

## Porcelain and The Potteries: Early Chetham & Woolley Porcelain, Part 1

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By the end of the 18C the pottery towns and villages around Burslem and Hanley in Staffordshire had grown from modest beginnings to become one of the most productive and inventive ceramic industries in the world. Later the region became known as The Potteries. This skilful transition was made by a few dynamic businessmen who progressively exploited new types of ceramic material.

From the mid-1740s a growing market was established for Staffordshire's excellent high-fired salt-glazed stoneware that provided tableware superior to the then widely used but chip-prone tin-glazed earthenwares. Salt-glazed stoneware was the product which formed the basis of a larger pottery industry in the region. The mid-1760s saw the introduction of attractive highly functional low-fired cream-coloured earthenwares, which used the same ceramic body as salt-glazed stoneware but were easier and cheaper to make. Over the next twenty years creamware became the most successful genre of earthenware ever made in Britain. The 1770s saw Wedgwood introduce his spectacular new basalt stonewares and unique jasperware, which created an entirely original market for classical vases and other works of artistic design among a discerning, often aristocratic, clientele both in Britain and overseas. From the 1780s a whiter type of earthenware was developed that enabled Staffordshire potters to apply the British invention of transfer printing on ceramics to create a new mass market for underglaze blue printed wares, the various patterns of which included the universally popular *Willow Pattern*.

A relatively small number of creative entrepreneurs were responsible for these innovations that had so dramatically driven the region's growth. Josiah Wedgwood is the most notable figure but there were others such as Thomas Whieldon, William Greatbatch and Josiah Spode, who made crucial contributions. By the end of the century, The Potteries had produced a host of powerful manufacturers – Davenport, Warburton, Hollins, Turner, Keeling, Meyer, Ridgway, Wood, Mason, Adams, Wilson – each of whom employed a highly skilled workforce in a large

family business. Thus during a period of little more than fifty years the working practices of The Potteries had moved from a largely craftsmen-based system to a factory-based system, a process fully completed by the early decades of the 19C<sup>1</sup>.

The growing importance of The Potteries had not been unnoticed by contemporary observers. During his travels in the north of England in 1771, the agriculturalist Arthur Young wrote:

From Newcastle-under-Lyme I had the pleasure of viewing the Staffordshire potteries at Burslem, and neighbouring villages, which have of late been carried on with such amazing success... It dates its great demand from Mr Wedgwood (the principal manufacturer) introducing, about four years ago, the cream-coloured ware, and since that the increase has been very rapid. Large quantities are exported to Germany, Ireland, Holland, Russia, Spain, the East Indies, and much to America<sup>2</sup>.

Towards the end of the century the international success that The Potteries had achieved was noted by the well-travelled French official, Faujas de Saint-Font, who reported:

... in travelling from Paris to Petersburg, from Amsterdam to the furthest part of Sweden, one is served at every inn with English ware<sup>3</sup>.

By the beginning of the 19C The Potteries had become a concentrated region of experienced factory owners, all sharing the same social interaction and all involved in the same trade. Such a close association of like-minded businessmen proved a fertile environment for further innovation.

It is a particularly notable feature of The Potteries, given the character of its entrepreneurs, whose originality had created such a successful industrial complex, that virtually all growth in the region up to the end of the 18C had been achieved by businesses making stoneware and earthenware. Until about the last fifteen years of the century the making of porcelain had been of little importance and even in those closing years the contribution of porcelain in comparison to the totality of trade was hardly noticeable.

This is not because attempts to make porcelain had never been undertaken in The Potteries. Indeed, there is evidence that an attempt had been made in the region during the earliest period of porcelain making in Britain. An entry dated 14 July 1750 in the diary of the widely travelled Dr Thomas Pococke reads:

Newcastle-on-Lyme is a small well built town ... and the capital of the Pottery villages; there are some few potters here, and one I saw at Limehouse<sup>4</sup>, who seem'd to promise to make the best china ware, but disagreed with his employers, and has a great quantity made here for the oven<sup>5</sup>.

