

North East Derbyshire Industrial Archaeology Society



NEDIAS Newsletter No. 48 – November 2012

Price: £1.00 (Free to Members)



Newcomen Atmospheric Engine – 300th Anniversary

There have been a lot of celebrations this year – one of note is that it's the 300th anniversary of the building by Thomas Newcomen of the first atmospheric engine. Interestingly the site of the only Newcomen-type beam engine in the world to have remained in its original location is actually very close to us – it's at Elsecar. It was used to pump water out of Elsecar New Colliery and ran from 1795 until 1923; of course Derek Bayliss included a slide of it during his talk to us last month.

On Monday 19 November, SYIHS are hosting a lecture by David Perrett on The Archaeology of the Newcomen Engine, 7:30pm, Kelham Island.

Elsecar earlier this year attracted a grant for £425,000 for restoration of this historic engine. This statement received from the Heritage Lottery Fund:

“The Newcomen Beam Engine at Elsecar – one of the most important inventions of the industrial revolution and a breakthrough in the creation of mechanical power from steam – has been awarded a confirmed grant of £425,000 from the Heritage Lottery Fund (HLF) for a complete restoration.

The two-year project, to be run by Barnsley Council, will see the world-famous beam engine, shaft, and engine house restored to full working order and conserved within the wider site of the Elsecar village conservation area as a premier tourist attraction in Barnsley.



Contents: Newcomen Atmospheric Engine – 300th Anniversary ■ What's On? ■ NEDIAS Visits ■ Chairman's Chat ■ Ticknall Pottery ■ James Oakes, Prof. Bunsen and Lord Playfair – investigating the composition of gases from blast furnaces at Riddings ■ Stott Park Bobbin Mill and Wingerworth Stone Saw Mill ■ NEDIAS Journals ■ I.A. News and Notes ■ And Finally and we think we've got problems! ■

Fiona Spiers, Head of the Heritage Lottery Fund for Yorkshire and the Humber, went on to say:

“Currently, Elsecar Heritage Centre attracts 225,000 people a year and the importance of its unique industrial heritage is not as widely understood or as accessible to the public as it could be. This project, in addition to saving the Newcomen engine for future generations, will see greatly improved interpretation at the site and activities for visitors in addition to training and volunteer opportunities for people so they can get involved in protecting this wonderful place.”

The engine, which pumped water out of the Elsecar New Colliery from 1795 to 1923 and remained in working order until the 1950s, is one of the top 10 key industrial sites on English Heritage’s Heritage at Risk Register due to its ‘outstanding importance to England’s industrial past’.

Described within the heritage sector as ‘the forefather of the industrial revolution’ the Scheduled Ancient Monument is the last to remain in-situ in its original engine house and is amongst the most important heritage sites in the world.

Elsecar was the industrial powerhouse of the successive Earls of Fitzwilliam from nearby Wentworth Woodhouse. The astonishing surroundings remaining today around the Newcomen Engine include ironworks, workshops, a canal, a colliery and the Fitzwilliam’s family railway station. The village itself is an excellent example of an industrial model village – perhaps the earliest in England.”

WHAT’S ON?

NEDIAS Lecture Programme

NOTE NEW VENUE

Meetings now held at: St Thomas’ Centre, Chatsworth Road, Brampton (opposite Vauxhall/Bristol St Motors) S40 3AW. There’s plenty of parking in their own car park, including disabled spaces, as well as on-road parking in front of the Church. All meetings commence at 7:30pm.

Monday, 12 th November 2012	Derek Grindell: “Power to the Peak”
Monday, 19 th December 2012	Christmas Meeting: Members contributions, quiz and mince pies
Monday, 14 th January 2013	Peter Hawkins: “A Walk through Broad Oak Works”
Monday, 11 th February 2013	Neil Bridgewater: “North Derbyshire Collieries”
Monday, 11 th March 2013	Annual General Meeting
Monday, 8 th April 2013	John Barnatt: “ The Ecton Mines: Solving the Problems of Mining at Great Depth in the 18 th and 19 th Centuries”
Monday, 13 th May 2013	DAVID WILMOT MEMORIAL LECTURE Jane Marson: “On the Track of Unstone's Past - Exploring the relict landscape of the old branch line”

Other Diary Dates

On until 15 th December 2012	Chesterfield Museum: “A Touch of Glass” – Exhibition of glassmaking in Chesterfield
Tuesday, 13 th November 2012	Dr Pat Strange: “Aspects of Chesterfield’s Industrial Past”. Chesterfield & District Civic Society. 7:30pm at Eyre Chapel, Newbold

