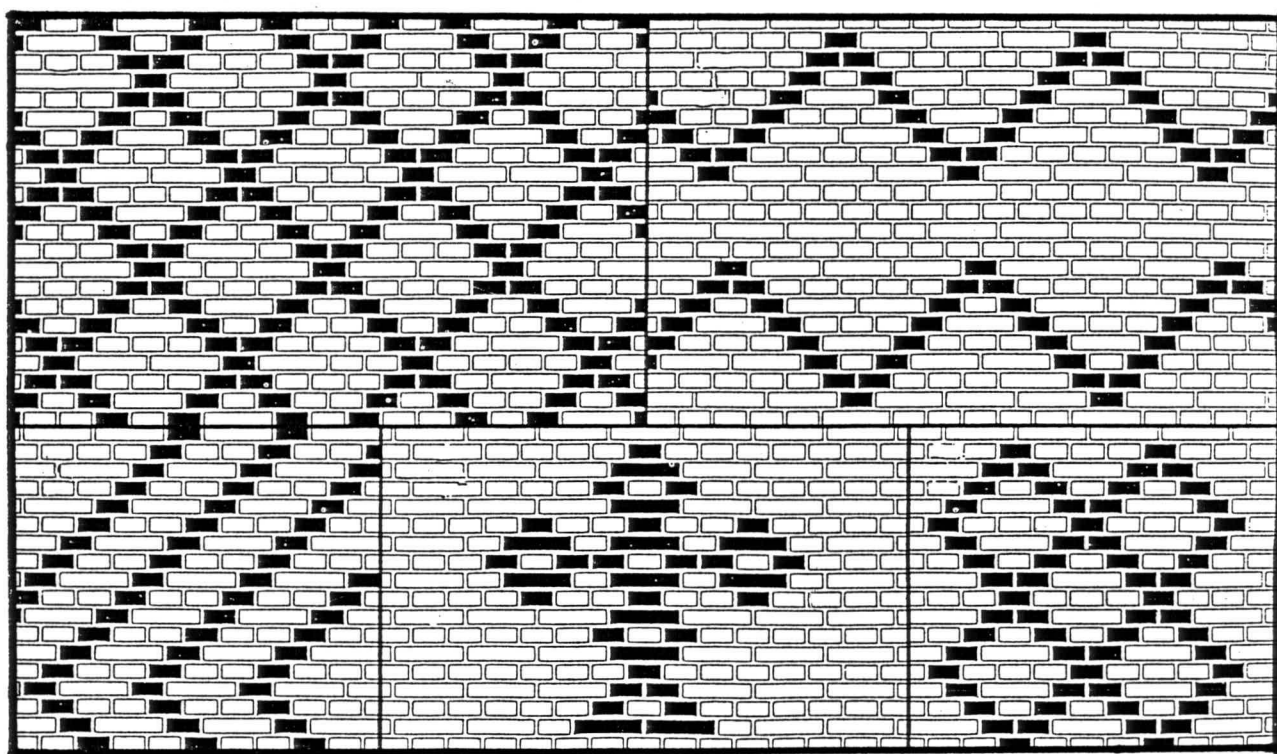


ISSN 0960-7870

BRITISH BRICK SOCIETY

INFORMATION 55

MARCH 1992



OFFICERS OF THE BRITISH BRICK SOCIETY

Chairman	T P Smith BA, MA, M.Litt., MIFA	School Flat, Dartford Grammar School for Boys, West Hill Dartford, Kent DA1 2HW
----------	------------------------------------	---

Hon.Sec and Membership Sec	M Hammett ARIBA	9 Bailey Close, Lucas Road High Wycombe, HP13 6QA 0494 520299
-------------------------------	-----------------	---

(who also receives all direct subscriptions £3 p.a.)

Enquiries Sec and Editor of 'Information'	D Kennett	27 Lords Lane, Bradwell Great Yarmouth Norfolk NR31 8NY 0493 668605
---	-----------	--

(for enquiries on academic or historical matters and articles and items for 'Information')

Hon.Treasurer	Mrs Evelyn Hammersley	68 Bromley Heath Road Downend, Bristol BS16 6JT
---------------	-----------------------	--

(only matters concerning the annual a/cs, expenses etc.)

Publications Officer and Bibliographer	Mrs A Los	"Peran", Plaxton Bridge, Woodmansey, Beverley E Yorks HU17 0RT
--	-----------	--

OFFICERS OF THE BRICK SECTION OF THE BRITISH ARCHAEOLOGICAL ASSOCIATION

Chairman	T P Smith BA, MA M.Litt., MIFA	Address as above
----------	-----------------------------------	------------------

Hon.Sec	M Hammett ARIBA	Address as above
---------	-----------------	------------------

Members of the BAA may elect to join its Brick Section and, as such, will be eligible for affiliation to the British Brick Society. They should inform the Hon. Secretary of the BBS of their address so that they can be included in the membership list.

CONTENTS

Editorial: Sidelights on Manufacture	...	...	2
Discovering Brick Dots			
by R.B. Kennell	...	...	5
Brickmaking at Jubilee Brickworks, Lytchett Matravers, Poole			
Some recollections by Mr William George Short			
recorded by Martin Hammond	...	...	7
Calcinated Flint Facing			
by Roger Miles	...	...	11
William Willmer Pocock, 1813-1899 A Victorian Architect			
& Developer			
Extraxts from his <u>Reminiscences</u>			
contributed by S.N. Hart	...	...	12
Brickmaking at Armadale, West Lothian, Scotland			
by S. Campbell Passmore	...	...	13
Book Review: B. Murless, <u>Somerset Brick and Tile Makers</u>			
A. & T. Harper Smith, <u>The Brickfields of Acton</u>			
(reviewed by D.H. Kennett)	...	...	17
Book Notice: M. Williams, <u>The Slate Industry</u>			
(reviewed by T.P. Smith)	...	...	19
The Diaper Work at Queens' College, Cambridge			
by T.P. Smith	...	...	20
Book Notice: M. Hammett, <u>The Role of Brick in our Environment</u>			
(reviewed by T.P. Smith)	...	...	24
Brick Queries Column			
Brick Building in Cornwall			
from A.J.J. Jaggard	...	...	25
A Hepworth Brick in Bahrain			
from J. Greaves	...	...	26
Hepworth Brick: a reply			
by M. Hammett and D.H. Kennett	...	...	26
Hicknall & Co, Stourbridge			
from O. Ward	...	...	26
Rebated Coping Tiles			
from S.N. Hart	...	...	27
Rebated Coping Tiles: some examples			
by D.H. Kennett	...	...	27

EDITORIAL:

SIDELIGHTS ON MANUFACTURE

Issues of Information are not necessarily intended to have themes. Some will have by design, such as Information 53 and its concentration on brick bridges. Equally the editor may hold back an item because another on a cognate topic has been promised.

The sidelights on manufacture gathered together in this issue of Information have no such premeditated intent. Martin Hammond's piece of the recollections of Mr William George Short had been sent some time ago, together with other contributions which have appeared in recent issues of Information. It so happened that Roger Kennell sent his item to me in September 1991 and Stephen Hart his in October 1991. By accident, they, and the one from Roger Miles received in January 1992, all offer sidelights on manufacture.

Interesting comparisons occur from these and also the long gazetteers reviewed in this issue of Information. Roger Kennell speculates that brick dots indicate a thousand bricks, which we are told was a day's production for one man at Lytchett Matravers. But Mr Short is reported as saying:

The last brick in each barrowload was marked: this helped with counting the number of bricks made.

This would suggest that each mark means 36 bricks. Perhaps in different parts of England, different systems were in use. Although it is not difficult to see how recognisable arrangements of the two thumbs and eight fingers could be used to give patterns indicating numbers up to 27. A brick marked with ten imprints might not indicate ten thousand bricks but 19. If this is the case throughout England, it would mean the possibility that many more such bricks might be visible. Contributions to Information of sightings of various numbers of imprints in different places would be welcome.

Martin Hammond's correspondent, Mr Short, used a barrowload of 36 bricks, but the illustration from Dobson in The Brickfields of Acton (reviewed herein) shows a hack barrow with 26 bricks, thirteen to the side. Much, but not all, of Dobson's material in 1850 came from Staffordshire and London. It may be a regional variation.

We can contrast the exceptional hours of Mr Short with the profit made by William Willmer Pocock for "only about an hour or two's attention once a week". I have no readily accessible figures for brickmakers' wages in the nineteenth century, and Mr Short was paid piece work, working out at 17s 6d per 1000 bricks, or about £5 5s 0d for a six-day week. But even though this was above the average for skilled workers in the 1930s, Mr Short's skill was used only for six months of the year. No overall figure is given for his annual earnings from brickmaking but it is unlikely that he made much above £100 in a year, or half the average annual wage for skilled workers. Pottery throwers, whose employment was continuous, are reported in 1924 to have received £198 per annum, rising to £203 in 1935. Pottery turners, a somewhat lesser skill, received £153 and £166 respectively. Bricklayers, it can be noted, were paid £191 in 1924 and £176 in 1935, a time when the average price of a house in a medium-sized provincial town, like Oxford or Luton, went down from around £700 or more to between £425 and £495. That is if the bond was stretcher bond; Flemish bond was more expensive, and a future contribution to Information will explore this.

INFORMATION 55



Fig. 1 Places in the major items in Information 55

The cost of living in the 1920s and 1930s was not greatly different to that in mid-Victorian England: the price of the famous basket of consumables had gone down in late Victorian and Edwardian England. Mr Short's wages, however, were greater; probably double those of his Edwardian counterpart judging by comparable occupations. Building craftsmen received about four times the wage of their mid-Victorian counterparts. In building terrace houses in Luton in the 1880s, the bricklayers were paid between £1 4s 0d and £1 6s 0d for six days work. In 1938, comparable work in the same town was paid at 1s 10d per hour, or £4 8s 0d for a 48-hour working week. This is not greatly in excess of the £176 for a year's earning reported by Guy Routh in Occupation and Pay in Great Britain 1906-79. Stoppage time, when no work was possible, was not paid.