From excavations carried out by Paul Bemrose in 1969–71, it is now known that this account refers to Samuel Bell junior's attempt to make porcelain at the Pomona works at Newcastle-under-Lyme<sup>6</sup>. A quantity of underglaze blue decorated porcelain shards and some crushed complete wares were discovered on the site. Among these was a small bowl with the date in the footwell 25 July 1746, within a few years of the making of some of the earliest British porcelain at Bow and Limehouse in London. Bemrose's research also revealed that two of the potters associated with Bow and Limehouse, William Steers and Joseph Wilson, were also involved with the Pomona enterprise. The number of broken and collapsed but complete pieces unearthed at Pomona implies that the 1746 firing was not a success. Later searches in many collections for misidentified Pomona wares based on the pieces found in the kiln proved unfruitful and led to the conclusion that porcelain was never successfully produced on the site.

At the time of Dr Pococke's visit to Newcastle-under-Lyme, another Potteries porcelain business was getting underway. This was the Longton Hall factory. Bernard Watney's groundbreaking book remains the main authority concerning the factory<sup>7</sup>. The Longton Hall porcelain business probably began in a rudimentary way in 1749 and survived for about ten years. During this time it produced a considerable quantity and variety of good quality enamel decorated wares.

The original partners included William Jenkinson, whom Watney suggests may have been the Limehouse porcelain potter Dr Pococke had seen at the Pomona factory who had 'disagreed with his employers'. Also involved as a partner and factory manager was William Littler. (Littler was an experienced potter who with his brother-in-law Aaron Wedgwood had developed a glaze to finish salt-glazed stoneware with a smooth glossy blue surface, now commonly called 'Littler's Blue'.) The Longton Hall enterprise was financially precarious throughout its existence and finally collapsed in 1760. The auction of its stock-in-trade was advertised in the *Salisbury Journal* of 8 September 1760, where 'upwards of ninety thousand Pieces' were offered for sale. Longton Hall was the longest lived of the Staffordshire porcelain ventures of this early period but appears to have lasted so long only by the injection of capital from a sequence of new shareholders.

A final short-lived porcelain venture was the outcome of an unsuccessful business association between the Staffordshire potter John Badderley and the Liverpool porcelain manufacturer William Reid<sup>8</sup>. William Reid's Liverpool business failed, leaving his partner Badderley in a perilous financial position. Badderley's response was to secure funding from a Newcastle-under-Lyme banker and to continue making porcelain at Shelton assisted by William Littler. This porcelain business lasted only two years, from 1759 to 1761.

These three ventures constitute the known extent to which businesses in The Potteries were involved with porcelain up to 1761. The significance of these is not that they failed but that experienced Potteries factory owners had been prepared to risk financial and labour resources to make porcelain. Their motivation must surely have been recognition that porcelain had become the product of choice for teawares as the fashion of taking tea spread more widely through the general population<sup>9</sup>. Large quantities of oriental porcelain teawares were being imported into Britain by the East India Company to meet this demand and an obvious gain was to be made if that market could be served by domestic makers. Entrepreneurs in other regions – in London at Limehouse, Chelsea, Bow and Vauxhall, at Worcester, Liverpool, Derby and Lowestoft – had all with varying degrees of success responded to the same opportunity.

However, the early British porcelain potters, including those in The Potteries, could not make the same type of porcelain as was being imported. The oriental porcelain body was made with two essential ingredients *petunse* (china stone) and *kaolin* (china clay), which the Jesuit missionary, Père d'Entrecolles, had seen used at Jingdezhen in the early 1700s<sup>10</sup>. When fired to a sufficiently high temperature these ingredients form a robust continuous translucent body now known as 'hard paste' or 'real' porcelain. The secret of making 'real' porcelain remained in the Orient for nearly a thousand years until a comparable formulation was discovered by Böttger and Tschirnhaus<sup>11</sup> in Dresden in 1708 with a factory being established later at Meissen<sup>12</sup>. Other German and continental manufacturers, often with princely patronage, progressively acquired and applied the Meissen formula and process.

Without access to the real hard-paste formula, British porcelain potters devised an artificial frit-based formulation, known as 'soft paste' porcelain, sometimes incorporating calcined bone as at Bow and Lowestoft or soapstone as at Worcester, Vauxhall and Liverpool. The soft-paste bodies were difficult to control and resulted in many failures, with few businesses remaining financially viable in the long term. It is noteworthy that the early attempts to make porcelain in the Potteries at Pomona, Longton Hall and Shelton can only have been with soft-paste formulations. After Badderley's failure at Shelton there was a gap of some twenty years before

commercially astute Staffordshire potters, who were prospering with stoneware and earthenware, would again consider porcelain a worthwhile business proposition.

