Chester Conference 2014 • Ken Hawley • Country Houses in the NE
Enderby Wharf • North Norway • Greenwich Foot Tunnel
The AIA 2014 Chester Conference

Besides cheese, salt is what most people associate with Cheshire and those attending the 41st AIA conference were not to be disappointed. But as salt is the fundamental raw material for the chemical industry we learnt much about its derivatives and about the industries which grew up in partnership. It was an ambitious programme, with the usual problem for those attending: which of the tours to choose. Chester University proved a comfortable and convenient base and the weather behaved impeccably.

Friday’s Seminar on ‘The Archaeology of Chemicals and Textile Finishing’ included ten talks on historic salt making from pre Roman to twentieth century technology, the development of the soda industry and the advances in reducing the appalling pollution that attended early systems. Bleaching, dyeing and other finishing work are aspects of the textile manufacturing often passed over in comparison to spinning and weaving but it was the Cheshire chemical industry that provided much of the material needed for this.

The day continued with the launch of the Guide to the Industrial Archaeology of Cheshire, this year’s Gazetteer, written by Mike Nevell and David George and produced by John Stengelholfen. Such a launch was an innovation which gave us the opportunity to thank all those involved in the production of one of AIA’s regular publications which draws attention to the remains of industrial activity - something which could well be repeated in subsequent years. We were able to enjoy a glass of wine and some delicious local cheeses, although because of modern Health and Safety regulations, it becomes very difficult to enjoy as much food. We were able to enjoy a glass of wine and some delicious local cheeses, although because of modern Health and Safety regulations, it becomes very difficult to enjoy as much food.

The AIA first president, LTC Rolt, who played such a vital part in the early days of canal revival in the 1950s.

In the afternoon, after further talks by Andrew Fielding on salt in Northwich and by Mike on the Cheshire textile industry, we heard Mark Sissons describe the current restoration grants that the AIA has been able to award, thanks to the generosity of our anonymous donor. This year they total some £71,000 and a description of them appeared in the last edition (IA News 170). We had a bumper crop of other awards this year for Publications, Archaeological Reports and Digital initiatives, which brought in some much-needed younger people for the afternoon and evening since most of the award winners joined the President for the Annual Dinner, at which we were also glad to welcome Councillor Hilary McNaie, Heritage Champion for Cheshire West and Chester Council, and her husband, together with the County Archaeologist, Jill Collins. Unfortunately, we had to postpone the expected Members’ Contributions but did manage to reschedule these to other occasions.

Following the AGM on Sunday morning, the Rolt lecture was given by Dr Richard Newman, former County Archaeologist for Cumbria, on ‘Harbour developments as a precursor for industrialisation: the case of the Ports of...’
Clockwise from above:

Dry dock at Taylor’s Boatyard, Chester
Photo: Roy Murphy

Chester Steam Mill
Photo: Mark Watson

Brymbo iron works
Photo: Peter Stanier

Staircase locks at Northgate on the Chester Canal
Photo: Roy Murphy

Iron evaporating pan at Lion Salt Works
Photo: Chris Barney

Jacquard loom in Macclesfield Silk Museum
Photo: Mike Nevell
Lancaster and Whitehaven’. As ever, this will be published later in IA Review. In the afternoon there was a choice of three tours. Birkenhead and its docks and tramway, the Waterways Museum where we could see the box boat, restored with help from the AIA restoration fund, or the Chemical Industry at Widnes. Your editor chose the last on the ground that the chemical industry was Cheshire, and it proved a good choice. The Catalyst Museum, founded in 1847, moved to its present site in 1986. The building, on the site of John Hutchinson Alkali Works founded in 1847, was originally the headquarters of William Gossage and Sons, one of the world’s largest soap manufacturers in the late nineteenth century. We were shown around by the Director, Dr Diana Leitch, and we were particularly impressed by the evident enthusiasm with which they try to encourage an interest in science amongst school children. We had first seen a short film about the soda industry at Magadi in Kenya. They must have been as surprised as we were to find one of our party, Henry Gunston had visited Magadi many times (see opposite). In view from the top of the building were the piling rigs beginning work on the new Mersey crossing.

