

North East Derbyshire Industrial Archaeology Society

NEDIAS Newsletter No. 44 – November 2011

Price: £1.00 (Free to Members)



2011 - NEDIAS TENTH ANNIVERSARY YEAR!

Congratulations to Pleasley Pit – winners of English Heritage “Angels Award”

Congratulations from NEDIAS must go to the Friends of Pleasley Pit, which has just won an award from English Heritage. We take our hats off to you!

Under the category “Best rescue of an industrial site”, the Friends have received the English Heritage “Angels Award”, and what angels they clearly are! EH report that *“the Friends’ group has been working tirelessly since 1996 to secure the future of this site, so that it can be used to tell the story of the Great Age of Steam. With the help of volunteers, they report that the site has been restored and repaired so that it can be opened to the public as a visitor attraction. A very*



Photo: From Left to Right - Fred Cobb (blue hard hat), John Houfton, Bill Parsons (orange boiler suit), John Abbott, Nev Buckle (white hard hat), Dennis Hall, Brian Wass.

important part of our industrial heritage would have been lost without this group’s unstinting dedication and imagination.”

The Friends received their award at a presentation ceremony in London at the Palace Theatre, which was featured in the Culture Show on TV.

Let me repeat: English Heritage have stated **“A very important part of our industrial heritage would have been lost without this group’s unstinting dedication and imagination”**

How about a visit? Winter opening times at Pleasley are on Thursday and Sundays, 9:00 am – 1:00 pm.

Contents: Congratulations to Pleasley Pit ■ What’s On? ■ NEDIAS Visits ■ Industrial Heritage at Risk ■ South Yorkshire Archaeology Day ■ Brampton Potteries ■ Brampton Potteries – Industrial Heritage ■ Industry in Ambleside ■ In praise of Sir Joseph Bazalgette ■ IA News & Notes ■ And Finally Heckington Windmill (not to be confused with Eckington!)

WHAT'S ON?

NEDIAS Lecture Programme

When: Meetings are held on the second Monday of each month, starting at 7:30 pm.

Where: Friends' Meeting House, Ashgate Road (at junction with Brockwell Lane), Chesterfield.

Monday, 12 th December 2011	CHRISTMAS MEETING Robin Fielder: <i>The History of Steelmaking in Sheffield.</i> and of course followed by mince pies
Monday, 9 th January 2012	Stephen Flinders: <i>Stanton at War</i>
Monday, 13 th February 2012	Paul Smith: <i>CHARCOAL, WHITECOAL and SLAG: Early woodland industrial archaeology in Derbyshire</i>
Monday, 12 th March 2012	AGM followed by presentation on the excavation at Wingerworth stone saw mill
Monday, 16 th April 2012	Sue Gorick-Brown & Janet Spavold: <i>Ticknall Pottery</i>
Monday, 14 th May 2012	DAVID WILMOT MEMORIAL LECTURE Andy Pollock: <i>Cromford & High Peak Railway</i>

Other Diary Dates

Tuesday, 15 th November 2011	Arkwrights - Spinners of Fortune The Arkwright family Sir Richard 1732-1792 through to the Arkwrights of the 20th century – Darrell Clark. Complementing the NEDIAS meeting, following the Arkwright family through two centuries. Chesterfield & District Local History Society, Rose Hill United Reformed Church in Chesterfield 7:30pm.
Thursday, 17 th November 2011	The Yorkshire Engine Company – An illustrated look at this well known company – Tony Vernon. Barrow Hill Roundhouse Lecture Theatre 7:30pm.
Saturday, 26 th November 2011	South Yorkshire Archaeology Day. See further detail on page 3
Monday, 12 th December 2011	Portland Works: past, present, and a future in the balance – Derek Morton and colleagues. 7:30pm at Kelham Island Museum, further details SYIHS, 0114 230 7693
Friday, 6 th January 2012	Canals and Railways to Pinxton (David Amos) – Lecture at Beeston Library, 7.00pm
Monday, 16 th January 2012	David Crossley: "Shepherd Wheel: its history and restoration" . 7:30pm at Kelham Island Museum, further details SYIHS, 0114 230 7693

Tuesday, 20th March 2012

Water, weirs and wheels: preserving the past of Sheffield's industrial museums – John Hamshire; The twenty-first Dr Kenneth Barraclough Memorial Lecture Joint meeting with the SMEA. 5:30pm for 6:00pm, at the Holiday Inn Royal Victoria Hotel; further details SYIHS, 0114 230 7693

NEDIAS VISITS

Co-ordinator: Brian Dick, 01246 205720

Saturday 19 November at 10am: Glasshouse Common, Part 2.

Barry Bingham continues his walk, leading us to some of the additional features in the area – Part 2 of his walk.

Barry tells me that this time amongst other things we will see the site of Thomas Firth's 2nd steel works of 1858 and the place where the victims of the Chesterfield plague were buried

Meet at Revolution House at 10 am on Saturday 19 November. Finishes at about mid-day. No charge.