The reason that sentiment changed after such a long hiatus was that the hard-paste formula at last became available to Staffordshire potters. The circumstances through which this happened have been dealt with often in the past and recently in an accomplished paper by Peter Roden<sup>13</sup>. In brief, a Quaker apothecary in Plymouth, William Cookworthy, discovered in Cornwall the two ingredients necessary for making hard-paste porcelain, china clay (*kaolin*) and china stone (*petunse*). He began making hard-paste porcelain in Plymouth and in 1768 succeeded in acquiring a fourteen-year patent for his process together with an exclusive agreement for the supply of the necessary clays from Cornwall. He transferred his porcelain business to Bristol in 1770 and in 1774 sold it, including the patent and exclusive rights to clay, to a substantial Bristol merchant, Richard Champion. Under the sale agreement Champion was obliged to pay Cookworthy a duty for materials, which meant that the cost of the porcelain clays to Champion was virtually double the market rate.

In 1775, Champion, no doubt recognising that in 1782 the protected rights to clays would expire with the patent, applied to Parliament for an extension of a further fourteen years. This was opposed by Wedgwood on behalf of the Staffordshire potters with the support of the master potter John Turner. The outcome was that, although the patent was extended to 1796, the protected rights to clays were removed with the proviso that other potters buying those clays should not use them for making the porcelain of the patent. Following this partially successful challenge to the patent, Wedgwood and Turner set off together to Cornwall in search of alternative materials. They found and secured a much cheaper supply of equivalent clays on Carlogos Moor on land owned by Mr John Carthew of St Austell<sup>14</sup>.

On their return to Staffordshire, Wedgwood and Turner revealed to a meeting of local potters that an inexpensive source of china clay and china stone was now available to them from Cornwall. Effectively this meant they could now make hard-paste porcelain providing they found a process that was not the same as Cookworthy's. But Wedgwood 'cautioned them against a too precipitate change from a branch of business they were well acquainted with (that is stoneware and earthenware) to one in great measure untried by anybody and quite unknown to themselves (that is porcelain)'<sup>15</sup>.

Richard Champion was little more than a wealthy investor with no practical pottery expertise, attracted by the possibility of making money from Cookworthy's patent. He employed a skilled potter, John Britton, to manage his Bristol business and some good quality hard-paste wares were made. But the manufacturing process was unreliable and Champion lost a substantial amount of money. It resulted in a Commission in Bankruptcy being brought against him in August 1778, from which he was saved only by the intervention of powerful friends<sup>16</sup>. Champion's financial situation became so difficult that he had little option but to offer the patent and process for others to exploit. He decided that the most likely candidates to consider becoming involved were the successful businessmen of The Potteries<sup>17</sup>.

His first approach was to a somewhat surprised Josiah Wedgwood, who expressed no interest and later wrote to his partner Thomas Bentley on 12 November 1780 to say that what Champion was offering 'will not be thought of much value here – the secret of China making'<sup>18</sup>, being further confirmation that porcelain had been of no importance in The Potteries up until that time. However, Wedgwood gave Champion the names of a number of the 'most substantial and enterprising' local potters who might be interested. The result was that in November 1781 Champion sold his interest to a consortium of seven prominent potters, leading to the establishment of what was to become the New Hall China Manufactory at Shelton. Champion's involvement with Potteries ceased in April 1782<sup>19</sup> when he moved to London to take up a short-lived government post as Assistant Paymaster to the Forces in the Rockingham ministry. He later emigrated to America, where he had business connections.

The transfer of Champion's porcelain patent rights to The Potteries proved to be one of the most profound factors in the region's future development. The inexpensive supply of Cornish clay and stone that Wedgwood and Turner had established in effect nullified the value of the patent. At first the Cornish clays were used to improve the creamware body, later providing a perfect whiter base for underglaze blue transfer-printed wares<sup>20</sup>. But the significant effect of the 1781 agreement was that, defying Wedgwood's caution, the New Hall consortium of stoneware and earthenware potters decided that making porcelain might once again be a worthwhile business proposition within The Potteries after the generational lapse of two decades.

