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N. MIDLANDS BULLETIN

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The Bulletin

This second number of the Bulletin is a prelude to the full launching of the North Midlands 'arm' of the British Brick Society. There will be a national meeting of the society in the middle of February when it will be possible to see where we stand and where we can go. The Bulletin is for members of the North Midlands group and their collaborators in the Society. It is available during 1975 for 25p. post free U.K. to applicants. Payments to 'Staffordshire Archaeology Account'.

There is a possibility that the North Midland members of the society may find a home or even a headquarters in the Gladstone Pottery Museum at Longton, Stoke-on-Trent. The director, his colleagues and members of the trust who run the Museum are very 'friendly' towards brick history and have been rescuing material from closed down factories as well as giving a home to brick specimens. But the work must be done by us; there will not be enough Gladstone staff to run the secretarial side of the North Midlands group and to handle the growing body of data available.

A 'Code'

An event that will force us 'to pull up our socks' in the North Midlands is the appearance of our President's, L.S. Harley's 'A typology of brick: with numerical coding of brick characteristics', which has appeared in the *Journal of the British Archaeological Association,* vol *XXXVIII* of 3rd series (1974) pp 63-87 & plates XIII-XVI. This is not just a coded typology but a firm framework for the study of brick history not only in Britain but in Europe. First it is *useful*; those of us who need to learn about brick history as tool for archaeological or local history studies do not have the basic facts at their fingertips. Do we all know when the so-called Statute Brick was established and what its approximate size was? What was the time range of the medieval 'Great Brick'? During what period was the 'frog' devised? Where did 'Cosgessey Whites' come from? In what year was the Brick Tax that led people to make larger bricks - and when was it repealed? If you know this sort of thing off pat, you still will find many new facts in these 25 pages and 4 plates. Colour has been a hoary problem in describing bricks; Mr Harley has helped by listing a colour code which has not only Munsell references but their British Standard equivalents. One sees at once that some ceramic museums could help by having a display of 'Harley types' and also specimens of coloured pieces to use as a reference.

Mr Harley's system is adjustable in that we can add coding facets to it and it is, even with only a brief examination, to see that it is compatible with most computer retrieval programs we have come across.

Since the BBS owes its loyalties to the British Archaeological Association as its parent body, and the *JBAA* is a good home for the article, one congratulates the *JBAA* for its 'scoop'. But one naughtily wishes that this article were the opening one for a *Journal of Brick History!*

A Journal?

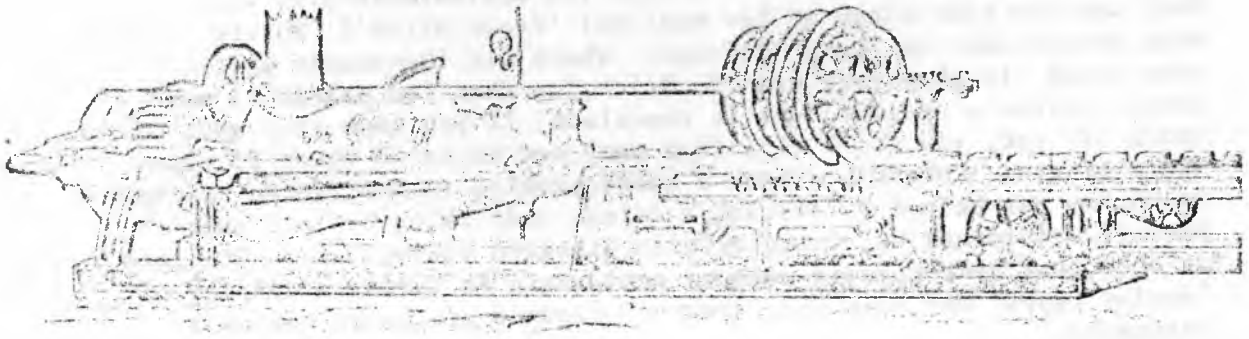
Since Stafford has been the centre for the dissemination of various offset-litho publications we feel that the North Midlands can use its experience to continue the discussion about the possibility of founding a *Journal of Brick History*. Most persons with whom the matter has been

discussed have been positive enough but full of financial misgivings. But the members of the BBS are far from being 'hotbeds of cold feet'. Three articles have already been offered and quite a fair idea as to what features could go in. Perhaps the most interesting points that emerged in discussions were that we join arms with our tegulophile brothers, the students of the tile history (leaving it up to the committee concerned to regulate the 'roof' and 'floor' elements). It would make a powerful alliance. Then a colleague came along and reproached archaeologists for neglecting the history of building stones. Why did we not generously offer space to the rivals of the brick and run a *'Journal for the History of Building Materials?* Since the sums of money required would be less than £100 for a run of 350 copies (with about 100 pages each) we could try and raise a little from tile makers and each of the organizations connected with building materials.

Research

Research in the N. Midlands is not exactly booming. At Keele we have entered into discussions with someone who wishes to work for a master's thesis on the history of the Staffs brick industry. It will be a daunting task for this person and quite a job to help because of the sheer cost of photostats, travel etc. Ideally we would hope to liaise between universities and the BBS to provide encouragement for those wishing to write 'County Brick Histories' at a high, scholarly level.

The editor has been nagged into promising a completion date for his article 'A grammar of brick-making machinery'. It took him three years to write a not very definitive but necessarily long 'grammar' of pottery-making machinery so he cannot do better than promise a preliminary version in 1977 if he can transgress on the time of friends and co-authors. He would welcome a sight of old brick-making machinery catalogues, contacts with friendly manufacturers with a taste for the history of old plant and documentary evidence of purchase of machines *e.g.* of the import of a Chambers' machine by a certain works etc. etc. They are fascinating objects and a 'Chambers' is illustrated below. (Please do not send machinery!).



The Scientific Side

There are many scientific techniques for examining ceramic products (chemical, physical, mineralogical, differential thermal analysis etc). They require not merely an ability on the pary of the brick-historian to enter into a dialogue with scientists so that they can 'ask the right sort of question' of scientists, but they need to know how to get help in analysis. This costs high in time and money and no existing organization or worker could deal with casual requests for an 'analysis' of a brick.

Could someone produce a code for us, on the line of Mr Harley's, on the technical and scientific questions that can currently be asked of a brick. Clearly such an analysis must be meaningful and it should help in classification as well as in 'finger-printing' a certain type of brick so that we can state in a systematic and statistically feasible manner that bricks from house A were probably made from the same deposit, or pit, or yard as a brick from house B. This will not always be possible but it is something to be aimed at.

PRE-DOBSONIAN BRICKMAKING, 1827

This transcript on brickmaking in and around 1827 is from Alexander Jamieson's *A Dictionary of Mechanical Science...* (London 1827). Members and readers are asked for comments on the sources and background of this article.

{p.464:} It is an erroneous notion that bricks may be made of any earth that is not stony, or even of sea ooze; too much sand entering into their composition, renders them heavy and brittle, and too much fat argillaceous matter causes them to crack in drying: those only will burn red which contain iron particles. In England they are chiefly made of a motley, yellowish, or somewhat reddish fat clayey earth, commonly called *loam*. Those of Stourbridge clay, and Windsor loam, are esteemed the most proper and durable bricks, and they will stand very high degrees of heat without melting. The common potter's clay, which is also employed in the manufacture of bricks, is found to consist of thirty-seven parts of pure argillaceous or clayey earth, and sixty-three parts of siliceous or flinty earth.