Industrial Heritage at Risk

The largest ever research project into the condition of England's industrial heritage was published in October by English Heritage together with its annual 'Heritage at Risk Register'. It revealed that listed industrial buildings are more at risk than almost any other kind of heritage. Almost 11% of grade I and II* industrial buildings are now categorised as at risk – this is a much greater proportion at risk than for non-industrial sites.

We have to ask why this is so, and you might be interested to learn that in a poll also carried out by English Heritage, that almost half the population (43%) do not know when the industrial revolution took place! What price education!! Within NEDIAS we clearly have an uphill struggle if this is the case – perhaps we should liaise with schools?

However, the same EH poll did have one or two redeeming findings:

- ◆ 86% agree that it is important we value and appreciate industrial heritage
- ◆ 80% think it is just as important as our castles and country houses
- ◆ 71% think industrial heritage sites should be reused for modern day purposes as long as their character is preserved
- ◆ only 9% considered it depressing or an eyesore.

Some of the industrial sites considered at risk, which I pulled out of the extensive list around our area include Pleasley Pit (but see the article about their incredible award!), Walton Bump Mill, Cromford Mill, Haarlem Mill Wirksworth, Dronfield coke ovens, Elsecar, Shepherd Wheel, Wicker Arch, Leah's Yard, Wortley Top Forge and Low Forge, and so many more. But what strikes me is that in Chesterfield and North East Derbyshire there are so many sites not listed, and I suspect that there are a number of areas in Scarsdale which could have had "conservation area" protection, but this has not as yet been applied.

We have work to do – let me repeat that amazing poll finding: **Almost half the population do not know when the industrial revolution took place.**

South Yorkshire Archaeology Day

The next South Yorkshire Archaeology Day will be held on Saturday 26th November 2011; 10:00am to 4:30pm, at the Showroom Cinema, Paternoster Row, Sheffield. Organised by South Yorkshire Archaeology Service. Fee £10, concessions £5. Advance booking strongly recommended. Details from David Marsh – 0114 273 4223. No news yet about the date for Derbyshire Archaeology Day.

It may be a strange way to start an article about the potteries of Brampton, but my Father was a genius. Not in any way connected with the potteries of the area you understand, but keenly interested in local history in general and industrial history in particular. In an earlier era he would have been one of those polymath gentleman clerics with which our history abounds. My childhood was filled with visits to old collieries, lead mines and quarries and in hindsight with some of the escapades I got up to it was a miracle that we survived to adulthood.

One thing I remember clearly was his gentle and humorous way of imparting knowledge and he could make even the most dry, boring subject sparkle and scintillate in the imagination. He was also a teller of tall tales and we would often say “is that true?” and I well remember his reply, “it’s true for a given value of true!” At the time I didn’t really understand what he meant and it’s only since I’ve gained in maturity and cynicism that I’ve come to realise that most of history is similarly only true for a given value of true. The popular author Terry Pratchett called it “lies for children” and defines it as glossing over most of the difficult or boring facts to arrive at a consensus that is easily digested as an authorised version by folk with a very limited interest and attention span.

The recent BBC documentary “Ceramics, a Fragile History” was in a similar vein true, even though it managed to completely obscure the manufacturing heritage of entire regions of the country including Chesterfield. There are many misconceptions often repeated as fact regarding the potteries of Brampton and Chesterfield. All too frequently we are overlooked because the accepted wisdom is that value equates to worth and whilst we produced wares the equal of those produced anywhere else in the world, the vast majority were simple pots doing sterling if inglorious service. So my story is of clay and coal, it’s of stone-ginger bottles, jam-jars, water filters and clay pipes, it’s about hash pots and souse pots and stew pots. It’s the story of a fallen empire that nevertheless made a vital contribution to the nation in its darkest hours. It’s about hard graft and even harder folk that did the grafting.

And like all other histories, it’s entirely true!

The geology of Chesterfield made it inevitable that pottery would be produced in the town. Substantial clay beds overlay mud shales, which should be regarded as lazy slate without the ambition, which in turn overlay substantial deposits of coal. With the introduction of salt glazing in the late 16th century; requiring as it did large amounts of sodium chloride, this together with our location on the main salt trading route from Cheshire put the town at a considerable advantage. Exactly when production started is impossible to say, certainly all excavations carried out in the last century have uncovered late Iron-Age and Roman evidence for pottery production. Indeed, it is my contention that the vague label “Trent Valley Wares” may actually refer to pottery produced mainly in Chesterfield. The first firmly established dates for pottery production are the middle of the 18th century but it is clear from documentary evidence that ceramic production was well underway by this date. Earlier production was in all probability restricted by distribution limitations but with the arrival of the Chesterfield Canal in 1777 the stage was set for rapid growth.