Thursday, 15th November 2012	Rhys Jones: All Line Railrover – A pictorial journey from Sheffield to Sheffield via here, there and somewhere. Slides from the early sixties to the mid Nineties. Barrow Hill Roundhouse Lecture Theatre 7:30pm
Monday, 19th November 2012	David Perrett: “The Archaeology of the Newcomen Engine” . SYIHS, 7:30pm at Kelham Island
Saturday, 24th November 2012	South Yorkshire Archaeology Day . 10:00am to 4:30pm, at the Showroom Cinema, Paternoster Row, Sheffield. Organised by South Yorkshire Archaeology Service. Fee £10, concessions £5.
Thursday, 13th December 2012 11:30am-3:00pm	West Hallam Pottery Event @ Erewash Museum, High Street, Ilkeston. Unique opportunity to see and learn about this collection in the Lally Gallery. www.erewashmuseum.co.uk. FREE admission.
Thursday, 17th January 2013	Les Nixon: Fifty Years of Railway Photography – Part 5 – Les returns again, delving into his vast collection of images to produce something of interest to everyone – steam, diesel, electric, British and Foreign. Barrow Hill Roundhouse Lecture Theatre 7:30pm
Monday, 21st January 2013	Graham Hague: “Exploring the industrial archaeology of the Rother valley” . SYIHS, 7:30pm at Kelham Island

NEDIAS VISITS

Co-ordinator: Brian Dick, 01246 205720

➔ Wortley Top Forge, Saturday 27th April 2013 ←

Following the superb talk we had from Derek Bayliss on the subject of Wortley Top Forge, a number of members have asked NEDIAS to organise a visit. I'm pleased to say this is now set up and we visit the site for a guided tour on Saturday 27th April 2013, 11:00am on site for tour start; entrance £3. The morning visit will be followed by pub lunch.

Minibus transport from Chesterfield to be arranged, details and start time TBA, although members may alternatively wish to meet on site at 11:00am.

Interested? Please register your interest on the sheet at the next meeting.

Chairman's Chat

Cliff Lea

It's time to vote again for the next county Blue Plaques, and there is quite a mix of industrial endeavour amongst the shortlist of 12 nominations, from which six will be selected for Blue Plaques. The 12 include George Strutt of Belper, Frances Baker the lace maker of Long Eaton, the Cromford Canal, Sir Nigel Gresley - Netherseal near Swadlincote was his final resting place, George Lawrence, of razor blade fame of Hathersage, Florence Nightingale, and George Bassett who was born in Ashover but whose first confectionary business was in Chesterfield. You can see the full list on the DCC web site, with details of voting – we can all make a difference with our own vote – so please take part.

You can vote online or by using voting form printed in the DCC newspaper Derbyshire First. This can be handed in to the local library, or forms from the library can also be sent in by post to Blue Plaques Vote, Derbyshire County Council, County Hall, Matlock DE4 3AG

It seems like only yesterday that we learned that Pleasley Pit had received the English Heritage Angel Award for best rescue of a historic industrial site – and now EH have just announced the latest 2012 Angel Awards. There is a good geographical spread, stretching from the Berwick Preservation Trust's restoration of Dewar's Lane Granary, Brixton Windmill and the Droitwich Canals. The fourth award is to the Linton Falls Hydropower project in Wharfedale, restoring and installing Archimedean screws in a derelict 100 year old turbine house which had powered a nearby cotton mill.

At our November meeting, when Derek Grindell will be giving a non-technical account of the historical spread and of electrical power supply across the Peak District, he will be trialling the sound system in the meeting room, and for the first time at a NEDIAS meeting using a mike! Please feed back to us your thoughts and comments.

Our December meeting will be a members-only event, and this is the time when you might like to say a few words yourself on your own research, to show some interesting slides of places you've visited, or even photos from one of the NEDIAS visits this year. If so, do give me a ring on 01246 234212 or email me so we can slot it in. We'll also have the annual Christmas quiz to round off the evening. See you there!

Ticknall Pottery

Derek Grindell

Sue Gorrick-Brown and Janet Spavold entertained NEDIAS members in April with a lively presentation entitled "Ticknall Pottery". Such was the palpable interest generated in their discoveries, largely gleaned from the gardens of domestic properties, that our Chairman immediately obtained their enthusiastic approval for a group of members to accompany them on a site visit, which was subsequently arranged for Saturday 30th June. My acquisition, only a matter of days before the talk, of Llewellynn Jewitt's *The Ceramic Art of Great Britain* (pub. 1878 in two volumes), provided further background information on a location which had supported a pottery since at least early Elizabethan times.

Jewitt first quotes Philip Kinder, who in his contributions to *A History of Derbyshire* (1650), now preserved in the Bodleian Library, wrote*Here are your best Fictilias made you; earthen vessels, potts, and pancions, at Tycknall, and carried all East England through.* He then cites Pilkington's observation of 1789.....*Formerly a very large quantity of earthen ware was manufactured at this place; but lately the business has very much declined. It is said, that, since the land in the neighbourhood has been enclosed, it has been difficult to meet with proper clay*".