Of whatever description the earth intended for bricks may be, it ought to be dug between the beginning of July and the latter end of October, before the first frost appears; it should be repeatedly worked with the spade during the winter, and not formed into bricks till the following spring. If the earth were not used till two or three years after it had been dug, the quality of the bricks would be materially improved; and in all cases, the oftener it is turned, and the more completely it is incorporated, the better will be the bricks.

The clay, before it is put into pits for soaking, must be broken as small as possible, and allowed to lie at least ten days; every stratum of twelve inches should be covered with water, in order that it may be uniformly softened. Two pits, at least, will be necessary for every brick manufactory, so that, after having been suffered to remain for five days, the second may be prepared, and thus the manufacture carried on without interruption. The earth should as much as possible be divested of stony particles, and other extraneous matter, and should have sufficient time to mellow and ferment, otherwise it will be difficult to temper. On the treading and tempering, twice the customary quantity of labour ought to be bestowed. Much of the goodness of bricks depends upon the proper management of its first preparation, for the earth itself, previous to its being wrought possesses very little tenacity; but by long exposure to the air and frost, and thoroughly working and incorporating it together, it is converted into a tough gluey substance, in which state alone it is fit for moulding.

In the vicinity of London, coal ashes, and in other parts of the country, light sandy earth, is usually mixed with the clay, which, with such addition, is more easily and expeditiously wrought, and requiring rather less fuel, occasions some saving in the expense of burning the bricks; but here the advantages of it terminate; in other respects it is injurious rather than otherwise. If, in tempering the earth, too much water be used, the bricks become dry and brittle; but if duly tempered, they will be smooth, solid, hard, and durable. A brick properly made, requires nearly as much earth as a brick and a half made in the common way, when too great a proportion of water has been added, which tends to render the bricks spongy, light, and full of flaws. As bricks made in the best manner are more solid and ponderous than the common ones, they require a much longer time to dry; they ought not to be burnt till they will give a hollow sound on collision. Proper attention to the drying of bricks is necessary to prevent their cracking and crumbling in the kiln.

Of whatever materials the kiln be constructed, each burning of from six to ten thousand bricks requires the fire to be kept up at least for twenty-four hours, and double that time for a number of from twelve to fifty thousand. The uniform increase of heat deserves particular attention; its duration should be regulated according to the season: in cold weather

fire burns most fiercely. During the last twenty-four hours the fire should be uninterruptedly supported by means of flues, but afterwards the fire should not be suddenly closed, as there is always some danger of bursting the flues or melting the bricks.

The following experiment, by Gallon, made with a view to ascertain the difference in the quality of bricks differently manufactured, deserves to be generally known. A certain quantity of the earth prepared for moulding into bricks was taken for the experiment; at the end of seven hours, it was moistened and beaten for the space of thirty minutes. The next morning the same operation was repeated for an equal length of time; in the afternoon it was again beaten for fifteen minutes. Thus this earth had not only been worked for an hour and a quarter longer than usual, but at three different times; the consequence was, that its density was increased: for a brick made of it weighed five pounds eleven ounces, while another brick made in the same mould, of the earth that had not received this preparation, weighed only five pounds seven ounces. The two sorts of bricks were dried in the air, for the space of thirteen days; they were then burnt with others, without any particular precautions, and when they were taken from the kiln, it was found that the bricks made of the earth which had been most worked, still weighed four ounces more than the others, each having lost five ounces by the evaporation of the moisture. They differed also very remarkably in strength, for on placing them with the centre on a sharp edge, and loading the two ends, the bricks formed with the well-tempered earth were not broken with a less weight than sixty-five pounds or one hundred and thirty pounds in all; while the others were broken with thirty-five pounds at each end, or seventy pounds in the whole. That the quality of bricks should be improved, by bestowing more labour upon the preparation of the earth, will hardly excite surprise, though the degree of the improvement, as just stated, may certainly be considered remarkable; but there is another mode of strengthening these artificial stones, still more extraordinary, and not so easily to be accounted for. Goldham observes, that bricks which havebeen once burnt, then steeped in water, and burnt again, become doubly strong. We know not that this observation, which is repeated without comment, by nearly all the writers who have occasion to treat of this subject, will always be verified in practice; but it deserves attention, from the number and respectability of the writers who have contributed to give it currency.

The following is a description of the best method of making bricks with all the improvements that have been introduced within the last few years.

The earth most proper for making the country or kiln-burnt {p.465:} bricks, which, from containing ferruginous particles, always burn red, is a stiff clay, which is tempered alone, formed in moulds, dried in the air and sun, and baked in a kiln like pottery. These sort of bricks are hard and red, sometimes with dark grey or black ends, which, as often seen in our villages, the country bricklayers dispose in various figures of dates, chequer work, and similar forms. They are unfit for cutting and rubbing for gauged work, which is always performed with a milder sort, called *red rubbers*.

The earth selected as the most fit for making common bricks after the London mode, is a clayey loam; and that for the superior sort, such as those which are used for facing buildings, called *malm stock* bricks, is a lighter sort of loam, in which marl is found, frequently met with from two to three feet below the clayey loam.

The earth having been dug in autumn, the workmen are to be employed during the winter in preparing it for the ensuing season. This is done by removing the vegetable mould from the surface, which is called *uncallowing*, and placing coal ashes in proportion of two inches in thickness to every

foot deep of earth, which is twelve chaldron of coal ashe, or bereze, {sic} as it is called, to every hundred thousand of bricks, and mixing them together in digging the earth; because the composition is improved in proportion as it is exposed and acted upon by the frost, rain, and wind. The mixture is then generally turned over once after it has been dug, but is seldom suffered to remain in this state of preparation longer than one winter before it is used, as it would be inconvenient to the manufacturer from the space it thus occupies; and it is considered not to improve the earth so much as it deteriorates the combustible qualities of the ashes.

When the prepared soil has thus endured a winter's preparation, it is delivered over about Lady-day to the charge of the brickmaker, or *moulder*, as he is called; and the first thing to be attended to in the formation of sound bricks, is tempering the earth. This was formerly done by a gang of six persons employed and paid by the moulder, who makes them from the heap till laid on the back to dry by the thousand; and an active, industrious, skilful man can, with these assistants, who are often his wife and children, mould from six to seven thousand in a day, calculating from five o'clock in the morning till eight at night. One of this gang tempered and prepared the earth with a long hoe, by which he pulled it from the heap; a shovel,with which he chopped it backwards and forwards, turning it as often as he found it necessary, incorporating the ashes, sand, and earth thoroughly together; and a wooden scoop, with which he threw water over the mass in preparation, to bring it to a more ductile state. The great difficulty of having this operation, on which so much of the success of the manufacture depends, well performed, has occasioned the introduction into extensive works of machines called *pug-mills*, into which the prepared earth is wheeled after it is mixed with a proper quantity of water. Care should be taken, whether the tempering be done by men or the mill, that too much water be not used, as the more solid the brick is delivered from the mould, the better it retains its form on the back where it is set to dry; the less it shrinks in drying, the sooner it dries, and the better and more shapely it burns.