Wheatbridge Pottery

As far as recorded history goes the pottery established by William Robinson circa 1750 must rank as one of the oldest in Brampton. However, from their own archives it is readily apparent that the attraction of setting up in Chesterfield was the fact that the filthy industrial process of salt glazing was already well established. This would override any usual local objections and is a clear indication that production in the area was well established by this date. Initially the pottery produced clay pipes of exceptional quality with intricate and novel shapes or decorations such as monkeys and skulls. Today they are some of the most sought after and expensive items to the clay pipe collector. The pottery also produced domestic wares not unlike the majority of Brampton manufactories.

With the restless entrepreneurial spirit of the Robinson family it was



Saltglazed jug of the mid 19th century with typical dog handle and surprised looking lion.

not long until the company had diversified and the pottery had become a sideshow to their other interests. In 1769 the pottery was leased to Edward Wright and Samuel Stenson. The business thrived throughout the 19th century producing domestic cook-ware, bread crocks and water filters, the staples of Brampton potteries. As with others in the area its life was probably prolonged by government contracts during WWI. But in what would become a familiar story, competition from improving canning and glass technology and chronic underdevelopment of plant meant that the pottery eventually closed its doors in 1937.

It remained in the hands of the Wright family until the last.

Walton Pottery

Opened some time in the late in the late 18th century by Henry Briddon who developed a method of refining the local clay by forcing it through fine brass mesh to give a much superior clay to that used in other local potteries. When salt-glazed the clay, which when fired has an almost white appearance, turns a light rich honey colour called blonde-ware. From the start he produced fanciful and decorative wares such as Toby-Jugs, finely cast flower baskets, claret jugs, puzzle jugs, highly decorated goblets, tobacco jars and ornate cookery wares. The pottery also made what are referred to as “Fairings” which are small ornamental nick-nacks which were supposedly sold and won at fairs (in my day it was a plaster West Highland Terrier wearing for some reason, a policeman’s helmet, my Mum still has it!). These are now highly sort after and come in many forms, small boots/shoes, miniature chambers pots with a tiny eye inside (scatological humour never misses in Chesterfield) lap-dogs on cushion and more rarely cats, the list is endless and collectors are always finding new items. They also made the traditional Staffordshire Dogs although usually modelled in the round rather than flat backed. I have an example made by a long lost potter which has been carefully hollowed out and turned into a money box, unique as far as I know.

When Henry Briddon built his new pottery on Barker Lane in the 1820s the pottery became part of the Barker Pottery group which would include the Welshpool and Payne Pottery who were in turn were bought out in the 1880s. In the 20th century it passed into the hands of the Plowright family and they ran it up until about WWII. For part of its life the works manager was William Gordon an exceptional modernist ceramic artist easily the equal of any far more famous potters. After the pottery closed he continued the Walton pottery name from the house next to the level crossing at the bottom of Whittington Hill. He conformed to the slightly ruffled Arts and Crafts movement ideals and had proto socialist leanings. His art was flamboyant and, for its time, controversial and he embrace minimalism and cubism in his designs. It was not unknown to see him pushing a huge wheelbarrow along Whittington Moor so as to beg room in Pearson’s kiln as his had broken down, again. When at last he gave up production he cleared his stock room and went one last time with his barrow to knock on all the local houses to ask the startled householder “do you like this?” if they said “yes” he presented it as a gift. He ended his life as a freelance designer of tiles for Pilkington and Co.



Take my word for this, it's an owl.
William Gordon at his eccentric best.

Alma/Brunswick Potteries

Opened or possibly developed and expanded an earlier pottery in the 1850s by a partnership of George Blake, John Knowles and Samuel Lowe with Blake being the thrower, Knowles the burner and Lowe providing business acumen. These are names that crop up several times in both the ceramic and coal mining histories of the town and it seems most people involved in the potteries had fingers in many pies.

The potteries straddled Chatsworth road with the smaller Brunswick pottery being on the garage site on Bank Street, the Alma Pottery was to the rear of the Pub of that name. Their production seems to have been almost entirely based on domestic wares as well as utilitarian items such as flagons and bottles. I have always wondered whether the large red brick building on Catherine Street used latterly as a boat building business (honest!!) and a car body shop was once part of the business but have so far been unable to establish a link.

Lowe bought out his partners in 1862 and the Brunswick site was closed and sold to the Robinsons to become part of their growing complex. The Alma Pottery had ceased production by the beginning of WWI.

London/Lipscombe Pottery

Because of the considerable advantage enjoyed by potteries in the town where all raw materials essential for

production were virtually on the doorstep, several concerns were attracted to Chesterfield and established potteries here. In a “if you can’t beat them, join them” bid for a slice of the action the London registered Lipscombe Pottery Company opened a new manufactory in 1878. Their pottery was on the area now called Walton Fields on the other side of the road opposite Walton Dam where clay and coal could be extracted on site. Their main products were water filters for which the production of such the town predominated and also architectural ceramics which were popular at the time. One such monumental example is the Winter Garden in Blackpool for although the internal coloured tiles are Minton the large external details are Lipscombe and Co. They also made slightly larger than life busts as ornamental garden features and so far I’ve seen William Shakespeare, Socrates (possible Plato but someone big on wearing togas anyway!!) and Flora the goddess of horticulture. It is of course possible that the range was much more extensive and I’ve certainly seen decorative gargoyle and grotesque water spouts and I own a quoin that bears an uncanny resemblance to the Duke of Wellington (mainly in the nose department!). They also made simpler domestic wares as their bread and butter. It was a modern pottery and able to produce wares at an impressive rate for the products crop up quite commonly, surprising then that they sold out to James Pearson after only barely 6 years of production.



