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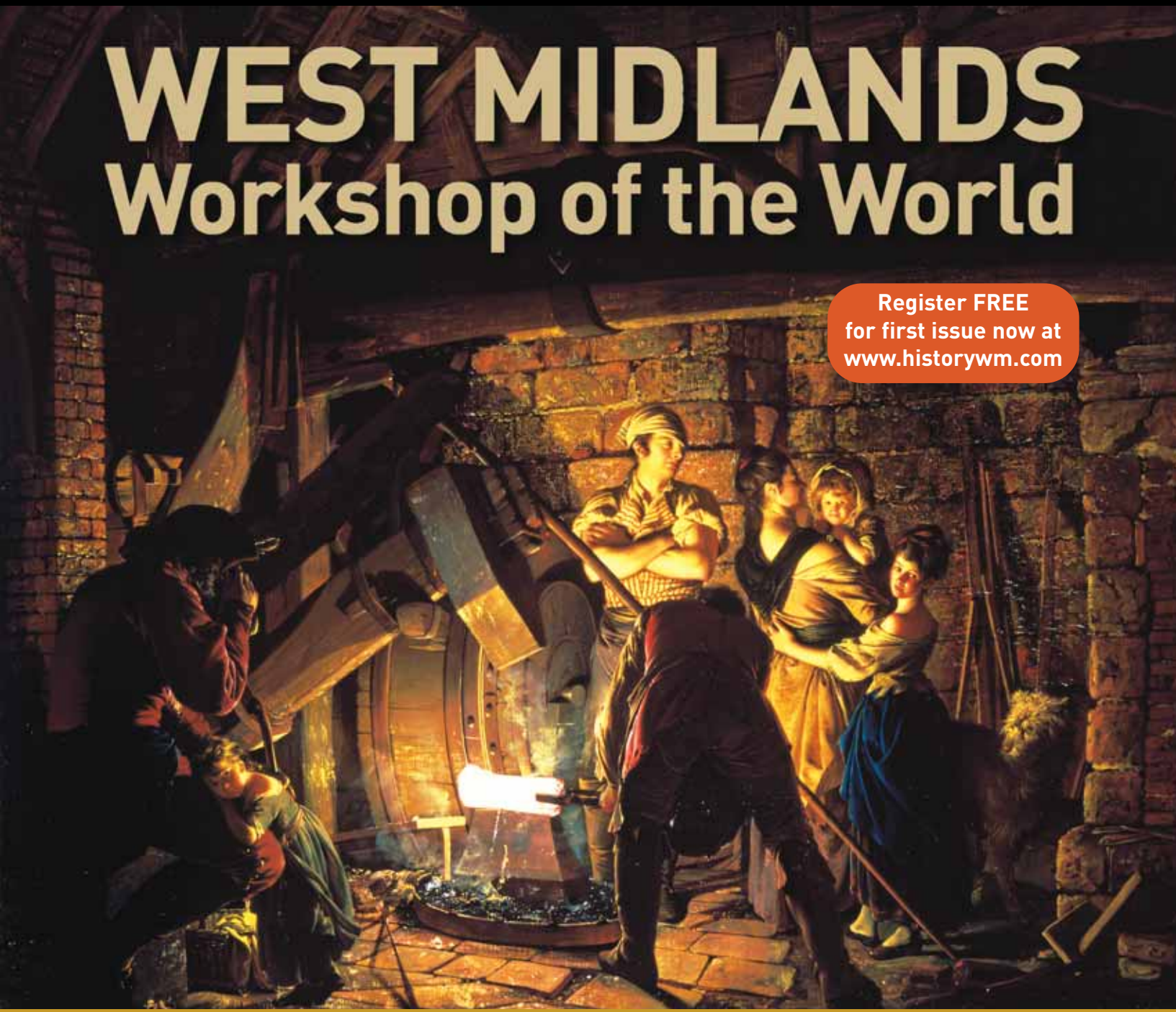
PEOPLE OF IDEAS, INNOVATION AND ENTERPRISE

WEST MIDLANDS
Workshop of the World



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APRIL 2012

WEST MIDLANDS HISTORY
PEOPLE OF IDEAS, INNOVATION AND ENTERPRISE

Joseph Wright, An Iron Forge, ©Tate, London 2012

Cover

West Midlands – Workshop of the World

The cover image is *An Iron Forge* by Joseph Wright of Derby and shows an iron-founder and his family looking on as a white-hot iron bar emerges from the near-by furnace. Wright captured the excitement of his time with his paintings of the industrial and scientific innovations of the eighteenth century.

HIGHLIGHTS

History West Midlands is an exciting new magazine and website exploring the rich and fascinating past of the historic counties of Herefordshire, Shropshire, Staffordshire, Warwickshire and Worcestershire, broadly known as the West Midlands. Aimed at anyone who is curious about the region's past, regardless of age, background or community. It seeks to uncover the stories of the past; the stories of the people and events that shaped the West Midlands region and the world beyond, looking for new ideas and ways of understanding our history.

HWM is about the people of the past, about the ideas and innovations that powered the West Midlands to become "the Workshop of the World" and it is about the creativity and enterprise of its residents.

EDITOR'S LETTER

THE WORKSHOP OF THE WORLD

Dr Malcolm Dick

In 1851, the Great Exhibition held at the Crystal Palace in Hyde Park provided a showcase for British industry. The products of British manufacturing industry dominated world markets as a result of decades of innovation and growth, naval dominance of trade routes and a self-confident class of merchants, bankers and industrialists who believed in the capacity of capitalism to deliver individual and collective prosperity. Coal, iron, textiles, engineering and ceramics were five examples of industries which had experienced considerable growth and most industries were located in regions which specialised in particular products. The northwest made textiles, South Wales produced coal and iron and the centre of England, the silicon valley of the Industrial Revolution was the home of a range of industries many of which, such as engineering and decorative objects, required technical expertise and craft-based skills. West Midlands industries were represented at the Great Exhibition: pottery from Stoke on Trent, decorative ironware from Coalbrookdale, glass from Stourbridge and a huge range of products which were made in Birmingham from pen nibs, medals and candelabra to guns and machine tools. The structure of the Crystal Palace itself was built using cast-iron from Birmingham and glass from Smethwick.

This edition of History West Midlands draws attention to the history of local manufacturing industry. Shena Mason explores the eighteenth-century history of Birmingham's importance as a manufacturer of metal goods. Edmund Burke in the late eighteenth century described Birmingham as 'The Toyshop of Europe'. He meant that Birmingham produced vast quantities of small metal objects, buckles, buttons, boxes and trinkets. Many of these items were cheap products which gave Birmingham a reputation for making poor quality goods, known as 'Brummagem Ware'. The little-known John Taylor and the much more famous Matthew Boulton altered this image by manufacturing high-quality metal goods which catered for a luxury market. Silver products were a Boulton speciality and he was instrumental in the creation of The Assay Office Birmingham, which opened in 1773, to assay or prove the quality of locally produced silver with the distinctive Birmingham anchor hallmark. A second article by Doreen Hopwood looks at one of Birmingham's heavy metal industries. Brass making locally originated in the eighteenth century and one survival, the Brasshouse in Broad Street still stands today. Originally it was the commercial office in front of a brass foundry which was created in 1781 by a consortium of businessmen including Boulton. Birmingham brass foundries grew rapidly in the nineteenth century, producing small mass-produced 'toys' such as buttons and buckles, of course, but also coffin furniture, pulpits and lecterns, electrical fittings and bedsteads. Many nineteenth-century churches still contain ecclesiastical furniture which was originally made in Birmingham. There was a cost, brassfounders were not only subject to heavy physical labour and the threat of molten metal, but fumes and smoke poisoned their lungs, an aspect of industry that should be remembered together with the success that manufacturing brought to the region.