When the mass is sufficiently mixed, by either of the above modes it is laid in small parcels, well kneaded, on the moulding table, which is covered with dry sand. The moulder throws it smartly into the mould, presses it down to fill all the cavity and strikes off the overplus with a stick previously dipped in water. He then turns the newly formed brick from the mould on to a thin board, larger than the brick, which is removed by a boy to a light latticed wheelbarrow, and it thus conveyed, covered slightly with fine dry sand, to the hacks to dry. The bricks are arranged on the hacks with great regularity one above the other, a little diagonally, in order to give a free passage to the air. In showery weather the piles are usually protected from its injurious effects by some cheap covering such as straw, or old light boards. In grounds not very extensive, sheds are sometimes erected.

When the bricks are sufficiently dried in the hack, which in fine weather may be in about nine or ten days, they are ready for the fire, which completes the operation. It is of the greatest consequence to the quality of the bricks, that they should be thoroughly dry before they are set in the clamp or stack, which can only be ascertained by breaking a few in halves, selected from various parts of the hack. If the operation of drying in the hack be not thoroughly performed, the bricks will never burn sound; and the moisture which ascends from them in the form of vapour, renders the upper courses in the clamp peculiarly unsound.

The clamps are generally of an oblong form, and contain from one hundred thousand to half a million of bricks. The thickness of the walls should at least be a brick and a half. Bricks are burned in kilns with less fuel, and with greater uniformity and expedition, than in clamps. When they have been set or placed in the kiln, they are covered with pieces of bricks or tiles, and dried by kindling a gentle fire, which is kept up for two or three days, or till the smoke becomes light. More fuel is then added, and the mouth or mouths of the kiln are nearly closed with bricks and wet clay; as soon as the arches of the kiln look white, and the fire begins to appear at the top, they slacken the heat for an hour, and let all cool by degrees. This they continue to do, alternately heating and slacking, till the bricks are thoroughly burnt, which is usually effected in forty-eight hours.

The stacks or clamps are built of the bricks themselves. The foundation is commonly somewhat raised from the surrounding ground, and of an oblong form; the sides slant inwards a little towards the top; hence the clamp, in its figure; is a truncated pyramid. Flues, about the length of a brick in breadth, are made entirely through the clamp; they are about six feet apart when the burning is to be hastened, otherwise they are made about nine feet from each other. The arching of the flues is performed by laying the successive layers of bricks a little over the edge of those below them, till they nearly meet, and then a binding brick at the top finishes the arch. In every direction, the bricks are separated from each other by a stratum of coals and cinders. To facilitate setting fire to the clamp, a quantity of wood is laid with the coal in the flues. When the fire is kindled, if it burn strongly, or the weather is precarious, they plaster the outsides of the clamp with clay, and close the apertures of the flues. On the top of the clamp, a thick layer of breese (cinders) are uniformly laid. When the whole of the fuel is consumed, the manufacturer concludes that the bricks are sufficiently burnt. The operation requires from twenty to thirty days, according to the quantity of fuel, the proximity of the flues, and the state of the weather. When the process has been properly conducted, those in the interior of the clamp are hard, square, and of a good bright colour. These are the stock bricks of the London market.

The preparation of the loam, marl, ooze, chalk, &c. with which the beautiful yellow *malm stock* of London, and the pale bricks of the Ipswich sort, are made, requires more attention, and a longer and more careful process. The earth and other ingredients with which the soil for *malm* bricks are composed, are wheeled into a mill with a due proportion of water. This composition is then ground in the mill, which is supplied with two sets of knives and harrows, and runs out in a state of thick mud or sludge through wooden spouts, into hacks which are raised near the mill. It is there left, till by the water soaking away, and by absorption, it acquires a sufficient consistency or solidity to be kneaded for the moulder. The moulding, drying on the hacks, and burning in the clamps, is performed exactly as before described for common stocks, but with more care and precaution.

As marl is not always to be found where *malm stock* bricks are required, the method used by Mr.Lee, of Lewisham, is so good a substitute, that it is worthy the attention of builders, who may wish to manufacture these beautiful bricks without marl. After many experiments, occasioned by the paucity of marl in the London districts, Mr.Lee discovered that chalk mixed in certain proportions with the loam, and treated in the usual manner, produced an excellent substitute. For this discovery he took out a patent, which having now expired, this mode of mixing a small quantity of chalk with the brick earth, is generally adopted round London, for the purpose of giving colour and soundness to the brick. At Emsworth, in Hampshire,{p.466:}and at Southampton, ooze or sludge from the sea shore,

which contains much saline matter, is used for a similar purpose; but however sound these bricks are, they have neither the rich brimstone colour of the London *malm stock*, nor the regular stone-coloured creamy hue of the Ipswich bricks.

Bricks, like most other useful articles in this country, are subject to a duty, and form an important part of the annual revenue of the government. They are also subject to a regulation as to size. By the 17th Geo.III. cap.42, all bricks made for sale, shall, when burned, be not less than eight and a half inches long, four wide, and two and a half thick; and by 43 Geo.III. cap.69, which consolidated the excise duties, every thousand bricks made in Great Britain, not exceeding ten inches long, three inches thick, and five inches wide, are liable to a duty of five shillings; and exceeding these dimensions, to ten shillings.

The principal bricks used in the United Kingdom, are *stock* and *place* bricks, from the *stock* brick clamp: *malm stocks, cutters, seconds,* and *pavers,* from the *malm* clamp. *Red stocks, paving bricks, fire bricks, foot and ten-inch tiles,* from strong clay, and burned in a kiln. Of the *fire bricks,* the best are from Windsor, Stourbridge, Wales,and some of the iron counties. The Welsh are excellent, and will stand extreme heat; they are made of large sizes for the boilers of sugar-houses, brewers' coppers, &c. and are called Welsh lumps.

The place bricks and stocks are used in common walling; the marls are made in the neighbourhood of London; these are very beautiful bricks, of a fine yellow colour, hard, and well burnt, and in every respect superior to the stocks. The finest kind of marl and red bricks are called cutting bricks; they are used in the arches over windows and doors, being rubbed to a centre, and gauged to a height.

An acre of land, including the ashes mixed with the earth, is computed to yield about one million of bricks for every foot in depth. The brick mould is ten inches in length, and three in breadth, and the finished bricks are about nine inches long, four and a half broad, and two and a half thick. Different qualities of earth, however, produce bricks of different dimensions from the same mould; and even the same earth, in proportion as it is more or less wrought or burnt, exhibits similar results.

It is extremely probable that bricks, properly made, would prove superior in durability to almost every kind of stone. In Holland, the streets are every where paved with a hard kind of bricks, known by us under the name of clinkers, which are often imported into this country, and used for paving stables and court yards; and houses in Amsterdam, which have stood more than two centuries, so far from being decayed, appear perfectly fresh as if new.

The numerous patents which have been granted for the making of bricks, appear to have had improvements in the formation of the article for their principal object, without much regard to the materials of which it is composed. Cartwright's patent, the exclusive privilege conferred by which has now expired, is perhaps one of the most important. His improvement consists in giving bricks such a shape or form that they shall mutually lock or cramp each other. The principle of his invention may be understood, by supposing the two opposite sides of a common brick to have a groove or rabbet down the middle, a little more than half the width of the side of the brick in which it is made; there will then be left a shoulder on each side of the groove, each of which shoulders will be nearly equal to one quarter of the width of the side of the brick, or to one-half of the groove or rabbet. A course of these bricks being laid shoulder to shoulder, they will form an indented line of nearly equal divisions; the grooves or rabbets being somewhat wider than the two adjoining shoulders, to allow for

mortar, &c. When the next course comes on the shoulders of the bricks which compose it, will fall into the grooves of the first course; and the shoulders of the first course will fit into the grooves or rabbets of the second, and so on. This configuration of the bricks is to be preferred, as it is perfectly simple; but the principle will be preserved by whatever form of indenture they lock or cramp each other. For the purpose of turning the angles, it may be expedient to have bricks of such a size and shape as to correspond with each wall respectively, though this is not absolutely necessary, as the grooves in the bricks of each wall, where they cross or meet each other, may be levelled, and the bricks lap over as in the common mode. For the purpose of breaking the joints in the depth of the wall, bricks will be required of different lengths, though of the same width. Buildings constructed with bricks of this principle, will require no bond timber, one universal bond running through and connecting the whole building together; the walls of which can neither crack nor bulge out, without breaking through the bricks themselves.

