



BRITISH  
BRICK  
SOCIETY

# INFORMATION

No 28

Nov '82

OFFICERS OF THE BRITISH BRICK SOCIETY

Chairman	T W T Tatton-Brown B.A.	2 Mill Lane, St. Radigunds, Canterbury, Kent.
Hon. Sec.	Mrs J A Costigan	Avoncroft Museum of Buildings, Stoke Prior, Bromsgrove, B60 4JR 0527 31363
Membership Sec.	Mrs M W F Laurence (who also receives all direct subscriptions: £1.00 p.a.).	44 Lyncombe Hill, Bath, Avon, BA2 4PH
Hon. Tr.	Mr M D P Hammond (only matters concerning the annual a/cs and expenses etc.).	13 Jackson Road, Parkstone, Poole, Dorset
Editor of 'Information'	Mrs W A Loss	"Peran", Plaxton Bridge, Woodmansey, Beverley, E. Yorks, HU17 0RT
Archivist	Mrs A Roper (nee Cleal)	Archivist: Lucas Industries Ltd., Gp. Archive & Mus. (A.5) Gt. King Street, Birmingham, B19 2XF
Publications Officer	Mrs R Preece	29 Princess Close, Mossley, Ashton-Under- Lyne, Lancs, M13 9PL
Registrar	W R Serjeant	County Hall, St. Helen's Street, Ipswich, IP4 2JS

OFFICERS OF THE BRICK SECTION OF THE BRITISH  
ARCHAEOLOGICAL ASSOCIATION

Chairman	T W T Tatton-Brown B.A.	(address as above)
Hon. Sec.	M Hammett RIFA	9 Bailey Close, Lucas Road, High Wycombe, Bucks, HP13 6QA 0494 20299
Membership sec. of B.A.A.	Miss I B McClure	61 Old Park Ridings, Winchmore Hill, London, N21 2ET

\* Members of the Brick Section of the B.A.A. are affiliated to the British  
Brick Society.

JACK TYE, M.E.B., F.C.I.S.

At its inception in 1971 the founders invited Britain's leading brickmakers to join the Society and Geoffrey Laurence (Redland) and Jack Crossley (Crossley) accepted.

Geoffrey Laurence attended the inaugural meeting of the Brick Section (then termed 'Group') of the B.A.A. on 3rd May, 1972 and there undertook to become Deputy Chairman. Furthermore, Redland published and dispatched our Information Sheets. Then, shortly after retiring in 1974, from his Redland Directorship, Geoffrey died.

Later that year, on 19th October, the Yorkshire Region of the B.B.S. held a symposium at Doncaster Museum and Jack Crossley along with Terry Knight of the B.D.A., attended. Over tea it was mooted that perhaps the B.D.A. might assume the patronage hitherto extended by Redland. Much would depend upon the response by the Secretary of the Association, and the Secretary was Jack Tye.

From Information No. 5 (Nov. 1974) onwards the B.D.A. has accorded this generous support; and where would we have been without it?!

That, however, is not all. After a long interregnum with a 'caretaker' Deputy Chairman, the Brick Section, at its meeting on 5 March, 1980, elected Jack to that office. He arrived at the meeting direct from the Guildhall with, as it were, the baptismal dew of London citizenship upon his capable brow.

'Capable' stands his hallmark. He has brought to a Society, rich in archaeological erudition, a quality of administrative imagination which we all needed at that time. Quietly, this leaven, began to work. Jack recruited Michael Hammett, a Member of the Victorian Society and one of the B.D.A. staff, to the office of Hon. Secretary of the Brick Section. The arrangements relating the Section to the Society have been simplified. Between them, the B.D.A. and our brilliant Editor, Ann Los, have produced Informations which are winning respect from a wider field than that which our membership comprises. It was Jack who voluntarily undertook to have compiled and published our membership lists so essential to a body as widely dispersed as this.

Jack disclaimed any knowledge of archaeology; he was ever reluctant to 'interfere' with the Society's affairs and, in a letter announcing his retirement from the B.D.A. and resignation as Deputy Chairman of the Brick Section of the B.A.A., he wrote: "I do not feel that I have done much for the B.A.A. but, perhaps, I have been able to contribute a little." Such a letter reminds us, were that necessary, that the high ones of this life are also the humble.

We wish Jack and his wife a happy period of retirement. They should know that B.B.S. members stand, along with all other groups which are indebted to them, as one which although smaller in size is equal in gratitude.