Architectural ceramic gargoyle from the Lipscombe Pottery.

If anyone out there has an example of one of their busts I am tarnishing my already battered soul with envy!

Oldfield Pottery

Opened in 1810 by a consortium that included James Oldfield, and Messrs Wright, Blake, Madin and Hewitt (spot any familiar names?). This was on the site now occupied by the Brampton Morrison’s supermarket and is the best remembered as it survived into the early 1980 as the establishment of J. J. Blows a subsidiary of the Robinson Company. Indeed up until the demolition of the aforementioned the iron strapped bunt cores of the kilns could still be seen as they were too substantial to be worth the effort of dismantling.



A warning to would be collectors, although marked as Thomas Oldfield these Toby Jugs were cast using original moulds at a much later date. Unfortunately they have been sold as the genuine item for phone number prices. Caveat emptor!

This pottery produced fancy blonde wares in the manner of the Walton and Barker potteries and their Toby Jugs remain some of the best and most sought after examples of the genre. Anyone wishing to see such should call into Retford Museum as they have some exceptionally large and impressive examples on display. The Oldfield family soon bought out their partners and James’s nephew expanded the works in 1838. It was eventually bought out by James Pearson in 1884 and linked to his London Pottery by an internal railway and operated as one concern. Twice Mayor of the town James died in 1905 and his widow appointed Dr Goodfellow as works manager. He improved the factories fortunes by producing a range of iodine diffusers from lockets to mushroom like items for public buildings and buses. The slowly released iodine vapour through porous apertures and enjoyed a brief popularity. In 1938 ownership reverted to the Whittington Moor branch of the Pearson family and they closed all their Brampton operations shifting production and business goodwill to their Whittington Moor potteries.

Ashgate Pancheon/Inkerman Pottery

As a pottery it opened late in the 19th century on the site of the Inkerman Colliery and it is likely that it was originally an associated brickworks connected to the mine. It was operated for most of it’s somewhat sporadic life by the Heath brothers and as the name suggests its main products were the red clay conical bread pancheons with a creamy butter yellow lead glazed interior. It would also seem that they continued to produce bricks on the site and this was the source of “Wasp Nest” masonry so common in the area. In my collection I have a spill vase taken from a trench on the site which shows that they did attempt to make more ambitious wares, however the different shrinkage rates of the poorer quality brick clay rendered such attempts futile. Like many other potteries in Brampton the Ashgate Pancheon eventually ceased production altogether



Anything Staffordshire can do Derbyshire can do better!

in the 1930s. However the actual buildings would not succumb to the bulldozer until the early 1970s making the site one of last survivors.

The playing field called the Inkerman is interesting in itself. As a child I remember the two brickworks, the aforementioned Wasp Nest and on the site of Melrose Close the Brampton Brick Co which although derelict, was demolished at the same time as its neighbour. Between were two large steep-sided deep pools which had previously been the site of the clay pits that supplied the raw material. Unfortunately they eventually tapped a natural aquifer, a kind of underground river which rapidly flooded the workings. It was originally intended to develop the area for housing but increasingly desperate attempts to pump them dry met with spectacular failure. In the end the pools were filled with rubble and topped with soil and during very wet weather the water again breaks the surface. In dry weather by standing on the anti flooding banks at the end of Melrose Close you can clearly see their location in the lush green grass growing over the site.

Beehive Pottery

James Pearson had worked in his father's Pottery in Whittington Moor but a family rift caused by arguments with his uncle meant that he left to establish his own business in Brampton in the 1860s. It is likely that he purchased a small pottery on the site but he certainly expanded the premises and then set about establishing a Brampton based empire that rivalled that of his Whittington Moor kin. Although the pottery produced the domestic wares that were the staples of all Brampton potteries they also made novelty items such as match strikers and ornamental dogs. The pottery closed along with his Oldfied and London Pottery sites when ownership reverted to the main Pearson family in 1938. The terrace housing owned by the Pottery remains the most strongly associated buildings still standing anywhere on Brampton.

In memory of James Pearson's two terms as Mayor and long service as Alderman of the Borough the site of the Beehive Pottery was donated to the town as a recreation field. So as you walk past the gates on Old Hall Road this is why one gate has an arched plate announcing "THE PEARSON" the other one with "RECREATION FIELD" having long since vanished.

Welshpool and Payne Pottery

Opened in the mid to late 18th century by the same Mr Blake we have encountered elsewhere in our story, and upon his death, by his wife. In the mid 19th century it was bought out and enlarged by Matthew Knowles who leased the house at the junction of Churston Road/Old Hall Road so he could be near to, and keep an eye on his investments. The pottery specialised in water filters and tea samovars which were exported to Russia, it also produced other decorative wares as well as more mundane domestic items.