The profit of £500 on brickmaking represents the equivalent of the wages paid to twenty or more brickmakers for their six month's work. But equally it is indicative of the demand for bricks between 1850 and 1880: urban development, the railways, industry. That demand is reflected in the article on Armadale West Lothian, and how brickmaking sprang up as one of the industries supplying the needs of a new town. Mr Short reports the day's round trip as the limit of distribution from Lytchett Matravers. One can easily see why bricks would be made in the vicinity of new settlements.

We have come to the time of the year when the society is more active. Events in prospect include:

Weekend of 16/17 May	Visit to Eastleigh and Romsey, Hampshire
Saturday 13 June	Annual General Meeting in the Hull/Beverley area. See separate leaflet in this mailing of <u>Information</u> .

Future plans include:

September 1992	A Saturday visit to East Suffolk
Spring/Autumn 1993	Saturday visit to see 1930s brickwork in Luton and, in the afternoon, Houghton House and eighteenth-century brickwork in Ampthill, Bedfordshire.

This issue of Information has been slightly delayed, and members will notice that production has regressed from a laser-printed, computer-set, justified text. The attempt was made to arrange for the use of a computer for word-processing for the setting; unfortunately it was not possible to organise this at a time convenient to the editor's somewhat peripatetic work life. Setting, therefore, reverted to low-tech, sc. the editor's twenty-two year-old second typewriter!

It is probable that Information 56 (July 1992) will also be set the same way but this does have the advantage that it can be done at one of the editor's fixed workplaces, indeed his only stable workplace.

Information 56 (July 1992) will have a large part devoted to the publication of material which has been submitted about terracotta dragons, wyverns, and other splendid beasts. For instance, 'The Two Bears Hotel', Southtown, Great Yarmouth, does have two brown bears on either end of the central pediment.

In connection with Information 56, the editor is most anxious to seek out illustrations, both photographic of beasts in place, and from catalogues of brickmakers. A number of members have been approached about the latter and have kindly supplied items. If other members have material which would be of interest, please would they let the editor know as soon as possible. It would be appreciated if material could be sent by 27 June 1992.

Contributions on subjects other than dragons and the beasts which adorn buildings would, of course, be most welcome.

The editor inherited a small "bank" of articles for use in future issues of Information. However, the stock is beginning to run dry. It would be useful to have some articles in hand to use in Information 57 (November 1992) and subsequent issues.

David H. Kennett
Editor

DISCOVERING BRICK DOTS

R. B. Kennell

By looking carefully and closely at brickwork, several surface features may be seen. These result from the brickmaking or the brick burning process. One of these features from the brickmaking cycle, when bricks were made by hand, relates to the bricks drying in the hacks prior to the burning.

Careful searching on brickwork of all types constructed during the nineteenth century and the first two decades of the present century may show fingertip impressions on the header ends of some bricks. The number of impressions ranges from one to ten. They were made by the brickmaker on to the green bricks as a code to indicate the quantity of bricks made and stacked for drying in the hack. It is believed that each single mark represents one thousand bricks; hence a brick with six dots on it means that up to that brick six thousand were stacked and drying.

A survey of these marks has been made at Hadleigh, Suffolk, a small market town with a population of some six thousand people, which is more notable for its timber-framed buildings than for its quantity of brickwork.

By observation from the public highway only of the nineteenth century housing, boundary walls, and industrial brickwork, a total of thirty-one headers displaying such marks have been recorded to date. The table shows the number of bricks found for each number of marks up to ten:

BRICK MARKS:	1	2	3	4	5	6	7	8	9	10
NUMBER FOUND:	2	0	7	4	6	2	7	1	2	0

Note: As yet no bricks showing 2 or 10 marks have been recorded in Hadleigh, but they have been observed in other localities.

The method of making the marks also has variations. Most were made by the finger tips, with the amount of pressure applied making either a shallow or a deep impression. To position one's own fingers into those made by the brickmaker during the last century can bring a unique closeness to a past age. Less frequently, marks can be found made by a metal implement, producing an oval shape, whilst one example has been found where a twig, or a piece of straw, was used to make small, deep holes.

The ability to find these interesting marks on bricks can vary according to the time of year and the position of the sun. Ideally, the best discovery time is when the low winter sun is shining along the wall face. This will cast a shadow into the impressions in a brick, but when the sun is full on to the wall face, the more shallow marks can almost disappear.

Initially these marks were only found on red bricks. Subsequently they were also found on the well-known Suffolk white bricks although in fewer numbers. This would be accounted for by the use of the white bricks for the more prestigious type of buildings where the client might not take kindly to the bricklayer bedding those bricks showing marks which at the time were appropriate only to the brickmaking process. This would have spoilt the appearance of the newly-built wall face.

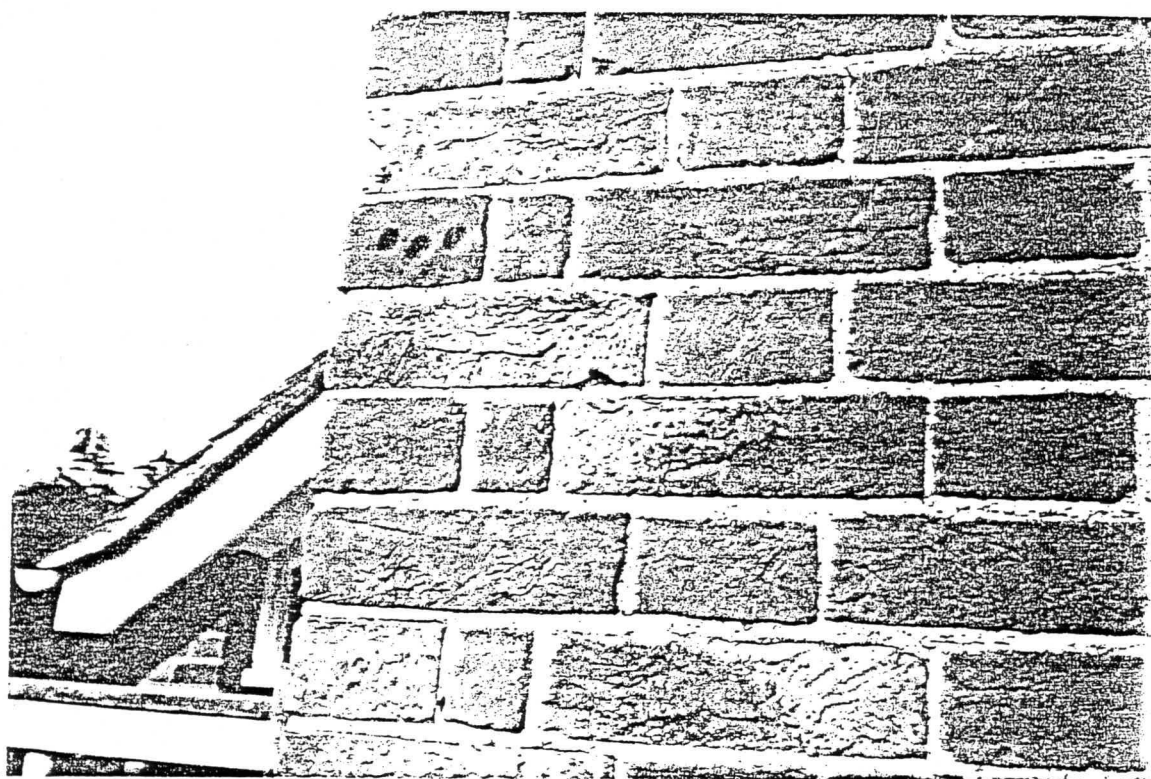


Fig. 1 Brick at Orford, Suffolk, showing three bold finger tip dots. Note the arc of the dots which correspond to the position of the three central fingers of the hand.

As the bricks are stacked on edge to dry in the hacks and usually from right to left, then the marks were made by a right-handed person.

To find these marks on brickwork, other factors increase the difficulty of their discovery. The burning process employed in former times often resulted in perhaps only some 60% of the bricks produced being suitable for facework. The chance of the bricklayer picking up one of these marked bricks when a header was required in the bond sequence to show on the wall face was low. That only one brick per thousand carried these marks, and with the forgoing limitations, then the finding of such bricks is very rewarding.

It would be useful to have further information from other members of the British Brick Society regarding these brick dots. Confirmation of the suspicion that each dot is equivalent to a thousand bricks would be valuable. The practice was widespread for these marks have been observed in many parts of the country.

BRICKMAKING AT JUBILEE BRICKWORKS, LYTCHETT MATRAVERS, POOLE, DORSET

Some recollections by Mr William George Short,
as recorded by Martin Hammond, 25 February 1981

Introduction

The brickyard was situated south-east of the junction between Blandford Road and Rushall Lane (N.G.R. ST/962968). Jubilee Cottage in Rushall Lane is dated 1887, Queen Victoria's Golden Jubilee Year. Two houses were built on the Blandford Road frontage some years ago, and three more were built on the site of the Stoney Down Pottery and Jubilee Cottage was refurbished in 1989. The pottery was owned by Adrian Lewis-Evans until his retirement in 1988.

Mr Short was born in March 1911; he started work at the brickworks in 1927, having worked for a year at a nearby sandpit. His father had a disagreement with the brickworks owner, Mr Blaney, and Mr Short took over his father's moulding bench despite being under age. He had to be eighteen years old before he could work in a brickyard.

Jubilee Brickworks had been working since at least before 1915.

Clay Digging

The clay was dug during the winter. It was mild, or loamy, at the top but became stronger the deeper one dug. Clays from different levels were kept separate and the bricks made from them went into different parts of the kiln. Those made of the strongest clay went into the bottom of the kiln and the mildest at the top.