When bricks of this form are used for the construction of arches, the sides of the grooves or rabbets, and the shoulders, should be the radii of the circle of which the intended arch is to be the segment. In forming an arch, the bricks must be coursed across the centre on which the arch is turned, and a grooved side of the bricks must face the workman. It may be expedient, though not absolutely necessary, in laying the first two or three courses at least, to begin at the crown and work downwards. The bricks may be either laid in mortar, or dry, and the interstices afterwards filled and wedged up, by pouring in lime putty, plaster of Paris, grouting, or any other convenient material, at the discretion of the workman or builder. Arches on this principle, it is stated, having no lateral pressure, can neither expand at the foot, nor spring at the crown, consequently they will want no abutments, requiring only perpendicular walls to be let into, or to rest upon; and they will want no incumbent weight upon the crown to prevent their springing up, a circumstance often of great importance in the construction of bridges. Another advantage attending this mode of arching is, that the centres may be struck immediately so that the same centre (which in no case need be many feet wide, whatever may be the breadth of the arch) may be regularly shifted as the work proceeds. But the greatest and most striking advantage attending this invention, is the absolute security it affords (and at a very reasonable rate) against the possibility of fire; for, from the peculiar properties of this arch, requiring no abutments, it may be laid upon, or let into, common walls, no stronger than what are required for timbers, of which, precluding the necessity, it saves the expense. A more particular account of this invention, illustrated by two plates, may be seen in the third volume of the "Repertory of Arts and Manufactures."

In 1798, Francis Farquharson, of Birmingham, obtained a patent for making bricks and tiles by machinery; and indeed the use of horse power, in working the clay, is now very common.

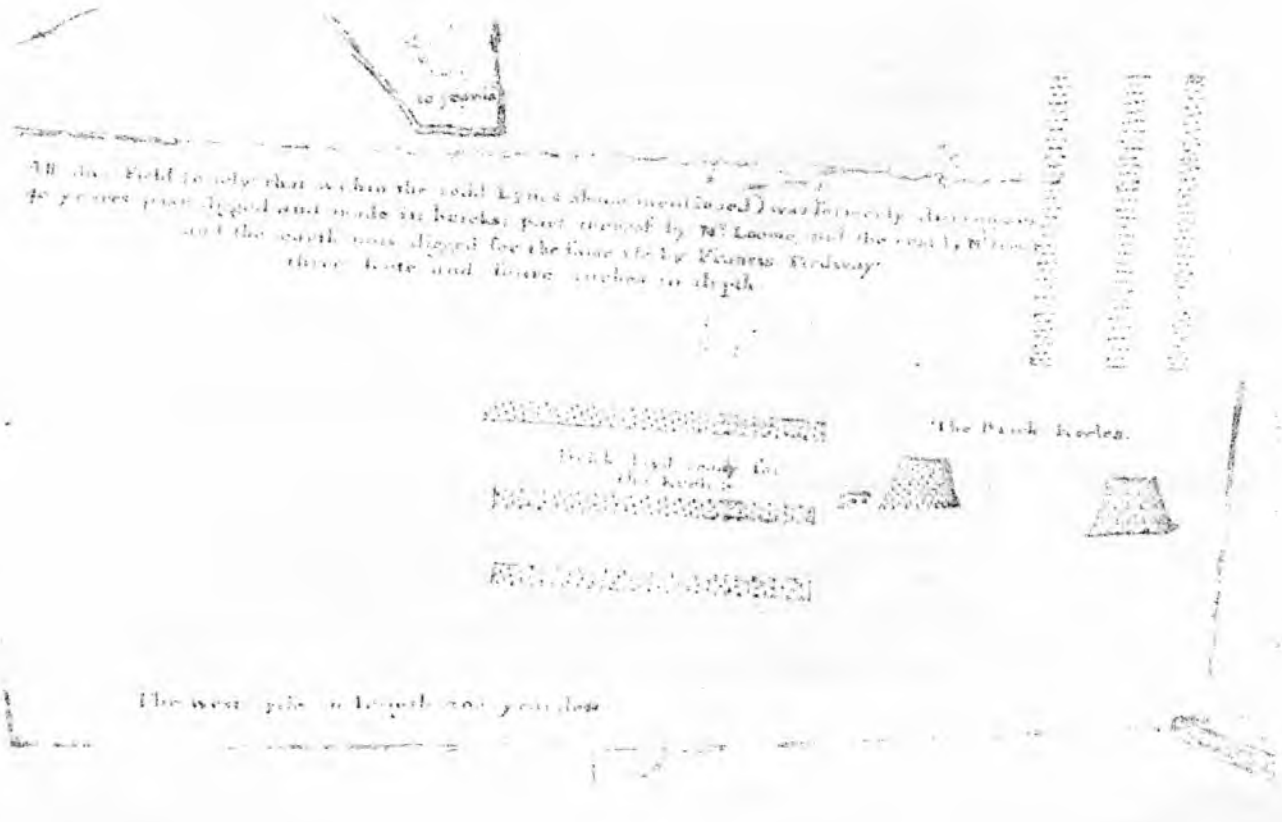
Whitmore Davis, of Castle Comber, in the county of Kilkenny, Ireland, observed some persons in the vicinity of a colliery, to employ a mortar, for the backs of their grates, which in a short time became very hard. This substance he found, on inquiry, to be what miners term *seat-coal*, or that fossil which lies between coal and the rock. It has been examined by Kirwan, who is of opinion that it will, when mixed with a due proportion of clay, produce a kind of bricks, capable of resisting the action of fire, and consequently well calculated for furnaces, or similar structures. The discovery of the use of this substance is considered important, and it is further observed, that seat-coal, properly prepared, will answer every purpose of tarras, for buildings beneath water.

In building, a considerable waste of time arises from the necessity of making bricks less than the common size, to suit particular situations. Nor is the waste of time the sole loss; in attempting to divide a brick, especially in the direction of its length, one half of it is generally reduced to useless splinters; but bricks have lately been made, which in their soft state were nearly cut through by pressing a wire upon them; they can then be divided by a single blow: a proportion of them, along with the common sort, produces on the whole a saving of some moment.

It is of considerable importance to examine clay before it is made into bricks, in order to ascertain whether any addition can be made to it which will improve its quality. According to the observation of Bergman, the proportion of sand to be used with any clay, must be greater, the more such clay is found to contract in burning, but the best clays are such as [p.467:] require no sand. This illustrious chemist recommends the following mode of analysis to manufacturers: Nitric acid poured upon unburned clay, detects the presence of lime, by producing an effervescence. Calcareous clays,or marls, are often the fittest materials for making bricks. In the next place, a lump of clay, of a given weight, is to be diffused in water by agitation. The sand will subside, and the clay remain suspended.