CONTRIBUTORS

Shena Mason
has many years' experience working with the Birmingham metal trades and in the 1990s was involved with the Birmingham Museums and Art Gallery's project to develop Matthew Boulton's former residence into the Soho House Museum. She is the author of several books on Boulton and his family.

Doreen Hopwood
was formerly genealogist for Birmingham Central Library and has written extensively on local and family history. Doreen co-authored a book on the Italian community in Birmingham, Bella Brum.

Dr Malcolm Dick
is the Director for the Centre for West Midlands History and previously worked on the Revolutionary Players Project. Malcolm has written and edited many works on the history of Birmingham and the West Midlands, including a forthcoming book on Matthew Boulton.

LET US KNOW WHAT YOU THINK!

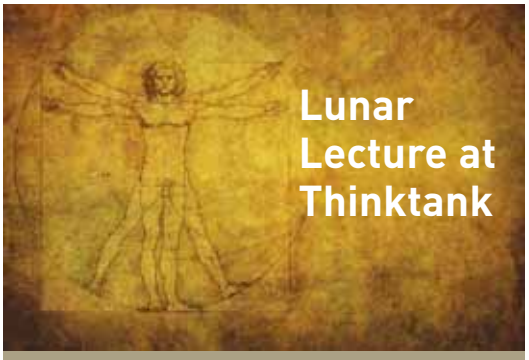
As this is sample edition of History West Midlands, we would like to hear your views on all aspects of the magazine. We would also welcome any ideas you have for articles or if you would like to contribute to future editions. Please complete the accompanying flyer and let us know what you think!

All fully completed flyers will be entered for a prize draw and five lucky winners will receive a £20 Amazon voucher.

Alternatively you can contact us with your feedback and ideas at info@historywm.com

Staffordshire History Day

Staffordshire History Day was held on the 4th February and provided a mix of presentations, research papers and updates from archives, museums and the Heritage Lottery Fund. The keynote speakers, Dr Malcolm Dick and Andrew Sargent gave two fascinating presentations on James Keir and the Lands of St Chad, providing new perspectives on ecclesiastical and industrial history. Current students at Keele and Birmingham Universities provided short introductions to their research and stimulated some interesting discussion with the audience. Those who attended the day were also updated on the fascinating work being undertaken by the archaeological service, proving that there is more to Staffordshire archaeology than the Staffordshire Hoard.



Lunar Lecture at Thinktank

Sally Hoban and Jon Wood gave a fascinating presentation at Thinktank on 23rd February entitled "From Leonardo to You" which looked at the links between art and science. Sally and Jon highlighted the close historical relationship between the two from the collaboration of Henry Gray (writer of Gray's Anatomy in 1858) with H.V.Carter who provided the illustrations to artists such as Joseph Wright who depicted aspects of the Enlightenment, and Hans Holbein who incorporated visual illusions in his work. This was a thought-provoking event which not only demonstrated how art and science have worked together in the past, the Lunar Society of Boulton, Watt and Wedgwood being only one example, but also how they could do so again in the future.

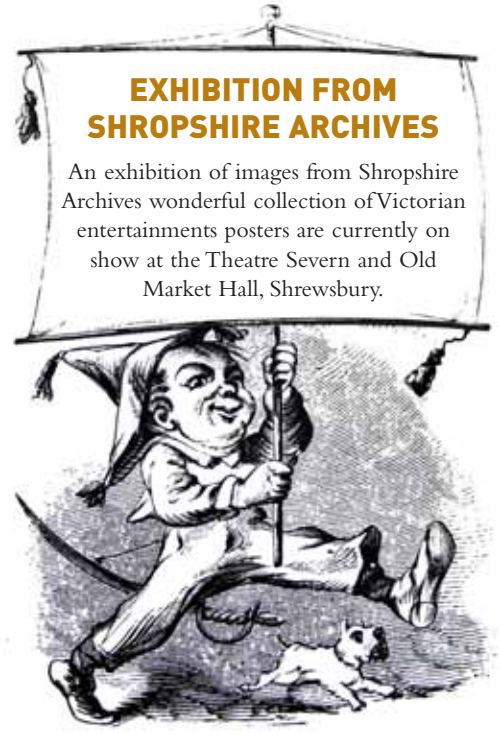
CATHERINE THE GREAT

Catherine the Great was one of Matthew Boulton's most important customers and over the decades his Manufactory at Soho supplied her court with a variety of ormolu wares. Boulton commemorated Catherine's death with a fine gilt medal.

MEDIEVAL TREASURES OF WORCESTERSHIRE RECORD OFFICE

The Friends of Worcestershire Record Office are welcoming Professor Christopher Dyer CBE., FBA., to speak to them on 'Mediaeval Treasures of Worcestershire Record Office: a Half-century of Treasure Hunting'. Professor Dyer is the Leverhulme Emeritus Professor of Regional and Local History at the University of Leicester, and Retired Head of the Centre for English Local History and will provide a fascinating insight into medieval Worcestershire. The event will take place on 20th March at 7.30pm at the Council Chamber at County Hall. If you wish to attend, the contact the Friends through their website,

http://www.worcestershire.gov.uk/cms/records/getting_involved/friends_of_the_record_office/mediaeval_treasures_event.aspx



EXHIBITION FROM SHROPSHIRE ARCHIVES

An exhibition of images from Shropshire Archives wonderful collection of Victorian entertainments posters are currently on show at the Theatre Severn and Old Market Hall, Shrewsbury.

WEST MIDLANDS HISTORY
PEOPLE OF IDEAS, INNOVATION AND ENTERPRISE

People walking along on Birmingham's Broad Street come face-to-face with three of the pioneers of the industrial revolution. The statue of Matthew Boulton, James Watt and William Murdoch is nicknamed 'The Golden Boys' and shows these remarkable men in discussion over engine plans. Fittingly, all three men are buried in St Mary's Church Handsworth, known as 'the Westminster Abbey of the Industrial Revolution'

DITHERINGTON FLAX MILL

The ancestor of all iron-framed and steel-framed structures, including modern skyscrapers, can be found in Shropshire. Now a Grade I listed building, Ditherington Flax Mill was designed by architect Charles Bage was built in Shrewsbury between 1796 and 1797.

CENTRE FOR WEST MIDLANDS HISTORY ANNUAL CONFERENCE

The Centre for West Midlands History Annual conference takes place from 30th March to 1st April. The theme for the weekend is The Emergence of the West Midlands: Culture, Communities and Change 1779-1918 and will explore the development of the region from the late eighteenth to early nineteenth centuries. Presentations will investigate science and technology; culture; class, conflict and ethnicity; politics and the changing landscape.

For more information visit the centre's website, http://www.birmingham.ac.uk/research/activity/cwmh/events/culture-communities-change.aspx

OUT AND ABOUT WITH THE FRIENDS OF STAFFORDSHIRE AND STOKE-ON-TRENT ARCHIVE SERVICE

The Friends of Staffordshire and Stoke-on-Trent Archive Service have two up and coming events. On Tuesday 27th March there will be a visit to Sandon Hall, near Stone and there will be a tour of the house with the opportunity to look at items from the archives and walk around the gardens and parklands.

On the 14th April, Graseley Old Hall, Wolverhampton is the location of the second visit. This is a unique opportunity to visit this ancient manor house close to the city centre, which is rarely opened to the public.