A Fellow Member

CHANGE OF ADDRESS

Members wishing to write to our well known member Jane A Wight please note that her new address is 91, Bury Street, Norwich, Norfolk, NR2 2DL

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### IN LIGHTER VEIN

All B.B.S. members should be aware of the new note boards about twice the size of a normal post card with a framed area on one side for writing to a friend and a brick wall design on the reverse. The cards are by Mr. & Mrs Valentine of London Ltd., they are designed by Rowland Scherman and are called Graffiti Board.

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### THE DIFFUSION OF BRICKMAKING TECHNIQUES IN THE OLD WORLD

As Members will be well aware, the kiln-fired brick made its appearance in third millenium Sumer, at the Eastern end of the Fertile Crescent, and co-existed with sun-dried brick throughout the Babylonian and Egyptian domination of the Middle East. These later bricks were usually shaped by throwing tempered clay into wooden moulds in much the same technique as was used generally in Britain until the mid-nineteenth century and which is even now not quite extinct.

The dimensions of the early sun-dried bricks were, however, considerably greater than those of the ceramic kiln-fired bricks with which we are familiar today, although not very different from the 'clay-lump' of East Anglia and Southern Britain, which were being made even in the 18th and 19th centuries, approximately 17 by 7½ by 6 inches (430 x 190 x 150 mm.). The kiln-fired bricks of the ancient world were somewhat smaller than this, as, for example, 250 x 180 x 100 mm. When the Minoan civilisation developed in Crete, kiln-fired bricks approximately 200 x 100 x 100 mm., were made at Malia where they may still be seen in situ. The kiln-fired bricks now familiar in Britain have been for 700 years about 9" x 4½" x 2½", with variations of at least ¼" on each side of the dimensions. On the Continent, rather smaller bricks were made but in general, the dimensions have been conditioned by the size of the male human hand; the "half-girth" (sum of breadth and thickness) being determined by the desirability of grasping, lifting and laying each brick with one hand. The length is determined by the necessity of 'breaking' joints in successive courses, so that the length has to be about twice the breadth plus the thickness of a mortar joint. Thus all the brick dimensions are determined ultimately by the size of the hand. For convenience and brevity, I should like to call this kind of brick the "one-hand" brick.

The bricks of Malia, made three and a half millennia ago and the later medieval and modern ceramic bricks have this in common; they are all "one-hand" bricks.

In classical Greece, sun-dried wall-tiles of a quite different shape were developed and just such tile-like bricks were adopted by the Roman, and perhaps by the later Etruscan, civilisations. In later Roman times, kiln-fired tiles of the same shapes became general, particularly when the Empire originating in the sunny Eastern Mediterranean extended into more rainy regions, where the early sun-dried mud tiles were inadequate to withstand inclement weather.

These large tiles as I like to call them to differentiate clearly from the one-hand bricks previously described, have been precisely specified by Vitruvius, who gives the Greek names as Hexodoron (six dorons or 3" palmi in length), Pentodoron and Tetradoron and he said they corresponded exactly with the Roman sizes in general use in his time.

We find some of these in our ruined Roman walls in Britain: in general, it may be said that the Roman tile 18" long and weighing 8 to 10 kg., needing two hands to lift and lay it, was the structural unit used in buildings of classical Greece and Rome, apart of course, from stone ashlar.

During and after the collapse of the Roman Empire in the West, the Christian religion, established in the fourth century by that brutal emperor, Constantine, for his own political purposes, had been encouraged to flourish and several notable early Christian churches were built in the 5th and 6th centuries in Italy, such as San Vitale at Classe, in which extensive use was made of the great Roman tile. The earliest examples of such buildings maintained the 18" x 12" size of tile: the later buildings tended to use tiles of somewhat smaller size, in our measurements, about 15 to 16 inches by 7 to 8 inches, the ancient Pentodoron in fact.

As far as all the available evidence goes, the Celtic peoples of the pre-Roman age and also of the post-Roman 5th century did not make use of brick for building, neither did the Pagan Saxons who followed them in Britain. But the Christianised Saxons of the seventh and later centuries undoubtedly made good use of tile from the extensive Roman ruins and may have made some such tiles themselves for repair of structures such as the Church of Brixworth and St. Peter's at Bradwell in Essex, built largely of re-used Roman tile in the mid-seventh century.