The clay was dug with a spade with a narrow curved blade, called a graft. A metal plate was strapped to the instep of the diggers' boots to protect them. Test holes were usually dug first to prove the nature of the clay. The clay was barrowed to a heap for weathering during the winter, the heap being about 7 feet (2.15 m) high.

Moulding

Moulding started at the beginning of April, often Easter week, and went on until October, when the first frosts were expected. Frost was good for weathering clay but would shatter freshly moulded bricks. Enough clay for the day, to make about 1000 bricks, was pecked down from the weathering heap between five and six p.m. and spread out on a bed of coarse sand. The layer was about 1 ft (300 mm) thick, with a ridge formed around the outer edge to retain the water which was then thrown on it. The water came from springs or small ponds which collected surface water on the site. The whole process was called 'shearing out'. Wet sacks were laid over the clay overnight. The next morning, sometimes as early as 4.30 a.m., the sacks were removed and a heavy plank 12-14 ft (3.6-4.2 m) long and 9-10 in (230-250 mm) wide was repeatedly pressed into the clay to get the air out. The clay was then piled up together again with the turning-iron and worked over with the plank, then piled once more. It was then ready for moulding. More sand was added to the strong clay than to the mild.

The sand was dug on the common on the north of Rushall Lane and dried on 'flues'. A dome of loose bricks was built up and the sand piled around it to a depth of 6 in (150 mm) and a fire kindled inside. The sand was fine textured and would blow about in the wind in rough weather. The moulding table had a 'bin' for sand at one end formed of vertical boards fixed to the edge of the top. In front of the moulder was the block or stock board to which the 'mouse' was fixed, forming the hollow in the brick. The mould was placed over the block and the depth of the brick could be adjusted by turning a screw through the table top under each of the four corners of the mould. The depth was checked with a notched guage stick. Behind the mould was a water trough in which the striker floated. On the right, the table was loaded with clay, enough for 72 bricks. Clay was cut down from this heap with a two-handled curved iron cutter, a 'cuckle', and rolled forward and back, the sides patted, and given a quarter turn in dry sand spread on the table to the right of the mould, picked up and thrown into the mould. The knob, or excess of clay, was cut off with a bow made of laurel wood with a wire strung between the ends, and the top of the brick smoothed with the striker. The brick was turned out on to a pallet board and placed on the barrow.

A barrow load was 36 bricks; 27 loads plus 27 bricks equalled 1000 bricks, which was a day's work. Payment was 12s 0d (60p) per 1000 from clay 'put to table' by an assistant; or 17s 6d (87½p) if you did your own pugging. When pugging or preparing his own clay Mr Short would start at 4.30 a.m. and break at 7.00 a.m. for 'lunch'.

The barrow had an iron wheel and iron strips were laid as barrow runs between the hacks, but these were dispensed with when barrows had pneumatic tyres. A barrowload could be made in a quarter of an hour, including setting on the hack.

Drying

The hacks for drying the bricks were 500-600 bricks long, set on edge with $\frac{1}{2}$ in (10 mm) gap between, in double rows ten courses high. They were built on a bed of sand spread 3-4 in (75-100 mm) deep and levelled off on to with a planing board. Wooden hack caps were placed on top of the hack, and hurdles protected with sides in rough weather. In hot weather the bricks would also be covered at lunchtime to prevent cracking. Each moulder had two or three hacks allotted to him, and he worked only one type of clay, strong or mild. One course, equalling a day's production, was placed on the hack at a time and had time to stiffen slightly overnight. The tables were moved once a week as the face of the weathering heap retreated and the hacks filled up. Sometimes a rough shelter of hurdles and sacking would be erected over a table, but usually they were in the open. The height of the table was critical: short moulders would stand on a few bricks if necessary.

The moulds were of hardwood which did not warp, and were lighter than steel-lined moulds. A spoke-brush was kept by the water trough for cleaning the mould every so often. The clay on the bench was covered with damp sacking to stop it drying out.

The last brick in each barrowload was marked: this helped with counting the number of bricks made.

A mule-operated pugmill was used before Mr Short's time, but each moulder preferred his own consistency and the man on the mill found it hard to please everybody. (Particular grades of brick could be produced from the different clays and it was perhaps found best that each moulder worked individually).

There were four moulders at Jubilee: Mr Short worked the strong clay; Jack Taylor made the 'best' bricks for the middle of the kiln; and Charlie Annam (?Hanham) and Jack Ash made the soft bricks for the top of the kiln.

The Kiln

There were three scotch kilns, each of 40,000 bricks capacity. 'Kiln-running' was done with iron-wheeled barrows taking fifty bricks each; twenty-four on each side and two on top. The bricks were by now completely dry, having spent on average three weeks on the hacks. The job was piecework: 1s 2d (6p) per 1000 set. A setter worked inside the kiln and two runners supplied him with bricks. Three bricks at a time would be taken off the hack and placed on the barrow. One runner would be loading the barrow and taking it part way to the kiln, and his mate, coming back from the kiln, would meet him and exchange barrows. The bottom half of the kiln was set first from the lower hatchway or wicket, and the upper half from the upper hatchway. A barrow run of two 18 ft (5.4 m) planks was set up to the upper hatchway. Bricks were passed to the setter three at a time: but as the top of the kiln was reached they were handed to him one at a time to avoid damage. A layer of soft burnt bricks, called plotters, was laid loosely on top of the kiln walls. This was left in position during the early stages of firing until the steam had been driven off. The hatchways were bricked up and pugged over with 'loom', a mixture of clay and sand.

The kilns had eight fireholes each side. To start with, fires were lit in only two each side; then after three hours a third would be lit; and so on. Old tyres and gorse or furze were used for the 'smoke fire'. The schedule was one day smoking, one day building up to full heat, and one day finishing, after which the fireholes were bricked up and pugged over. Towards the end of the firing the top of the kiln had to be watched to make sure it sank evenly, an indication that the bricks had fully shrunk throughout the kiln and they were properly fired. A drop of $2\frac{1}{2}$ in (63 mm) was looked for. Sometimes the middle finished sinking before the ends, so the middle fireholes were pugged and the end ones kept going. The fireholes had no grates so every so often they had to be clinkered-out with an iron bar, $1\frac{1}{4}$ in diameter by 4-5 ft long (32 mm diam. by 1.2-1.5 m in length) dipped in a bucket of water to keep it cool. The coal was 'best Stockholm coal' but it was not known where it came from.

After several days cooling the kiln was unpacked. For this the men wore hand-leathers: leather pads fitting the palm of the hand with loops for thumb and forefinger, or old pieces of old inner-tube cut up. The bricks were sometimes loaded directly into lorries or the works' own wagons, or stacked ready for dispatch. There were several qualities of bricks, starting from the bottom of the kiln there were brindle, best hard, best red, best motley, neether (used for lining wells), and soft (for internal work). The bricks were stamped F O B - Frederick Oxford Blaney. His father George Blaney was a farmer as well, at Loop Farm, north of the village.

George Roberts was the yard foreman and kiln-setter; and Mr Short and Teddy Fox were kiln runners together.

Well-Digging

Mr Short and Teddy Fox sometimes used to dig wells together for the local houses in the winter, or work as builders' labourers.

One well at 'Rangemoor', about 22 ft (6.7 m) deep, was excavated to the full depth and bricked up ('steened') from the bottom. The hole was dug 4 ft (1.2 m) diameter, but the diameter of the finished well was 2 ft 6 in (0.76 m). No special curved bricks were used; but fairly soft, porous 'neether' bricks were preferred because they acted as a filter. Three or four courses were laid and excavated material packed in behind them. Only the top 2 ft (0.5 m) below ground level was laid in mortar to keep groundwater out. The man at the top of the shaft would check the shaft was straight and true: it was all done by eye.

In running sand the bricks were laid on a timber kerb which was allowed to sink under its own weight as the ground was dug away below it. During excavation and lining water was constantly removed in buckets along with the spoil. There could be as much as four buckets of water for every bucket of spoil. Bricks were lowered in the bucket, four at a time, Generally the well was sunk to 4 ft (1.2 m) below the level of the spring, to provide an ample reservoir for dry times. Large stones and hard rock were dealt with by a large chisel and a 14 lb (6.35 kg) sledgehammer. The first jobs on a new building site were to dig the well and 'blow' (sc. slake) the lime.

Wirecut Bricks

Wirecut bricks were also made at Jubilee from clay which was unsuitable for hand-moulding. The clay was dug as it came and loaded into tipping skips (Jubilee trucks) running on rails. It was tipped at the foot of a bucket elevator into which a man shovelled it. A pugmill with two large rollers and an auger extruded it through a 'mould' or mouthpiece, which was lubricated top and bottom with water. The clay column came out and hit a stop, then a length would be cut off and pushed forward over about six rollers which worked in an oil bath, on to a cutting-table. Here a vertical plate operated by a lever pushed it sideways against a cutting frame with eleven wires, making ten bricks. The spare pieces from the ends of columns were thrown back into the pugmill. The bricks passed on to a board, where they were taken off two at a time and removed for setting on the hacks. The extruder was driven by a belt from a Garnett traction engine, which was also used to haul the two 5000-brick capacity wagons and for hauling heavy logs up to the saw-bench. This was used for cutting up timber for building and for use around the works. A horse and cart could haul only 500 bricks and a day's round trip was considered to be the maximum distance for distribution of bricks from the yard. Coal also had to be brought in; sixteen tons were required for each firing. The wirecut machine could produce ten thousand bricks a week.

Afterword

Mr Short finished work at Jubilee on 14 August 1939; he was called up the following day. There was probably one more kiln firing that autumn. Then the works closed for good.

Mr Short was demobbed on 14 September 1945 and in October that year started at Dorset Clay Products at Upton, Poole, where he stayed for 25 years. Dorset Clay Products was the last of the potteries to be established in Poole for making salt-glazed stoneware pipes and fittings. It closed in 1970.

