

A Vital Component: Stock Bricks in Georgian London

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So ubiquitous is the London stock brick in the Capital that it has tended to be despised as commonplace or, at best, ignored and taken for granted. Yet it was the principal building material of houses in the metropolis from 1700 to 1840, giving them much of their distinctive character, and was also used for many other buildings, both private and public, in the capital during this period (Fig. 1).

The London stock is a type of brick the manufacture of which is confined to London and south-eastern England (particularly Kent and Essex). It is made from superficial deposits of brickearth overlying the London Clay, which are easily worked and produce a durable, generally well-burnt brick. This durability actually increases, since the London stock brick has the fortuitous advantage of hardening with age and in reaction to the polluted London atmosphere.

Other characteristics of the London stock result from its method of manufacture, two stages being especially important. The first of these is the practice of mixing the clay with what has been variously known as Spanish, soil, town ash, or rough stuff - that is, London's domestic rubbish, which contained a large amount of ash and cinders. The addition of this sifted ash provided a built-in fuel when the bricks were fired, thereby considerably reducing the cost of production. During firing, the particles of ash were consumed leaving characteristic pock-marks on the surfaces of the bricks. These create a porous brick that allows moisture to pass freely in and out of the brick, so that even when it becomes saturated, the water quickly drains out; and as a result, the London stock is normally resistant to frost damage. Unfortunately, there was the constant temptation for brickmakers to try to make even more profit by mixing too much rubbish into the clay, and to try to get away with selling or using the sub-standard bricks which were produced.'

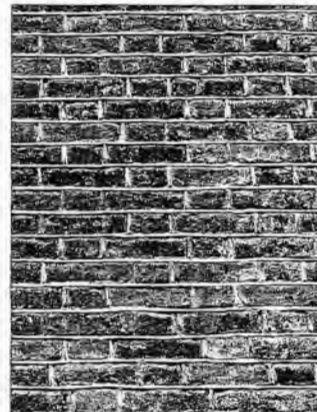


Fig.1 Typical London Stock Bricks with rough, pitted faces and considerable variation in texture and tone. No.55 Blandford Street, Marylebone, built c.1790.

Secondly, London stocks were generally clamp-fired, the unfired bricks being stacked up in the open air and then fired, baked or burned, without the use of a permanent kiln. The overall tendency of this combination of clamp-firing and the use of ashes in the brick-clay, and as fuel, was to produce bricks which were fairly irregular in shape, rough in texture, and with a great variation in quality and colour.

Aesthetically, therefore, the London stock often lacks refinement: its rough, pitted faces are one obvious drawback, and other blemishes, caused by impurities in the mixture of clay and ash, may also disfigure the brick. In addition, its colour can vary very widely, from red, through purple, brown, various shades of yellow (sometimes even being described, rather over-romantically, as golden), to off-white. Individual bricks can display a mottled effect which may run through the whole gamut of this range of colours.

However, with a great deal of care and attention on the

part of brickmakers and bricklayers, London stocks can give brickwork of a highly refined appearance. Beautifully finished and highly distinctive pale brown stocks are used on what 'might well be called the finest terrace house of London', No. 44 Berkeley Square (designed by William Kent and built between 1742 and 1744). The colour is remarkably uniform, and in this case even the window arches are in the same stock brick (Figs. 2-3). Nevertheless, this is a very well-to-do house, having originally been built for Lady Isabella Finch, an unmarried daughter of the Earl of Winchelsea and Nottingham.²



Fig. 2 The 'finest terrace house in London': No.44 Berkeley Square, designed by William Kent. It was built 1724-4 for Lady Isabella Finch and has London stock brickwork of great refinement.



Fig.3 Detail of the fine brickwork on No.44 Berkeley Square.