Beyond the ordinary domestic vessels mentioned by Kinder, there were many bearing a high degree of decoration with, for example, handles in the form of human heads. Fragments of these were held in the collection of Sir John Harpur Crewe, Bart., whose Calke Abbey estate encompassed what was then known as Tickenhall. The ware was coarse, very hard and coloured a shade of brown so dark that it verged on black, often with a yellow slip. Others were red in colour as exemplified by a mediaeval pitcher in Jewitt's private collection, which had been recovered during drainage works on the site of the old works. It has a body of deep red clay with its upper part covered in a dark glaze and displays extensive blistering sustained during firing.

A pilgrim's bottle in Sir John Crewe's collection has a normal shape (see Fig.1) and fragments of two others are respectively almost black and a reddish brown. Examples of two earthenware bowls are dark brown, well glazed and ornamented with a white slip. The larger example (Fig. 2) bears a primitive representation of a fox hunt, comprising a fox, three dogs and a tree whilst the smaller bowl (Fig. 3) shows a lily, drawn with some style. Jewitt then draws attention to a candlestick in his own collection (Fig.4), which not only has white slip ornaments but bears a similarly inspired decoration on its base to that on the large bowl.

The most intriguing items must surely be a few fragments in the Crewe collection, which were recovered from the site of the pottery. They are grotesque heads formed from buff clay and highlighted with a darker slip. Fig. 5 and Fig. 8 show the front and back of the most complete of the fragments and reveal a ruff and head-dress of the reign of Mary or Elizabeth. Figs. 6 & 7 clearly depict the plaited cap of the same period. Jewitt's account of Tickenhall's pottery ends intriguingly with the observation that the heads shown in Figs. 9 & 10 bear a marked resemblance to similar items unearthed in 1854 on the site of a mediaeval 'potwork' located on Scarborough's North Cliff.

Bibliography

The Ceramic Art of Great Britain from Pre-Historic Times Down to the Present Day: Being a History of the Ancient and Modern Pottery and Porcelain Works of the Kingdom, and of Their Productions of Every Class (Vols. 1 & 2) by Llewellynn Frederick William Jewitt, F.S.A., published 1878 by Virtue & Co., Ltd., London (available to view on-line at <http://archive.org/details/ceramicartofgrea01jewiuoft>).