Two other local brickyards were mentioned: Miller's, worked in the late nineteenth century, which lay further along the Blandford Road, towards Wimborne Minster; and at 'Red Lane' (Brickyard Lane), Corfe Mullen (N.G.R. SY 972978). A scotch kiln stood on the site in the late 1950s, but it is now the site of the red-burning clay for Pilkington's floor-tile works in Poole, and before that it was owned by Kinson Pottery. Several grades of clay were dug there: K1, K2, K3, and Blaney's Blue. A man called Burbage worked there; he used to chew the clay to test it. The top clay, the red mottled mild K1, was no use for tilemaking but was used for pressed bricks. The blue clay was cut into 15-18 in (380-450 mm) squares with spades and loaded into lorries; two wagonloads of red and blue clay were sent each week to London from Bailey Gate station, on the old Somerset and Dorset Railway, near Sturminster Marshall. Who used it is not known.

There were many travellers (or tramps) who passed along the Blandford Road, and sometimes they could be found by the kiln-burners warming themselves over the sand-drying flue.

CALCINATED FLINT FACING

Roger Miles

Fieldwork by the St Albans Archaeology Group has identified an aspect of local brickmaking which appears to be hitherto undrecorded..

Burnt (calcinated) flint occurs quite widely in the central part of Hertfordshire, both as a general, background scatter on fields and in association with archaeological sites. Pieces of this artifact, which is, without doubt, man-made, are commonly referred to as 'pot-boilers'. The postulated use was as a means of heating water in, it is assumed, prehistoric times, when poor quality pots would not withstand direct heating. Evidence for stones being used to heat water is abundant in many parts of the British Isles (and the rest of the world) where burnt mounds are recognised archaeological features.

The St Albans Archaeology Group have been attempting to prove or disprove the 'pot-boiler' description by various avenues of research, including practical experiments. In the course of fieldwork the group found considerable quantities of burnt flint in association with a small disused claypit, one of many in the vicinity which served local brickworks. The amount of flint, which was presumably process loss, suggested that it was being made in appreciable quantities and taken away for use elsewhere. During the course of other work in the area it was noticed that bricks in a nearby farmhouse had crushed flint impressed into their surfaces, in the same manner as the sand most commonly used. As calcinated flint is pale grey to white in colour it has a significant effect on the appearance of the brick.

A wider survey (which is on-going) has found flinted brick in various buildings in the St Albans area, representing a range of periods from the sixteenth century to the around 1900. Enquiries by Dr Lyle Perrins, a member of both the British Brick Society and the St Albans and Hertfordshire Architectural and Archaeological Society, has found no previous knowledge of this aspect of brick manufacture, at least in this area.

The St Albans Archaeology Group would be interested to know of occurrences of this type of brick facing from any other area of the British Isles. The group can be contacted via the author:

Roger S. Miles

Chairman, St Albans Archaeology Group

21, Upper Culver Road, St Albans, Hertfordshire AL1 4EE.

Flint when heated crazes at a relatively low temperature (300-400°C) and becomes progressively more opaque until at 700-800°C it is virtually white. When flint is then crushed these white angular fragments, typically 0.5-2.0 mm in size, have a distinctive appearance in the brick surfaces.

The St Albans Archaeology Group hopes to publish the results of further researches in due course, with appropriate acknowledgements to all contributors. Fuller details of the research, beyond the scope of this summary note can be forwarded on application.

WILLIAM WILLMER POCOCK, 1813-1899

A VICTORIAN ARCHITECT & DEVELOPER

Extracts from his Reminiscences

Contributed by S.N.Hart

Reminiscences is a private autobiography of William Willmer Pocock, Architect and Developer, 1813-1899, the son of William Fuller Pocock, also an Architect and Developer, who lived 1779-1849. The selections were written in 1885/6. W.W. Pocock is the contributor's great grandfather.

"... within the Parish of Kensington ... the existing Building Act did not apply. But a new act had been just past embracing this parish, but was not to come into operation till Jany.1.1845, and then not to apply to buildings commenced before that date and finished within that year.

In consequence of the rage to commence buildings before Jany.1.1845 and to get them completed within that year, bricks rose to a fabulous price. They were even brot from Hull by steamer and from all parts of the country. Then for the first time within the memory of man, red bricks, since so extensively used, were introduced into London. Seeing an advertismment in The Builder of land for sale at Battersea, containing brick earth, I asked my father if he thought I could manage to buy it and make bricks. He took time to consider and then said, "No", but he thought he could. He bought it and we agreed to make bricks together, half and half; I to pay him a royalty for my half, and to join in the cost of filling up the holes made. We were late in commencing and the bricks did not turn out very bright. But bricks were still at a high figure and he was busy building at Hill St. whilst I had a large stock bought before the great rise, so he had nearly all our first make. The next season I took my half, but he did not want many, so his portion had to be sold, and as we made some serious bad debts in selling them, I had to bear one half of them. This I thought hard, but not worth grumbling about. Afterwards we were more careful."

William Fuller Pocock died on 29 October 1849.

"The operations at the Brickfield were suspended owing to the time of year, but as I had under a codicil to the will, the liberty of taking this at a valuation, I had to attend to this, that I might recommence operations if I took it or it might be sold without loss of time if I did not. This codicil had been made immediately upon the purchase, or it would probably have been different. I had for four years been paying a royalty in respect of damage done to the land by the abstraction of Brickearth, and also for filling up the holes made, as well as a surface rent equal to a moiety of the interest on the purchase money. To the best of my recollection no directions were given for these things to be taken into consideration, so that when the figures came out I hesitated, but ultimately agreed to take it.

I have already mentioned my Father's purchase of land at Battersea for brickmaking. In March 1852 I agreed to take of Mr Carter two plots of land for building purposes, that on which Falcon Grove stands and one on part of which Shillington Street school stands and to purchase $7\frac{3}{4}$ acres more on terms that amounted to about £330 per acre

As soon as I had possession of the $7\frac{3}{4}$ acres of freehold, I erected some large sheds and began to make hollow bricks under a licence from Mr Roberts. My success was only partial as my caly was not good enough, and though I supplied some for Prince Albert's model cottages at Windsor and sold all I made, I abandoned the trial with a loss. However, after 8 years the West London Extension Railway Company gave me £4600 for $3\frac{1}{2}$ acres which covered my loss on this attempt and in the shape of interest left the other $4\frac{1}{4}$ acres free and put £1000 to £1500 more into my pocket. A brickfield is one of those things which by the 'Land Clauses Act' an undertaking is obliged to take in entirety if touched at all. As my brick field then embraced about 12 or more acres with plant etc. I considered myself entitled to a good price if I let them off with taking no more than they wanted. I also sold little more than half an acre for Parish Schools for £800 and let the residue for building at about £120 per ann. per acre. In the mean while I was making bricks on the parts unlet during 30 years at an annual profit of £500 at least with only about an hour or two's attention once a week. "

BRICKMAKING AT ARMADALE, WEST LOTHIAN, SCOTLAND

S. Campbell Passmore

My Scottish great grandfather, Andrew Gillies, was a brickmaker whose life was itinerant ending in California but much of it was spent in the West Lothian burgh of Armdale.

Andrew was born on 4 February 1846, at Bondeath, a cluster of cottages in St Ninian's, Stirlingshire, the sixth son of Robert Gillies, agicultural labourer, and his wife Mary (nee Drummond). Robert and Mary had married at Blaircessnock, Port of Mentieth, Perthshire, on 22 November 1835. Their early married life was a wandering one until they settled at Armdale in the late 1840s; here they remained until their deaths in 1880, which took place within a few weeks of each other.

Armdale in the 1840s was in the process of becoming an industrial centre. It had been the Barbauchlaw Estate, famed for its hunting until Sir William Honeyman purchased it at the end of the eighteenth century. Sir William became Lord Armadale and an enterprising innkeeper, George Swann, built an inn alongside the tollgate on the road between Edinburgh and Glasgow opened in 1786. The inn was named the 'Armadale Inn'. Around this a town grew; immigration was encouraged by the discovery of ironstone and coal in the area. By the 1840s there was a suburb of Bathville, also an industrial centre. In 1863 Armadale had a population of over 3000 was was created a burgh. Railway lines linked the various industries to the North British Railway Company's route between Glasgow and Edinburgh.

In 1819, three men - John Wilson, John Harvie, and William Roberts - had formed a company to work the coal at Barbauchlaw, and their coalworks continued until the Monkland Iron Co took a lease of the whole minerals of the estate. This company was also known as the Buttries Collieries. In the 1850s they built some "handsome houses" for their workers: Mount Pleasant Row. These "houses with floors of broad square bricks" were occupied by "the best class of workmen": Robert Gillies lived in one of these until his death.

At first the Monklands Iron Company bought bricks from the Broompark Works near Torpichen but then the company established their own brickworks; it was in these works at Armadale that my great grandfather Andrew, together with his older brothers Robert and George, learnt their trade. In 1848, the nearby Boghead Estate had been the site of the discovery of a rich find of coal which attracted a huge influx of new workers into the area. Young's Paraffin and Light Co which mined the parrot coal at Boghead to produce paraffin oil and solid paraffin employed nearly a thousand men from Bathgate and Armadale. Fire coal, gas coal, steam coal collieries, and oil works proliferated here. Many buildings were required to keep pace with the demands of housing and industry.

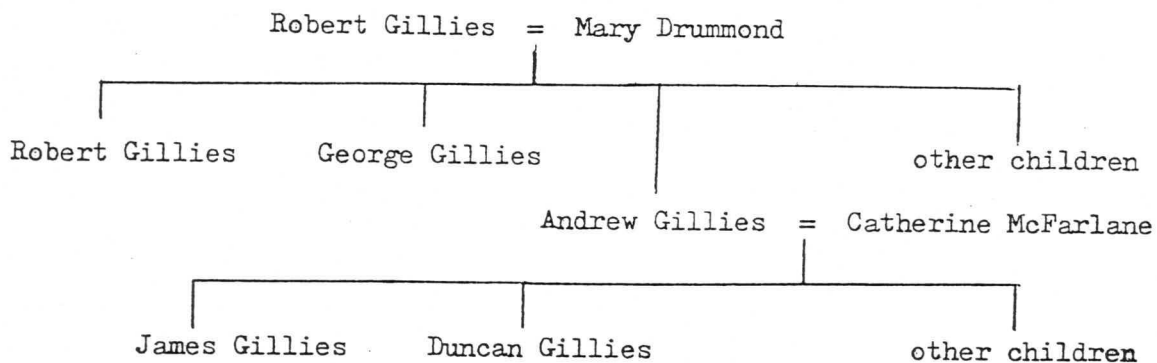


Fig. 1 Family tree of those mentioned in the text. The author's grandfather was James Gillies.

