskill thinks, begin to be constructed around 1650 and the form continues to be popular, despite the problem of a central roof gutter, until about 1800. The counties of Lincolnshire, Nottinghamshire and Leicestershire certainly represent one focus of the distribution of the larger double-pile houses. The earliest known double-pile house is Little Park Farm, Ampthill, Beds., a brick house dated 1629: the last-named was briefly seen by members during the Spring Meeting 1993

There are smaller double-pile houses, of three bays only, which have a date range of about 1760 to about 1850.

The building history of Kingshaugh is as yet unresearched, although numerous documents are preserved in the collections of Nottinghamshire County Record Office. As it is a house awaiting documentary research, it is not possible to identify the house in the published Nottinghamshire Hearth Tax, which is printed for Darlton for both 1664 and 1674.

The society's thanks are due to Mike Chapman for finding this unusual house for the afternoon visit and to Mr and Mrs Elliott for the tour and their hospitality.

DAVID H. KENNETT

Research Collection: Middlesex and North London Brickmaking

Many members will remember Sidney Beadle whose sudden death in the summer of 1991 robbed the Society of a very enthusiastic member. His particular interest was brickmaking in Middlesex and North London.

When Sidney's house was cleared Ms E. Smith and Ms Valerie Carter of the Enfield Preservation Society kindly took into care a collection of papers (six lever-arch fields, wallets and notebooks), approximately 600 colour slides and 73 bricks. We had hoped to arrange for it to be deposited in an appropriate museum, but this has proved difficult and, pre tem, it is now in storage at the Brick Development Association, near Windsor.

I have not had time for more than a superficial viewing of the material, but I believe it would be most interesting to anyone making a similar study to Sidney's. It is very fortunate that its value as research material was appreciated and we are indebted to Ms Smith and Ms Carter for saving it for us.

BBS members whose special interests reflect Sidney's may wish to study his collection. Please contact me to discuss how that could be facilitated.

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BRICK AS SYMBOL:
Mies's Lost Monument

Terence Paul Smith

In 1926 a brick-built monument was erected in the Friedrichsfelde Cemetery in Berlin to Karl Liebknecht (1871-1919) and Rosa Luxemburg (1870-1919). It was designed by one of the fathers of Modern architecture, Ludwig Mies van der Rohe (1886-1969). Liebknecht, a German, and Luxemburg, a Pole domiciled in Germany, were leaders of the German left, founding, in 1918, the Spartacus League, which in the following year became the German Communist Party. They were captured during the Berlin workers' revolt of 1919 and brutally murdered by members of the *Freikorps*. A monument to two such persons was hardly likely to be acceptable to the Nazi regime (Luxemburg was also Jewish) and, not surprisingly, it was destroyed in 1933. Fortunately, a number of photographs of it exist (fig. 1).

Of dark red to purple brick, it was a large chunky - almost fractal - structure, measuring 12 metres long by 4 metres wide by 6 metres high, consisting of juxtaposed and intersecting blocks of varying sizes, much as Mies's private houses of the time were compositions of intersecting volumes. In the Wolf House in Guben (1926) and the Lange House in Krefeld (1928) brick is the principal material.[1] There, it is the precision of the brickwork (Flemish Bond at Guben, English Bond at Krefeld) that impresses. For the monument, however, Mies chose to use spoiled bricks which had been overfired but which had apparently been used previously and were salvaged from demolished buildings. The use of these materials "had the double effect of keeping down the cost and [of] heightening the desire [resemblance to the] coarseness of the executioner's wall".[2] the rough texture, something like that of rubble stonework, was enhanced by the use of raked mortar joints. The bottom course of each projecting block was of headers on edge, the rest was mostly in Stretcher Bond but with occasional courses of headers and some brickbats included. The brickwork was supported by a concrete core and steel roads. Attached to one end of one long side were a large metal star bearing a hammer and sickle, and a tall flagpole. At one time too were the words 'ICH BIN ICH WAR ICH WERDE SEIN' ('I am, I was, I will be') were attached in white capitals to the same face. They appear in a photographs of the dedicatory ceremony on 13 June 1926, but had been removed by 1931.[3] The bottommost blocks formed a kind of plinth to the monument. Its form did, in fact, lend itself to use as a platform for ceremonies and for the delivery of speeches. A photograph originally published in the *Arbeiter Illustrierte Zeitung* shows the structure being used in this way, with figures on its top and others standing in front of it, the star and flagpole prominent.[4]

The composition was striking. An example of *Bankunst* rather than *Architektur*, the monument probably reflects Mies's early admiration of the robust classical buildings of Karl Friedrich Schinkel (1781-1841) as well as his early experience of handling masonry: as a fourteen- to sixteen-year-old boy in Aachen, he had worked in his father's stone masonry business. More proximate influences were German Expressionism, with which Mies was involved in the 1920s, the Dutch De Stijl movement - with Frank Lloyd Wright (1867-1959) in the background - and the Suprematism of Kasimir Malevich (1878-1935), particularly his *Architectoniki* models of *c.*1920 onwards.