It was not until the mid-twelfth century that the supply of Roman tile having at last disappeared from above ground and the flood of Priory building continued unabated, that the monkish builders turned to native potteries for supplies of English-made building-tiles. There seems little doubt that during their periodical visits to their mother abbeys in France and Northern Italy that the Cistercians and Augustinians derived their technique of brickmaking, which had continued in apparently unbroken succession in Southern Europe throughout the Middle Ages from Classical times. It was therefore natural for the monks to construct their own tile-kilns in Britain to make the 'Great Brick', as the tile used at Little Cogglesall and Waltham abbeys became known to medieval writers. These Great Bricks were well-made in moulds, although their dimensions were not quite so precisely standardised as those of the old Roman tiles.

Towards the end of the thirteenth century there appeared in England a new shape of brick. In 1270-1290, Little Wenham Castle in Suffolk was built largely of bricks about 9" x 4½" x 2" (or less) and bricks very little larger than this were being made at Kingston-upon-Hull in 1303. The technique of making these one-hand bricks, and perhaps even the earliest makers of this new shape, came to England from the Low Countries, Flanders and Northern France, where such bricks had been made and used for half a century earlier. It seems that the idea of the one-hand brick had come to the Low Countries from the North German plains and from Friesland and ultimately from the Baltic. Almost all the wall-building bricks made in Britain after the thirteenth century were of the 'one-hand' shape and size.

So, the general picture to emerge from this mass of detail (which in this account has itself been summarised for brevity) is that of two streams of brickmaking technique, both persisting for several millennia: the one, that of a heavy, tile-like slab which needed two hands to lift and lay; the other, a small brick, weighing about 3 kg, which could be picked up and laid with one hand, while mortar was trowelled in place with the other.

We find the first, the great wall tile, in the first millennium B.C., and it persisted without a sensible gap until the 13th century A.D., or a little later. The second appears certainly in the second millennium B.C., and after a long gap at present unexplored, reappears on the Baltic seaboard in the 11th century A.D., to sweep over Northern Europe in little more than a century and to flower in much fine architecture from the 15th century to the present day.

The problem posed by the gap in the history of this one-hand brick is one which has long fascinated the writer of this paper and which seems to clamour for attention. By what route did the idea of a small, ceramic brick travel across Europe from Crete to the Baltic? or was it re-invented there after two thousand years of oblivion? We know that from Prehistoric times, Baltic amber was traded South to Greece (where it was called "elektron"), to the Cyclades and to Crete and there is evidence to show that pottery from those shores returned by the same route to the Baltic and to Gotland, off the coast of Sweden. On an Etruscan vase appears the simplified figure of a unicursal maze lettered (in retrograde script) TRUJA, referring to the "Game of Troy". This somewhat unusual form of maze is almost exactly reproduced in a maze outlined in stones on the foreshore of Gotland and there it is generally supposed to be prehistoric or at least 2000 years old.

I have often wondered whether along this ancient trade route, with pottery from the Mediterranean came also the idea of the "one-hand" brick. If so, we ought to find early use of such small bricks in Bulgaria, Czechoslovakia, Hungary and Poland; I know of none, certainly not of the first millennium A.D. I had supposed that an alternative early medieval home for the one-hand brick might have been among the Arab peoples, who conserved so much important learning and techniques during our own ignorant and barbarous Dark Ages. In April 1978, the Daily Telegraph Magazine published an account of the Yemeni town of Sana'a, with its 7th century walls and later houses, illustrated with a photograph from which I was able to estimate the size of its sun-dried bricks: They were 10½" x 5" x 2" - the one-hand brick I had sought, it is true, not on the known amber trade route, but in Arab lands, and of the first millennium A.D.

18 August 1982

L.S. HARLEY  
First President,  
British Brick Society

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#### CHAPPEL VIADUCT

Re the article page eight INFORMATION 27 by G.C. Hines on the Viaduct. Adrian Corder-Birch has supplied me with cuttings from the Essex County Standard from which I have extracted the following interesting details.

The Chappel Viaduct was started in September 1847 and opened in July 1849. It has 32 circular arches of about 30 feet span, it is 1066 feet long, and the track on the top is about 80 feet above the waters of the Colne. The work is the masterpiece of the famous engineer Peter Buff who three years before had completed the Ipswich Railway.

The contractor was George Wythes and he established a brick field within a mile of the site to make the bricks for the viaduct ..... five or six millions bricks were needed! Buff had contemplated laminated timber arches but had later changed to brickwork for economy, safety, and their permanence.