It was bought out in 1914 by the Barker Pottery across the road. After this time it was largely used for storage and as additional workshop space. The kilns saw only sporadic use if demand was exceptionally heavy but during WWII their thick brick walls meant that a kiln was fitted out as an air raid shelter for the Barker Pottery. When production across the road ceased the Welshpool site was absolutely full to the rafters with old items of pottery, moulds and other priceless artefacts of nearly two centuries of ceramic history, As no-one wanted old fashioned pots the building was bulldozed with everything left inside and Kennings' service department built on the site.

The cottages of Welshpool Place remain the only tangible reminder and at closure in the 1950s the tenants were paying 6s8d in rent.

Barker Pottery and Co

I admit for a particular fondness for this pottery which was not only a stone's throw from my birth place but was also where my uncle David, my namesake, worked prior to doing his national service.

Built new by Henry Briddon to expand his Walton Pottery concern in 1827 it made similar wares in greater numbers. After James Pearson's pottery empire the Barker potteries were the largest and best organised of the Brampton manufactories. They secured government contracts early on and provided ceramic cookwares for Army, Navy, and Air Force along with Police, Hospital and Post Offices right until their closure. Of note was also the "Cheddar" market which started courtesy of a Mr Brown a Chesterfield resident who bought a sweetshop in Cheddar in the 1900s.



Blondeware tobacco jar of early 19th century

After a while his thoughts turned to producing tourist souvenirs and he remembered the potteries of the town in which he was born. That explains why by far the most common Barker Wares have Cheddar Pixies gurning at you or Cheddar written on the side as seconds were sold locally (I have heard folks that expressed surprise that so many local folk went to Cheddar!!). So lucrative was this income that Pearsons also benefitted from orders.

Sadly the Barker was the last of the great Brampton Potteries and it closed its doors in 1957 with the works being swiftly demolished to make way for Kennings' Barker Lane offices.

The End

You will hear many reasons given for the fall of pottery production in Brampton and most of them will be wrong. A recent article stated that exhaustion of local clay and coal was a primary factor and whilst vast quantities were extracted, compared to the monumental clay beds available, the surface was barely scratched. Coal of course was extracted locally right until the end of the industry in the 1980s, so we must look elsewhere for the smoking gun. One problem was that the things that made us rise also made us fall. We became pre-eminent in the field of stoneware because the materials were readily to hand which meant we could undercut any other competitor. The potteries of the town also operated as a cartel, indeed their business practices were often challenged by competitors. This means that identification of wares can be problematical for the collector but on the plus side they could take on jobs at rates others couldn't. Because of that we didn't diversify like the Staffordshire potteries so when in the 20th century the glass and tin can making technology improved we rapidly lost our markets. Bearing mind that to coal fire a kiln used 15 tons of coal, it would take a couple of days to load and then firing would take slightly over two days. After that the kiln cooled for three days and removing the pottery would take another day or so. Beginning to end one kiln would need slightly in excess of a week. Once up to temperature a glass furnace would run and produce 24/7 with moulding jars and bottles being the work of minutes. The dependence upon the humble jam jar can't be overstressed and meeting of the local pottery owners were often dominated with speculation over the fruit harvest.

Mr Beaton was also rather sneery about brown cook-wares citing white as superior and to the fashion conscious Victorians it was enough to set the rot in for domestic cook-wares.

With falling markets and therefore profits there was also a tendency to cut reinvestment in plant and materials which inevitably ended in closure when it became no longer serviceable. Salt-glazing was banned in the late 19th century meaning that glazes had to be made or imported further increasing overheads. War strangely was a friend to the Brampton Potteries and prolonged many factories lives. The SRD flagons, (Service Ration Depot, or if you were a soldier in the trenches Seldom Reaches Destination!) were almost entirely made in the town. With contracts to supply every base and ship in our forces the world wars kept our potteries going. In the final analogy it is perhaps not sad that they closed, but surprising that they lasted as long as they did.

Let us not be over-sentimental, the potteries were filthy, unpleasant and often dangerous places to work. They polluted the area, especially when salt glazing was taking place. But they also produced some of the finest stoneware pottery that was ever produced anywhere on Earth. Even the humble jug or stew pot with its trailed incised decoration has a simple functional beauty. They were not merely utensils but in an unassuming and quiet way they were art and we should remember and be proud of our ceramic history.

The plain truth is that the world moved on but the Brampton potteries didn't.