There was much more to the monument, however, than its architectonic qualities. Both in its material and in its form it was a multivalent symbol of the kind of society for which Liebknecht and Luxemburg had worked and died. Luxemburg in particular was critical of post-Revolutionary Russia, especially of the abolition of the Assembly and the institution of a one-

party system, which, she predicted (correctly), would lead to a one-person tyranny. Against this, she argued for a democratic, multi-party version of communism, achieved only when people were ready for it and not forced by an *élite* vanguard as under Lenin.[4]

How far Mies was politically committed to the meaning of the monument has been questioned. He was later, in his American years, to write of it in an almost casual manner, and Charles Jencks has insisted that Mies was not only apolitical but even, during the period 1933-37, politically compromised by his involvement with the Nazi regime.[5] Perhaps, but he was far from a Nazi sympathiser - and certainly not anti-Semitic. It is true that one of his first acts on becoming Director of the Bauhaus in 1931 - just five years after the design of the monument - was to call in the police to control the left-wing students, an action which resulted in twenty of them being expelled.[6] Yet when the Nazis placed a swastika on the front of the building, Mies had it pulled down,[7] and in 1944, in a conversation with Joseph Fujikawa in America, he referred to a "beast like Hitler".[8] He was prepared to have his photograph taken in front of the monument,[9] so that it seems unlikely that his attitude was *wholly* detached from its meaning. At that time, moreover, he was a member of the Society of Friends of New Russia, whatever his later political stance - or lack of it.[10] The choice of material, particularly that of the semiotically significant spoilled bricks, was so far from Mies's usual choices, even in brick buildings, that it must have been deliberate - and deliberate in order to make a point. His later comment contains one clue to his conception of the nature of the monument: "... as most of these people [those killed in the uprising] were shot in front of a wall, a brick wall would be what I would build as a monument"[11] - the symbolism of the executioner's wall already referred to.

The use of brick has even more significance, perhaps more than its designed realised at a conscious level. By the twentieth century - by long before, in fact - brick had become the most *classless* of materials, applicable in buildings at all levels. It was thus entirely suited to the nature of this particular monument. Moreover, bricks are of the earth but transformed from their raw material into something new. Even more telling was the use of spoiled bricks in the structure - of what would normally be thrown out or hidden away but which here taken up into, given their place within, the whole.

This was reflected too in the *form* of the monument. The blocks of unequal depth, thrusting forward or receding, together formed an equilibrium, something like the elements of a Mondrian painting. What is especially striking too is the total absence of a *hierarchy*: block met block but none was more important than the others: each had its proper place in the whole. And at what would normally be the apex - the centre top - the structure was actually dropped downwards.

These various meanings were subsumed within an overall image of *strength*, imparted by the chunky block form and the rough texture. Here, the symbolism of the monument seems to have possessed a tripartite reference: first, to the nature of the ideal society which the monument was celebrating; secondly, to the quality that would be required to bring about the realisation of that society; and thirdly, and most personally, to the characters of the individuals to when the structure was dedicated. In this way, the monument may even be regarded as a piece of *agitprop*. Perhaps, at the time, Mies was more engaged with this work than his later stance might lead us to believe.[12]

The monument exists, for us, only in black and white photographs, and these inevitably impart a static, monochromatic, non-tactile image. To walk round it and to feel the rough surfaces, to see the dark bricks glowing under a warm sun, to view the structure from different standpoints, noting its changing aspects as individual blocks become prominent and once again recede - all these are experiences which, now, may be had only in the imagination. And here, perhaps - and *certainly* intended - is the most potent, the most poignant symbolism of this once powerful monument: of the precariousness, the fragility of human endeavour. Mies, whose life-

long favourite reading was St Augustine of Hippo and St Thomas Aquinas, may, one feels, have appreciated the point. At the same time, it enables the monument - or rather our photographic remnant of it - to engage with a major theme of much Modern art: *vanitas, vanitatis, omnia vanitas sunt.*

Later buildings by Mies - above all the Farnworth House at Plano, Illinois (1951) and the Seagram Building in New York (1958) - have become monuments in a *metaphorical* sense - icons of his purist approach to architecture.[13] In the Berlin structure, he created a *literal* monument - and one which doubtless would have become, had it been allowed to survive, a further monument in the figurative sense. It is a sad loss.