NOTES QUERIES

NQ The illustration below is taken from a plan of 1633 showing brickfields a few hundred yards north of London. The truncated pyramids are labelled as 'keeles' or kilns. Are these really kilns in the modern sense, or are they clamps? On p. 6 of this bulletin is a description of 1827 which says that a clamp is a 'truncated pyramid'. Can any seasoned clampmonger tell me what information can be deduced from this drawing? The illustration is from a plan in the P.R.O. which a colleague and I are trying to work up into an article. There is a tedious lawsuit (with no useful technical details) which will have to be summarised. It had been hoped to offer the article to the *Journal of Brick History* which, I am told, has little chance of coming into existence. Perhaps the article on this site can go into *London Bulletin*. (E. C.)



NQ 6

Proclamation on bricks by James I & VI

In 1973 the Clarendon Press at Oxford published *Stuart Royal Publications Volume I Royal Proclamations of King James I 1603-1625.* The editors of this volume are James F.Larkin and Paul L.Hughes. One would like to let members know about the references to bricks in this superbly edited publication which not only covers printed versions but deals with manuscript drafts, such as are corrected by Cecil.

The only important proclamation is the last one (no.234).

no.51 1605 *A Proclamation for Buildings, in and about London* (pp.111-112) {new houses to have 'Bricke, or Bricke and stone'.}

no.87 1608 *A Proclamation for Buildings* (pp.193-195) {brief mentions of 'Bricke building' in London}

no.120 Aug.1611 *A Proclamation for restraint of Building, in and about London* (pp.267-269) {on restriction of building in London and on use of 'bricke'}

no.121 Sep.1611 *A Proclamation for restraint of Building, in and about London* (pp.269-271). A similar proclamation

no.152 1615 *A Proclamation for Buildings* (pp.345-346) 'Wee had found Our Citie and Suburbs of London of stickes, and left them of Bricke, being a material farre more durable, safe from fire, beautifull and magnificent' (a motto for a journal?)

no.175 1618 *A Proclamation for revoking all licences heretofore granted for erecting new Buildings within the Citie of London,* (pp.398-400) Instructions on use of bricks for walls, piers between windows and 'Pillasters of hard Stone or Bricke cut in Wedges Archwise'.

no.186 1619 *A Proclamation declaring His Majesties further pleasure for matter of Buildings* (pp.429-431) Specifications on bricks for walls and window jambs etc.

no.204 1620 *A Proclamation for explaining and enlarging his Majesties former orders for buildings, in and about London* (pp.485-488). Again more specific building regulations with usual references to bricks.

no.234 1622 *A Proclamation for the due making and selling of Brickes* (pp.557-561). This proclamation criticizes standards in brickmaking in the London area. There is the usual injunction to dig clay between the feasts of St.Michael (29.Sep) and St.Thomas (21.Dec.?) and, of course, no digging or firing within one mile of the City gates. Building

is restricted to between the Annunciation (25 Mar. and the last day of August. For the 'Assize' bricks were to be fired to a size of 9" x 4⅜" x 2¼". They were to be sold at the 'Kill' at not more than 8/- per 1000.

The editors refer in a footnote to *Acts of the Privy Council* for 1618-19 p.490 where attempts to reform brick prices were affected by proclamations. They also refer to State Paper 14/112/80 where in 1620 Middlesex justices limited bricks (8" x 4" x 2") bought at the kiln to 8/- per 1000.

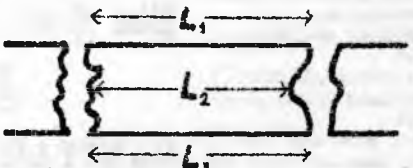
NQ ? (from L.S.Harley, President B.B.S)

I am particularly interested in the last article of *North Midlands Bulletin* No.1, 'Some measurements on Stuart Bricks' because for many years I have urged the collection of data on the Standard Deviations of reasonably-large samples of dated bricks.

I have found from my own very inadequate measurements on buildings of widely-differing dates (1270 to late 18th century) that *the expected decrease of manufacturing precision with increasing age does indeed occur* and I have thought that within obvious limitations, one might find some relation between the percentage coefficient of variation (=100 x S.D./Mean) and age. I find, tentatively, and this is just thinking aloud, that:

Age in Centuries before 2000 A.D. = 2.5 times the square root of the percentage coefficient of variation.

I make no claim that this has any greater precision than dating an ancient hedge by counting the number of species in a 30-metre length (you will, of course, know this rather rough method). There is a snag: how do you measure, say, the length of this ancient brick?



Is it L_1, L_2, or L_3? I suppose I, myself, try to estimate the mean length L_3 by eye, but this in itself introduces a Standard Deviation of observation, which I find is about 0.3 to 0.6%. So, if we subtract, say 0.5 from your value 3.4% (which I make 3.3%) for the Nantwich bricks, we get about 2.8%, and 2.5 x $(2.8)^{\frac{1}{2}}$ = 4.2 centuries: that is, it gives a date of A.D.1580, which is over half a century before the date (1640s) of your building. However, this is no greater an error than is to be expected from such a method, and many more observations would be needed to establish a reliable formula: no doubt local differences would always inhibit great accuracy. Although I *measure* and record in millimetres, I believe it is useful to *compare* British bricks in inches, because it was in inches not far removed from our present standard that the bricks were designed.

I entirely associate myself with the concluding paragraph of the article and its clear statement of the dangers of relying merely on size as a dating factor, but I feel sure that adequate statistical treatment of those measurements can be made to yield information for dating - how closely, is another matter.

BRICKMAKERS IN THE POTTERIES, 1864

In the last bulletin we published the brickmakers' list from a directory of 1872. An appeal was made for the loan of other directories at various meetings. But with no offers yet, we have to make do with a more limited Potteries directory:

Jones's Mercantile Directory of the Pottery District of Staffordshire.1864 (London, 1864)

As a bonus the advertisements relating to these brickmakers are published in order to tempt someone to make a systematic analysis or survey of all the Midlands brickmakers. To judge from the advertisements alone, one sees that the Potteries makers were generally more specialised.

Brick and Tile Makers.

Marked (a) are Fire Brick and Sanitary Pipe Makers.

Marked (b) are Blue Brick, Floor Tile and Quarry Makers.

Adderley, Shaw & Goldstraw, Daisy bank, Longton

ASBURY THOMAS—works, Trent vale, Stoke-upon-Trent

(b) BASFORD GEORGE, Ellgreave st, Burslem—(see Advertisement).

(b) BENNETT THOMAS, Spout field tilery, Hartshill, Stoke-upon-Trent—(see Advertisement)

(b) Boote Thomas & Richard, Waterloo potteries, Burslem

Bradbury Thomas, Eastwood vale, and Etruria, Hanley

(b) BRADWELL HALL BRICK & TILE Co., Chesterton near Newcastle-under-Lyme—Joseph Tomkys, manager—(see Advertisement)

(a) BROUGH WILLIAM, Silverdale. Manufacturer of roofing, ridge and flooring tiles, drain and conduit pipes, facing, paving, channel and fire bricks, chimney tops, &c.