Brickmaking was a seasonal job. Most work stopped in the autumn because of the risk of frost damaging drying bricks in winter. However, a few men were retained to stockpile enough clay for the next season. In April the clay was tempered with water and kneaded with bare feet. Pugmills, operated by horse power, had been invented in the seventeenth century but seem not to have been used at Armadale. Children were often employed to barrow the clay to the moulding benches. The three Gillies boys began work as barrow-boys hauling clay, an occupation also known as "bearers-off".

Moulding was by the pressing of tempered clay into sanded wooden frames although some workers preferred pallet moulding. A stockboard was nailed to the moulder's bench and, from the late eighteenth century, a raised block to form the frog was added. The moulder sanded the mould and set it on the stock; clay was rolled to fill the mould, throwing it in hard. The clay was trimmed of the mould with a wire bow and smoothed with a strike, a stick moistened with water. The brick was then turned out of the mould on to the pallet board for the bearer-off to remove on a barrow and set on the drying platform

By the time the Gillies boys were learning the trade, mechanised methods had been introduced, cutting bricks with wire using stiffer clay, but only ten bricks could be produced at a time and the bricks still needed 'finishing' in hand-operated presses.

Before firing, bricks must be thoroughly dry. The bearer-off lifted the bricks between pallet boards and set them to dry in rows on timber platforms, under cover in open sheds which were protected on the weather side. This was to the west at Armadale. Drying took between three and six weeks, depending on the weather, during which the bricks were moved. The process was labour-intensive. Firing took a further two to six weeks.

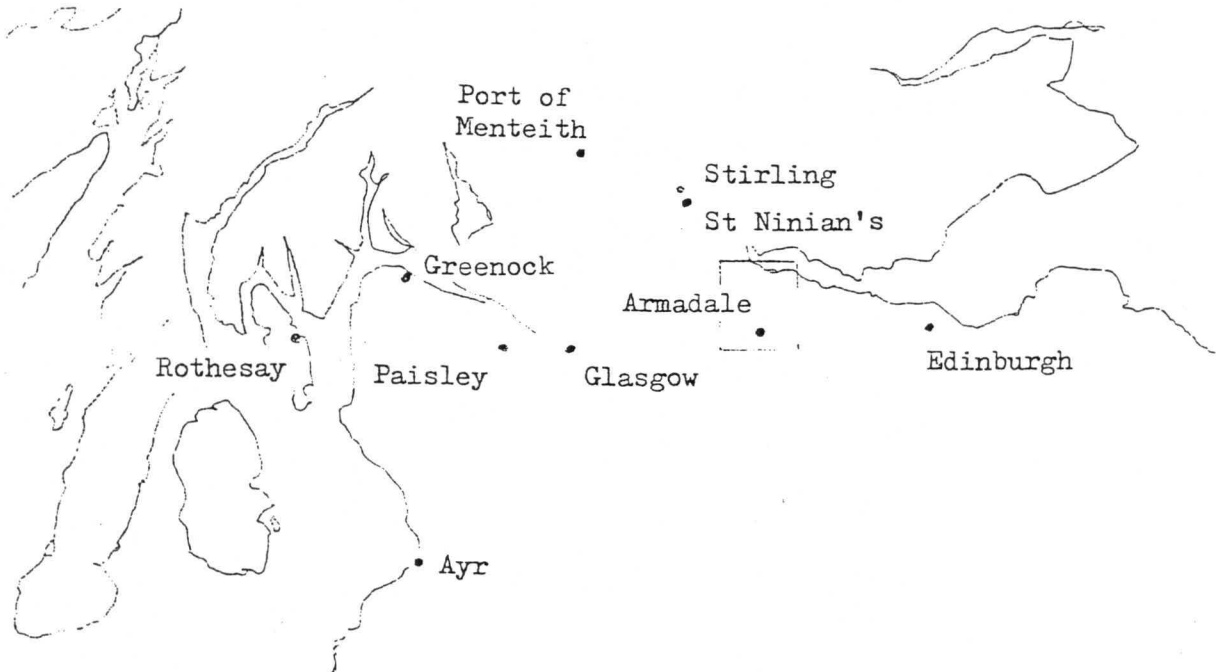


Fig. 2 Central Scotland showing places mentioned in the text.
The square shows the area mapped in detail on Fig. 3.

A feature of coal seams is a special fireclay used for firebricks. Some of the best firebricks came from Scotland.

By the 1870s "Gillies Bros" had their own Fireclay Works in Boghead. This was run by Robert and George, then in their early thirties. They produced a wide variety of hand-moulded and pressed shapes. Andrew Gillies was employed by them for a short time in the 1870s but he had always been restless and had already left Armadale a few years earlier to work in Glasgow. In 1869 he married Catherine McFarlane in Rothesay, on the Island of Bute. Their first two children were born in Ayr and Greenock. However, he was back in Armadale when my grandfather, James Gillies, was born in 1873. At this time he occupied a house at Wilson's Land.

Armadale in its early days was a "boom town" reminiscent of the Wild West. The miners lived in turf huts and fights were commonplace. Even when houses replaced the huts the town was still rather primitive and insanitary. The streets were unpaved, open ditches ran between the roadway and the houses, butchers had slaughter-houses attached to their dwelling places and blood ran in the streets.

The ditches continued to be a local hazard until the winter of 1880 when, after a heavy snowfall, the unfortunate Letter Carrier, John Easton, fell into one. This galvanised the Town Commissioners into action.

Possibly one reason why Andrew Gillies did not stay long at Wilson's Land was the presence of Matthew Wilson's 'Killing House' next door. Andrew's other neighbour was the popular Rev John Scott who had charge of the mission church on Bullion Brae.

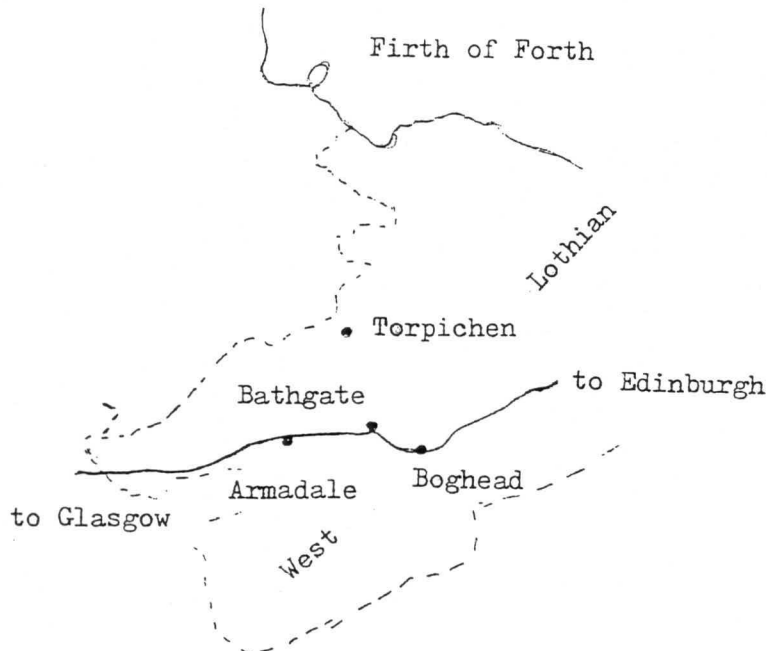


Fig. 3 Brickworks in the Armadale area.

A more probable reason for Andrew Gillies leaving Armadale was the recession which hit the town in the early 1870s:

Many houses had been emptied and grass was growing before the doors. Houses were offered at nine pence and one shilling a week but they still stood without tenants until Mr James Wood a coal merchant from Paisley purchased the coalmines at Bathville.

The previous owners, the Watsons, had gone bankrupt in 1874. With Wood's purchase of the coal mines a new era of prosperity began which embraced the brickworks also. Hynd-Brown, Armadale's historian, reports:

they were fitted with the most up to date machinery and the most approved kilns

the ground was studded with tall chimney stalks (sic).

By 1874, the volatile Andrew Gillies had transported his family, including seven children, to the Isle of Man, where the Foxley Mines were producing thousands of pounds of silver annually. Subsequently the family settled at Neyland, opposite Pembroke Dock, on the north bank of Milford Haven. My grandfather, James Gillies, entered the Merchant Navy at the start of his career which culminated as Commodore of the Canadian Pacific Fleet.

Meanwhile Andrew Gillies, by now in his fifties, had followed another son, Duncan, to the Klondike Gold Rush and eventually settled in California, where he was joined by five of his children. Their descendants live in San Francisco and it was from my Californian cousins that I first learnt of the family brickworks.

Acknowledgements

I must acknowledge the considerable assistance I received in tracing my family's activities in Armadale from local resident Mr Jim Somerville who kindly responded to a letter I sent to the local newspaper. He introduced me to R. Hynd-Brown's Armadale Past and Present, published in 1906. This is now out of print but the Scottish Central Library lent me a microfilm of it which I was able to read at my local Record Office. Further acknowledgement must go to the excellent Shire Album, Bricks and Brickmaking by Martin Hammond. The book and its photographs helped me to envisage the activities of my great grandfather and his brothers one hundred and twenty years ago.