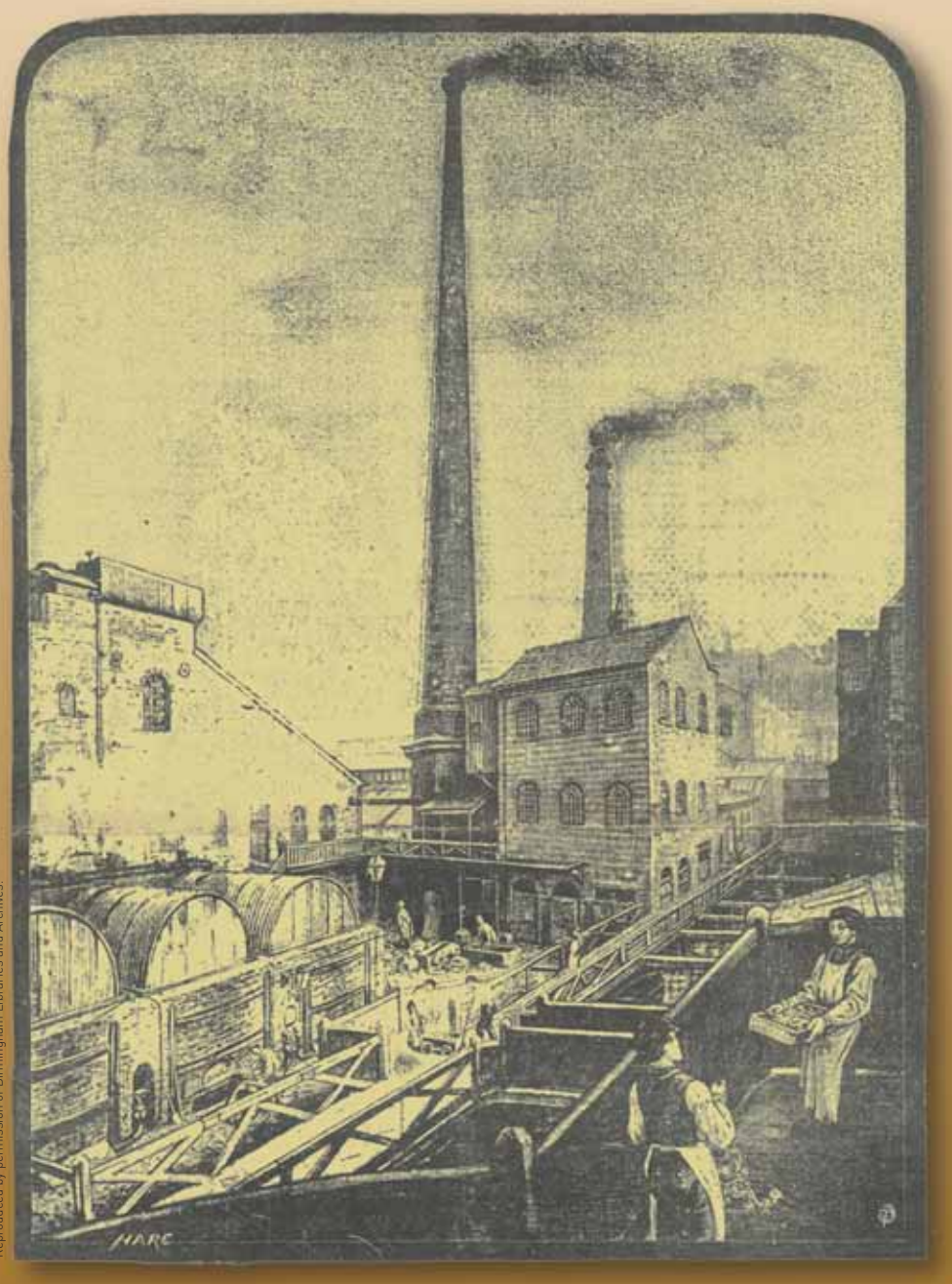
Non-members are welcome on both these visits. For more information, visit the Friends website,

http://www.staffordshire.gov.uk/leisure/archives/getinvolved/friends/home.aspx

BRASS-MAKING

The Brass Industry and Brass Workers in Birmingham

Doreen Hopwood



Large profits were to be made from brass and the numbers of foundries, factories and manufactories grew at an alarming rate from the late eighteenth century. By the mid nineteenth century the manufacture of every conceivable item that could be made of brass – from tacks to bedsteads and gas fittings – were being produced in huge quantities, with Birmingham being one of the main centres for the trade.

Brass-making was known in Roman times where experiments took place to produce brass by heating calamine (zinc ore) and copper together. The earliest examples of brass to be found in England are monumental brasses dating from the fourteenth century - such as can be seen in Westminster Abbey, but these were made from brass imported from Flanders or Germany. The medieval industry developed there because of the availability of the two main resources for the manufacture of brass - calamine reserves and water. The latter was used to provide power to hammer the sheet brass into the finished items.

Early in 1700 an ancestor of Abraham Darby (of Coalbrookdale) and a Mr Lloyd (an ancestor of the founder of Lloyd's Bank) established a brass works at the Baptist Mill on the River Frome near Bristol. Similar works grew along the river Avon, at Keynsham, Kelson, Salford, Weston and Warmley, all under the control of Joseph Loscombe and the Brass Works Company. Less than 20 years later the Cheadle Copper and Brass Company erected a smelting works at Bank Quay, Warrington. The first entry in the account book is said to read "Paid for ale to men digging foundations". Until the last quarter of the eighteenth century Bristol dominated the brass industry. It was both close to the raw materials - calamine from the Mendips, and copper from Cornwall - and there was a sufficient water supply to provide power. Bristol was also a major port, and its prominent role in the slave trade involved the brass industry. Wares, known "as guinea kettles" were taken to West Africa as part of the goods used for barter by slave traders.

Birmingham's toy trade (items such as buttons, buckles, sugar, tongs etc.) required high copper alloys, pinchbeck and tombac. In 1738, William Champion of Bristol patented a method of producing zinc from calamine by the process of distillation, and this, together with further technical developments meant that the importation of foreign brass declined rapidly and Birmingham was taking a large amount of the sheet brass and ingots from Champions Brass Works.

By the time that Queen Victoria came to the throne in 1837, Birmingham had become the centre of the brass industry. The main factors were innovative practices, workforce skills, high demand and entrepreneurship. The social dimension of the industry is part of the history of Birmingham's brass trade. Aspects include the organisation of the workforce, working practices and conditions and trade unionism.

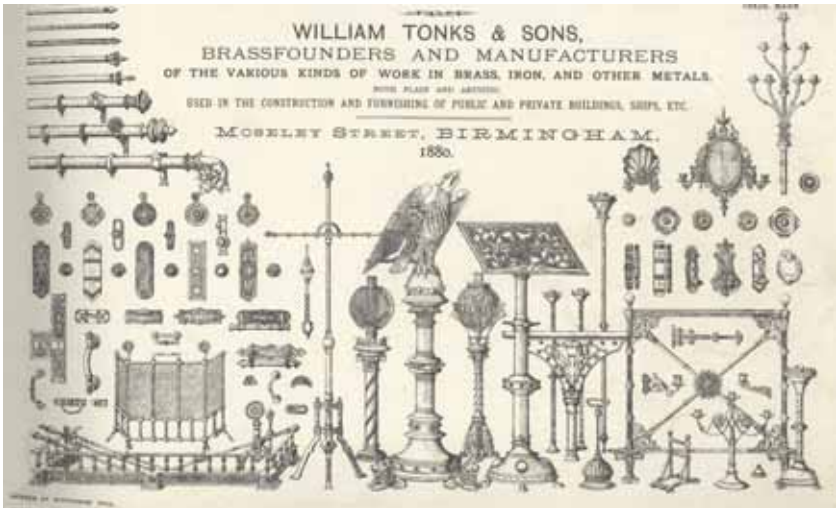
Turner's Brass House on Coleshill Street was established in 1740 and in 1767, the first Birmingham patent was granted to William Chapman for "Refining copper and manufacturing brass and brass wire." In 1769 the process of producing brass articles by means of stamp and die was introduced. A patent for a stamped brass foundry was granted to John Pickering, a London gilt toymaker on the 7th March 1769. This process was adopted by Richard Ford in his Birmingham factory. David Harcourt took out the patent in 1835 for the first automatic press and almost a hundred years later the same machine was still in use in the family's manufactory.