From about 1770 'Malms', 'Malm bricks', or 'Marls' began to be specified instead of grey stocks as the best facing stock bricks." Malms tended to have a more pronounced yellow colour, as can be seen, for instance, on No. 30 Portland Place, built about 1778. This is because malm

Building contracts or agreements very frequently specified 'grey stock bricks' for the main elevation or elevations of a building. The term 'grey stocks' seems to have had more to do with quality than colour. John Houghton, whose writings provide a valuable insight into London brickmaking in the late seventeenth century, states very specifically in 1693 that grey-burnt means well-burnt.³ Grey stocks are, then, a good quality well-fired brick. A look at some surviving buildings shows that the actual colour of grey stocks varies considerably. Although they were specified for St Peter's Church, Vere Street (built in 1724), below the accumulated grime, the bricks are largely a mixture of yellow and purple.⁴ In 1776, for houses in Bedford Square, 'good Grey Stocks of Uniform Colour' were required, yet the bricks are fairly yellow.⁵ And in 1800 the 'good gray stocks' recommended for warehouses at the West India Docks on the Isle of Dogs turn out to be plum coloured.⁶

Despite all this, one can detect some general shifts in fashion in the colour of stock-brickwork used for the main elevations of houses in London, although the colour of the brick, on its own, does not provide a reliable method of dating buildings. In the late seventeenth and early eighteenth centuries reddish or maroonish stock brick tended to be preferred, as at Chatham House in St James's Square, rebuilt in 1736. In the middle years of the eighteenth century there was a tendency to favour stocks of a rather pale washed-out, off-white colour, and in 1756 Isaac Ware stated very firmly that: 'the grey stocks are to be judged best coloured when they have least of the yellow cast: for the nearer they come to the colour of stone ... the better' J

was a mixture of chalk and clay. Just what the proportions were seems to be a matter of debate, the amount of chalk in the clay being said to be anything from one-sixteenth to two-fifths.' Malm occurred naturally in the deposits of brickearth in the London area, as the bottom stratum. However, it was difficult to work, because it contained small stones, known as 'race', and these had to be removed by washing the clay, which then had to be left to settle. Malm bricks were, therefore, from the outset more costly to produce. In 1787 'best marl stocks' cost £4 per thousand, whereas 'picked grey stocks' were half the price at £2 per thousand.¹⁰

The supplies of natural malm were also very limited, but in 1797 John Lee took out a patent for 'A Certain Mixture of Chalk, Whiting, or Lime, Together With Clay, Loam, or Earth, For Colouring and Making Bricks', and thereafter malm bricks began to be manufactured artificially, chalk being mixed with inferior clays and earths. By the mid-nineteenth century almost all malms were made using an elaborate artificial process.¹²

Nevertheless, there continued to be some confusion between 'stocks' and 'malms' amongst architects and builders. For example, a building contract for construction work at Maidstone gaol in 1812 specified that the bricks were to be 'all hard sound stocks of quality as good as Malm',¹¹ As late as 1836-7, for fashionable houses in Rutland Gate, Knightsbridge, the external walls were to be faced with 'hard Grey Stock Bricks'.¹⁴

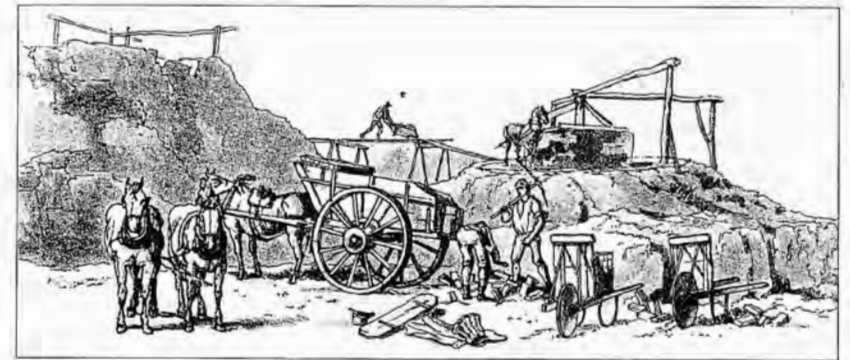


Fig.4 Brickmaking c.1800 I: In the centre background a man wheels clay in a wheelbarrow to be pugged in the horse-powered clay-mill top right, in the foreground a cart is loaded with bricks. (W.H. Pyne, *Microcosm*, 1808, p.218, Plate 133, Fig.1)

Similarly, while the general chronological trends in the colour of stock brickwork do have considerable validity, they are by no means infallible, and exceptions are easily found. Although reddish stock bricks may have been the norm up to at least the 1730s, yellow stock bricks were used as early as 1703 in the brickwork of the Privy in Chapel Court, Hampton Court. In contrast, houses in Manchester Square, including No. 14, were still constructed in red stock brick, despite the fact that the Square was only laid out in 1776, and by all the rules the houses ought, therefore, to be in greyish or yellowish brick. Furthermore, old stocks were often re-used, and recycled bricks might be up to a hundred years or more older than the house in which they were employed. However, it is unlikely that the main fronts of any but the very poorest houses would have been built entirely of secondhand bricks.