The British Brick Society is indebted to Family Tree Magazine for permission to reproduce Mr Passmore's article which first appeared in their December 1990 issue. The editor has slightly abbreviated the original and added the maps.

BOOK REVIEW

Brian Murless, Somerset Brick and Tile Makers A Brief History & Gazetteer
Somerset Industrial Archaeology Society, 1991
being Supplement to S.I.A.S. Bulletin No 58
26 pp., 14 figs.
ISSN 0964 7029, price £2-50 plus 50p postage and packing
available from

B.J. Murless, 46 Holway Avenue, Taunton, Somerset TA1 3AR
D.W. Warren (Publications Officer S.I.A.S.), 52 Stoke Road, Taunton,
Somerset TA1 3EJ

A. & T. Harper Smith, The Brickfields of Acton
Acton History Group, 1991
being Acton Past and Present No 26
77 pp., 13 pls., 10 figs., 18 maps
no ISBN, price £3-50 (postage and packing included)
available from

A. Harper Smith, 48 Perryn Road, London W3 7NA

Both these publications add to the growing number of local studies of brickworks in England. The standard was set by Alan Cox, Survey of Bedfordshire: Brickmaking a History and Gazetteer, published by Bedfordshire County Council as long ago as 1979. The resources available (at least in the 1970s) to a county council are far in excess of those which an industrial archaeology society or a local history society can command. Indeed the method of publication, computerised type-setting interspersed with illustrations compares well with another item on this reviewer's shelves, Gazetteer of Buckinghamshire Brickyards 1800-1980, produced by Buckinghamshire County Museum, Aylesbury, in 1980.

The last-named, owing the very recent publication of Cox's volume, has no introduction to brickmaking processes. Using an industrial archaeology society as the publisher, Murless assumes a fair knowledge of the subject, but states openly:

This article represents an interim statement on the long-term programme of research being undertaken by the writer. Its immediate aim is to provide a quick reference to enquiries concerning the Somerset Brick and Tile Industry during the 19th and 20th centuries.

In contrast, the Harper Smiths are published by a local history society, seek to be definitive and have a more comprehensive introduction to the brickmaking process, supplemented by illustrations from Dobson.

Both publications aim to state where the brickfields are. Murless has a four-line entry:

Gazetteer Number	Title of Company/Maker
Location of Office/Works	
Trade Directory Listing with Date(s)	
Archive Reference(s) under District and Civil Parish.	

There are 264 entries; trade directories include ones of 1791, 1822/23, 1830, 1840, 1842, and then at approximately quinquennial intervals until 1939. The longest gap appears to be six years between 1866 and 1872. Entries are listed by company/maker and thus topographical considerations are secondary. The Acton gazetteer is fuller:

Name & address	Gazetteer	No
Proprietor		
Manager	Secretary	
Dates operating		
	LAND	
Freeholder		O.S. Grid ref
Acreage	Lease	
Rent	per Acre	
Royalty to owner		
Rateable value		
	BRICKMAKING	
Clay	Depth	
Source of ashes	Cost	
Clamps	Kilns	
Other equipment		
Transport		
Types of bricks made		
Number made		
Years made		
	Brickies	
No employed		
Where they lived		
	Where bricks known to have been used	

Sixteen brickyards have entries; not all questions are answered despite the intrepid sleuthing of the researchers. But the effort is worth making: bricks were made to be used for something. In nine cases locations of the bricks made are known, including houses, a school and a church. Each entry has an Ordnance Survey map of 1894 or 1913 accompanying the text.

One feature of the Acton publication is the reproduction of newspaper advertisements, mostly from the Acton Gazette, for bricks, offering contract brickmaking, advising of a siding on the Great Western Railway, and "good shapp sand". The Somerset study reproduces one such advertisement but from a directory. It has additional items of similar interest: a catalogue page and a notepaper heading.

At Acton, the 1881 census was searched, to record four brickmaker managers, three brick moulders, thirty-four brickmakers, thirteen labourers in brickfields plus twelve labourers who lived in a brick manufacturer's cottages, the brick manufacturer himself, and a single clerk in the brickfield. Their origins are quantified. Other data about the men includes an account of the strike of 1892 and notes how in the winter workers migrated to the London gas companies.

When the paper was prepared the 1891 census had not become available. How many, one may ask, of the brickies were still in Acton a decade after the 1881 documentation? Such research belongs to the future; it could usefully be combined with an analysis of the 1901 census, by when the Acton Vale industry was in decline and the grounds built over.

In the meantime, I shall look out for brickyard sites beside the Great Western Railway as the 125 takes me west to Bristol or Wales, and recall the Harper Smiths on The Brickfields of Acton; and if I venture south-west of Temple Meads, I shall look out for the site of the works of William Thomas & Co Ltd at Wellington whose catalogue cover is reproduced in Somerset Brick and Tile Makers. I can just recall fragments of the works from two decades ago, now sadly demolished.

We do need more local studies such as these. Those who seek to produce such would do well to have both these publications on their shelves.

David H. Kennett

BOOK NOTICE

Merfyn Williams, The Slate Industry
Shire Album 268

Princes Risborough: Shire Publications, 1991: 32pp., numerous illustrations.
ISBN 0-7478-0124-X price £1-95.

Many of our readers will be interested in building materials other than bricks and tiles, and Merfyn Williams provides a valuable short introduction to the slate industry in the excellent Shire Albums series. An enticing colour photograph on the cover invites one to explore the industry, which was especially important in the eighteenth, nineteenth, and early twentieth centuries. At its peak in the late nineteenth century, Wales provided 92 per cent of British production, and this fact justifies Merfyn Williams' concentration on the Welsh industry, a reflexion too of his own personal experience. Geology, history, and uses (mainly but not exclusively for roofing) are outlined, and then methods of extraction, processing, and transporting the slate are considered; a final welcome chapter deals with the human beings involved in the industry. As is normal for a Shire Album there is a short bibliography and a list of sites to visit. The photographs alone are intriguing, many of them archival and of historical interest: that of Ynyspandy Slate Mill near Porthmadoc is particularly striking: as gaunt and romantic in its way as the ruins of a monastic building. This reviewer (who received some of education in Wales) was pleased to note that place-names are given their Welsh spellings: e.g. Conwy not Conway. The book is a valuable introduction prepared with skill and enthusiasm by one of the leading experts in the field.

TPS

ANOTHER ITEM ON SLATE

Members will recall the A.G.M. of the British Brick Society in Leicestershire in 1989 when Kirby Muxloe Castle, Groby House and Bradgate Park were visited. North of Bradgate is Swithland the source of much Leicestershire slate. A brief account is the leaflet The Leicestershire Slate Industry by D.A. Ramsey, available from Leicestershire Libraries and Information Service, Thames Tower, Navigation Street, Leicester LE1 3TZ. Copies of this 6-fold card cost 20 pence plus postage; they can be purchased over the counter at Bradgate Park. From one of the maps I learnt that the stone dressings for Kirby Muxloe Castle was taken from Groby Park north-west of the village.

DHK

THE DIAPER WORK AT QUEENS' COLLEGE, CAMBRIDGE

Terence Paul Smith

Queens' College, Cambridge, founded in 1448 by Queen Margaret of Anjou and further endowed by Queen Elizabeth Woodville in 1465 (hence the position of the apostrophe), is one of the glories of Cambridge brickwork, having kept much more of its primary appearance than other early brick colleges in the City. The earliest part is Front Court, with Cloister Court to the west following shortly afterwards.¹

Front Court consists of an eastern gatehouse range, with the typical Cambridge four-turreted gatehouse asymmetrically placed, onto Queens' Lane; a western range containing hall, buttery and pantry, and kitchen, with screens-passage, in what became the usual college pattern; a northern range containing library and chapel; and a southern domestic range, along Silver Street. The building is of red brick facing a clunch core, with stone dressings.

A clear break in building occurs some 33 ft west of the south-east angle on the inner (north) wall of the southern range, and this may also be located in a corresponding position on the outer (south) wall. By relating the existing buildings to surviving accounts for the carpentry, Prof. Willis was able to show that the work to the east of this break, together with the east and north ranges, is the earlier, and belongs to 1448.² The remainder of the southern range and the whole of the west range date from 1449. There is, however, a further change of brickwork, not previously noticed, some 25 ft east of the south-east angle-turret and corresponding to the east side of the south gable of the western range. At this point too the stone-topped plinth which runs along most of the south wall of the southern range is returned to ground level and does not continue eastwards. The break is far less marked than that further eastwards, but is noticeable in a change from irregular bond using mostly stretchers (east) to a fairly consistent English Bond (west). The diaper pattern in the lowest portion of the wall (see below) is unaffected by this change, and it probably results from the work of two different gangs of bricklayers - one responsible for the western range (including its gable end), the other responsible for continuing the southern range - employing different bonds in their bricklaying, and meeting at this point. The plan of the building at this point makes this a plausible conjecture. It is an aspect of medieval brick building which might be worth further study by a close examination of bonding in other buildings.

Reginald Ely, it has been plausibly suggested, was probably the Master Mason for the earlier work at Queens'.³

The south face of the southern range runs between two sub-square angle-turrets, that at the west being markedly angled to fit the original irregular site. The length of wall is broken by a shallow buttress towards the eastern end and by a shallow projection - originally housing a garderobe - further west. It fronts onto Silver Street and over the centuries, especially, one imagines, during the period of the automobile, the brickwork had become very dirty, almost black in places; in 1959 the Royal Commission on Historical Monuments commented: 'In the brickwork of the lower part of the later [i.e. the 1449] walling are diapers of darker bricks, now scarcely perceptible.'⁴ Elsewhere, I have written of 'at least three and probably five' lozenge designs which 'are now scarcely visible.... They are not,

apparently, used elsewhere in the fifteenth-century work at Queens'.¹ I also described them as 'somewhat inconsequential'.⁵

During the British Brick Society's Visit to Cambridge on Saturday 20 April 1991, members were able to see the effect of the recent cleaning, which has restored the pleasant red colour of the brickwork, has made the diapers much more prominent, and has revealed a more extensive and slightly more elaborate scheme than that mentioned earlier by me.