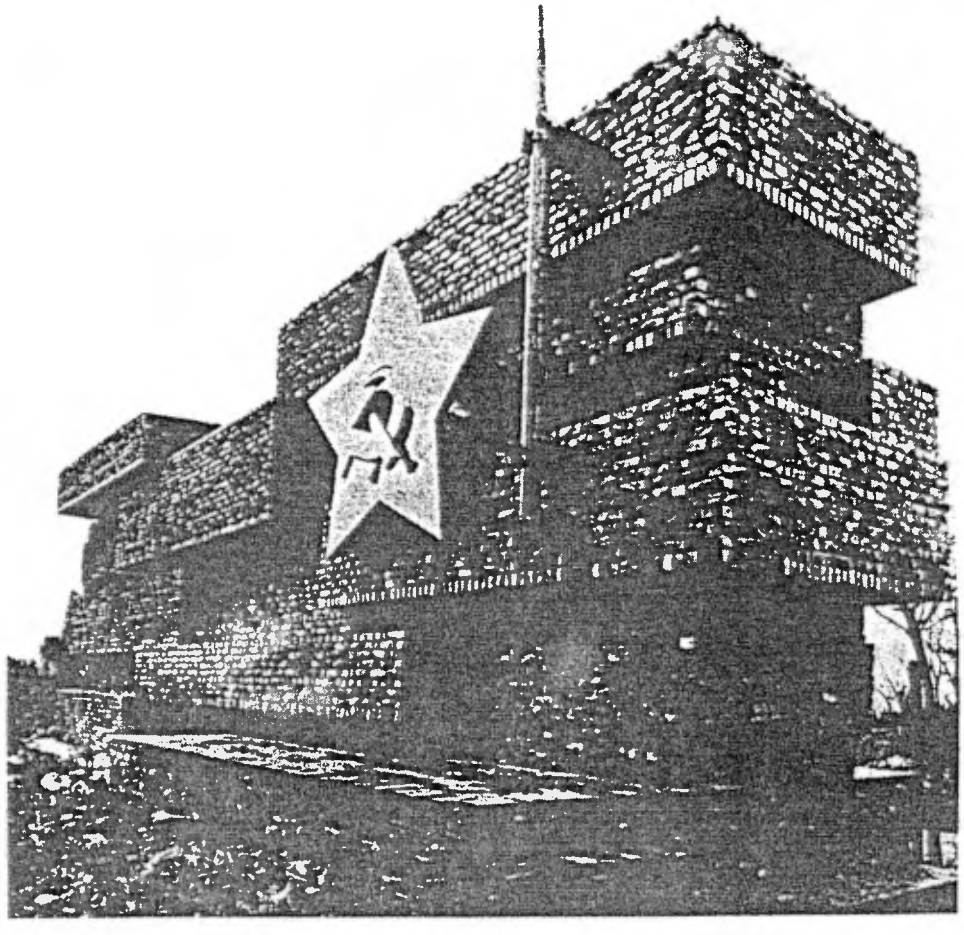

Fig. 1 Ludwig Mies van der Rohe. Monument to Karl Liebknacht and Rosa Luxemburg. Friedrichsfelde Cemetery, Berlin, built 1926, destroyed 1933.

Notes and References

1. For these and other houses see F. Schulze, *Mies van der Rohe: a Critical Biography*, Chicago and London, 1985, pp.123-4, 144-5, 194-5; J.-L. Cohen, *Mies van der Rohe*, London, 1996, pp.41-50; and W. Blaser, *Mies van der Rohe*, 6th edn, Basel, Boston and Berlin, 1997, pp.22-25. For Mies's life see these same works, especially Schulze, 1985. Born into a Roman Catholic family, he was christened Maria Ludwig Michael Mies, the *van der Rohe* (his mother's maiden name was Rohe) being added in 1921. The changed name has a somewhat aristocratic air, but was adopted primarily to avoid the unfortunate connotations of German *mies*, which means 'rotten' or even 'daft'! James Stevens Curl may be correct in seeing the use of *van der* (rather than the German *von*) as indicating a "sense of rapport with the Netherlands": J.S. Curl, *A Dictionary of Architecture [= The Oxford Dictionary of Architecture]*, Oxford, 1999, p.422; certainly Mies was a great

admirer of the work of the Dutch architect H.P. Berlage at this period. A little ironically, perhaps, he has nearly always been known, despite the lengthening of his name, simply as *Mies*.