Clarke Richard, Shelton brick works, Hanley

Cooke William, Edensor rd, Longton

(b) COOPER JOHN & SON, King's field tileries, Newcastle-under-Lyme—(see Advertisement)

Cooper & Wilson, Handford, Stoke-upon-Trent [illegible] rd, Longton

Cope Thomas (executors of), Heathcote [illegible]

DEAKIN JOSEPH, Basford bank, Etruria—(see Advertisement)

Dean John, Ellgreave st, Burslem

Derbyshire John, Edensor rd, Longton

Ferneyhough Thomas, Pinfield brickyard, Norton-in-the-Moors

(b) Foster & Chadwick, Newfield, Tunstall

p. 183

(b) GARRETT BROTHERS, Brownhills tileries, Tunstall. Ridges, flooring tiles, drainage pipes, &c.—(see Advt.)

(b) GIBSON & PRATT, Basford bank, Etruria—(see Advertisement)

Glover Sarah, Handford tileries, Stoke-upon-Trent

Hammett & Beech, Edensor rd, Longton

(a) Hampton Enoch & Son, Eastwood vale, Lichfield st, Hanley

Hassells Thomas, Hollywall works, Tunstall

Hodkinson Thomas & Edward, Trentham rd, Stoke-upon-Trent

(a) Holmes & Hambleton, Sun st, Hanley

Hughes Forrester, Cobridge brick works, Burslem

(b) Hyatt Brothers, Wolstanton. Blue metallic tile manufacturers

(b) JONES WILLIAM, Springfield tileries, near Newcastle-under-Lyme

Legge Isaac, Edensor rd, Longton

Lockett James, Botteslow, Hanley

MELLOR SAMUEL, Jun., Broad st, Hanley—(see Advertisement)

MILLS GEORGE, Cannon st, Hanley—(see Advertisement)

(b) MINTON, HOLLINS & Co. (encaustic, &c.), High st, Stoke-upon-Trent

(b) MOSS HENSHALL, Defiance bank, Chesterton—(see Advt.)

(b) PEAKE THOMAS, Tunstall; and 21 wharf, Macclesfield st north, City rd basin, London. Terro-metallic flooring, roofing, &c. Tiles in black, blue, red, buff, and other colors; ridges, plain and ornamental, &c.

(b) Pratt F. E., Fenton; and Broad st, Stoke-upon-Trent

Procter George, Copshurst, Lightwood

Purcell George, Silvester square, Moorland rd, Burslem

(a) Boden Samuel, Silverdale. Brick, tile, quarry, &c. manufacturers—(see Advertisement)

(b) Roe & Son, Hanford, Stoke-upon-Trent

SALE JOHN, Chesterton—(see Advt.)

Steele George, Caroline st, Longton

Taylor Alfred, Liverpool rd, Stoke-upon-Trent

Thomas William, Lightwood, near [illegible] hill, Longton

Tilsley Richard, Lodge tileries, Trent vale, Stoke-upon-Trent

TIMMIS JOSEPH, Bradwell wood, near Tunstall—(see Advertisement)

p. 164

Walker & Houson, Millfield gate, Sutherland rd, Longton

Walker John, Brownhills, Tunstall

WARBURTON CHRISTOPHER, Audley

Ward Henry, Nelson place, Hanley

WARNER & HOLLAND, Trent vale blue metallic tileries, Stoke-upon-Trent

Watkin John—works, Regent st

Wheeldon William & Co., Bradwell hall, Chesterton

Wigley George, Silvester sq, Burslem

WILLIAMS THOMAS, Basford bank, Etruria, Stoke-upon-Trent—(see Advertisement)

Woolliscroft George, Chesterton—(see Advertisement)

GEORGE BASFORD, p.282

Patent Blue and Red Floor Tile Works,

ELLGREAVE STREET,

Near BURSLEM STATION, STAFFORDSHIRE.

Noted during the past 10 years for the manufacture of the best Blue and Red Tiles for Cottage Floors. Price according to quality.

THOMAS BENNETT,

MANUFACTURER OF

Blue Bricks, Roofing Tiles, Ridge Tiles, Blue and Red Quarries, Fire Bricks,

SANITARY TUBES, CHIMNEY TOPS,

AND ALL SORTS OF

BUILDING MATERIALS,

SPOUT FIELD TILERY, p.253

Hartshill, Stoke, Staffordshire.

BRADWELL HALL BRICK AND TILE COMPANY,

CHESTERTON, near NEWCASTLE, STAFFORDSHIRE.

JOSEPH TOMKYS, Manager.

MANUFACTURERS OF ALL KINDS OF

BLUE AND RED BRICKS AND TILES,

FIRE-BRICKS AND CHIMNEY POTS,

Drain and Soughing Pipes of all descriptions; also all kinds of Plain and Ornamental Roof, Ridge and Floor Tiles, Stable Bricks, &c.

All orders punctually attended to. p.259

1864

13

NQ 9

Mr Geoffrey Hines sends some further examples of additional data on terms for bricks at times when *tile* and *tegula* were used to refer to them. This information he sends in kind response to queries in Bull. no.1.

1422 '1300 waltyll (=bricks), at 4s. the thousand'
L.F.Salzman *Building in England down to 1540...* (Clarendon, Oxf.1967) p.208 (from Exchequer K.R.Accts E.575,28,in P.R.O.)

1505 faggots 'for my breke kil'
Salzman *ibid.* p.143 (quoted from 'Cage, *Thingoe Hundred*, 142')

1441 (at Calais) 'carriage of stones called brekeston from a place called the brek clampe'
Salzman *ibid.* p.143 (from Exchequer K.R. Accts, E.193,4,in P.R.O.)

1418 (at Deptford) 'tilkylne for making bryke'; also 'tegulas de brike')
Salzman *ibid.* p.142 (taken from accts of Wardens of London Bridge, vol.ii, ff.255, 276,289,293)

1468 (at Calais) 'brekstones called Whitebrek'
Salzman *ibid.* p.144 (from Exchequer K.R. Accts, E.197,5)

And a very awkward sort of walltile:

1368 'tiles called valtill' for the *pavement* of a wardrobe
Salzman *ibid.* p.145 (from Exchequer K.R. Accts, E.493,30, in P.R.O.)

A tricky one:

1371 'pro stagno ejusdem molendini et le brek 32s. 4d.'
(This is interpreted by the editor of the source as being the race of a mill) James Raine (ed.) *The Fabric Rolls of York Minster*, being Surtees Soc. vol.35 for 1858 (Durham etc. 1859) pp.10,337

NQ 10

Staffordshire Blue Bricks. Mr Harley in his 'Code' notes that these bricks came in 'about 1830'. This made us think about Holy Trinity (R.C.) Church, Newcastle-under-Lyme, which has a strange façade of dark, bluish bricks. Looking up N Pevsner's *The Building of England/ Staffordshire* (Penguin 1974) p 209, we learn that this structure by the Rev. James Egan, is dated '1833-4'. This seems a place worthy of pilgrimage in more than one sense.

NQ 11 In the first number of this bulletin was an enquiry (NQ3) regarding National Coal Board brickworks. Someone sent anonymously photostats from a publication which obligingly listed such works. Though undated it does not seem to be an archaic document. It seems useful to reproduce the pages here rather than to delay matters hunting for further details. Thanks are due to the anonymous correspondent.