The stretch of walling between the south-west turret and the garderobe projection has a row of six lozenges each divided into four smaller lozenges by a saltire-cross (fig. 1). The design is repeated,

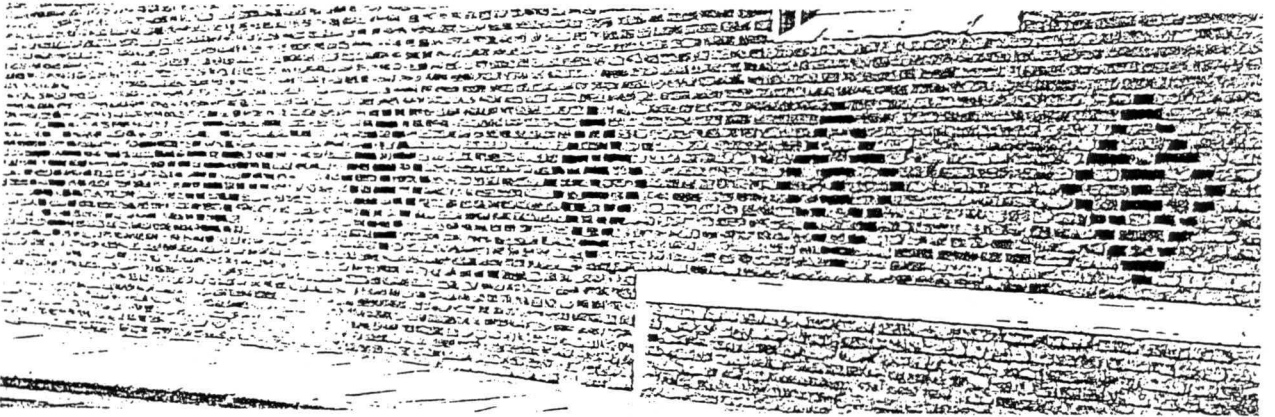


Fig. 1

also with six examples, on the stretch of walling between the garderobe projection and the joint between the two builds; there are none on the remaining (1448) stretch of this wall. All twelve lozenges are composed mainly of headers, though some dark stretchers are also included at various points, taking the place of a pair of headers.

On the garderobe projection a different decorative scheme is used (fig. 2): there are three large lozenges, each containing a smaller lozenge within it. They are connected horizontally so that the lower edges form a zig-zag, echoed at a lower level by a zig-zag of

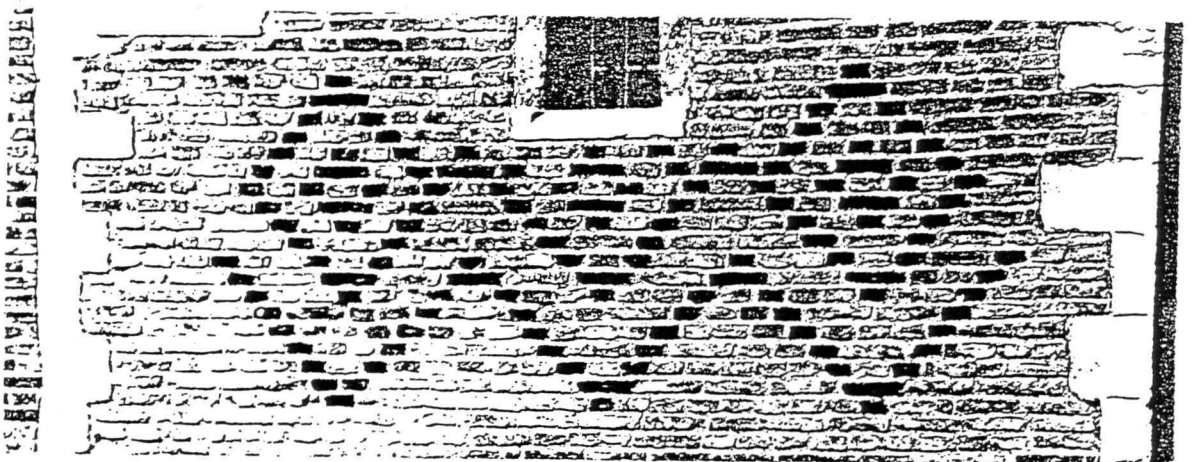


Fig. 2

three connected chevrons, each placed beneath one of the three lozenges. Here too dark stretchers as well as headers are used in the design. The top of the central lozenge has been marred by one of the windows later inserted into the garderobe projection.

Some, though not all, of the bricks in the diapers have a dull green glaze; others are blackish.

Diaper patterns do not occur at higher levels; there are none on the south-west turret and indeed none elsewhere in the fifteenth-century brickwork.

Silver Street - the medieval Small Bridges Street ('Smalebrigges strata') - predated the foundation of the College, and was a thorough-

fare of some importance, giving access from Trumpington Street ('Trump-intonestrata') to the King's Pool.⁶ Queens' Lane - part of the former Mill or Milne Street ('Milnestrata', otherwise St John's Street) - along which the gatehouse range runs, had lost any importance in the early 1440s, when Henry VI started to purchase the large block of land for his King's College.⁷ This straddled Milne Street, which had formerly run all the way from Finsilver or St Michael's Lane (later Trinity or, from its unsavoury condition, Piss Pot, Lane; now the east-west section of Trinity Lane) to Small Bridges Street. King's thus took out the middle section, leaving the disconnected north-south section of Trinity Lane (one-time Caius Lane) in the north and Queens' Lane in the south.⁸ It was thus the south range of Queens', not the gatehouse range, which ran along an important thoroughfare, and it was this that was chosen for decorative treatment during the 1449 building campaign.

Such a restriction of diaper to a significant façade is known elsewhere - notably at the brick-built chancel of Bardney Church, Lincs., usually dated to 1434 but almost certainly dating from a generation later, where diaper occurs on the north wall, facing towards the village, and on the intrinsically important east end; it is absent from the south wall, in which the darker bricks are used randomly.⁹ At the early sixteenth-century chapel at Goltho in the same county diaper on the nave is restricted to the south wall, facing towards Goltho Hall, and the east end (now partly cut away by the inserted eighteenth-century chancel-arch). This situation is unsurprising: the creation of diaper involved interfering with the normal bond, so breaking the bricklayer's rhythm and slowing down his rate of work.

Diaper itself begins, in England, with individual designs more or less haphazardly placed, and perhaps a contribution of the bricklayers rather than of the designer.¹⁰ Thus, those on the great tower at Tattershall Castle, Lincs. (c.1432 onwards) are irregularly placed, principally on the north or 'show' face; those at Herstmonceux Castle, Sussex (c.1446 onwards) are also irregularly disposed. By this time, however, a more disciplined arrangement - in fact a close-meshed all-over diaper - had already been achieved at Rye House, Herts. (c.1443 onwards), and thereafter it became usual to make more regular decorative schemes, as on the east end of the Bardney chancel (perhaps dating from the 1470s). In even later buildings, such as the Deanery Tower at Hadleigh, Suffolk (1489-90) or the porch-towers of Hatfield Old Palace, Herts. (1480-90), elaborate decorative schemes were included. Sometimes pictures or symbols were carefully placed in the brickwork faces, as at Kirby Muxloe Castle, Leics. (1480-84, unfinished) or the crosses on some of the Tudor Essex churches such as Ingatestone (late fifteenth-century). Otherwise, later buildings settled down to a regular, usually wide-meshed, all-over diaper, as at St John's College, Cambridge (First Court, 1511-16), Hampton Court Palace (Base Court, 1514-29), or the top of the gatehouse tower at Jesus College, Cambridge (early sixteenth-century).¹¹ The Queens' diapers, as revealed in the recent cleaning, thus fit quite neatly into the development of English diaper work, being no longer the haphazardly placed individual elements of the earliest buildings nor yet the overall schemes of the later buildings - Cambridge buildings included.

We must be grateful to the President and Fellows of Queens' College for having this cleaning work undertaken: not only have the diaper patterns been clearly revealed but the overall appearance of the building has been greatly enhanced.

(Notes and References on next page)

Notes and References

1. For the foundation and earliest history of the College: J.D.Twigg, A History of Queens' College, Cambridge, 1448-1986, Woodbridge, 1987, chapter I. The architectural history of the College is fully dealt with in R.Willis and J.W.Clark, The Architectural History of the University of Cambridge..., vol.II, Cambridge, 1886, pp.1sqq.; there is a full architectural description in Royal Commission on Historical Monuments (England), An Inventory of ... the City of Cambridge, London, 1959, pp.167sqq. The building is usefully placed in its architectural context in G.Webb, Architecture in Britain: the Middle Ages, 2nd ed., Harmondsworth, 1965, pp.166-7.
2. Willis and Clark, 1886, pp.12-13.
3. A.Oswald in J.H.Harvey, English Mediaeval Architects: a Biographical Dictionary, revised ed., Gloucester, 1984, p.97.
4. RCHM, 1959, p.173.
5. T.P.Smith, The Medieval Brickmaking Industry in England, 1400-1450, British Archaeological Reports, British Series 138, Oxford, 1985, pp.14, 15; NB in the caption to fig.3 of this publication the words 'Queens' College, Cambridge' should appear against no.5, not against no.3.
6. Early street names are given in M.D.Lobel, Historic Towns: Cambridge, London, 1974, Maps 3, 4. The present Trinity Lane has changed its names a number of times. The King's Pool continued to be commercially important until fairly recent times: witness the wherries in the 1815 print by Rudolph Ackermann, reproduced in R.R.Williamson, Ackermann's Cambridge, Harmondsworth, 1951, pl.9 (and cf. pl.2, which shows barges passing Clare Hall [Clare College]). It was the coming of the railway in 1845 that began the slow decline of river traffic: cf. D.Ferguson, D.Haycraft, and N. Segal, Cambridge, Cambridge, 1987, pp.103-4. For navigation of the Cam at Cambridge see D.Summers, The Great Ouse, Newton Abbot, 1973, passim as index.
7. Lobel, 1974, p.15 and Map 4; also R.Allen Brown, H.M.Colvin, and A.J.Taylor, The History of the King's Works, vol.I, The Middle Ages, London, 1963, p.271.
8. Willis and Clark, 1886, vol.IV, fig.13 shows the streets and properties affected by this Draconian measure, together with the position of the later buildings of King's on a coloured overlay on tracing-linen. The area was a 'large, dilapidated section of the city': D.R.Leader, A History of the University of Cambridge, vol.I, The University to 1546, Cambridge, 1988, p.228, which also reproduces Willis and Clark's base map (though not the overlay!) at pp.230-31.
9. The date of the Bardney chancel is reassessed in T.P.Smith, 'The Brick-Built Chancel of Bardney Church, Lincolnshire: its Affinities and Dating', in preparation for submission to Lincs.Hist. and Arch.
10. Cf. Smith, 1985, pp.11-15.
11. The precise dating of the Jesus College gatehouse is not known: see RCHM, 1959, p.84; cf. Sir John Gray, 'Sir Thomas Alcock: Master of Jesus College, Cambridge in 1516', Proc.Cambs.Ant.Soc., 60, 1970, 92, for brief discussion of the introduction of 'white' brick into the upper levels of the gatehouse and elsewhere at Jesus. A date in the period c.1500-10 is most likely.