Until the nineteenth century, casting was the usual method used by brassfounders, which involved pouring molten copper alloys into moulds. Braziers, a separate trade, wrought goods by hand from sheet brass. Both had their own guilds or companies established in 14th century London. Birmingham was not a guild town, and, therefore attracted workers and entrepreneurs from far and wide, many of whom brought certain skills with them - from the chain and nailmaking trades of the Black Country for instance. Each item required a pattern from which copies were cast and moulds were made by packing sand around the pattern in a rectangular wooden or iron frame, which was made in two halves. Molten metal was poured through a runner (a channel cut through the sand) and smaller channels, called risers, were cut to enable hot air and gasses to escape as the molten metal reached the mould. A fettler was responsible for removing the stem from the mould when cooled, and all roughness was filed off.

The tools of the trade were inexpensive and easy to obtain - a lathe, vice and a few hand tools were the stock-in-trade of many small workshops. The "manufacturer" resided in the front part of his residence whilst upstairs and behind the house he "treddled the turning lathe, and, begirt with apron, examined the work, tied it up, made out the invoice and sent the finished work off to its destination".

The bright yellow of brass articles was achieved by pickling it in acid - a dangerous aspect of the trade - and the process of "dead dipping" was discovered by accident when, in 1832, a worker at David Malins' foundry left a quantity of articles in the cleaning solution (dipping) overnight. The strong acid (or pickling process) turned the items a dull, frosted yellow, but after burnishing and lacquering the desired effect was achieved. Burnishing was carried out by steel burnishers and the articles then passed through acid before being rinsed and dried out in a warm box of sawdust. The final process of lacquering covered the finished articles with a transparent varnish, which could contain dissolved seed lac to which was added "tumeric, dragon's blood or sandalwood" to impart the colour. The source of the dragon's blood is not given in any of the histories of the trade!

Left: The Works of Messrs R W Winfield and Co. in 1887. The works were founded in 1829 and were described in the article as "a model manufactory and for completeness, extent, and good order it would perhaps be difficult, if not impossible to find any large industrial establishment to surpass it."



Reproduced by permission of Birmingham Libraries and Archives.

Left: First page of William Tonks, Sons & Co., Catalogue of the Various Kinds of Work (1880). The image shows the variety of products made by this firm of brassfounders in Moseley Street, Birmingham. Items range from relatively simple items of door furniture to a church lectern. They show how extensive the skills of workers in the local brass industry had to be.

The skills within the brass trade cannot be understated. Casting needed the application of both manual dexterity and scientific knowledge. The rising demand for church furniture and artefacts in the 19th century, as well as the revival of metal art and crafts, tried the skills of the workers. The production of an eagle for a church lectern required a mould made up of 25 separate pieces. Braziers wrought intricate patterns on many of the goods they produced, but, by the nineteenth century, their work had been taken over by machine stamping.

The demand for brass for the production of goods in all shapes and forms rose as the 19th century progressed. The Victorian pre-occupation with death led to a rise in the manufacture of coffin furniture. Aitken reported a request from two African palm oil potentates called "King I Am" and "Egbo Jack" for two coffins, each made of brass, 6ft 10in in length, 3feet in depth and 2ft 3in wide - each weighed 600lbs. The receptacles had a dual purpose, they were to be used as repositories for their treasures during their lifetimes before being called into service for the purpose for which they were designed.

The flexibility of Birmingham's workers was renowned. Writing in 1865, Aitken suggests that these characteristics were "… hereditary, transmissable and transmitted from sire to son … thus there is a tendency to perpetuate a special qualification for the manipulation of metals". With its firm connections with the iron trades the adaptation to brass was relatively straightforward as both are polished by abrasion or friction, and methods of fitting together the moulded articles are the same. Aitken was confident of the future of the brass trade in Birmingham where "…it found an almost ready trained class of artisans prepared to deal with it". Although Birmingham cannot claim credit for the introduction of brass manufacture to this country, within a few years of its appearance in the town Birmingham was responsible for a high proportion of the manufacture of articles in brass.

Brass was in demand for the manufacture of buckles, buttons, horse and carriage fittings, household goods and, as improvement and sanitation schemes were effected, plumbing and sanitary products were needed in large numbers. In 1770, there were just five cock-founders in Birmingham supplying items for steam engines in the form of whistles, cocks, taps and gauges. A century later similar items were being produced for locomotive and ship engines as well as for industrial machines. Writing in 1865, Aitken suggested:

What Manchester is to cotton, Bradford to wool and Sheffield in steel, Birmingham is in brass: its articles of cabinet and general brassfoundary are to be found in every part of the world; its gas fittings in every city and town into which gas had been introduced, from Indus to the Poles … on the railways of every country and on every sea its locomotive and marine engines of solid brass generate the vapour which impels the locomotive over the iron road, and propels the steam boat over the ocean wave … its rings and ornament of brass are the chief decorations of the 'belles' on the banks of the distant Zambesi.

Aitkens' statement was backed up by David Livingstone who described a Makalolo woman he met in Africa as wearing "Eighteen solid brass rings, as thick as ones fingers on each leg and three under each knee, nineteen on her left arm and eight on her right".

As demand in one area declined there was usually another to take its place. An Exhibition of Electric Lighting was held at the Crystal Palace in 1882, and leaders of the brass industry foresaw electricity as the successor to gas for means of lighting. Fearing a loss of trade they argued that "Brass stands in the first rank" as the material for making electrical fittings. Their fears did not come to fruition as the turbine engine, motor industry came to the fore, and the Penny Post created new markets - from scales for weighing letters to brass letterboxes.

For most of the eighteenth-century, brass was brought from Cheadle and Bristol to Birmingham. It was deemed more economical to bring in the alloy itself from far afield than bringing in the raw materials. However, matters came to a head in 1780 when the price of brass was increased by £12.00 per ton.

Between 1771 and 1780, production of copper, the chief component needed for the production of brass fell from 3,347 tons to 2,932 tons. Consequently, the price of brass supplied to the brassfounders rose from £72 per ton to £84 per ton. This vastly increased the potential profits of the brass manufacturers (by up to 25%) whilst drastically reducing those of the brassfounders. A meeting of the chief brassfounders of Birmingham was held at the Swan on Bull Street on the 29th August 1780, at which it was decided to increase the price of brassfoundry goods by 7_%. Birmingham's brassfounders wanted to become independent of the manufactories of Bristol and Cheadle, and, on the 9th October 1780, a "serious address to Birmingham merchants and manufacturers of hardware" was published in Aris's Gazette. The writer of the address, whom Aitken suggests was Matthew Boulton, urged the brassfounders to build their own smelting and brass houses to gain independence from the existing brass makers. A few weeks later, on the 21st November 1780, the same writer placed an advertisement in Aris' Gazette inviting Birmingham's brassfounders and merchants to "… deliberate upon a plan … to relieve yourselves from the Imposition of a set of mercenary men whose machinations manifestly tend to the Injury of the Trade of your Town and Neighbourhood." The decision was made to raise a fund, divided into shares to which every founder and merchant should subscribe. With

Despite the well-known euphemism for "brass" to mean money and the statement of being "without a brass farthing", which denotes poverty, the closest that Britain came to a brass regal coin was in the reign of James II. It was proclaimed in June 1689 that crowns, half-crowns, shillings and sixpences were to be made of brass and these became known as gun money because the brass came from old brass cannons, bells and kitchen utensils.

subscriptions of £20,000 the Birmingham Metal Company was formed on the 2nd February 1781.