The evening’s talk was an introduction to Monday’s visit to Fiddlers Ferry Power Station by Peter Bone. After arriving there we were given a short explanation of the site and donned our safety kit. The required outfit did not only include safety boots and a hard hat but also overalls, goggles, earplugs and gloves. Attired thus we returned to the coach to go through the security barrier. Before boarding, knowing that cameras were outlawed inside, several members raised their cameras to take shots of the whole site, the nearest building being some quarter of a mile away. This alarmed the gate keeper who rushed out with his arms raised declaring that all photos must be scrubbed off. However, once inside we were impressed by the sheer scale of the place. The 2000Mw plant was commissioned in 1973 with four 500Mw English Electric sets. The only major addition to the original design is the addition of a flue gas desulphurisation system.

Two of the sets can burn biomass but this is not being used as it is too expensive. We saw a train delivering about 1000 tons of Russian coal dumping its load into the conveyor system. At full power the plant can burn 16000 tons each day.

The afternoon was spent at the Anderton Boat Lift where we took the short voyage up the 15m rise between the Weaver Navigation and the Trent and Mersey Canal. The 1875 lift originally operated with hydraulic rams using canal water but this was soon found to corrode the iron rams and in 1908 it was converted to a balanced weight system, though this was not without its problems and it went out of use in 1983. Restored after a major appeal, it reopened in 2002. Once again it operates hydraulically but using oil as the fluid. It was a very pleasant afternoon on a sunny day.

Monday’s alternative tour went to Liverpool where they visited the docks and, for those willing to tackle the 600 steps, the Mersey tunnel.

In the evening we listened to Nigel Dibben talking about the Alderley Edge Mines in preparation for Tuesday’s excursion. Terry Evans has described this talk and trip with appropriate enthusiasm, see below.

Those who went to Alderley Edge on Tuesday morning went on to Macclesfield, home of the Cheshire silk industry. Paradise Mill closed in 1981 but the 24 hand operated Jacquard looms on the top floor are maintained in working condition by volunteers and the looms were demonstrated for us with the customary enthusiasm that AIA visits seem to engender. The whole process, from design through the punching of the cards to the actual weaving with seemingly impossible fine thread, was explained in detail. Next door is the Silk Museum which contains a variety of more modern machinery, some of which was under restoration but some, including a rapier loom, could be demonstrated.

Other members went southeast, into Wales, where they visited the Bersham ironworks which Isaac Wilkinson leased in 1752 and the Brymbo Hall estate which was bought by the Wilkinsons in 1792. The tour went on to explore the lead mining area around Minera.

On Tuesday evening Andrew Fielding talked to us on salt in Cheshire explaining the industrial processes that developed and continued until recently. This was in preparation for Wednesday’s visit to Nantwich and Middlewich. Brine had first been available from natural springs but as these ceased to flow brine had to be pumped from lower and lower levels by versions of ‘nodding donkeys’. During the morning we saw a Roman lead salt pan used for evaporating brine, a ‘salt ship’ or hollowed log from the sixteenth century used for brine storage in the Nantwich Museum and then, on an industrial estate in Middlewich, a small brick building with early twentieth century pumps used for sending brine to the Murgatroyd works a mile away. It is hoped to restore this but like anything associated with salt, corrosion is a serious problem.

In the afternoon we went to the well-known Lion Salt Works at Marston, the last operating open pan salt works where production continued until 1986. It is currently subject to a multimillion project to turn it into a visitor attraction which requires substantial rebuilding as the structure would otherwise collapse. It was plain that, while the intention was to leave it as intact as possible, inevitably the result would not have the atmosphere that some members recalled from earlier visits.

The alternative tour went to the coal mining area north of Macclesfield and then to the Anson museum where there is a fine collection of over 250 stationary gas, oil and steam engines.

Altogether, a very satisfactory and enjoyable conference. The accommodation was generous with much larger rooms than we generally have. Perhaps this is the way things are changing but it was necessary to use the card key five times to gain access to one’s room. The bar in the students union had to be specially opened for us initially but then on the Monday we were disconcerted to find that the builders had moved in and the bar was not just shut but had been removed and the room gutted (as we were).

The organisation ran smoothly throughout and sincere thanks are due to John McGuinness and Steve Miles for this and to Mike Nevell and his team: Peter Bone, Roy Coppock, Neil Davis, Nigel Dibben, Andrew Fielding, Roy Forshaw, David George, Stephen Green, Dave Kitching, John Ryan and Paul Sillitoe.

‘He put in his thumb and pulled out a plum—’. My Conference choice.

Alderley Edge Mines and the work of Derbyshire Caving Club (DCC).

Terry Evans

Delegates were treated to a standout talk and a textbook underground visit, both involving Nigel Dibben of DCC. He is well known in caving and mine exploration circles, always being linked to the Cheshire site.