Brampton Potteries – Industrial Heritage

A message from Colin Morse

Our last meeting at the Library Theatre was amazingly well attended. Please see the proposal below on this subject from Colin Morse - Editor

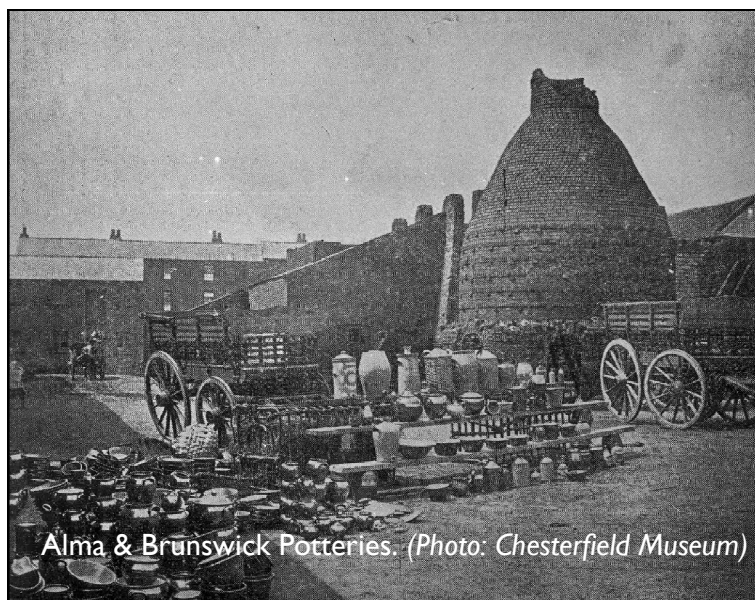
There is a need for a permanent Museum in Brampton to commemorate and record the 250-300 years of history of the Potteries and other industries - their products being exported world wide.

Only a small number of the vast collection of artefacts held in Chesterfield Museum may be displayed at any one time, therefore a group of supporters are promoting an application for a National Heritage Grant to build a permanent Centre.

As a necessary first stage we have to show that there is full support for the scheme from groups and individuals in the town and local area. These should include societies and groups representing arts and crafts, history, local study, conservation and heritage groups etc.

I would appeal to the leaders of the above Societies who wish to be associated with the application to please contact me and confirm what features and facilities they would wish to include in any application - there being no financial commitment in so doing.

Do you support this proposal? If so, please contact Colin, preferably by email morse940@btinternet.com, or phone 01629 650980.



Alma & Brunswick Potteries. (Photo: Chesterfield Museum)

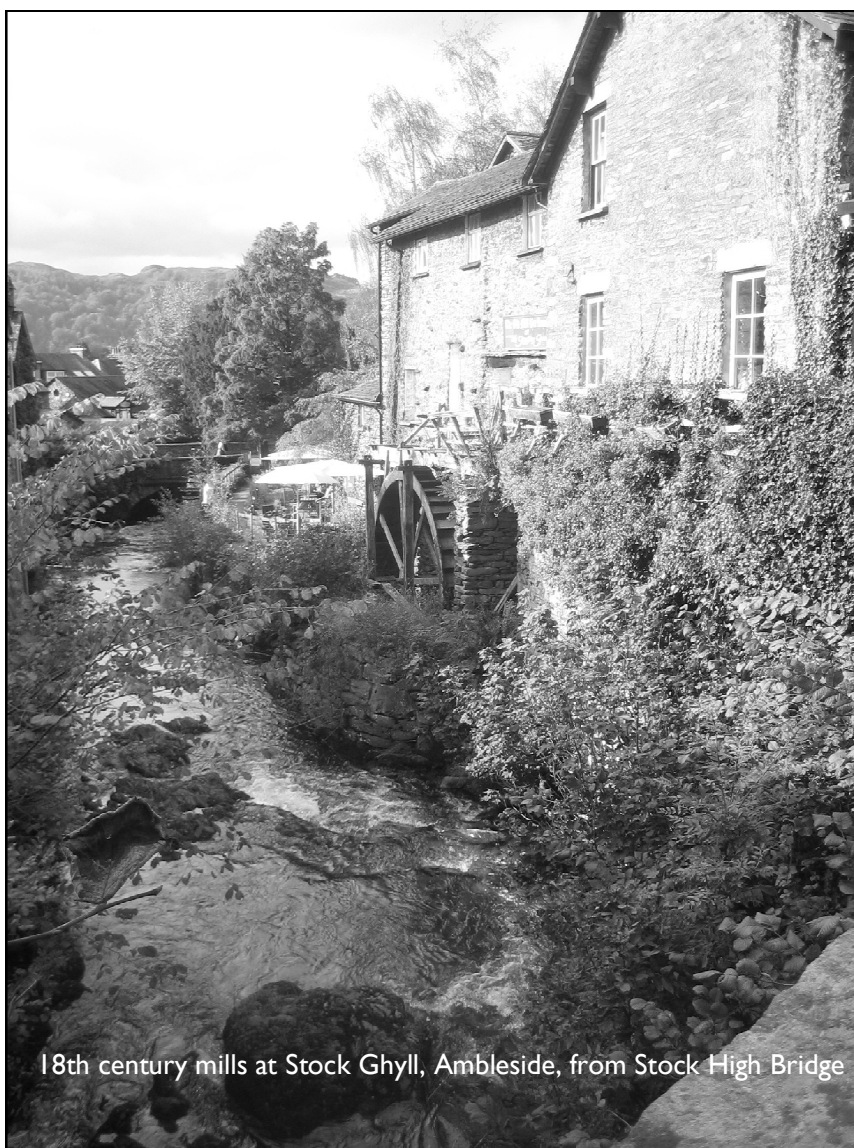
Industry in Ambleside

Cliff Lea

Christine and I had a walking holiday in the Lakes in the Autumn, and the great variety of industrial history of the area never fails to amaze me.