2. Schulze, 1985, pp.127-8, with photograph reproduced at p.127. See further below for the symbolism of the executioner's wall. The star, incidentally, was manufactured by the Krupp Steelworks. Not surprisingly, this scarcely left wing firm refused to make a symbol for such a radically left wing group, "whereupon Mies ordered five identical diamond-shaped plates, which Krupp provided. When they arrived in Berlin, he assembled them to form the star ...", Schulze, 1985, p.128

3. Schulze, 1985, p.127; it is possible that the letters were only temporary placed there for the dedicatory ceremony, although in the photograph they do not appear to be such.

4. The photograph is reproduced in Cohen, 1996, p.43; for a different photograph showing the same thing: Schulze, 1985, p.127.

5. C. Jencks, *Modern Movements in Architecture*, 2nd edn., London, 1985, pp-47-48. Jencks emphasises that although Mies was alone amongst the truly great architects in remaining in Germany as late as 1937, he was not the only one to be beguiled by totalitarian ideas. Jencks instances, *inter alia*, Walter Gropius, Le Corbusier, Frank Lloyd Wright, and Philip Johnson. Sybil Moholy-Nagy was particularly bitter and accused Mies of being "a traitor to all of us and ... to everything we had fought for": S. Moholy-Nagy, 'Modern Architecture Symposium', *Journal of the Society of Architectural Historians*, **24**, March 1965, 83-84. These are harsh words, and those of us who have not had to make the choice which faced those under Nazi rule should not be too ready to echo them.

6. Cohen, 1996, p.65; to oppose young left wing students, of course, in no way implies adherence to the extreme right.

7. Schulze, 1985, p.186.

8. W.S. Shell, *Impressions of Mies: an Interview on Mies van der Rohe, his Chicago Years 1938-1948*, Chicago, 1988, p.28. Mies returned to Germany during the construction of Neue Nationalgaleries in Berlin (1968); as Jonathan Glancey pertinently observes "Mies ... was pleased to have come home to a democratic [West] Germany", J. Glancey, *The Story of Architecture*, London, 200, p.179.

9. The photograph is reproduced Blaser, 1997, p.21.

10. Cohen, 1996, p.42.

11. Letter from Mies van der Rohe to Donald Drew Egbert, 6 February 1961; quoted in D.D. Egbert, *Social Radicalism and the Arts: a Cultural History from the French Revolution to 1962*. London, 1972, p.662; in Jencks, 1985, p.40; in Schulze, 1985, p.125; and in Cohen, 1996, p.42.

12. In a 1969 interview with Lisa Dechêne, Mies stated of the design that "I meant clarity and truth to join forces against the fog that had descended and was killing all hopes - the hopes, as we rightly perceived at the time, of a durable German republic"; quoted in Cohen, 1995, p.42; unfortunately, the statement not only dates from over thirty years after the situation to which it refers, but is too vague for one to assess Mies's real political stance at the time.

13. These two important buildings are, of course, dealt with in all the books about Mies, including those referred to in the previous notes in this paper; as well as in many general works on twentieth-century architecture. The opportunity for England to have a Miesian tower - on a new Mansion House Square in the City of London - was lost when Lord Palumbo's project of 1967 was eventually rejected. Instead, we were given, on a reduced site, James Stirling's inexplicably maritime Number One Poultry, seeming to race full steam ahead towards the Mansion House and clad in expensive sandstone which has an unfortunate resemblance to plywood. It is all a great pity.

BOOK REVIEW

Stephen Halliday, *The Great Stink of London Sir Joseph Bazalgette and the Cleansing of the Victorian Capital,*
xiv + 210 pp., numerous unnumbered illustrations, including 17 (unnumbered) coloured photographs.
Stroud, Glos.: Sutton Publishing, 1999. ISBN 0-7509-1975-2. price £19-99.