There are a number of terraced houses in London's fashionable central and West End areas, mostly dating from the 1770s, which have black-stained brickwork with strikingly contrasting white tuck-pointing. The most famous instance is No. 10 Downing Street, while the greatest concentration of houses treated in this fashion is in Bedford Square (Fig. 5). It is not clear

whether this treatment is original or a later modification. The neat uniformity and regularity thus achieved seem to accord with Georgian taste and philosophy. Indeed, in New York in the early nineteenth century, up to the 1830s, it was usual to paint the brick fronts of terraced houses red, or occasionally grey or cream, and add false mortar lines in white paint.¹⁵ Yet where eighteenth- or early-nineteenth-century illustrations of London houses indicate colour, they do not show any examples of blackened brickwork. For instance, coloured views of Downing Street by J. C. Buckler in 1827 and by Thomas Colman Dibdin in 1851 both clearly show the walls of all the houses as yellow not black.¹⁶ Nor is any mention made of this practice in contemporary architectural or building manuals. That it may, in truth, be a later practice is suggested by complaints made by the Victorian architect, William Butterfield, who lived for the last part of his life, from 1886 to 1900, at No. 42 Bedford Square. He wrote several letters to the Surveyor of the Bedford Estate objecting that some of the Square's tenants had used a dark stain on the bricks and a white contrasting mortar for the joints.¹⁷ Since the soot and grime of London's notorious smogs must by then have made the yellowish stock bricks look dirty and dreary, it is possible that this was a way of combating the problem and smartening up the fronts. Clearly, more investigation is needed to determine whether this black-and-white treatment is an eighteenth- or late-nineteenth-century fashion.

Until about the end of the eighteenth century the fronts of metropolitan houses were enlivened with red-brick dressings. Many early eighteenth-century houses, up to about the 1730s, have so much red-brick dressing, around windows and sometimes also in the form of pilasters and string courses, that this dominates the whole appearance of the elevation. A striking example of this is No. 11 Richmond Green. However, the amount of red-brick dressing gradually diminished, and there is already a slightly less emphatic treatment around the windows of Nos 1-7 (odd) Meard Street, built about 1722.¹⁸ Soon after this, the use of red brick dwindled to simple arches above windows and doors. From the beginning of the nineteenth century all terraced houses in the capital tended to be built of unrelieved yellow stock brick.

(Once again these are only indications of general trends and there are many exceptions. Some early-eighteenth-century houses, such as No. 4 Clifford Street (built 1719), only have window arches in red brick, and, as early as the 1740s, there are domestic elevations, particularly high-grade ones, which employ no red brick at all. Adding to the confusion are houses such as those which flank Bedford Place, built in 1800-05 by James Burton. The window arches, which at first glance, appear to be red-brick window arches, actually turn out to be of normal yellow or greyish stock brick, to which red colouring has been applied, probably at a later date. Of course, later in the nineteenth century there was a revived fashion for red-and-yellow brickwork.

The red bricks for dressings were either locally made red stocks or, for particularly fine work,



Fig.5 Several houses in Bedford Square, such as No.23 here, have deliberately blackened stock brickwork, pointed in contrasting white mortar. Although built between c.1775 and 1782, this treatment may only date from the late nineteenth century. (RCHME, Crown copyright)

red bricks might be imported by water from Kent,²⁰ or Berkshire.²¹ Those brought in were cutter or rubber bricks, that is bricks made from very sandy loams which when fired were soft enough to be either cut with a hammer and chisel, or rubbed to shape using a hard piece of brick or stone. The red stocks were manufactured from a stratum of brickearth which occurred in the London area above that used to make normal grey or yellow stocks. Containing far less lime, it allowed the red oxide in the clay to produce a red-coloured brick. Unlike ordinary London stocks, the red stocks tended to be fired in a kiln rather than a clamp.²² In fact, dotted about London in the eighteenth and nineteenth centuries there were a number of bottle-shaped kilns, which became well-established and were in use for many years. Not only red stocks were fired in these kilns, but also various types of tile and sometimes pottery as well.