Little is known of the very earliest period of New Hall manufacturing but the New Hall partners must have taken into account that Champion had lost so much money in Bristol. It is reasonable to suppose that, when they accepted Champion's offer, they had in mind a new approach that would enable them to make hard-paste porcelain on a profitable basis. One advantage they had over Champion was the cheaper source of clays resulting from the expedition to Cornwall in 1775 by Wedgwood and Turner. More importantly, unlike Champion, they were already successful businessmen with a practical understanding of their trade and a skilled workforce. The outcome was that they made fundamental adjustments both to the patent's hard-paste formula and to the manufacturing process. These changes meant they avoided the losses Champion had suffered.

Cookworthy's patent process required first a low-temperature 900°C firing to form a biscuit strong enough to withstand dipping in liquid glaze, followed by a very high-temperature firing above 1400°C that vitrified and matured the body and glaze. This was the reverse of the usual Staffordshire method of making ceramics: a high-temperature biscuit firing followed by a lower temperature glazing (glost) firing. The New Hall potters modified the mix of the Cookworthy/Bristol formulation such that a translucent porcelain was achieved with a first firing at the much lower temperature of c1200°C, followed by a second still lower temperature glaze firing. This re-established the usual Potteries method of ceramic production.

The modified formulation of New Hall porcelain, though producing a hard-paste type of porcelain is not a 'real' porcelain of the Cookworthy/Bristol form. The term 'hybrid' hard-paste is used to identify it. Experiment has shown that the hybrid formula is fundamentally different from the Cookworthy/Bristol paste in that, when heated to 1450°C the New Hall body melts, whereas the Cookworthy/Bristol body retains its shape<sup>21,22</sup>. Creating a hard-paste porcelain at a relatively low temperature was a most important breakthrough by the New Hall potters. It is not known when the successful adjustments were made but detailed studies of the factory's output show that imperfections in the earliest wares were quickly corrected<sup>23</sup>. The New Hall factory continued for fifty years during the lifetime of the partners 'to their great profit'<sup>24</sup>, making a considerable range of tea and other wares until its closure in 1831.

The possibility of making porcelain reliably and profitably with hard-paste clays stimulated new experimentation among several factory owners in The Potteries. Two of the original New Hall partners, Keeling and Turner, left the partnership and began to make porcelain on their own accounts<sup>25</sup>. David Holgate noted at least three unidentified concerns, factories X, Y and Z, contemporary with New Hall and a virtually indistinguishable range of hybrid wares. There may have been others but not all attempts to make porcelain in The Potteries succeeded. Roger Pomfret's recent research into the porcelains of Enoch Wood quotes a letter in which Wood writes, 'I then added to the Upper House Works... & made china alone there, to a great loss, and soon dismissed my partners...'<sup>26</sup>.

Notwithstanding such failures, porcelain making increased in The Potteries, though volumes at first were small in comparison with the region's extensive earthenware production. Also, although the hybrid hard-paste porcelains of New Hall and other makers met a market demand, the product was not as attractive as the European and oriental real bodies. It is hardly surprising

given the breadth of talent available in The Potteries that further experiments were made to try to improve it. A few surviving notebooks record some of this work.

Pam Wooliscroft, past curator of the Spode Museum, refers to a notebook of an unknown potter who recorded experimental work on porcelain from the late 1790s to c1803<sup>27</sup>. A most important entry reads:

The first trial of China I ever made was of the following articles and put in the biscuit oven on the 11<sup>th</sup> Decr 1800.

viz. 8oz of Cornwall Stone, 5oz of Burnt Bone, 3oz of Blue Clay, 3oz of Soap Rock Clay.

This is one of the earliest documentary records of mixing a high proportion of calcined bone with hard-paste clays, though there were probably many contemporary trials underway to try to improve New Hall's promising breakthrough. The most successful trials are said to have been at the Spode factory and the fundamentally important discovery in the early 18C of a reliable formula for making bone china is often attributed to Josiah Spode or his son Josiah II. (Possibly another successful Potteries porcelain maker, James Neale, or more probably the factory manager, Richard Wilson, may have made bone china before Spode<sup>28</sup>.)

The discovery of a successful bone china formula completely transformed the importance of porcelain within The Potteries, where bone china provided a material superior to the hybrids and perhaps in many respects also to European and oriental pastes. It had an excellently clear translucency, was lighter and less rigid than the real bodies and most importantly it could be reliably and profitably produced. An increasing number of businesses added bone china to their product offering.