The building of the sewers of London was one of the great engineering feats of the third decade of Queen Victoria's long reign, a decade which also saw the building of St Pancras Railway Station. By 1865 the building of the sewers had consumed 318 million bricks. Already in 1861, there was a shortage of bricks. In his report to the Metropolitan Board of Works, Joseph Bazalgette had commented:

> the supply became quite unequal to the demand created by the extensive character of your works, and thus the price of bricks was enhanced by forty to fifty percent.

It is beautifully put: one doubts whether modern 'business speak' would be so elegant.

The system had 82 miles of sewer, at a minimum fall of 2 feet per mile. Three and a half million cubic yards of earth were excavated and 880,000 cubic yards of concrete had been poured. The pumping station at Crossness, the end of the southern drainage system, had the largest beam engines ever built. The four engines, each 47 tons, compare in audacity and magnitude to the driving wheels of the great paddle-steamer, the *Great Eastern,* launched sideways into the River Thames at Milwall a few years earlier.

The engineers planning the London sewerage system had the declared intention to clean up the River Thames to stop the river from being an open sewer and to rid the capital from the scourge of disease, specifically cholera, which was no respecter of rank in its victims. On the north bank there is the Victoria Embankment, stone-faced above an elaborate brick-built complex of ducts for pipes carrying gas and water and later electricity, an underground railway, now the District Line, and the sewer itself. The Albert Embankment on the southern side is simpler. Only a small portion west of Lambeth Bridge carries the sewer and, regrettably, no underground railway was built in conjunction with the southern sewer system. Land, however, was reclaimed and St Thomas' Hospital built on the site of a former boatyard east of Lambeth Bridge. St Thomas's is one of the great brick-built hospitals of the age.

Halliday includes contemporary drawings of these and many other features of the building of the London sewers, including Lambeth Palace in the eighteenth century and from *The Illustrated London News* the same area accommodating the opening of the Albert Embankment in November 1869. There is a splendid photograph of barges unloading bricks at Barking to build the northern outfall at Beckton (p. 88) with the arm carrying the mainsail being used as a derrick. It makes you wonder how much breakage they had.

There is a lot for the brick enthusiast in Halliday's book. Thomas Brassey, the contractor, included in his schedule for the northern middle level sewer contract: brickwork at £14 per rod, stockbricks at 35*s.* per thousand and Staffordshire blue bricks at 84*s.* per thousand. How much, one may ask, is this due to transport costs and how much to an intrinsically more expensive product? Bricklayers at 6s. per ten hour day were to be paid sixpence (6*d.*) more than miners responsible for tunnelling work. A note is also made of Bazalgette's attitude to contractors: those who had done work before and could be relied upon were to be preferred to unknown men who put in a marginally lower tender.

Equally there is a lot more in the book than just the sewers. The Artisans' and Labourers' Dwellings Improvements Act of 1875 is an indirect consequence of the removal of insalubrious slums when building the great system of sewers. Like the sewers, it became a responsibility of

the Metropolitan Board of Works, the first overall body to have responsibility for London, lasting from 1856 to the creation of the London County Council in 1888. The board is the subject of chapter three, while the sewers form the basis of chapter four, given the title of 'The most extensive and wonderful work of modern times', while chapter seven details the building of the embankments. Chapter eight details Bazalgette's other achievements as Chief Engineer to the Metropolitan Board of Works: Putney Bridge, opened in 1886, is just one of the several bridges built under his superintendence. Best known is Tower Bridge, but although Bazalgette's own design did not find favour, it does re-surface in two twentieth-century bridges, the Sydney Harbour Bridge and the Runcorn-Widnes Bridge over the River Mersey. Also amongst the Victorian engineer's works is Queen Victoria Street, partly of 1871 and partly of 1883, which was visited by members during the Autumn Meeting in 1999. The volume concludes with extensive notes (9 pages), comprehensive bibliography (6 pages) and workable index (4 pages).

The book is to be recommended to members of the British Brick Society although many may perhaps hope for a paperback edition in due course

DAVID H. KENNETT

BOOK NOTICES

Bill Breckon and Jeffery Parker, *Tracing the History of Houses*,
new edition, revised by Martin Andrew,
218 pp., numerous (unnumbered) line drawings,
Newbury: Countryside Books, 2000, ISBN 1-85306-644-3, price £9-95.