Even at the time there was some confusion between the local red stocks and the rubbers and cutters from elsewhere. Isaac Ware, writing in 1756, noted that, in some places around the capital, builders were 'not at all acquainted with' red-cutting or fine red brick, while in others 'they confound it with the red stock, and use that for it; though where the fine red brick is to be had pure and perfectly made, the difference is five to three in the sale-price between that and the red stock'.²³ He quotes prices of £2 10s. (£2.50) per thousand for 'Fine old Red Cutting Bricks', £1 10s. (£1.50) per thousand for red stocks, and only £1 per thousand for grey stocks.²⁴

Bricks were certainly transported from one part of London to another, by road or water, during the period under consideration, as far as from Brentford to the Isle of Dogs.²⁵ Nor were red cutters and rubbers the only bricks to be brought into London from outside. In the early nineteenth century, and probably to a lesser extent in the eighteenth century, grey or yellow stock bricks were imported into the capital from Kent and Essex using the river Thames. Similarly, white bricks from Suffolk and Norfolk were brought in the later eighteenth century to build one or two aristocratic mansions, or a fashionable West End club like Brooks in St James's Street.



Fig.6 Brickmaking c.1800: Men, women and children brickmakers, perhaps all members of the same family, at work in a crudely thatched temporary hovel. To the left, a young boy is placing a lump of pugged clay on the moulding table, while, beside him, the man in the hat is probably the brick moulder. In the centre a young woman is taking a moulded brick on a stock board, ready to be loaded by the young girl, to the right, onto a barrow. When fully loaded, this will be wheeled off to the drying hacks. (W.H. Pyne, *Microcosm*, 1808, p.210, Plate 125, Fig.2)

In most of these instances, however, the reason for transporting bricks was because local sources were inadequate; either they could not supply sufficient bricks for an exceptionally large project, or they were unable to produce the special type or quality of brick required. For most purposes, stock bricks made on site were perfectly adequate, and London's Georgian houses were largely built from the clay on which they stood (Figs. 4 & 6). It was often the case that brickmaking was carried out by the main builder-developer, a man like Thomas Scott or James

Burton, who was assigned so many acres of a development for the purpose, normally with liberty to build on the site when brickmaking had finished. Even for such grand squares as Cavendish Square (built in the 1720s) and Berkeley Square (in the 1730s) bricks were made on the spot.²⁶ The central garden in Russell Square stands in a hollow, a reminder that brickearth was dug out there during the construction of the Square from 1800 onwards and the brick-pit was never properly reinstated.²⁷

It has been estimated that about four acres was the minimum area needed for a brickmaking site, to accommodate a clay pit, piles of top earth, drying hacks, and clamps for firing the bricks.²¹ Clearly, deposits of clay in different localities varied to some extent, but as a working hypothesis we can accept John Middleton's estimate in 1798 that one million bricks per acre could be made from every foot in depth of brickearth, and that the average depth of brickearth was about four feet.²⁸ A typical manufacturing unit consisted of a gang of between six and eight brickmakers and labourers, who could, in the four-month annual season during late Spring and Summer, produce about one million bricks, enough to build approximately 33 fourth-rate houses.³⁰ James Burton must have employed several gangs to manufacture bricks on the Foundling Hospital Estate after he agreed in March 1793 to make at least six million bricks before the end of December (he actually managed just under five million by the time the brickmaking season ended for that year in early October). In subsequent years he was contracted to produce eight million bricks per annum.³¹

According to Dobson, a clamp in the London area usually consisted of between 60,000 and 120,000 bricks,³² although elsewhere in the country it is said there might be up to 250,000 bricks in a single clamp.³³ Depending upon the weather conditions, it might take anything from three to six weeks for a clamp to be fired and sufficiently cool enough to be unloaded. Although clamp-firing required skill, knowledge and experience on the part of the brickmaker, it was nevertheless a very rough-and-ready method, and on average about ten per cent of clamp-fired bricks were unusable, being either underbunt or overbunt (Fig. 7).