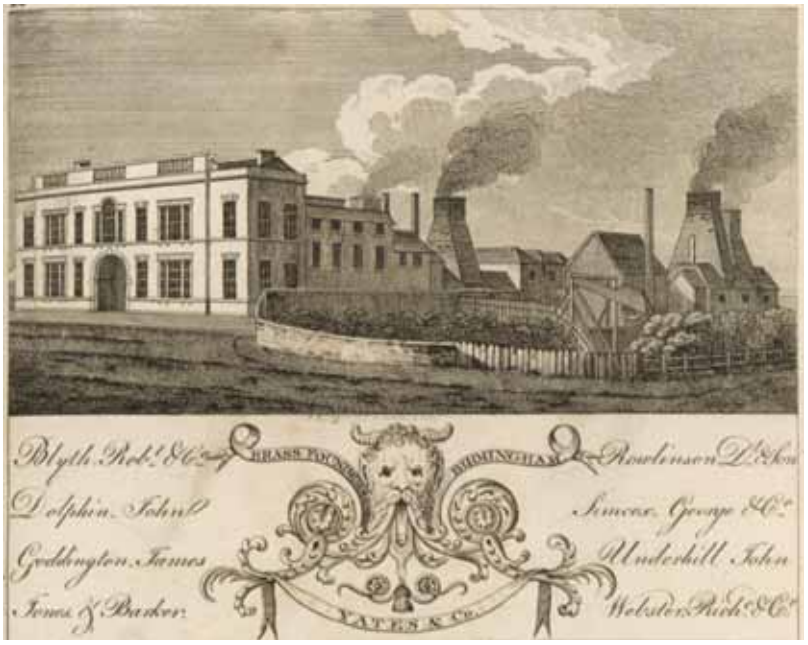
The network of canals around Birmingham was established by this time making the transportation of raw materials both quicker and cheaper. The headquarters of the new company, The Brass House, was erected in 1781 "by ye canal" in Broad Street, thus further increasing the presence of the trade in Birmingham. all that remains of the building today is the name of the thoroughfare "Brass House Passage".

The establishment of the Birmingham Metal Company was not the end of the problems for Birmingham's brass trade. In 1783, the brass companies lobbied Parliament for the repeal of certain old statutes which prohibited the export of brass. In response, brassfounders from Birmingham and other Midland towns petitioned that the export of brass would be detrimental to their trades, and, although the Bill, known as the "Brass Masters Bill" passed through the House of Commons, it was defeated in the House of Lords.

By the mid nineteenth century, the typical trade workshop employed 20 or 30 men, whilst the Birmingham Brass Houses had just over 100 men each with the exception of R W Winfield with 100 in 1835 and 700 by 1860. The late 19th century brass industry comprised some nine divisions, although there was some overlap, with some manufacturers producing a wide range of goods. The divisions can be broken down as casting, cabinet, bell and general brass foundry, cock-making and plumbers brass foundry, stamped work, rolled brass, wire and sheathing, tube manufacture, lamp-making, gas and electrical fittings and naval brass foundry. Ironically, the infinite numbers of brass items required for any ocean-going vessel were made in Birmingham - probably the farthest town away from the English coast!

During the 19th century, stamping and piercing, such as in the manufacture of buttons, medals and ornamental work became increasingly mechanised, which resulted in a larger female workforce. These unskilled jobs generally paid significantly less than others in the trade. The Registrar General's Report to the 1851 census showed that there were 1,781 women employed in the trade, with the 1861 census indicating an increase to 2,119. At the turn of the 20th century Edward Cadbury, of the Bournville chocolate manufacturing family, examined women's work and wages and published his findings. Apart from the bedstead trade some 31 different types of brass work is listed with wages varying from 30s (£1.50p) per week down to 3s 6d (17p) for the female employees.

The Birmingham historian, William Hutton, writing in the late 18th century summed up the "curious art" of brassfounding as being "… less ancient than profitable and less healthful than either". In both respects he was accurate, as brassworkers contracted pulmonary and respiratory diseases from the dust and fumes emitted in the various processes. This led one industrial historian to comment in 1866 that "Brass casters are unanimously short-lived". ●



Above: The Brass House, Broad Street, Birmingham from Bisset's Magnificent Guide, or Grand Copperplate Directory. The Brass House was built in 1781 to manufacture the metal alloy in Birmingham and avoid the need to transport raw brass from elsewhere.

	Glossary of Terms
Brass	An alloy of copper and zinc, usually in the ratio of 60-80% copper and 40-20% zinc.
Calamine	Zinc carbonate (ZnCO3), an ore of zinc found in carboniferous limestone regions, such as Derbyshire and Cornwall.
Calamine Brass	Produced by smelting calcined calamine with broken or granulated copper, it has a maximum of 28% zinc content.
Cementation Process	The heating together of zinc ore and copper to produce brass.
Crock-brass	The term used for the copper lead alloy which is used mainly for the casting of domestic pots.
Gun-metal	An alloy made up of 80% copper, 9% yellow brass, 10% tin and 1% lead, although the mixture can vary.
Latten	An old name for brass encompassing that used for medieval church brasses
Paktong	Originating in China, this alloy of zinc, copper and nickel was used as a cheap alternative to silver (which it resembled) in eighteenth century England.
Patent	An official document giving inventors the right to an income for a term of years from those who may wish to use their invention.
Pot-metal	An alloy of copper and lead
Spelter	An old name for zinc
Yellow Brass	Old name for foundry brass, often containing up to 3% lead to aid casting and machining.

Further Reading

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Hamilton, Henry, *The English Brass and Copper Industries to 1800*, second edition, (Frank Cass & Co., 1967).

BIRMIN

The Toyshop of Europe

Shena Mason

Birmingham's industrial reputation in the late 18th and early 19th centuries largely rested on its importance as a "metal–bashing" town. It manufactured items from brass and iron, that required brute strength to forge and create household goods such as cooking pots or engineered products like the steam engine. There was, though, another side to Birmingham's importance, the making of "toys", small decorative objects from silver, bronze and other metals and Edmund Burke, the MP and philosopher described Birmingham as "The Toyshop of Europe". John Taylor and Matthew Boulton pioneered the mass production of buttons, buckles and boxes, but manufacturers also produced other highly decorated items for the home and personal use such as caddy spoons and candlesticks.

Left: Soho Manufactory. William West, Picturesque Views... of Staffordshire.

This is an untypical view of the building from the rear and presents the complex of forges, mills and engine houses behind the neo-classical façade of the factory. The Soho Works became a tourist attraction as people came to view Boulton's manufacturing processes. The image shows visitors in the foreground.

Opposite page: Button Maker, The Book of Trades or Library of Useful Arts, Part III.

Buttons were could be made from a wide range of materials including gold, silver, steel and other metals, glass, silk, mohair and pearl. In this image the button maker is using a machine which takes dies to stamp a pattern on a metal button. By means of a single pulley he raises a weight to the lower part of which is fixed a die. He lets the weight fall down on the metal and the item is stamped. The button then has to receive a shank which is performed by solder and then polished by women workers.