Pamela Cunnington, *How Old is Your House?*
Second Edition with introduction by Tony Birks
255pp., 62 numbered + 11 unnumbered line drawings, numerous (unnumbered) photographs in colour and black and white.
Marston Magna, Yeovil: Marston Books, 1999. ISBN 1-89999296-08-5, price £9-95.

These two paperback introductions to the history of houses are revisions of works first published in 1991 and 1980 respectively. The first is concerned exclusively with England, the second mostly so but with occasional nods in the directions of Scotland and Wales.

The book by Breckon and Parker is in five sections of varying length: 'The House in History', 'The House in its Region', 'The House in Detail', 'Caring for the Historic House', and 'How to Date a House', the last including a brief account of (some) relevant records. This inevitably involves a degree of repetition, although it is not this alone that creates feelings of *déjà vu*, sometimes even within a single paragraph. There is, at times, an unfortunate use of inapt clichés; it is curious, for example, to think of a particular architectural style as having 'ruled the roost' or of two such styles 'slugging it out toe to toe' (both p.32). As regards bricks and tiles, the survey is generally sound, although there are a few slips. 'The Normans,' we are improperly told, 'imported large quantities of brick from the Continent' (p.112). The familiar error that mathematical tiles were a consequence of the Brick Tax is again repeated (pp. 107, 113, 189) and the stated distribution ('Sussex, Wiltshire, Hampshire and Surrey': p.62) is both incomplete and misleading. 'Early floor tiles,' it is asserted, 'were larger than those of today and were unglazed. Glazed tiles were an 18th[-]century development' (p.141). There is a useful glossary, a short bibliography and an index.

The book by Pamela Cunnington is more attractive with several colour photographs. It begins with a consideration of the various sources available for studying the history of houses.

The account of their development which follows is fuller than that of Breckon and Parker, although the term 'Wealden house' is misunderstood at its introduction (pp.49-52), and, irritatingly, misapplication of the term then recurs throughout the book. The consideration of bricks and tiles is again basically sound, although the error that mathematical tiles were untaxed is once more repeated (p.92); the distribution of pantiles in the west of England is somewhat misleadingly described (p. 149); and again we are told that 'early' floor tiles were unglazed and were larger than modern tiles (p.168): the context suggests that by 'early' the author means *seventeenth-century* (and this may be true of Breckon and Parker too). The book gives useful hints on distinguishing the genuine from the bogus, there are some interesting case studies of actual houses and some reflections on the future of old houses. Appendix I briefly describes the process of carrying out a measured survey, Appendix II is a useful glossary, and Appendix III lists relevant organisations. There is a short bibliography and an index.

Both books are similarly priced. For those who wish to purchase only one, that by Pamela Cunnington is the better buy - but watch out for those non-Wealden 'Wealdens'!

T.P. SMITH

T.M.M. Baker, *London: Rebuilding the City after the Great Fire*,
xii + 196 pp., numerous unnumbered illustrations, mostly line drawings by the author, and end maps.
Chichester: Phillimore & Co., 2000 ISBN 1-866077-113-0. Price £27-50.

This is a large (A4) format book attempting, by careful study of available illustrations, to recreate in line drawings the appearance of numerous buildings erected after the Great Fire of London in 1666. Most are now entirely lost. Some of the buildings were of stone, but a majority were of brick; they ranged from the smallest of City houses to the largest of public buildings such as Robert Hooke's impressive Bethlehem Royal Hospital ('Bedlam') of 1675-76. Much, of course, was by one of England's greatest architects, Sir Christopher Wren. There is an introductory section, dealing with the Fire and its aftermath, but the bulk of the text consists of descriptions of the illustrated buildings. Comparision is helped by the fact that the drawings - elevations or sections - are reproduced at a consistent (though necessarily approximate) scale. The text is not seriously marred by the odd slip (p.88: Sir George Gilbert Scott appears as Sir *Giles* Gilbert Scott) or ambiguity (p.115: 'a large brick merchant's house'). In the nature of the case, however, it makes for melancholy reading: so much achieved and so much lost - some to subsequent fires, some to Hitler's bombs, some to genuine and necessary improvements, but all too much to Mammon. The book includes a list of sources for the drawings, a bibliography, and a full index. It is highly recommended.

T.P. SMITH

'Bricks "Я" Us' - the Missing Line

When *BBS Information*, **81**, October 2000, was being prepared, and after a final read-through, the computer took a unilateral decision to hide a line of text at the bottom of page 31. The relevant sentence (pp.31-32) should read: "'Real' bricks - actually moulded from some form of plaster composition - were red in colour and made to curiously thin dimensions. The set came with a small metal trowel, which was used to 'mortar' the bricks together using cold water paste."