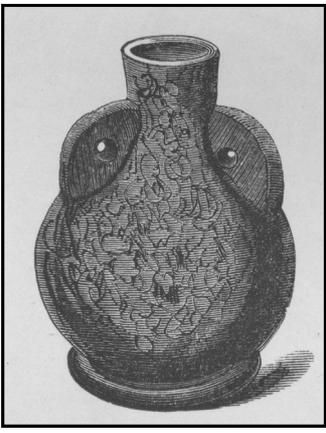


Fig 1

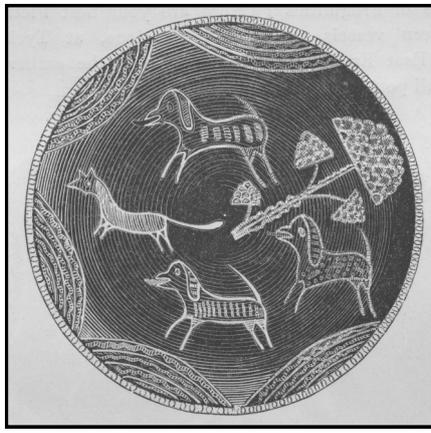


Fig 2

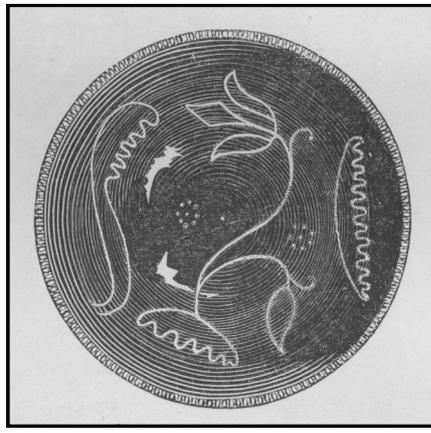


Fig 3

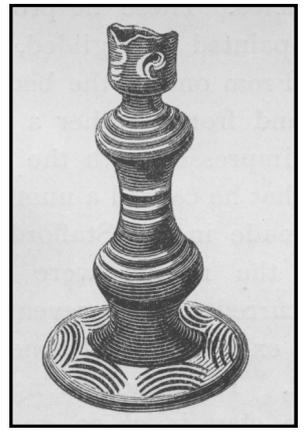


Fig 4

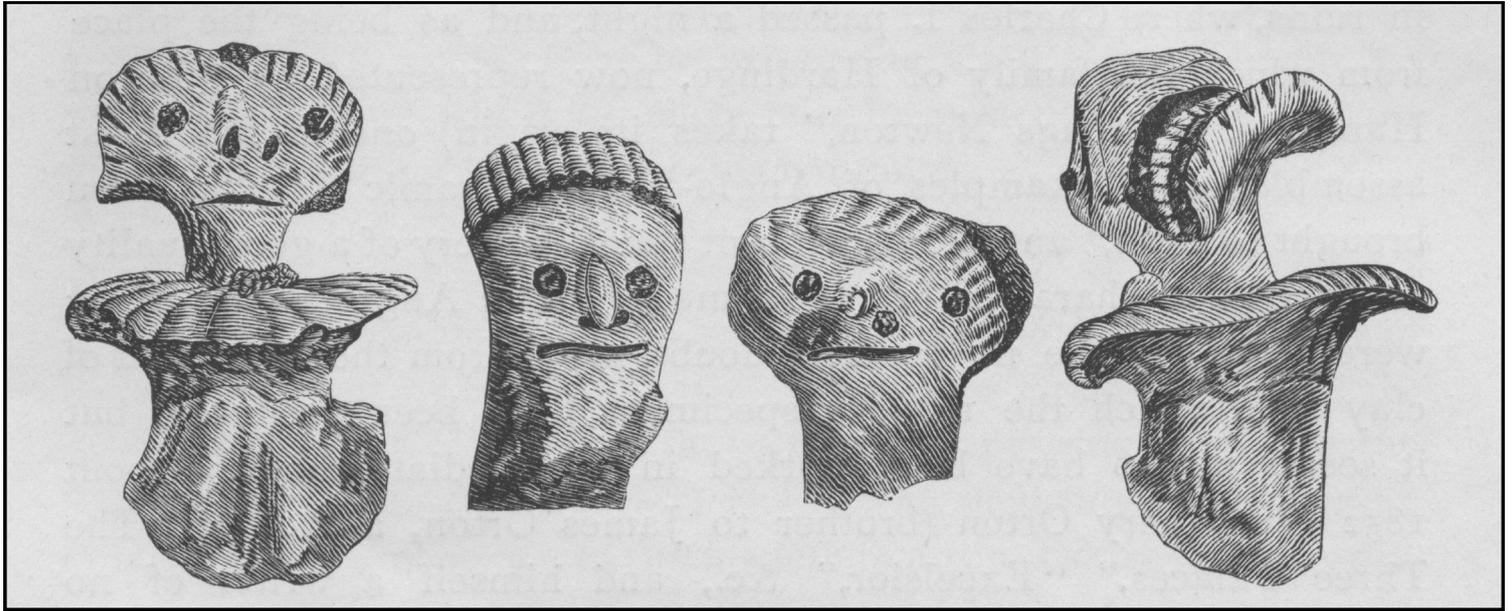


Fig 5

Fig 6

Fig 7

Fig 8



Fig 9

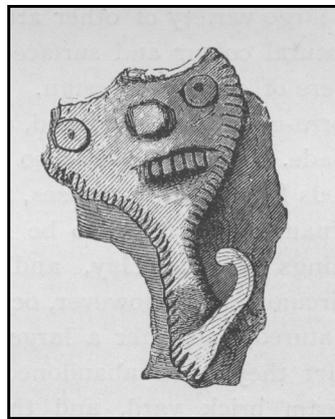
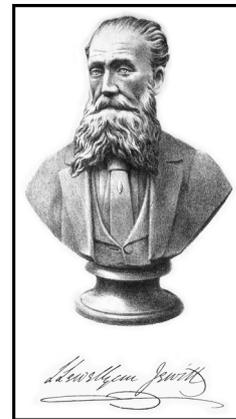


Fig 10



Llewellynn Jewitt
From a bust by
W H Goss

James Oakes, Prof. Bunsen and Lord Playfair – investigating the composition of gases from blast furnaces at Riddings

The following is an extract from the “Memoirs and Correspondence of Lyon Playfair”, by Wemyss Reid, Harper & Bros publishers, 1890. It relates the visit in 1844 by the chemist Prof. Playfair (later to become Lord Playfair) and the German Prof. Bunsen (whose name was to be immortalised to describe a laboratory gas burner) to Oakes’s blast furnaces at Riddings :

The British Association had voted a grant of money to inquire into the chemical operation of blast furnaces for the manufacture of iron. Professor Bunsen, of Heidelberg, had already made an important research into charcoal iron furnaces, but as it was obvious that coal and coke furnaces, both in hot and cold blasts, would give different results, an exhaustive inquiry in England became necessary. The British Association therefore invited Professor Bunsen to undertake such an inquiry in this country in conjunction with me. After corresponding with various iron manufacturers I found that Mr Oakes, of Riddings, near Alfreton, in Derbyshire, was the person most likely to give us ample facilities for the research. Bunsen at that time was well known as a chemist, and now is the most distinguished chemist in Germany. His researches along with Kerchhoff established spectrum-analysis, and his modes of gas-analysis have been universally adopted. He came on a visit to me in Manchester in 1844, and we arranged the method of investigation, and made the necessary preliminary preparations. We went by coach to a small town called Ripley to spend the night before arriving at Riddings. The coach carried away our two hats, which we never saw again. Next morning we went to various shops in Ripley to obtain new hats, but we were told that we had not got “Ripley heads,” and certainly we found none large enough ; but we ultimately got disgraceful-looking wide-awakes, which made us, with our two German blouses, look like tramps rather than professors. However, we were cordially received and entertained at Riddings House, the seat of Mr Oakes. It was to be a familiar place to me for the rest of my life, because two years later I married the youngest daughter of our host.