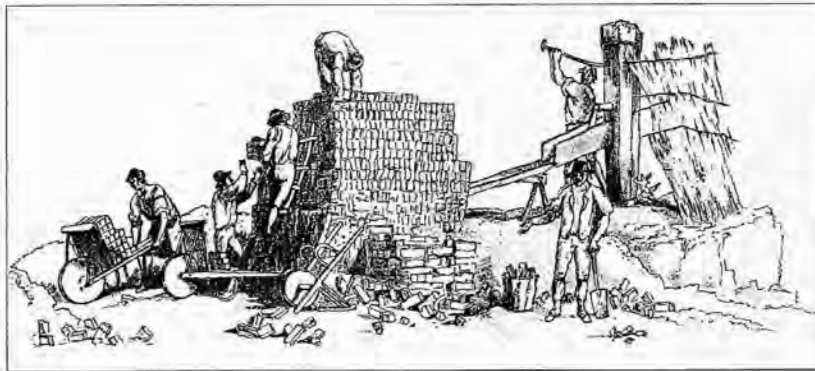


Fig.7 Brickmaking c.1800 m: A clamp is being unloaded and characteristic single-wheeled barrows are being used to move bricks around the yard. Top right a man is pumping water out of a clay pit. (WH Pyne, *Microcosm*, 1808, p.218, Plate 133, Fig.3)

The main advantages of making bricks on the spot were, for the landowner, that he received rent or royalties for bricks made on his land, and, for the building contractor, that he could obtain bricks far more cheaply, since the transport of bricks by road, even over short distances, added greatly to the costs. So men such as Scott or Burton preferred wherever possible to make bricks on the spot, despite owning permanent brickfields on the outskirts of London. Indeed, in many

cases it is difficult to say whether someone was a builder who became a brickmaker or vice versa.

The drawbacks of making bricks on site are graphically depicted in George Cruikshank's famous cartoon 'London living out of Town or the March of Bricks and Mortar' published in 1829 and said to have been inspired by the view from the back of his house in Clerkenwell (Fig. 8). While it is clearly intended to be a caricature, a newspaper report of 1818 describing the development of part of the Northampton Estate in Clerkenwell suggests that it is not that much of an exaggeration:

'all the surrounding fields have been covered with houses, formed and forming into streets and squares. Almost every vacant spot on which a building has not already been commenced, is either covered with heaps of brick earth, excavated for laying foundations, or occupied by immense heaps of brick, manufactured or preparing for the kiln. Upwards of one hundred makers are engaged upon the spot'.¹⁴

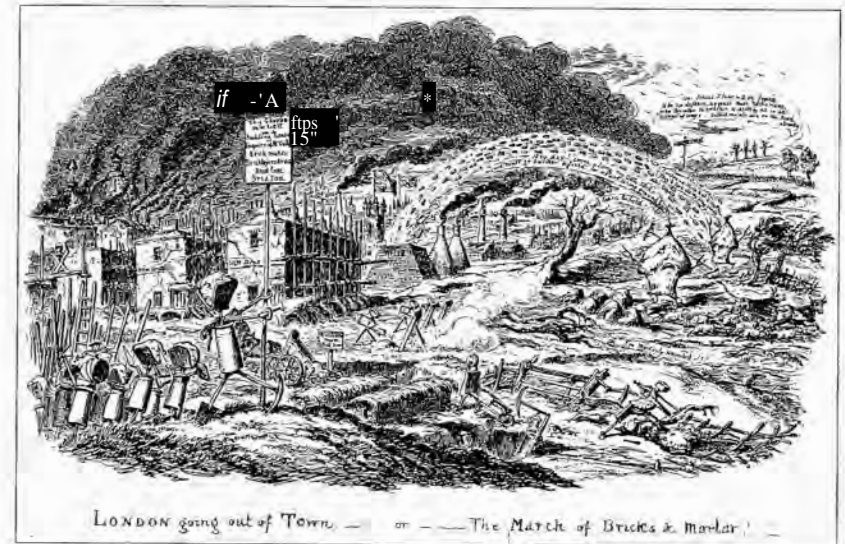


Fig.8 Brickmaking at the height of the London building boom in the 1820s. George Cruikshank's famous cartoon, published in 1829, captures well the frenzy, chaos, disruption and pollution of making bricks on site.