BOOK NOTICE

Michael Hammett, The Role of Brick in our Environment, Windsor, The Brick Development Association, 1991. No ISBN but internal ref. SP2; no price stated.

'Prolixity,' a lecturer on the Old Testament prophets once told a group of his students, 'is easier than conciseness.' Being myself by nature a discursive writer - inserting parenthetical explanatory comments, just as I am doing at the moment! - I am always impressed by accounts of limited length which nevertheless manage to characterise their subject matter with precision. It is just this that our Hon. Secretary, Michael Hammett, has achieved in his attractive sixteen-page booklet, The Role of Brick in our Environment.

A series of sections deals with the historical background, traditional regional characteristics, contemporary brick products, brick types and characteristics (including those intriguingly named 'special specials'!), the appearance of brickwork, brickwork in a stone environment, and brick in hard landscaping (viz. boundary walls, retaining walls, and paving). There are a few notes on the work of the Brick Development Association and its services.

If there is, as one suspects, a proselytising intention behind this BDA publication, that has not interfered with the objectivity of the author's account. There is, indeed, a warm enthusiasm for brick evident throughout, but those of us who know Michael Hammett will also know that this springs from his genuine love of the material.

The booklet is attractively produced (by Frank Walter Design Ltd) with no fewer than forty-seven colour photographs, mostly of small size. Some I recognised as old favourites: Holy Trinity, Colchester; Tattershall Castle; Faulkbourne Hall; the Templeton Factory at Glasgow; and the Quentin Kynaston School at St John's Wood. It is a pity, however, that there are no captions identifying the buildings, for although they are well integrated into the text this does inevitably give the photographs something of the nature of decorations merely.

This is a minor grouse with respect to what is otherwise a most worthy production. Those wishing for a short introduction to the subject of British brickwork in all its varieties - perhaps before advancing to Ronald Brunskill's Brick Building in Britain - could not do better than study this enthusiastic, lucid, and attractive booklet. I am not certain that it is very easily available, but I do hope it will become so. For that is what it deserves.

Terence Paul Smith

BRICK QUERY COLUMN

THE BRICK QUERY: A SERVICE TO MEMBERS

The resumption of the 'Queries Column' in Information 54 has prompted several further questions about brick matters to be raised with the Editor, who is also the society's Enquiries Secretary. The present crop of queries have been accumulated over about six months, since September 1991, but include as well some which have been in the files for somewhat longer.

A discussion with Michael Hammett allowed one of the queries printed here to be resolved and an answer is published with the initial query. If members have answers to earlier queries or those raised here which have a more general circulation than the person initiating the enquiry perhaps they would forward a copy of their answer to the Editor as well as to the originator of the query.

BRICK BUILDING IN CORNWALL

John Stark and Partners, architects and consultants of Dorchester, Dorset, have been working on the repair of the seventeenth-century brick-built Ince Castle, near Saltash. The work has been in progress since a disastrous fire in 1988.

This is reputed to be the only brick building in Cornwall before 1700. Sir Nikolaus Pevsner writes:

If the date 1540 given as applying to the erection of the present Ince Castle is correct, the building is of more than local interest. It is a perfect square, built of brick, with four corner towers, overlooking the Lynher estuary opposite Antony. The towers have now slate-hung upper storeys and pyramidal roofs, and the walls between them Georgian windows and battlements also probably of Georgian date, and the entrance side has a wide flight of outer stairs leading to a doorway with a pediment. The whole, in spite of its symmetry, is eminently picturesque, thanks to a variety of materials and colours. (N. Pevsner, The Buildings of England: Cornwall, (Harmondsworth, Penguin Books, first edition, 1951), 68-69.

Ince is a square brick building of a rare type familiar from Osterley Park and Syon House, near London, and not at all locally rooted. (*ibid.*, 21).

Does any member know of any other brick building in Cornwall before 1700 or could shed light on the adoption of brick in eighteenth-century Cornwall.

The exposure of the original structure at Ince is being written up by Nicholas Cooper of the Royal Commission on Historical Monuments (England). Eric Robinson of University College, London, was sent some sample bricks but has been unable to identify their origins.

Anthony J. T. Jaggard FSA FRSA
John Stark and Partners
Architects and Consultants
13 and 14 Princes Street
Dorchester
Dorset
DT1 1TW

A HEPWORTH BRICK IN BAHRAIN

While vacationing in the Persian Gulf in the first quarter of 1991, I found a brick in Baharain with edge markings:

HEPWORTH/ELLISTOWN

My first suspicion was that it was imported from either New Zealand or Australia. Brick collectors in both countries have offered negative replies.

Jim Graves
1468 Coolidge
Wichita, KS 67203
U.S.A.

HEPWORTH BRICK: A REPLY

Hepworth are a well-known manufacturer of bricks and drain pipes at Ellistown. Bricks were made in the nineteenth century and production of bricks has been resumed in recent years, but there is a known gap in the manufacturing. The firm continued making drain pipes throughout the period.

Ellistown is a mile south of Coalville, Leics., and about $1\frac{1}{2}$ miles east-north-east of Ibstock.

Bricks from Ellistown are a deep red, verging on purple colour.

A well-known building constructed of Hepworth bricks is the Oxo Tower on the Thames waterfront in London to the east of the National Theatre.

Hepworth pipes were used to build a second storm drain along Lords Lane, Bradwell, Great Yarmouth, in 1989.

Michael Hammett
David H. Kennett

HICKNALL & CO, STOURBRIDGE

I wonder if the firm of Hicknall & Co, Stourbridge, is known to any member of British Brick Society?

Standard-sized, reddish coarse bricks with no frog have

HICKNALL & CO / STOURBRIDGE

very roughly impressed on one face. Those known to me have come from an area where there was once an engine house which could date to 1886. The engine house served an adit in the Fullers' Earth works near Midford, on the southern edge of Bath.

A large number of bricks similar in style but with no markings has also been found.

Owen Ward
77 Hansford Square
Combe Down
Bath
BA2 5LJ

REBATED COPING TILES

Does any member have any information on the rebated coping tiles often seen on 9 inch gable parapet walls on Norfolk buildings, as with the illustrated example from Little Walsingham.



Fig. 1 Rebated Coping Tiles on buildings at Little Walsingham, Norfolk.

The tiles seem to be about 10 inches by 10 inches tapering in thickness from about $\frac{5}{8}$ inch at the top to about $1\frac{1}{4}$ inches at the toe which is rebated on the underside to lap over the top of the tile below.

I have seen many on houses and farm buildings in Norfolk but none outside the county except in Suffolk and then only near the border.

S. N. Hart B.Arch ARIBA
20 High Street
Easton on the Hill
Stamford
Lincolnshire
PE9 3LR

REBATED COPING TILES: SOME EXAMPLES

A rapid scan of my shelves whilst setting Mr Hart's query reveals examples of rebated coping tiles in several of the north Norfolk ports and small towns. References are to general books rather than to scholarly publications.

Blakeney - converted warehouse on quay

W. Harrod, Norfolk: a Shell Guide, (London: Faber and Faber, 4th edition, 1982) 2-3

H. Innes, Hammond Innes' East Anglia, (London, Hodder and Stoughton, 1986), 282-283, in colour

Burnham Market - various cottages, including ones on The Green

D. Yaxley, Portrait of Norfolk, (London, Robert Hale, 1977), pl. 5 lower photograph

H. Innes, op.cit., 279 lower photograph

Cley-next-the-Sea - full gable above flint wall with brick chimney stack with other gable end a shaped gable capped with bricks
D.H. Kennett, Norfolk Villages, (London, Robert Hale, 1980),
pl. 19 upper photograph

Distribution of the feature is not confined to the northern coast and its immediate hinterland. One inland example is

Norwich - The Watergate to the Cathedral Precinct at Pull's Ferry
P. Steggal, East Anglia, (London, Robert Hale, 1979)
pl. 4 upper photograph.

These buildings are of a wide range of dates. The Burnham Market houses have fenestration which is eighteenth century; the Pull's Ferry gatehouse is medieval in origin. The house in Cley has eighteenth-century fenestration but is, I think, an older structure.

David H. Kennett

AN EVENT TO VISIT

The British Brick Society has been sent promotion of the Faversham Society's Historic Properties on View.

Programmes from Fleur-de-Lis Centre

THE FAVERSHAM SOCIETY
HISTORIC PROPERTIES ON VIEW
Admission to all by Programme : only £ 2.00



13 Preston St. Faversham. ME13 8NS

Saturdays 4, 11 & 18 July
1992