The investigation which we had undertaken was peculiarly difficult. The iron furnaces were about fifty feet deep, and from the top there belched a huge flame which lit up the sky at night. Our object was to ascertain what changes took place in the fuel, limestone and iron ore, at every foot, from the top where they were introduced until they reached the hearth where molten iron and slag ran out when the furnace was tapped. We erected a support at the top for malleable iron pipes which were to sink into the furnace with the materials. These pipes being connected, I had their length marked every foot with white paint, so that it was apparent from what part of the furnace the gases were streaming. These gases were collected in glass collecting tubes, which were hermetically sealed by a lamp and duly labelled. This did very well, and answered our expectations, until the iron pipes descended to the hottest part of the furnace, where the air enters by the blast, and there they melted and we had new devices to make. Mr Oakes, the proprietor, was not to be defeated, and by separate gangs of men and great labour, he tapped the sides of the furnace so as to let us draw off the gases by the insertion of lateral tubes. Bunsen was engaged below and I was occupied above passing the gases through water to collect any soluble products, when I was alarmed by being told that my friend had become suddenly ill. I ran down and saw white fumes coming out of a lateral tube, and Bunsen apparently recovering from a fainting condition. I applied my nose to the orifice, and smelt the vapours or cyanide of potassium, which gave an entirely new light to the processes of the furnace, because this poisonous substance is an excellent reducer of metals. The results of this investigation were important, and have since led to the introduction of great improvements into the staple industry of this country, although probably the suggestors of them have long been forgotten by the iron trade. The report of the research published in the annual volume of the British Association for 1845 may still be consulted with advantage. It established the startling fact that in iron furnaces worked with coal 8 1 per cent, of the valuable fuel escaped from the mouth of the furnace and was wasted. In this particular furnace fourteen tons of coals were daily used, and of these eleven and a quarter tons escaped in the form of gases still capable of being used as excellent fuel. We described how this might be led away and utilised for the various purposes of the works. In about six years after the date of our report, this economy began to be practised in various works, and is now all but universal.

We also showed that as all the upper part of the furnace was “a region of distillation and not of combustion,” a valuable amount of ammonia might be collected from the gases by condensing it with acids. No less than two cwt. of sal ammoniac (ammonium chloride) could be obtained daily from a furnace of this kind. It has taken forty years for the iron manufacturers to carry out this recommendation, but they are now doing it.

To scientific men, as well as to iron smelters, the most interesting part of the inquiry was the anatomy of the furnace. By the simple expedients adopted it was shown to be possible to dissect a fiery furnace so as to show the operations in progress at its various parts with the same accuracy as if it had been a small object on the table of a laboratory.

(It was a few years after this visit by Prof. Bunsen – of Bunsen Burner fame - that Oakes discovered oil seeping into his colliery, and after consulting Playfair, James Young set up early distillation and fractionation on site. The world’s first oil refinery? But that’s another story!)

Stott Park Bobbin Mill and Wingerworth Stone Saw Mill *Cliff Lea*

Whilst we were on holiday in the Lake District this year Christine and I made a visit to the early 19th century bobbin mill at Stott Park near Windermere.

The enormous growth of the Lancashire cotton industry ensured that there was a voracious appetite for bobbins, millions being required particularly for use on spinning mules in the later 1800s. Each mill had tens of thousands of spindles, and each spindle required a bobbin. Since this was a one-trip operation, there was no recycling, millions being needed for this continuing industry, right up until plastics started to replace wood. One thing that Cumbria had, and still has in plenty, was wood, and massive areas were coppiced to provide for the 70 or so recorded bobbin mills that sprang up in the area.