The early prosperity of Ambleside as a market town was founded upon sheep and the woollen industry serviced by a network of packhorse trails. Flax was also grown nearby and spun and woven into cloth. Later Ambleside was known for its linsey-woolsey cloth combining a strong linen warp with a warm woollen weft to produce a hard wearing material. The village had tenter fields where newly woven cloth was hung to stretch and dry, and woven linen laid to bleach. For centuries the water of Stock Ghyll made the area around Ambleside's Stock High Bridge a busy industrial centre. By the 10th century Irish-Norse settlers had established small farmsteads on the rocky knoll beyond the old lake-side Roman settlement. From the 14th century their descendants used the beck's water power to work simple mills grinding grain; later washing, fulling and weaving wool. The first mill was established in 1335, the last in 1793 as the new technology swept over England, killing off the old small mills and workshops still clinging to earlier processes. Much later from local coppiced wood, these mills crushed bark to make tannin for the curing of skins and produced millions of bobbins for the Lancashire cotton industry.

The remaining mill buildings are now tea shops and tourist traps – now the area's main source of income.



18th century mills at Stock Ghyll, Ambleside, from Stock High Bridge

In praise of Sir Joseph Bazalgette *Doug Spencer*

Joseph Bazalgette was born in 1819 and died in 1891. Such was his genius, that of a Victorian engineer, that the sewerage network for Central London he designed and built in the 1850s has endured almost untouched. Only now is it to be significantly enhanced by a 20-mile overflow tunnel to ease river pollution caused by heavy rain.

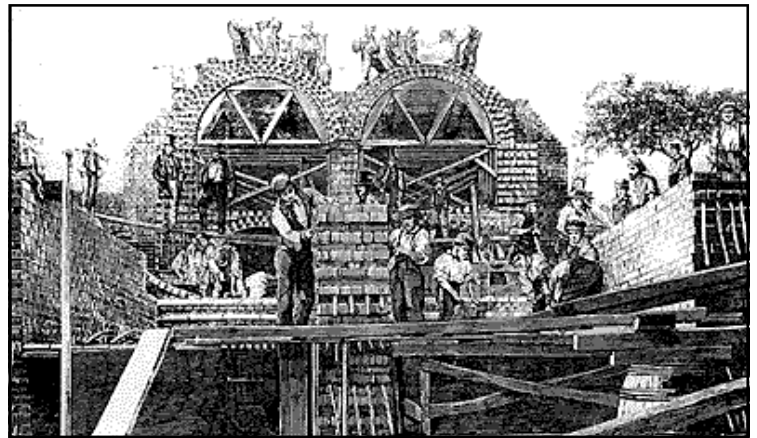
Sir Joseph thought of engineering as an instrument of public welfare, a way of improving the wellbeing of man, and his sewerage system is generally regarded as making the greatest single contribution of its time to Londoners' health. It was all the more remarkable that when he first proposed it, the purported link between polluted drinking water and the cholera epidemics that ravaged London in the 1840s and 50s was believed by only a few. Bazalgette had to find a way of moving the city's effluent far enough down the Thames for it to be taken out to sea by the tide. The existing system simply fed untreated sewage into the river at low tide (the river backed up the sewers at high water), leaving it malodorously swilling back and forth with the current. This was particularly evident during The Great Stink of 1858. At the time the Thames was so polluted that it was devoid of fish.

Bazalgette's Solution

Following an outbreak of cholera in 1853, Joseph Bazalgette, Chief Engineer to the Metropolitan Commission for Sewers, prepared a report essentially recommending a solution, previously put forward by the Victorian artist John Martin, of two great intercepting sewers flanking the Thames, to drain eastwards to treatment plants, where "deodorized water" would be discharged into the river. Although there were no means then to finance such an enterprise, the idea had been formulated. Bazalgette believed that the drainage of the low-lying land in London was more important than cleansing the Thames, and he had got the priorities right.

The conditions near to the old rivers and streams had become deadly, and the Victorian reformers were determined that they must be improved, but it was not until 1856, when the old system of self-contained Commissioners of Sewers was superseded by the Metropolitan Board of Works, that the London-wide problem was seen as a whole. Bazalgette was empowered to design and execute "a system of sewerage to prevent any part of the sewage within the Metropolis from passing into the River Thames in or near the Metropolis."