*Holden's Directory* of 1805 lists fifteen china makers<sup>29</sup>. The number had risen to forty-seven in *Pigot's Directory* of 1828 and continued rising. So rapidly had bone-china porcelain become a staple product of The Potteries that 'The Committee of Manufacturers of Earthenware', of which the businessman potter John Riley was a member in 1809, changed its name in 1812 to 'The Association of Manufacturers of Porcelain and Earthenware in the Staffordshire Potteries'<sup>30</sup>. By 1812 the New Hall factory had abandoned the hybrid hard-pastes and adopted a bone-china formulation<sup>31</sup>. The surviving notebook of John and Richard Riley records many different bone china formulae originating both from themselves and other makers, including the New Hall formula given to them by 'Mr Daniel', one of the New Hall managing partners.

For The Potteries the contrast between the 18C and 19C could scarcely be more marked. Porcelain had been insignificant during the 18C but with the the advent of bone china it became a product of immense importance. With the exception of continental Europe, where real porcelain remained popular, the worldwide market for bone china became so large that by the end of the 19C The Potteries had become the world's largest porcelain manufacturing centre outside China.

#### Notes

1. John Thomas *The Rise of the Staffordshire Potteries* Adams & Dart (1971) p136
2. Arthur Young *Six Months Tour Throughout the North of England* (1771) p252, p254
3. *Op.cit.* p116
4. *Limehouse Ware Revealed* ECC Publication, ed David Drakard (1993)
5. Dr Richard Pococke *The Travels Through England* ed J Cartwright, Camden Society (1888) vol1 p7
6. Paul Bemrose 'The Pomona Potworks, Newcastle, Staffs, 1745-8' *ECC Transactions* vol9 pt1 (1973) pp1-18
7. Bernard Watney *Longton Hall Porcelain* Faber
8. John Mallet 'John Badderley of Shelton' *ECC Transactions* vol6 pts2&3 (1966/7)
9. Bevis Hillier *Pottery and Porcelain 1700-1914* Weidenfeld & Nicholson (1968) pp68-80
10. Burton *Porcelain Its Art and Manufacture* Batsford (1906) chapXI pp84-122

11. John Mallet 'The Travels of Tschirnhaus and the Re-Invention of Hard-Paste Porcelain in Europe' *French Porcelain Society Journal* vol6 (2016) pp37–73
12. Burton *Op.cit.* Chap XV p171
13. Peter Roden, 'A Salesman came to Staffordshire to sell a Patent' *NCS Newsletter* no154 (2009) p42
14. Bernard Watney *English Blue & White Porcelain* Faber (1963) p130
15. Wedgwood to Bentley 15 June 1775 *Letters of Josiah Wedgwood* The Wedgwood Museum (1973) volIII 1771–1780 p228
16. *Op.cit.* p130
17. David Holgate 'New Hall a Champion Broadsheet and some advertisements' *NCS Journal* vol5 (1984) p53
18. *Letters of Josiah Wedgwood 1771–1780* The Wedgwood Museum (1973)
19. David Holgate *New Hall and Its Imitators* Faber (1971) p8
20. Simeon Shaw *History of the Staffordshire Potteries* (1829) pp202 &203
21. David Holgate *op.cit.* p29
22. Maurice Hillis 'An Introduction to Ceramic Raw Materials, Bodies and Glazes' *NCS Journal* vol18 (2001) p104
23. David Holgate *op.cit.* and Geoffrey Godden *New Hall Porcelains* Antique Collectors Club (2004)
24. Shaw *op.cit.* p201
25. Bevis Hillier *The Turners of Lane End* Cory, Adams & McKay (1965) pp33–47
26. Roger Pomfret 'The Identification of Enoch Wood's 18th-Century Porcelain' *NCS Journal* vol38 (2023) p71
27. Pam Wooliscroft 'A Mystery Potter's Notebook' *NCS Journal* vol27 (2011) p183
28. Geoffrey Godden 'Staffordshire's Pioneer Bone China' *NCS Journal* vol 3 (1978/79) p61 and Diana Edwards *Neale Pottery and Porcelain* Barrie & Jenkins (1987)
29. R Henrywood *Staffordshire Potters 1781–1900* Antique Collectors Club (2002) p267
30. Roger Pomfret 'John & Richard Riley China & Earthenware Manufacturers' City Museum & Art Gallery Stoke-on-Trent *Journal of Ceramic History* vol13 p6
31. Godden *op.cit.* p361