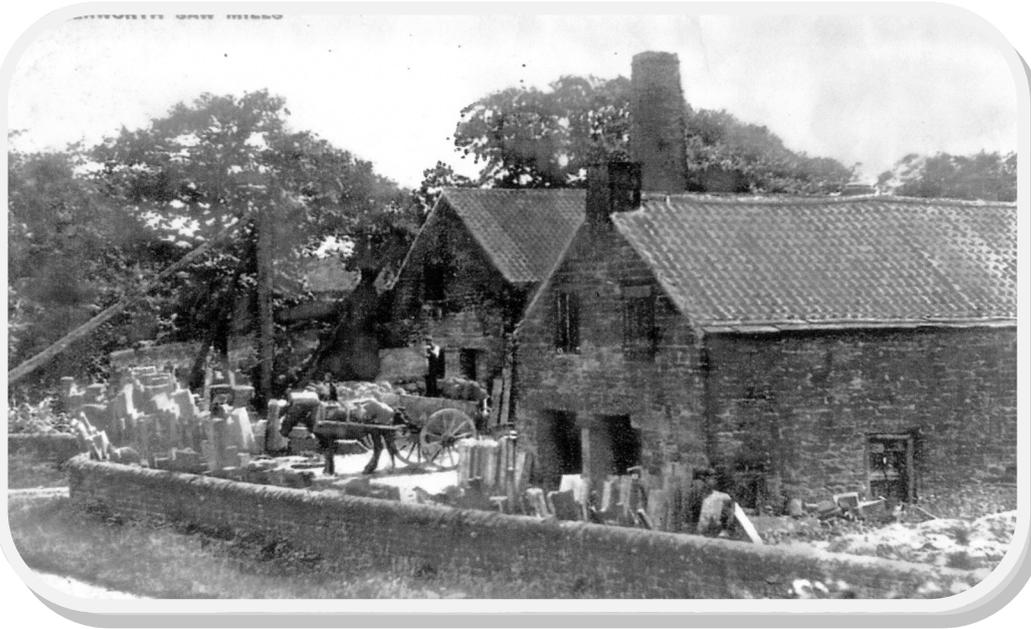


Fig 1: Wingerworth Stone Saw Mill, c1900

In the early days the mills were powered by water wheels, augmented by or changing later to use steam power and water turbines. The coppiced poles were first stored and cut to manageable bobbin lengths on circular saws. Whilst still green, they had holes bored and the shape of the barrel and end flanges roughly turned. The roughs were then dried on the floors and racks of drying rooms before finally being reamed and finish-turned. The final process waxed them by barrelling with paraffin wax. It was said that the cutting room at Stott Park

could produce at its peak 250,000 pieces per week, a quite unbelievable claim since the whole mill was said to employ at its maximum only about 25 men and boys.

Stott Park was built in 1835, quite coincidentally about the same time as the stone saw mill at Wingerworth that is now the subject of the NEDIAS excavation. Whilst Stott Park continued in operation until the 1970s, and is now a “working” museum in the care of English Heritage, the Wingerworth mill went out of use in the early 1900s, and most traces were robbed out. But Stott Park might tell us a little about some of the power



Fig 2: Stott Park Bobbin Mill

generation at Wingerworth – they were similar sized enterprises, both starting with water wheels and both having steam engines and water turbines introduced probably at a similar time, and probably requiring similar power. David Palmer and Les Mather both feel that what we know about the power installations at Stott Park could help in the interpretation of the findings at Wingerworth.

The water wheel at Stott is thought to have been in use between 1835 and the 1860s, described variously (and very optimistically) as 24 or 32 ft diameter pitch back design, and looking at the dimensions of the pit it would have been no more than 3ft width. The water wheel at Wingerworth would have been of a much more modest diameter.

The first water turbine at Stott was installed there in 1858 by Williamson Bros. of Kendal, forerunner to Gilkes. As the need for power grew for the expanding business, the water turbine was augmented by a (still existing on site) steam engine in 1880, capable of developing an extra 30 hp. The water turbine was replaced twice at Stott Park, the first replacement in the 1890s – probably from Gilkes of Kendal - and finally in 1931 with a turbine made by Armfields of Ringwood, installed by the Cumbrian company Wright, Heap and Westwood. Armfield was started by William Munden, who took on Joseph Armfield (1852-1938) a young millwright in about 1875. Armfield took ownership of the business in 1888, and by 1900 the firm had built almost 100 turbines. Most were installed in replacement of water wheels. As yet we know nothing of the Wingerworth mill turbine(s).

The steam engine at Stott was reported to have been made by William Bradleys, Gooder Lane Ironworks, Brighouse, but purchased second hand from a coal mine in Yorkshire, and once at Stott it was powered not by coal but by wood from their process. The cylinder diameter is 15¼" and stroke of 1'11". The 1880 Cornish boiler was by Umpleby of Cleckheaton.