Eighteen of the brick piers stand on concrete three to twelve feet thick, and the remainder on natural loamy ground. The great problem was that the viaduct is not level but carries a nine feet six inches rise. Building began at the lower end and it was found that the arches were one sixteenth of an inch out due to the extra pressure from the higher end. Struts were placed to help support the brickwork for two or three years until it had been thoroughly consolidated then gradually removed.

John Carter was a brick maker boy in the brick field of George Wythe and helped to make the bricks for the viaduct. The workers lived in shacks and tents and were paid once a month ..... part in cash which usually went for alcoholic beverages and part in grocery credit vouchers, which they had to exchange at the company's store.

A painting of the viaduct was commissioned by the designer, Peter Buff, in the mid nineteenth century and is now owned by the Ipswich Museum.

June 1982

W.A. Los

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#### WALKERINGHAM BRICK YARDS

The old brick yards that once produced many thousands of bricks a day have until recently been put to a different use. The old yards are situated down Brickyard Lane between Misterton and Grangley on the Hill. The old yards were used to dry the silt from the near by rivers which after various processes were used to clean silver. (A little bit like the bath bricks that our member B.J. Murless of Taunton wrote an article on). Originally the mud of the Trent was taken to the yards at West Stockwith but when they closed the process was transferred to the Walkeringham site. Boats left West Stockwith Lock on a falling tide, loaded about twenty five tons of mud at low tide then waited for the tide to rise in the mouth of the river Idle. After returning to the lock the loads were then taken by horse drawn narrow boats up the canal to the Walkeringham yards. The wet muddy silt was then left outside to dry, washed, cleaned, ground to a fine texture and eventually put through a silk sieve. The very fine powder was then put in paper bags ready for despatch and at one time they had a regular order for Australia and New Zealand.

In recent years mechanical excavators removed the mud and tractors and trailers took it to the yard. The machinery for the mill house was originally steam but later a diesel engine was installed.

Jim Albans has worked at the yard on this process for 36 years until it was closed earlier this year. Mr P Hanson was the last owner of the works closed due to lack of demand for the product.

June 1982

Information from Retford Times supplied by  
Mr GEE  
Article compiled by W.A.Los

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It is hoped to follow this article with one on the brick yards of Walkeringham in INFORMATION 29. If any members have any details of the yards, maps, diagrams to be included please forward them to the editor as soon as possible.

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### SWILLINGTON BRICK WORKS VISIT

Along with members of the York Society of Civil Engineers I made a short evening visit to the Swillington works of the well known firm of GEORGE ARMITAGE & SONS PLC who have been making bricks since 1824 of very good quality. The firm also have their main works at the well known Robin Hood Brickworks near Wakefield and have as their subsidiary Accrington Brick and Tile Company Ltd., with famous trade mark "NORI" ..... IRON in reverse.

Their own clay pit is red burning so they transport in other clay from further south to obtain the variety of colour required for the highly competitive market of today. A lot of the equipment and machinery has been adapted or actually built by the engineering staff themselves. The site was opened to produce about 50,000 bricks a day but is now capable of producing 100,000. The kiln is a German LINGI built in 1912 ..... it is gas fired and has a capacity for 46 cars.

It was interesting to note in a modern factory of mechanised works, conveyor belts and automatic systems that each shift of men has a specials man making them by hand. We were told that some of the specials may cost as much as £8 each.

The bricks are shrink-wrapped in packs of 468 and transported on their own lorries when needed. The colours of the bricks varied from white to red to chocolate brown and their names have a Yorkshire flavour ..... Ebor rustic, Ridings rustic, Ebor dragwire, Minster rustic. The various yards of George Armitage manufacture a range of bricks ..... facings, paviers, engineering and acid resistant. The ACCRINGTON CLASS A and the ARMITAGE CLASS B engineering bricks are renowned for their durability and strength and the fame of the ACCRINGTON NORI acid resisting ware has spread throughout the world.

In all the works I have visited I have never failed to be impressed by the friendly sincere nature of the hard working brickmaker and the men of the Swillington works were no exception.

August 1982

W.A. Loss

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### ENQUIRIES

#### 1. GUERNSEY

If anyone has any knowledge of brickworks on the Island of Guernsey will they please contact the following gentleman who has some information about a kiln there.