T.P. SMITH

Brick Queries

From time to time, the British Brick Society receives enquires about bricks, brickmaking, other ceramic building materials, and brick buildings. They are printed when space is available in *British Brick Society Information.* Responses are also included when these are forthcoming.
DAVID H. KENNETT

KEEPING THE FEET DRY

At the recent BBS visit to Cressing Temple, it was explained to us that the brick plinths beneath the timber frames were insertions of the sixteenth century. This raises the question, when were the first brick plinths placed beneath timber frames?

My colleagues, Dr Andrew Rogerson and Stephen Heywood, believe that all timber-framed buildings have stood on plinths from earliest days, whether of brick, flint or stone. Dr Rogerson reasons thus: excavated eleventh-century timber framed buildings stand on lines of rammed flints or stone fragments. The earliest known brick plinths that survive under buildings are late medieval. It is logical therefore to assume that between the eleventh and fifteenth centuries the rammed flint footings developed into plinths, which were made of brick as soon as the material came to that particular area.

In contrast to this, however, published surveys and reports on seventeenth- and eighteenth-century timber-framed churches in Colonial America state that these buildings had their sillbeams laid flat on the ground; some had the sill interrupted by earth-fast posts and a few had wooden blocks beneath the soil, but none had brick or stone plinths until the beginning of the eighteenth century.

It would be very interesting to hear from members as to the date of the earliest brick plinths below timber frames in their respective areas.

EDWIN ROSE
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ELHAM VALLEY BRICK AND TILE COMPANY

Researching family history with a cousin in Kent, with imput from a local author has produced the interesting fact that two of my relatives worked for the Elham Valley Brick andTile Company, a works I have not seen mentioned in *BBS Information.*

Brian Hart, local author of *The Elham ValleyLine*, reveals that the company was operative only *c.*1885-1905, that the Elham Valley Railway Co. constructed sidings for the works sited alongside the line, north of the station, and that the clay earth had to be pumped in the form of slurry from Exted, one mile away.Bricks with 'EVC℠' stamped are known and a photograph shows a workforce of at least eighteen.

Fellow BBS member Molly Beswick considers it may have been chalk slurry piped from Exted to make 'London stock' bricks with the clay deposits (and kilns) located near the railway link.

Details particularly on owners, production figures, and brick usage would be most welcome. the Pegdens become wery well-known locally for steam engine aoperations.

BRIAN PEGDEN
Rosemeade, Monk Sherborne Rd, Charter Alley, Tadley, Hampshire RG26 5PS

BRITISH BRICK SOCIETY

MEETINGS IN 2001

The British Brick Society hopes to hold meetings in 2001 as follows:

Saturday 31 March 2001 *Spring Meeting*
South-east Warwickshire including the Oxford Canal brick kiln (disused) at Fenny Compton, the sixteenth-century Wormleighton manor, and the seventeenth-century arch at Chesterton.

Saturday 12 May 2001 *Northern Spring Meeting*
Study Day with Dr Margaret Imrie at Burton Agnes Hall, East Yorkshire.

Saturday 9 June 2001 *Annual General Meeting*
King's Lynn with visit to some of the many brick buildings in the town.

Saturday 15 July 2001 *Summer Meeting*
(date to be confirmed)
Basingstoke Area, including Basing House and a brickworks office building designed by Sir Edwin Lutyens which is now the offices of the management company running a trading estate. We hope also to see some of the churches in the area with seventeenth-century brick features.

a Saturday in September 2001 *Autumn Meeting*
(date to be arranged; *Note* - we shall attempt to avoid a clash with Heritage Days)
Bursledon brickworks and St Margaret's Priory, Titchfield, Hampshire.
St Margaret's was built as a hunting lodge with a prospect tower and has a dedrochronological date of 1623/1624.

a Saturday in late October/early November 2001 *Late Autumn Meeting*
(date to be arranged)
North London to include tours of Lord's Cricket Ground and the Midland Grand Hotel, St Pancras; and the exteriors of the British Library and Quinten Kynaston School.

Details of the first two are included in this mailing.
Further details of the remaining meetings will be issued in future mailings.

The British Brick Society is always looking for new ideas for future meetings. Suggestions should be sent to Michael Hammett, David H. Kennett or Terence Paul Smith. Thank you.