¹ Yet the problems of disruption, unsightliness, dirt and pollution were far outweighed by the economic advantages, as is well illustrated by the construction of Berkeley Square. In 1736 Edward Cock and Francis Hilliard entered into an agreement with Lord Berkeley and his son for a building lease of about 6.5 acres for 94 years, at a ground rent of £420 per annum. The next year brickearth was dug on site, bricks were made on the land, and kilns erected there. Legal attempts were made to stop firing taking place, objections coming from the occupiers of neighbouring houses, who included the Duke of Grafton in Old Bond Street and the Earl of Grantham in Albermarle Street. Cock and Hilliard defended themselves by pointing out that their agreement allowed them to fire bricks on the land only during July and August, when the objectors and their neighbours would be away at their country seats. They claimed that it was not unusual to fire bricks in close proximity to houses and cited especially Mayfair and the

Grosvenor Square area. Perhaps most conclusively, they argued that the opportunity to make bricks was one of the reasons for paying such a high rent and if they were restrained from doing so they would lose the value of the brickearth, which was very considerable. In these circumstances they would find it difficult to fulfil their agreement with Lord Berkeley and his son. So telling were these arguments that that the Duke, the Earl and their aristocratic neighbours lost the case and the brickmaking continued.³³

It can be seen, then, that the London stock brick played a vital part in the development of the capital city in the eighteenth and early nineteenth centuries. It may not have been the handsomest type of brick, but it had a character all of its own, and was peculiarly suited to survive the polluted atmosphere of the metropolis. Despised by some and loved by others, the stock brick made a major contribution to the appearance of London's Georgian houses and distinguished them from otherwise similar houses of the period elsewhere in Britain. Furthermore, when fashion shifted during the second half of the eighteenth century, there was an abrupt change in most provincial cities from the use of red brick to grey, white or yellow brick of a different type. In London, of course, stocks continued to be employed and were far less affected by the change in colour tastes, thus giving London's Georgian brick-built houses a remarkable continuity.

Equally important was the fact that the main building material for the Capital's houses could be obtained easily and cheaply, since **London stocks could usually be made on the spot from clay dug on or close to a development site**. This explains why, except in very rare instances, bricks were not brought from outside to build metropolitan houses. Indeed, the lucrative opportunity to exploit brickearth was a major incentive to builders to take part in developments and lease building plots. In this way the humble stock brick was not only the main component in the fabric of Georgian London but also provided much of the dynamism needed for its growth.

After the 1840s London stocks continued to be manufactured in great numbers and to be used widely in the capital. But never again were they to be so ubiquitous or so conspicuous. In the second half of the nineteenth century there was an increasing range of brick-types, especially facing bricks, available in London. While this owed something to improved kilns and brickmaking machinery, and to the development of the railway network, it had more to do with changing taste. **Already in 1855 the architect George Edmund Street complained of 'those detestable-looking dirty yellow bricks in which London so much rejoices'**.³⁴ From at least the 1870s there was an increasing preference for red facing bricks, and, since red stocks had always been very much a minority of total stock-brick production, other sorts of brick had to be sought. So the London stock brick simply became just one of a whole variety of bricks which might be used in the metropolis. As far as facing bricks were concerned, the decision to use other types of brick was not made for economic reasons. Indeed, in 1936 the *Architectural Review* stated that London stocks 'are still the cheapest of the traditional facing bricks on the London market'.³⁵ Until the late nineteenth century stocks continued to dominate the market for common bricks (that is, bricks used in concealed situations), but from the 1890s even this supremacy was eroded by the vast numbers of Fletton bricks imported into London from Peterborough, Bedfordshire and Buckinghamshire.³⁸

Also, after the 1840s, it became increasingly difficult and unacceptable to make bricks on site in central London, and even London stocks were more and more likely to be obtained from fixed brickyards, either operating on the outer edges of London, or adjacent counties, especially Kent and Essex. So brickmaking and the continuing development of the metropolis became much more separated, and no longer did London's buildings tend to be built from the clay on which they stood.

Acknowledgements

In preparing this paper, I am grateful for assistance and advice from my colleagues in the Survey of London, especially John Greenacombe, Peter Guillery and Stephen Porter.

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