Bazalgette's project consisted of the construction of intercepting sewers north and south of the Thames, and immediately adjacent to the river. These were to receive the sewage from the sewers and drains which up to now had connected directly into the Thames. Until this time, Thames-side in central London was not protected by an embankment, and consisted of mud, shingle and sewage, onto which these various drains, outlets and ditches had discharged. A miscellaneous collection of rickety lightermen's stairs also connected to the foreshore, and it is still possible to see one or two of these old access ways - Wapping Old Stairs, east of The Tower, for example.



Construction of the Sewage System

The MBW took this opportunity to begin the task of confining the Thames in central London between masonry embankments, behind and below which were sited the riverside sewers. It is for the Victoria Embankment on the north, and the Albert Embankment on the south, as well as for London's efficient sewerage system, that we have to thank Joseph Bazalgette. The construction of the sewers alone was a major civil engineering project, and between 1856 and 1859, 82 miles of brick intercepting sewers were built below London's streets, all flowing by gravity, eastwards. These were connected to over 450 miles of main sewers, themselves receiving the contents of 13,000 miles of small local sewers, dealing daily with half a million gallons of waste.

Constructing the interceptory system was a stupendous undertaking, involving 318 million bricks, 880,000 cubic yards of concrete and mortar, and the excavation of 3.5 million cubic yards of earth. The price of bricks in London rose by fifty per cent while it was being constructed.

Considering that the system was built during the wettest summer and the coldest winter recorded in the nineteenth century, it was an astounding achievement, even for Victorian civil engineers.

The Crossness Pumping Station was built by Sir Joseph Bazalgette as part of Victorian London's urgently needed main sewerage system. It was officially opened by the Prince of Wales in April 1865.

The Beam Engine House is a Grade 1 Listed Industrial Building constructed in the Romanesque style and features some of the most spectacular ornamental Victorian cast ironwork to be found today. It also contains the four original pumping engines (although the cylinders were upgraded in 1901), which are possibly the largest remaining rotative beam engines in the world, with 52 ton flywheels and 47 ton beams. Following abandonment in the mid-1950s, the engine house and engines were systematically vandalised and left to decay.

The Crossness Engines Trust, a registered charity, was set up in 1987 to restore the installation which represents a unique part of Britain's industrial heritage and an outstanding example of Victorian engineering. All the restoration work so far carried out has been done entirely by an unpaid volunteer workforce.

I. A. News and Notes

NEDIAS Journal Vol 4 – now available. Save £5 – special members price only £3!

This year's edition of the NEDIAS Journal has just been published. This edition contains a major article by Lesley Philips on the history of the Pearson potteries; this article is complemented by details of pottery archives held by Chesterfield Museum, courtesy of Anne-Marie Knowles. The Journal also contains an article by Cliff Williams on the 18th century Pentrich colliery, researched using much archive material from the Chatsworth Estates; Cliff reveals much previously unpublished information on conditions and working practices in 18th century collieries. Other papers include one by Paul Smith detailing work carried out investigating industrial archaeology in local woodlands, by Ron Presswood on the Renishaw iron works and by Philip Cousins on the history of the Waldo company of Whittington.

This is a really bumper edition, and we are pleased to acknowledge assistance in publishing received from the Midlands Cooperative Society – this enables us to offer to members at the bargain prices of £3. Copies available at our meetings or direct from Cliff.

Blue Plaque for George Stephenson

In October, the County Council unveiled a Blue Plaque at Chesterfield Station in commemoration of George Stephenson, one of a group of plaques unveiled around the County. The others have been in commemoration of Lady Baden Powell, Jedediah Buxton, Arthur Lowe, Richard Arkwright Junior and Joseph Paxton.

Its interesting to note that previous engineering achievement is well recognised, and to see that the next tranche of unveilings will include plaques for Samuel Slater from Belper, the father of the American industrial revolution, Henry Royce and Joseph Whitworth.



And Finally

..... Heckington Windmill (*not to be confused with Eckington!*)

Pat Pick

On the way to the Norfolk coast we were looking for somewhere for a halfway stop when we noticed a windmill symbol on the map just off the A17 south of Sleaford.

It turned out to be Heckington's windmill the only surviving eight-sail windmill in the country.

The mill was originally built with five sails in 1830 but after storm damage in 1890 the tower was altered by John Pocklington using sails from Tuxford's mill in Boston. The stones for grinding the corn are Derbyshire millstones. Heckington Mill ceased work in 1946. It was restored in 1986 and following major repairs in 2004 the mill is once again in full working order grinding flour. It opens most Saturdays and Sundays in the summer, Sundays only November until Easter. There is also a Railway Museum on the nearby station. Opening times depend on volunteers. Also nearby is Moulton Windmill, England's Tallest mill.



NEDIAS Committee:

Chairman and publications – Cliff Lea; **Vice-Chairman** – Derek Grindell; **Secretary** – Patricia Pick; **Treasurer** – Pamela Alton; **Membership Secretary** – Jean Heathcote; **Lecture Meetings and Visits Co-ordinator** – Brian Dick; **Archivist** – Pete Wilson; **Committee Members** – Diana Wilmot, David Hart, Les Mather, David Palmer, Doug Spencer.

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