NGHAM

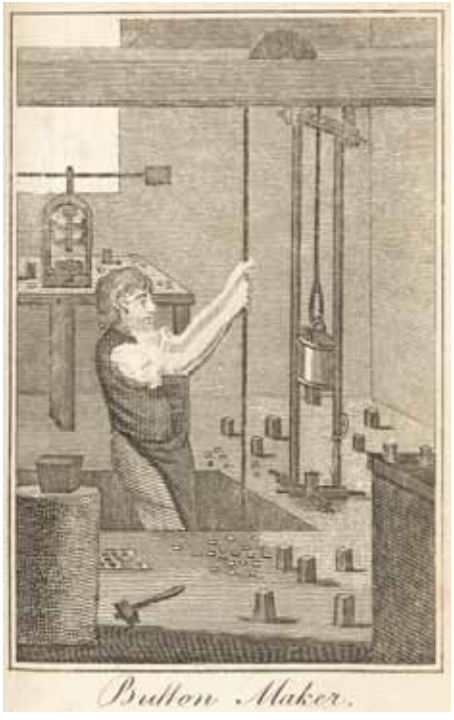
In the 18th and 19th centuries the manufacture of "toys" was a major industry in Birmingham. But these "toys" had nothing to do with children's games. The term "Birmingham toys" refers to a multitude of small, decorative personal accessories. Their production provided work for thousands, gained major export markets and led to the development of manufacturing techniques which could be applied in other fields.

Birmingham's first directory, Sketchley's Directory of 1767, lists 100 firms in the "toy" and related trades and describes the industry as follows:

….for the information of Strangers we shall here observe, that these Articles are divided into several Branches, as the Gold and Silver Toy Makers, who make Trinkets, Seals, Tweezer and Tooth Pick cases, Smelling Bottles, Snuff Boxes, and Filigree Work, such as Toilets, Tea Chests, Inkstands, etc. etc. The Tortoise Toy maker, makes a beautiful variety of the above and other Articles; as does also the Steel, who makes Cork Screws, Buckles, Draw and other Boxes, Snuffers, Watch Chains, Stay Hooks, Sugar Knippers, etc., and almost all these are likewise made in various Metals, and for Cheapness, Beauty and Elegance no Place in the world can vie with them.

From the mid-eighteenth century there were many toymakers in Birmingham, one of which was Matthew Boulton. Boulton was born in Birmingham in 1728. His father was a buckle and button maker whose small factory was near the house in Snow Hill. Large quantities of buckles and buttons were being produced in Birmingham by this time. Matthew Boulton junior joined the family business after leaving school around 1745. In 1749 he married Mary Robinson, daughter of a wealthy Lichfield mercer. She died in 1759 and a few months later, Boulton's father also died and he took over the business. The following year he married his late wife's sister, Ann. The money he acquired through his marriages enabled him to expand the business at Soho in Handsworth.

Matthew Boulton's Soho Works was built between 1762 and 1764 to provide a base for his expanding buckle and button business. The advertisement lists the "annexed firms" which formed part of his industrial and commercial empire, producing buttons, buckles, and latchets, silver and plated goods, coins, medals, iron, steam engines and letter copying machines. In 1766 Boulton and his second wife moved into the house so that he could live nearer the business. Boulton was one of the founders of the scientific society known as the Lunar Society, and Soho House became one of the group's regular meeting places.



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'Birmingham toys' (sometimes disparagingly referred to as 'Brummagem toys') comprised a very wide range of small items for personal use. Matthew Boulton perhaps made the widest range of any of the Birmingham makers, but he was certainly not without competition, such as John Taylor, although we know far less about his rivals. The Birmingham Assay Office has a fine collection of Birmingham silver 'toys', including nutmeg graters, snuff boxes, vinaigrettes, card cases, caddy spoons, child's rattles, toothpick boxes, and buckles.

Matthew Boulton had a leading role in the establishment of Birmingham Assay Office (which initially met with considerable opposition from London). It is often asked why Birmingham's mark is an anchor, when the city is so far from the sea. From 1771-73 Birmingham and Sheffield ran joint campaigns to have their own assay offices, and met periodically to discuss tactics at the Crown and Anchor Tavern in the Strand in London. When the Bill was passed, Birmingham took the anchor for its mark and Sheffield the crown – perhaps on the toss of a coin. The opening of the Assay Office marked an important step in the development of Birmingham's toy trade.

Though Matthew Boulton played a leading part in the establishment of Birmingham Assay Office, and was the first maker to register his mark there and take a consignment of goods for assaying and hallmarking, his manufacture extended over a much wider range of metals than just silver.

In his notebook for 1771 he headed page one, 'A List of the Articles Manufactured at Soho' and over the next seven pages carefully noted down the following headings: 'Buttons', 'Chains for Men & Women', 'Buckles', 'Boxes, Instrument Cases &c', Links or Sleeve Buttons', 'Candlesticks', 'Plated Wares & Braziery', 'Belt Locks', 'Cane Heads', 'Trinketts', 'Tapestry Hooks', 'Chapes' (the 'working parts' of buckles), and 'Watch Hooks & Keys'.

The majority of these (with the exception of candlesticks and plated wares) would come under the heading of toys, and under each heading he listed the range of metals in which they were being made at Soho. The metals include gold, silver, plated metal, gilt, pinchbeck, platina (a white metal alloy, not platinum), steel, and various other alloys. Some are said to be inlaid or decorated with enamel or glass.

Much of Boulton's toy output, and that of other Birmingham, Wolverhampton, Walsall and Woodstock manufacturers, was in steel. Birmingham directories for the 18th and early 19th centuries list numerous steel toy makers. A wide range of jewellery, and other items such as chatelaines, watch chains, beaded purses, sword hilts, buckles and buttons were made in cut steel. Some of these achieved a very light, delicate effect by the use of dozens of tiny studs or beads, and steel jewellery and decorative articles were extremely fashionable, glittering in candle-light in a way that mimicked the sparkle of diamonds.

Mass production led to a move away from the old system where one craftsman would make an item from start to finish, to the factory system, where each person carried out one stage in the process. A visitor's account from 1755 describes button production at John Taylor's factory, making it clear that division of labour is in use: "The Multitude of Hands each Button goes thro' before it is sent to the Market is surprising; you will perhaps think it incredible, when I tell you they go thro' 70 different Operations of 70 different Work-folks;"

Stamping, pressing, piercing and polishing were all done with the help of machinery introduced during the 18th century, and many new alloys were introduced which were suitable for use with these machines. Throughout the 18th and 19th centuries Birmingham manufacturers obtained numerous new patents for producing components for the buckle, button, toy and jewellery trades. A visitor to Soho in 1787 described,

Wheels, vices, pincers, cranks, lathes, drills, shears, hammers of all sizes, coin-presses, all assist the workmen in binding, twisting, shaping, pointing, cutting, marking, and turning the metals with wonderful quickness to produce the requirements of men, women and children, for all changes and caprices of fashion. The workmanship is most easy and quick. Women and children at low wages can help the workmen in many ways… In many cases the work is so divided that the workman knows only his own part and not the complete work… Some of the machines for stretching, gilding or silvering sheets of copper I have seen in France [rolling mills]…

The market for 'toys', at home and abroad, was large and long-lasting, providing a great deal of employment. It also had a broad social spread, from the emerging middle classes to the nobility, for while the latter could and did buy silver, gold and diamonds, there is no doubt that they were also captivated by the sparkling steel wares which came from Birmingham, and also Wolverhampton and Woodstock.

Caddy Spoon 1802.

Matthew Boulton had no doubt that he had a market for his steel wares among the upper echelons of society, and he deliberately set out to woo them. Wealthy customers who bought cut steel dress sword hilts or chatelaines, elegantly embellished with blue and white jasperware plaques from his friend Josiah Wedgwood, might also be tempted to become customers for silver or Sheffield plate tableware, and ormolu ornaments. Boulton relied heavily on networking, personal contact and lots of letter-writing to build his customer base, but advertising was also increasingly employed by the Birmingham manufacturers to promote their works. The first illustrated directory of Birmingham, Bissett's Directory of 1800, contains a number of finely-engraved advertisements from local manufacturers in the fields of button, toy and silverware.