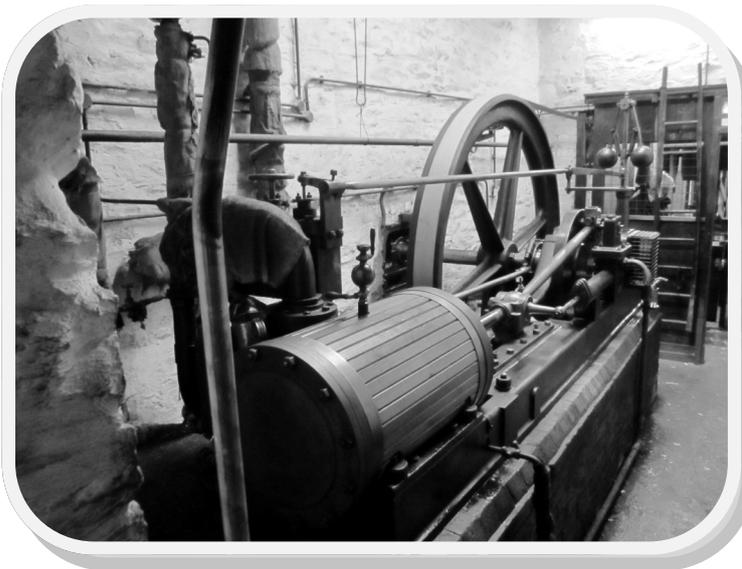


Fig3: William Bradley Ltd steam engine, Stott Park

Fig 4: Umpleby boiler, Stott Park

At Wingerworth, one of the first parts of the site to be excavated turned out to be an engine bed, boiler foundations, and chimney base – having now seen Stott Park, it's becoming easier to visualise the type of hardware that might have been installed there. What is more difficult to visualise are the sawing, planing and polishing equipment, clearly which have changed and been updated over the decades of progress and extensions on site.

The same changes and introductions of very similar power sources in the 19th century seen at Stott Park could have been mirrored at Wingerworth – it's thought the steam engine would have been a very similar size and capability, and the turbine supports placed within the earlier wheel pit have already been located – could our turbine(s?) have come from Williamson or Gilkes too?

I'm looking forward to one of our members' evenings next year when Les Mather, David Palmer and Barbara Gilmour – our three section leaders – will give us an account of the layout, equipment and history of the site. By that time, many more of the questions might have been answered, and more of the puzzles solved. But I'm not counting on it – at the moment there are more puzzles than solutions!

Bibliography:

“Stott Park Bobbin Mill” by Peter White. Guide book to the mill, English Heritage.

“Stott Park Bobbin Mill” by Paul Stephens, International Stationary Steam Engine Society. www.isses.org/UKarticle1/UKarticle1.html

“Water and Wind Power” by Martin Watts, Shire Publications, 2005



LEFT:

Fig 5: Chimney base, engine blocks and boiler base, Wingerworth

BELOW LEFT AND RIGHT:

Fig 6: and Fig 7: Early days at the Wingerworth dig



RIGHT:

A recent “find” at Wingerworth. Les has used his expertise with the glue pot to restore this 3 or 4 pint pot from 11 fragments.



NEDIAS Journals

Whilst NEDIAS Journal Vol. 3 has entirely sold out, a few volumes of Volumes 1, 2 and 4 remain. Order form on the web site (www.nedias.co.uk), at meetings or contact Cliff Lea. There are reduced prices for members.

<u>NEDIAS Journal Vol 1:</u>	<u>NEDIAS Journal Vol 2:</u>	<u>NEDIAS Journal Vol 4:</u>
<p>Alfred B. Searle's Contribution to the Science and Application of Refractory Materials by Derek Grindell</p> <p>"The Brimington Brick Company" – north east Derbyshire's brick making in microcosm by Philip Cousins & David Wilmot</p> <p>A Provisional Account of Clay Cross Company's Housing by Cliff Williams</p> <p>Cannon Mill and the Walton Bump Mill by Richard Robinson</p> <p>The Lancashire, Derbyshire & East Coast Railway; an independent railway developed in the latter part of the 19th century by David Wilmot</p>	<p>Linacre Over Smelt Mill: Survey and Interpretation by Mary Wilde</p> <p>Sheepbridge Coal and Iron Company Ltd by David E. Jenkins</p> <p>Memories of Birdholme – The Early Reflections of Bernard Fisher</p> <p>Navvies on the Dore and Chinley Railway by Clive Leivers</p> <p>The Demise of the Bolsover Tunnel by Derek Grindell</p> <p>By-product Coking in Derbyshire: a Twentieth-Century Industry by David G. Edwards</p>	<p>The Rise of Pearson's Pottery by Lesley Phillips</p> <p>Pottery Archives at Chesterfield Museum</p> <p>Centuries of Smelting Iron at Renishaw intro by Ron Presswood</p> <p>Some notes on a late eighteenth century Derbyshire colliery by Cliff Williams</p> <p>Charcoal, Whitecoal and Slag: early woodland industrial archaeology in Derbyshire by Paul Smith</p> <p>A Brief History of Waldo (Sheffield) Ltd, Avenue Road, Whittington Moor by Philip Cousins</p>

I.A. News and Notes

Markham Vale

There are always mixed views about the Percent-for-Art scheme when new developments take place, and this will probably be true also for the plans for Markham Vale which will honour the 97 miners who lost their lives in two Markham mining disasters in 1938 and 1973.