NCB Bricks

BRICKWORKS PRODUCING STANDARD COMMON BRICKS

NORTH-EAST ENGLAND

Bearpark, *Durham*
Boldon, "
Brancepeth, "
Leasingthorne, "
Ashington, *Northumberland*
Cramlington, "
Pegswood, "
Seghill, "
Wallsend, "
Wylam, "

NORTHERN ENGLAND

Bickershaw, *Lancashire*
Ackton Hall, *Yorkshire*
Hickleton, "
Wombwell Main, "

MIDLANDS

Annesley, *Nottinghamshire*
Watnall, "
Ansley Hall, *Warwickshire*

SCOTLAND

Annbank, *Ayrshire*
Dunaskin, "
Skares, "
Meiklemannan, *Clackmannan*
Fauldhead, *Dumfriesshire*
Gartshore, *Dunbarton*
Prestongrange, *East Lothian*
Blairadam, *Fifeshire*
Lochgelly, "
Blantyreferme, *Lanarkshire*
Gateside, "
Northfield, "
Niddrie, *Midlothian*
Roslin, "
Wallyford, "
Whitehill, "
Barbauchlaw, *West Lothian*

SOUTH WALES

Onllwyn, *Glamorgan*

FLETTON COMMON BRICKS

In Standard and Grooved types are available from our branch company, Whittlesea Central Brick Company Ltd., at the address below. Ask for Catalogue No. 1600.

FURTHER INFORMATION

For quotations or other information on Common Bricks, or the comprehensive NCB range of Facing and Engineering Bricks, contact any of the following offices:

NCB Bricks

NATIONAL COAL BOARD BRICKWORKS EXECUTIVE

		Telephone
Midland Sales Office	Oakon, Codsall, Wolverhampton	Codsall [illegible]
Southern Sales Office	Lyon Road, Harrow, Middlesex	HARrow [illegible]
Northern Sales Office	Milford House, Prestwick, Ponteland, Newcastle-upon-Tyne	Ponte[illegible]
Scottish Sales Office	21 Walker Street, Edinburgh 3	Caledonian [illegible]
Welsh Sales Office	Inst. of Engineers Bldg., Park Place, Cardiff	Cardiff [illegible]
Fletton Sales Office	Whittlesea Central Brick Co. Ltd., 30 Whitmore St., Whittlesea, Nr. Peterborough	Whittlesea [illegible]
London Showroom	26 Dorset Square, London, N.W.1	AMBassador [illegible]

NCB BRICK RANGE

NCB Bricks are made in 45 brickworks in 17 counties of England and Scotland from a wide variety of clays, naturally fired to produce a comprehensive choice of aesthetic and technical qualities. Ask your nearest sales office for any of the following leaflets, samples, technical service or quotations to site.

Facing Bricks

Leaflet No	Brickworks	Description
1	DESFORD Leics	Rustic, Multi Buff
3	DESFORD Leics	Rustic, Georgian Grey
4	DESFORD Leics	Rustic, Birch Grey
5	DESFORD Leics	Rustic, Leicestershire Straw
6	DESFORD Leics	Rustic, Multi Straw Mixture
7	WHITWICK Leics	Rustic, Multi Buff
8	WHITWICK Leics	Rustic, Mixed Golden Brown
13	WHITWICK Leics	Handmade, Mixed Golden Brown
14	WHITWICK Leics	Handmade, Tudor Russett
15	WHITWICK Leics	Handmade, Cotswold Grey
16	WHITWICK Leics	Handmade, Old English Mixture
27	HEDNESFORD Staffs	Smoothfaced, Staffordshire Red
40	ANSLEY HALL Warks	Stipltex, Multi-Red Brown
70	CRONTON Lancs	Rustic, Multi Red
81	ACKTON HALL Yorks	Smoothfaced, Multi Red
83	UPTON Yorks	Sandfaced, Russet Red
91	CANNOCK Staffs	Sandfaced Georgian Red
92	CANNOCK Staffs	Sandfaced, Charcoal
115	MITFORD Durham	Rustic, Silver Grey
116	MITFORD Durham	Rustic, Russet Grey
124	HOLMSIDE, Durham	Smoothfaced Red
140	PEGSWOOD Northumberland	Sandfaced Buff
145	SEGHILL Northumberland	Rustic Grey
146	SEGHILL, Northumberland	Golden Brown
147	SEGHILL Northumberland	Honey Buff
152	ASHINGTON Northumberland	Rustic, Golden Brown
165	BRANDON, Durham	Rustic, Mixed Buff
170	LEASINGTHORNE Durham	Rustic, Multi Red
183	STEPHENSON, Northumberland	Rustic, Antique Brown
184	STEPHENSON Northumberland	Rustic, Autumn Brown
190	STEPHENSON Northumberland	Sandfaced Charcoal
191	STEPHENSON Northumberland	Sandfaced, Cheviot Grey
192	STEPHENSON Northumberland	Sandfaced, Dapple Grey
194	STEPHENSON Northumberland	Sandfaced, Autumn Brown
195	STEPHENSON Northumberland	Sandfaced, Honey Buff
196	STEPHENSON Northumberland	Sandfaced, Purple Heather

contd/

contd/

93	CANNOCK Staffs	Sandtex, Multi Red MIxture	201	NEWTON Lanarkshire	Smoothfaced Red
95	CANNOCK Staffs	Rustic, Stafford-shire Blue	1001	WHITTLESEA Cambs	Fletton Sandfaced Multi Red
96	CANNOCK Staffs	Rustic, Stafford-shire Blue-Brindle	1002	WHITTLESEA Cambs	Fletton Sandfaced Multi Golden Brown
97	CANNOCK Staffs	Rustic, Stafford-shire Brown-Brindle	1003	WHITTLESEA Cambs	Fletton Sandfaced Multi Stone
100	CANNOCK Staffs	Smoothfaced Staff-ordshire Blue			

Engineering Bricks (Leaflet No 500)

Brickworks	Grade	Brickworks	Grade
HEDNESFORD Staffs	Acid-resisting	HOLMSIDE Durham	Engineering Class A
HEDNESFORD Staffs	Engineering ClassA (Staffordshire Red)	HOLMSIDE Durham	Engineering Class B
HEDNESFORD Staffs	Engineering ClassB	WELBECK Notts	Engineering Class A
CANNOCK Staffs	Engineering ClassA (Staffordshire Blue)	WELBECK Notts	Engineering Class B
CANNOCK Staffs	Engineering ClassB	ACKTON HALL Yorks	Engineering Class B
HOLMSIDE Durham	Acid-Resisting	NEWTON Lanarks	Engineering Class B

Second Engineering bricks are also available from these and other works.

COMMON BRICKS (Leaflet No 600)
Available in Standard, Hi-Load and Selected grades from 33 NCB brickworks in England, Scotland and Wales

FLETTON COMMON BRICKS (Leaflet No 1600)
Available in Standard and Grooved grades from Whittlesea works (Cambridgeshire)

BRICK COLOURS

Every care has been taken to make the illustration overleaf as accurate as the printing process allows, but it must be regarded as a guide only to the colour of the bricks.
Permanent display panels may be seen at any of the following offices, at the London Building Centre, and at the showrooms of many leading builders merchants.

NQ 12

An ancient Greek word for 'brick' was *Plinthos*, from which has come the English word *plinth*. It is interesting to note that in a recently published article in *The Journal of Hellenic Studies*, XCIV (1974) p. 149, O. Szemerény, argues that the Greek word is from: Semitic *libintu* 'brick', *cf.* Akkadian *libittu*, Hebrew *lᵉbēnāh*, Targum *lᵉbintā'*. While the article is really only for philologists one is grateful to find in the welter of reference a mention of a work on Mesopotamian bricks, Salonen's *Die Ziegeleien in alten Mesopotamien* (Helsinki 1972).