Mr S T E Davenport, The Nook, 2 River Bend, Llangaofan, Welshpool, Powis, Wales, SY21 0PP



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## 2. HAMPSHIRE BRICK WORKS

A fifth year architecture student is writing a dissertation upon the brick and tile works of FAREHAM, Hampshire. These yards were famous for "FAREHAM RED" facing bricks which were used to build the Albert Hall amongst other well known buildings.

Zoe Croad, of Flat 2, 2 Redcliffe Gardens, 134 Clarendon Road, Southsea, Hampshire, PO4 0SF, will be glad of any details that any member can supply.

## 3. COMPANY NAMES

MIDDLEWOOD BRICK COMPANY was founded about 1921, taken over by YORKSHIRE AMALGAMATED PRODUCTS about 1931, whose name was changed to CHESHIRE BRICK COMPANY.

If anyone has any details of any of these firms will they please forward them to Alan Hulme, 20 Swan Close, Poynton, Cheshire, SK12 1HX.

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## LOCAL HISTORY

The British Association for local history is a new 1982 organisation. Professor Norman McCord of Newcastle-upon-Tyne University is Chairman of its council. Voting membership is open to all individuals over 18 years, to institutions and organisations. There is no entrance fee. The annual subscription is £4.

It is hoped that all who enjoy studying local history will become part of the Association. By so doing, they will be able to contribute both ideas and financial support which will be used to advance understanding and knowledge of local history. How will this be done? Through an information service, courses, competitions, projects and publications. Further facts about BALH will be sent gladly on request to the General Secretary, 43 Bedford Square, London, WC1B 3DP. (Tel: 01 - 636 - 4066).

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## EDITORIAL

I have not had any reports from members re visits to sites of brick interest or to actual yards. I hope the darker evenings will enable members to forget their gardens and record their visits for the next issue. I repeat my offer of drawing up maps and diagrams and returning the originals to the owner. I must thank Adrian Corder-Birch for his proof that the Chappel Viaduct had its own site brickworks. If any members have any details of other on-site brickworks for civil engineering features or for more domestic type buildings, I should be pleased to hear from them.

The B.B.S. will continue to be a success only if each member plays their part and makes an active contribution to the Society. I have only one article for the next issue and that is by me.

I submit the following words of wisdom "The difficult task today is the easy task you didn't do yesterday." Please write your article today and post it without delay to beat the Christmas rush. All items should reach me by the 25th January 1983 at "Peran", 30 Plaxton Bridge, Woodmansey, Beverley, East Yorkshire, HU17 0RT.

Our thanks for all their hard work and best wishes for Christmas and the New Year to the staff of the B.D.A. who produce our Information.

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#### NEWS OF MEMBERS

- Mr Paul Adorian - Details of his address are incorrect on the Membership List last sent to all members. It should read:-  
The Mill House, Gibbons Mill, Nr. Billingshurst, Sussex.
- Mr R G Martin Please note his new address:-  
42 Palmer Avenue, Salt Dean, Brighton, East Sussex, BN2 8FG.  
He is the representative for Sussex Industrial Archaeology Society.
- Ms. J A Wright - Please note her new address:-  
91 Bury Street, Norwich, Norfolk, NR2 2DL

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#### B.A.A. LECTURE WEDNESDAY 2ND MARCH 1983

The lecture will be given by Dr. Francis Woodman and is titled:  
"Early Brick Architecture in Norwich".

The lecture will be held in the rooms of the Society of Antiquaries of London, Burlington House, Piccadilly, London, W1. Tea will be served from 4.30 p.m. and the Chair will be taken at 5.00 p.m. Members may bring guests.

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#### B.B.S. and B.A.A./Brick Section Annual General Meetings, 1983

The Annual General Meetings of the Society and the B.A.A./Brick Section will again be held consecutively this year in Kent at approximately noon on Saturday 26th March 1983. The venue will be Wye College nr. Ashford, Kent.

Full details will be given in the next "Information" but members may like to note that the meetings will take place in association with a residential weekend course on "Brick Building and Brick-Making in Kent" to be held from 1900 hours on Friday 25th March to 1630 hours on Sunday 27th March. \*

The course is arranged by the University of Kent School of Continuing Education and the programme includes sessions on Brick and Tile manufacture, Roman and early Saxon Architecture of Brick and Tiles, Medieval and Tudor Brickwork, Rubbed and Gauged Brickwork before 1730, and Mathematical Tiles. There will be a field trip too.

\* Further details from Ms. A Harrison, Tutorial Organiser, The School of Continuing Education, The University, Canterbury, Kent, CT2 7NX.

Closing date for applicants is 4th March