A new artwork called 'Walking Together' is to be built which will provide a walking tour of Markham's mining heritage in the form of 100 steel figures on a route through the site, symbolising the walk from Duckmanton to the pit head by miners. Each two-metre-high figure will carry a number of mine tags commemorating the thousands of local people who earned their living down the mines.

And the tags will trigger a different piece of information – including video, audio and written works – via apps and weblinks through mobile phones and hand held devices.

These will include interviews with local historians (will these include Cliff Williams and Neil Bridgewater I wonder), with accounts of mining disasters, and GPS-generated maps of tunnels running beneath the feet of visitors.

Caphouse Colliery

NEDIAS members will recall that following our visit last year, we made a donation for restoration of the furnace shaft at the National Coal Mining Museum. I can report that the £870,000 project to conserve a shaft has now been completed; the grand opening ceremony was on 28 June. The 460ft shaft originally had a fire at the bottom making warm air rise and drawing in fresh air to ventilate the pit, but had been in danger of collapse in 2007.

It now has a glass cover so visitors can look down its full depth, while those underground can see the pinpoint of light on the surface above – well done NCM!

St Pancras

Whenever we take a rail trip to the capital, it seems that the area around King's Cross and St Pancras is in a never ending cycle of change. The new re-development of the area is attempting to take account of previous heritage, and Malcolm Calow has passed me a photograph of a cast iron column which is on display in Pancras Square. This shows one of almost 400 newly-cast iron columns which will form part of one of the new buildings.

The columns are being cast at the Hargreaves Foundry in Halifax, the same works that cast *The Angel of the North*. Hargreaves started operation in 1881 and are using a “weave” pattern on the surface to reflect previous cast heritage in the area, including the iconic gas holder guide frames and Butterley’s amazing station arches.



Time to Renew

Just a reminder that it's approaching that time of the year again. Enclosed with this Newsletter is the NEDIAS Membership Renewal Form for 2013 (– but of course any new member who joined us from September this year automatically receives membership through to the end of 2013).

Correspondence

Staveley History – *The editor has received request for information. Can you help with the following questions:*

Hi Cliff,

Thanks for your kind offer to try and assist me in my interest in Staveley history. I had lived there as a child I would like to know more about the following.

1. When was New Street and Mill Lane built and by whom?
2. There used to be a small Gas Works beside the Canal at the bottom of Mill Lane; what was it's history?
3. What happened to the horizontal Gas Engines that ran on Blast Furnace gas at the Iron Works? This is a shot in the dark, I know!!!!

Thanking you

John Miller

If so please feed any comments back to Cliff Lea.

As many of you will know, NEDIAS is surveying and excavating the site of a stone sawing mill in Wingerworth. One problem we have is that the tailrace which once drained the waterwheel pit is partly clogged with silt, making it difficult to record its size and construction. But this is nothing compared to the problems experienced by the operators of the Skerryvore Lighthouse in the Hebrides, as I found out on a recent visit to the island of Tiree.

Skerryvore Lighthouse was built by Alan Stevenson, a member of the famous family of lighthouse engineers and the uncle of Robert Louis Stevenson, the writer. Completed in 1844, it sits on an isolated reef and at 48 metres remains the tallest lighthouse in Scotland. Prior to automation it was provisioned from the village of Hynish, the nearest settlement on Tiree, 12 miles away. Here Stevenson provided a small dock to shelter the support vessel. But there was a problem

The shape of the coastline meant that Stevenson had no choice but to build his dock directly facing the sea. However Tiree is noted both for its sandy beaches and for its strong winds, with the result that any dock quickly fills with sand. Stevenson had anticipated this, and provided his dock with a set of oak stop beams which could be lowered into place by crane to protect the entrance. But this merely moved the problem a short way out to sea, as the sand built up against the beams and when they were removed the dock entrance was blocked by a sandbank. However Stevenson had anticipated this too, and surprisingly his solution is to be found not in the dock but high up on the hillside above Hynish village. Here you will find a reservoir holding 1.1 million gallons of water, roughly the volume of two Olympic swimming pools. When the sluices are opened, this water rushes down a stone lined tunnel and emerges through an opening at the back of the dock, flushing out the entrance and allowing the dock to remain operational. An ingenious, if somewhat over-engineered, solution to a problem.

Today the dock and its associated buildings are cared for by the Hebridean Trust, and the old workshops have been converted into an interesting museum. But I still can't help wondering what the effect of 1.1 million gallons of water would be on the tailrace at Wingerworth



Left: Model of Skerryvore lighthouse in the museum at Hynish. The original is somewhat larger and lacks the 13-amp plug.

Above: The dock at Hynish on the island of Tiree.



Left: Inside the outlet of the dock flushing system. This is not a good place to stand when the system is in operation.

Above: Inside the tailrace culvert at Wingerworth stone sawmill.

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