NQ 13

While many persons have heard of or seen the ceramic articles in the great *Encyclopédie* (1751-1780) of Denis Diderot and his learned confrères, one should recall the existence of a contemporary and just as impressive technical encyclopaedia. Broadly speaking, there is a volume for each trade or craft. The one that may be of interest to members is entitled *L'Art du Tuilier et du Briquetier*, edited by Henri-Louis Duhamel de Monceau, Charles René Fourcroy de Ramecourt, and by a Col. Galon (or Gallon). It was published in Paris in 1763. It comprises in its 67 folio pages and 10 plates a detailed account of brick and tile making, especially in northern France. One of the authors, Col. Gallon (whose first name has not been traced) must have been regarded as quite an authority since we find him quoted, for example, on p. 4 of this bulletin in the extract from a British technical handbook. An 11-page supplement, *Art de fabriquer la brique et la tuile en Holland, et de les faire cuire avec la tourbe...*(turves), was printed in 1767.

The volumes examined of this series called *Description des Arts et Métiers (about* 45 vols, 1761-1768) were in the British Musum

NQ 14

Gazetteers. It has been suggested that W.C.F.White's article, 'A gazetteer of brick and tile works in Hampshire', *Proceedings of the Hampshire Field Club and Archaeological Society*, vol. XXVIII (1971) pp. 81-97, might serve as a model for us in the North Midlands. The same number of the journal contains C.C. Fisher's 'Brickearth Soils' (pp. 99-109) which has not been examined.

BRICKS PRESENTED TO GLADSTONE POTTERY MUSEUM 1974

The following collection of bricks found at demolition sites in Staffs was obtained mainly through the efforts of Mr R Blakeman (not even a member of the Society) and catalogued as below by Mr Ian Guild (also not a member). That non-members can work so hard is a challenge for us all.

We did not have Mr Harley's code to work by so that the scanty details below should not be criticised. Some of the impressed 'inscriptions' were not easily readable and the list below is a request for corrections.

The 'rules' we observe are that the brick must have been made or used in Staffs. If the brick does not have a maker's name on it, then it must, to qualify for recording, come from a dated building in Staffs. We shall worry about other areas of the N.Midlands when the bricks arrive.

For the moment we send bricks which help towards the history of manufacturing to Gladstone; bricks that are dated archaeologicaly or from datable walls go to the City Museum, Stoke. In case of doubt or overlap we try to send a sample to each museum until the directors protest at the quantities.

?
LILL Co (L) 230x113.5x78.5mm/9x4 7/16x3 3/32in.
Found 1973 at Water Eaton, near Penkridge, Staffs. It has been suggested that it is connected with Lilleshill (or Lilleshall) Iron & Steel Co., Snedshill, Oakengates, Salop.

BB & T Co
SANDSTORM
PATTERN NO (Z)70613 236x113x78mm/9$\frac{1}{4}$x4 7/16x3in.
Found September 1973 at Rugeley, Staffs.

W MOBBERLY (?)
STOURBRIDGE 228x110x81mm/ 9x4 5/16x3 3/16in.
? Found in Staffordshire

PLACE & SONS LTD
DARWEN 229x110x81mm/9x4$\frac{3}{8}$x3 3/16in.
Found to at Millers Dale Station near Burslem, Stoke, Staffs

LONGMORE
BENTLEY 228x108x75mm/9x4$\frac{1}{4}$x2 5/16in.
Found 1973 at Portobello, Willenhall.

HANWOOD 225x106x76mm/8$\frac{7}{8}$x4$\frac{1}{8}$x2 13/16in.
Found in Staffordshire

MUSGRAVES
N° 887908
PATENT 223x111x68-78mm/8¾x4 5/16x2 11/16-3 1/16 (sic)
Found at Stafford. One surface divided into 8 quadrangular studs.

J PATERSON
& SON LTD
GLASGOW 225x108x77mm/8 13/16x4 3/16x2⅞in..
Found in Staffordshire. "No proper frog to it".

FLETTONS
LIMITED 219x104x60mm/8⅝x4 1/16x2 9/16in.
Found in Staffordshire

LILLENHALL
SHIFNAL 225x11x76mm/8⅞x4 5/16x2 15/16in.
Found at Stafford

SC C°
BLOXWICH 228x108x74mm/8 2/16x4¼x3⅛in.
Found at Wednesford, Staffs

CASTLE 231x112x78mm/9 1/16x4⅜x3in
Found in Staffordshire

WOOD LANE BRICK C°L
WEST BROMWICH 228x111x82mm/4x7⅜x3 3/16in.
Found in Staffordshire

UTOPIA 228x108x75mm/9x4¼x2⅞in.
Found at Huntington, Staffordshire.

DENNIS
RUABON 228x113x79/9x4 13/32x3⅛in.
Found at Coseley, Staffordshire, August 1973.

DARLASTON
BRICK CO LTD 227x112x75/8 15/16x4⅜x2 15/16in.
Found at Tipton, Staffordshire, July 1973.

NCB
HEDNESFORD
STAFFS 221x105x67mm/8 11/16x4 1/16x2⅝in.
Found at Great Wyrley, Staffordshire, 1973.

OVEN (?) & C°
HUDDLESFORD
LICHFIELD 236x115x82mm/9 5/16x4½x3 3/16in.
Found in Staffordshire

H BOYS 238x117x81mm/9$\frac{3}{8}$x4 9/16x3$\frac{1}{8}$in.
Found in Staffordshire

LEIGH & SON 221x104x70mm/8 5/16x4 1/16x2$\frac{3}{4}$in.
Found in Staffordshire

HOLLY
BANK 229x108x80mm/9 1/16x4$\frac{1}{4}$x3$\frac{1}{8}$in
Found at Low Hill, Wolverhampton.

NEWCROSS 227x106x71mm/8 15/16x4$\frac{1}{8}$x2$\frac{3}{4}$in.
Found in Staffordshire

HAWKINS
COLLIERY 226x108x78mm/8 15/16x4$\frac{1}{4}$x3in.
Found in Staffordshire.

(?) & HICKMAN
STOURBRIDGE 226x147x68mm/8$\frac{7}{8}$x5$\frac{3}{4}$x2$\frac{5}{8}$in.
Found in Staffordshire.

NCB
WATNALL 221x107x74mm/8 11/16x4 3/16x 2$\frac{7}{8}$in.
Found in Staffordshire.

STAFFORD
C&I C^{O}Ltd 233x113x77mm/9 3/16x4 7/16x3in.
Found in Staffordshire.

PB C^{O} Ltd
A 228x107x71mm/9x4$\frac{3}{8}$x2$\frac{3}{4}$in.
Found in Staffordshire.

(?)W(?)IMPLEBURY
BRICK & POTTERY C^{O}
HEDNESFORD 232x112x80mm/9$\frac{1}{8}$x4 5/16x3$\frac{1}{8}$in.
Found during demolition of a shop in Green Heath Road, Hednesford, Staffordshire 26 Jan. 1974.

WAINGROVES (last 3 letters uncertain) 227x106x75mm/9x4 3/16x2 15/16
Found in Staffordshire.

JOSEPH HILL
WHITMORE
REANS 238x110x78mm/9 7/16x4 5/16x3 1/16 in.
Found in Staffordshire 1973.

BERRY HILL BRICKWORKS LTD
STOKE-ON-TRENT 219x104x72mm/8$\frac{5}{8}$x4 1/16x2 13/16in.
Found in Staffordshire.

fc bc