If the home market was important to the toymakers, the export trade was vital. In 1759, Samuel Garbett told a House of Commons Select Committee that there were at least 20,000 people employed in the 'toy' trade in Birmingham, producing goods worth some £600,000 a year, of which £500,000-worth was exported. This astonishingly high export trade was achieved by a small army of commercial travellers bumping and rattling across Europe in coaches, some employed directly by large manufacturers and some by Birmingham factors like Lewis & Capper, who represented several firms. Bigger manufacturers, like Boulton, also appointed local agents in some countries. The Birmingham makers faced tough competition from local manufacturers in some countries, notably France and Germany, but generally scored on price because they were more highly mechanized. Portugal and Sweden both imported a large amount of Birmingham goods until both placed prohibitions on Birmingham hardware imports to protect their own manufacturers. ("Hardware" in the 18th century covered the whole range of metal goods from fenders to jewellery.)

Boulton also investigated overseas markets himself, making visits to France and Holland. In his notebook for 1765, during a visit to Paris, he headed a list "We must make". The list includes gilt, lacquered and plated buttons,

Toys were made in a variety of materials. Metals included silver, gold, brass, steel and pinchbeck (a gold-coloured alloy of copper and zinc). Other materials used included tortoiseshell and mother-of-pearl. Usually, only the silver and gold items can be definitely identified and accurately dated. This is because, as precious metals goods, they had to have the hallmark. Items made in non-precious metals, such as steel, were not required to be hallmarked and rarely have any helpful marks.

steel snuffers, corkscrews, ear-rings, crosses, and a variety of buckles including "common steel" and "ditto fine". His business partner John Fothergill spent months at a time abroad. In one letter, Boulton writes to a contact that Fothergill is to leave St Petersburg "by the first sledges that go to Narva, Metteau, Riga & Konigsburg". In 1767 Boulton told a German business partner, J.H. Ebbinghaus of Iserlohn, "Steel Chains we have made immence quantity of this Year & have yet very great orders". Three years later, a German firm offering to act as Boulton's agents advised "We do not want samples of steel chains; the roads are paved with them in France, and there are no more sold."

More glimpses of life on the road as a travelling export salesman come from the letters of Peter Chamot, of the hardware merchants Glover & Chamot (based in Cannon Street), who in 1763 set off for Amsterdam on the first leg of a Continental sales tour. It would be a full 12 months before he returned home. In that time he travelled through Holland, Germany, Austria, and France, visiting established and new customers.

Wherever he went, he took orders for goods which he sent back to Birmingham, checked out what the competition was doing, sent back market research, ran status checks on new customers, cajoled old customers whose accounts were overdue (being careful, of course, not to offend them so that they did not place a new order) – all the tasks generally associated with a sales job then and now, in fact.

Chamot was selling goods from Soho as well as other Birmingham manufacturers. Some of these buyers Boulton also dealt with direct. An order Chamot took in Vienna included buckles, beltlocks, spoons, sugar tongs, crosses, watch chains, links, instrument cases, pencil cases and pencils, nail clippers, candle snuffers and snuff boxes, in steel, pinchbeck and gilt. In France, there were ways of getting round import restrictions on certain goods, by disguising the parcels as permissible goods and placing them in the centre of the shipping casks, surrounded by non-restricted goods, so that customs inspectors who drilled into the casks and checked the first packages they came to would find nothing to confiscate.[1]

Agents provided a valuable service to manufacturers by having show-rooms, dealing with retail customers, holding stock, arranging credit and handling payments. In 1793 Boulton appointed Richard Chippindall of 59 Watling Street, London, as his agent, and the letters between them give some useful insights into the relationship.

Chippindall's early efforts showed he had the right contacts and his finger on the pulse of fashion. He supplied samples to the Royal family, and sent advice on what size and shape of shoe buckles were the height of fashion in the capital. There was a careful exchange of letters in which the exact method of describing different buckles was established, so that there would be no misunderstandings. Boulton also sent advice on coating steel goods with light oil and storing it in air-tight containers, to prevent it tarnishing while in stock.

When Edmund Burke first gave Birmingham the nickname "The Toyshop of Europe"', it may not have been entirely complimentary – Birmingham had a reputation for making cheap and shoddy trinkets. Matthew Boulton and some other manufacturers strove to improve Birmingham's reputation by endeavouring to produce better quality goods. An industry making largely inessential items became essential as a major collective employer of labour. It should also be remembered that it greatly increased Birmingham's wealth, and that Birmingham's supremely adaptable workers learnt from it how to do more things with metal than they had ever thought of before, knowledge which became part of Birmingham's skill and knowledge base for succeeding generations of manufacturers of all kinds.

THE SOHO MANUFACTORY: INDUSTRIAL TOURISM

Portrait of Matthew Boulton.

At this early stage of the Industrial Revolution, the sight of machines at work producing goods fascinated people, and in manufacturing centres like Birmingham 'viewing the manufactories' became a popular pastime for visitors to the town.

Matthew Boulton initially thought it was useful to encourage visitors to the Soho Manufactory because it helped to increase the market for his goods. After a while the number of visitors grew so great that he had a tea-house built in the grounds of the Manufactory, and after visitors had been given a guided tour of the works they were entertained to tea or wine and cakes in the tea-house.

Eventually the number of visitors grew so great that they began to disrupt production. Boulton decided to call a halt to factory tours and put up a notice in every inn for some miles around, announcing that henceforth visitors would not be admitted to the Manufactory. For some VIPs he relented!

The importance to the city of these closely related trades cannot be over-estimated. As one 19th century commentator put it, it was "buttons that made Birmingham, not Birmingham that made buttons".

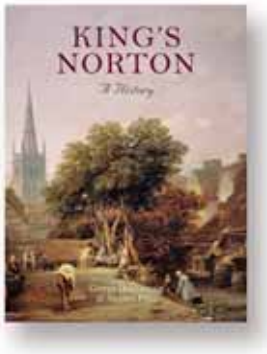
Vinaigrette/Musical Box 1818.

Further Reading

The Archives of Soho, Birmingham City Archives, Birmingham Reference Library
Delieb, E, *The Great Silver Manufactory: Matthew Boulton and the Birmingham Silversmiths, 1760-1790* (London, 1971).
Goodison, N, *Matthew Boulton: Ormolu* (London, 2003).
Hopkins, E, *Birmingham, the First Manufacturing Town in the World 1760-1840* (London, 1989).
Mason, S, *Jewellery Making in Birmingham 1750-1995* (Chichester, 1998).
Tann, J, *Birmingham Assay Office 1773-1993* (Birmingham, 1993).
Uglow, *The Lunar Men* (London, 2002).

BOOK REVIEW & WEBSITES

BOOKS



King's Norton: a History

By George Demidowicz and Stephen Price

King's Norton, a former village which is now part of Birmingham, achieved national prominence in 2004 by winning the BBC 2 *Restoration Prize*. The prize money helped a local group to renovate two important buildings, the *Saracen's Head*, an important high-status medieval house and the Old Grammar School, which has a fifteenth-century upper floor on a later stone and brick foundation. Kings Norton was home to the puritan schoolmaster and minster, Thomas Hall in the seventeenth century who attempted to reform the religious and moral life of the time in sermons and pamphlets.

The two authors, George Demidovicz and Stephen Price focus on the history of the modern parish, where the twelfth-century church of St Nicolas lies at the core of the village. King's Norton is now a suburb of Birmingham, which contains besides medieval and early modern buildings, large private and council estates, tower blocks, commercial premises, industrial sites, roads, canals, a railway line and a rural hinterland. Those who look at the environment will see a remarkably varied landscape. Demidovicz and Price succeed in explaining the origins of this landscape and, at the same time they provide an insight into the lives of the people who lived and worked in the area.

The dominant message of the book is how the landscape changed from the Bronze Age to the twenty-first century. We learn how King's Norton was shaped by Roman roads and boundaries, Anglo-Saxon settlement (the name Norton, north –tun, means a north farm or settlement), Norman landowners, medieval clerics and trade and industry. From the late eighteenth century, enclosure, transport developments, industrialisation and the movement of wealthy members of Birmingham middle class individuals into a more salubrious area, began the rapid transformation which turned a primarily agricultural parish into a part of Greater Birmingham. A chronological approach forms the book's structure. After a brief survey of Prehistoric, Roman and Anglo-Saxon developments, the main chapters look at the medieval period, the Tudor and Stuart parish, the eighteenth century, nineteenth-century King's Norton and the twentieth century. These chapters consider tenure and landownership, population, homes and housing, the church and religion and trade and industry. Industrial developments receive detailed treatment, including the installation of a Boulton and Watt rotative steam engine in 1787 which provided power for a local rolling mill.

The chapter on the twentieth century is the longest and, perhaps, the least satisfactory and some of the information emerges in a piecemeal and unrelated way. The authors have a lot to cover, including the impact of war, rapid suburbanisation and conservation. Kings Norton, like other parts of the country was affected by global developments which shaped local experiences. The authors chart industrial changes, but they neglect the changing demography of the area. Kings Norton has a diverse population and, since 1945 has provided a home for Serbs, migrants and their descendants from India, Pakistan and the Caribbean and refugees from Iraq, Iran and the Congo.

King's Norton: a History is well-written and informative and its strengths significantly outweigh limitations. Like many of Phillimore's publications it is well-illustrated and readable, but it is also scholarly. The authors build upon the work of earlier historians and use primary sources and archaeological evidence. It is based on careful research and footnotes enable the reader to engage in further investigation and the bibliography seems to cover every single publication about the locality. It is a model of how a parish history might be written.

Pp. xviii + 222. Chichester: Phillimore & Co. Ltd. 2009. £20.00. ISBN: 978 1 86077 562 8

Digital Midlands

http://www.digitalmidlands.org.uk/spt.htm

A collection of seven projects from libraries, museums and archives around the West Midlands which explore local, social and industrial history, literary heritage and natural history.

British History Online

http://www.british-history.ac.uk/

Developed in partnership with Victoria Histories, this website contains a wide range of printed primary and secondary sources for the medieval and modern history of the British Isles. This site also provides access to historical geography, urban, parliamentary and religious history.

National Archives

http://www.nationalarchives.gov.uk/records/looking-for-place/default.htm

The "Looking for a place?" section of the National Archives website offers a range of information on records they hold relating to towns and villages, maps and surveys, buildings such as workhouses, schools and hospitals. This is a useful site to find information about the West Midlands region that is held at the National Archives.

Science Museum – The Energy Hall

http://www.sciencemuseum.org.uk/on-line/energyhall/index.asp

This section of the Science Museum's website looks at the development of the steam engine, including the contribution of James Watt and his business partnership with Matthew Boulton. Using a range of images, animations and description, this is an engaging introduction to the way steam power was improved and became a significant factor in the growth of West Midlands entrepreneurship and business.

Culture 24

http://www.culture24.org.uk/home

An excellent site highlighting news and events from museums, art galleries, libraries, archives and heritage sites around the country. The site has a very good History and Heritage section that showcases new exhibitions as well as offering reviews of selected events.

SOHO HOUSE, BIRMINGHAM

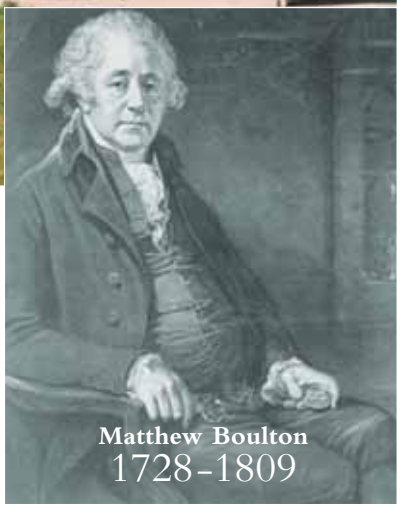
Home to industrialist, entrepreneur and Lunar Society member, Matthew Boulton, Soho House was one of the places the Lunar Society regularly met. It has been restored to reflect the elegant Georgian style that Matthew Boulton would have recognised and is open to the public during the Spring and Summer months.

Soho House has an impressive collection of the ormolu and silver manufactured at Boulton's Soho works as well as Georgian furniture, including items used by the Boulton family. The dining room were the Lunar men met to talk, debate and carried out many of their experiments is a highlight of the house, as is Matthew Boulton's study. The museum also has an exhibition which tells the story of Boulton as an industrialist and entrepreneur in Birmingham.

The gardens of Soho House are worth a visit and as admission is only charged for the house, they and other attractions such as the Visitor Centre, shop, and tearoom can be accessed free of charge.

Soho House is well worth seeking out for anyone who is interested in the industrial or social history of Birmingham.

Contact details
Soho Avenue (off Soho Road) Handsworth
Birmingham B18 5LB
Tel: +44 (0)121 554 9122
http://www.bmag.org.uk/soho-house



Matthew Boulton
1728-1809

THE WEDGWOOD MUSEUM

Now located in a new, purpose-built museum and visitor's centre, the Wedgwood Museum tells the story of Josiah Wedgwood and his family and explores their significance to the pottery and ceramics industry of the West Midlands. The museum has a wide variety of exhibitions tracing the history of the Wedgwood family and business from the eighteen to the twentieth century and plenty of interactive resources to keep everyone interested.

Not only does the museum explore the history of the business but offers guided tours of the current factory, providing an insight into the contemporary product of Wedgwood's products.

For those interest in undertaking their own research, the Wedgwood Museum house a manuscript archive of over 80,000 items, which can be accessed in the reading rooms.

The Wedgwood Museum is a wonderful place to visit, with excellent facilities and innovate ways of exploring an important part of the industrial heritage of the region.

Contact details
The Wedgwood Museum
Barlaston, Stoke-on-Trent ST12 9ER
England

Josiah Wedgwood
1730-1795

EXPLORING THE ARCHIVES

This cartoon depicts Birmingham scientist, theologian and philosopher Joseph Priestley, who became known as "Gunpowder Joe". Priestley was a brilliant thinker and a controversial figure, and one who inspired opposition and devotion in equal measure. In 1787, a passage from one of his works, Reflections on the Present State of Free Inquiry in this Country, was deliberately misquoted by his adversaries.

Priestley wrote;

"We are, as it were, laying gunpowder, grain by grain, under the old building of error and superstition, which a single spark may hereafter inflame, so as to produce an instantaneous explosion: in consequence of which, that edifice, the erection of which has been the work of ages, may be overturned in a moment, and so effectually that the same foundation can never be built upon again."

Which suggested to many that he was advocating revolution, disorder and the overthrow of King and Church, confirming his reputation as a dangerous radical.

It could be argued that Priestley knew his words would be inflammatory, they invoked associations with the Gunpowder Plot on November 5th 1605, and Priestley had been advised against including it by his friends. However, Priestley showed his characteristic stubbornness and independence of mind by insisting on the inclusion of the passage.

Despite Priestley's protestations of peaceful intentions and methods, this quote was particularly damaging to his reputation and earned him the nickname "Gunpowder Joe".

Political Portraiture no 3 Political Gunpowder
Birmingham City Archives, Priestley Collection
by Samuel Timmins

WANT TO EXPLORE MORE?

VISIT THE HISTORY WEST MIDLANDS WEBSITE
www.historywm.com

If you would like to explore more of the history of the region, then visit our website where you will find more articles and also films and podcasts looking at the rich and varied history of the West Midlands.
You can also register your details to receive updates about History West Midlands and make sure you receive your copy of the magazine.