The overture was the evening talk. In true compositional style the 40-plus years of hard and often unglamorous negotiation and physical effort by DCC members were covered in a wonderfully structured piece of storytelling. Not relying on the screen images as a hook, what could so easily have been a jumble was explained with great clarity. To cover a history spreading from (probably) the Bronze Age to (possibly) Roman times, followed by definite post-medieval work and later eighteenth and nineteenth century endeavours was a task finely handled.

Archaeological evidence and details of the changes caused through necessary clearance by DCC were compared. Then mine geology and the recognisable clues concerning mining techniques were covered in an engaging way. Finally the extensive work done by the club teams was shown. A seamless tribute to an impressive joint effort.

The subsequent symphony was the underground trip to Wood Mine. The Alderley Edge output included primarily copper ores but also cobalt and lead ores. Wood Mine did not produce cobalt ores, being worked 1857-1877 for copper. After being adequately kitted out the party used the reconstructed adit entrance to start a notably dry three hour long crawl, crouch and walk. One or two of us took a long time to get used to the pushbutton LED lights, including your writer who was brought up on acetylene lamps.
The close-up view of the Keuper (now Helsby) sandstones showed siltstones with wonderful fossilised beach detritus and fluvial patterning. Also fascinating were the interspersed conglomerates and fascinating colourful clay bands. Two fault lines, N-S and NE-SW were evident. The copper ores were seen to occur largely on the downthrow of these faults with some lead ores above, seemingly carried by water rather due to thermal deposition. Water is still bringing deposits from the sandstone as shown by The Green Waterfalls.

Nigel took great care to separate the signs of past techniques from sand inflows and later DCC alterations. The links with the preceding talk helped immensely and he extended the information to include ventilation and drainage. Not easy in 3D!

The Mineral Statistics indicate that Alderley Edge Mines produced 14000 oz of silver a year from 1859 to 1863 and about 200 tons lead a year between 1860 and 1867 from 15000 tons of ore. This in addition to copper ore outputs. No surprise then over the size of the phreatic chambers that were encountered during the visit.

Magadi Soda Company (Kenya)

The party of conference delegates who visited the Catalyst chemical museum at Widnes and, after being greeted, were shown an historic film depicting the Magadi Soda Company operation in a remote part of Kenya, must have been very surprised when I spoke up and said that I had been there in 1968, soon after the film was made.

Henry Gunston

Sited in the bottom of the Rift Valley, Lake Magadi is continually recharged by mineral springs, giving rise to natural deposits of trona, which is processed to provide sodium carbonate for the chemical industry, and sodium chloride (“common salt”). I first visited Magadi in 1968 and have been back a number of times since then.

At the time the film was prepared (early 1960s) the Magadi Soda Company, which operated a processing plant beside Lake Magadi, was a component part of ICI (Imperial Chemical Industries), but today the works at Magadi is operated by the Indian conglomerate Tata. A floating dredger scoops the deposit of trona from the lake surface. This is then pumped as a slurry to the works, where - after passing through centrifuges - the deposit is routed through large heated sloping cylindrical calciners to produce solid sodium carbonate. This used to be bagged up for dispatch by rail, but bogie bulk soda hopper wagons are now used. The railway from Lake Magadi to Konza, on the Mombasa to Nairobi main line of Kenya Railways is 91 miles long, and of metre gauge. The film was of social interest as it was set in the early 1960s with a strong flavour of ICI ‘paternalism’ (good staff relations, water supplied for local tribesmen and the like).

An interesting historical link to Merseyside was that the Magadi Soda Company, which was established before the First World War, planned to build a soda processing works beside the Manchester Ship Canal at Irlam, to the east of Widnes. However, with the start of the War, the British military co-opted the planned soda works site for wartime chemical production, and the Magadi Company never returned. However, a junction of the works sidings with the main line of the Manchester Ship Canal railway remained with the name ‘Magadi Junction’, and an 0-4-0 saddle tank named ‘Magadi’ was passed on from the Soda Company to Brunner Mond, and then to ICI.

Masaai tribes folk beside the train en route to Magazi

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In September, Heritage of Industry Ltd. held the fourth in this highly successful series of tours. Our destination was North East England and the Scottish Borders and our expert guide was Professor Marilyn Palmer.

Wendy Freer

Our base for the first two nights was Newcastle, from where we visited Cragside. The house, built by the engineer William Armstrong, is well-known for its early adoption of what would have been state of the art technology in its day. I think all of us had visited before but this time our visit was to have several additional advantages. First was the opportunity to see the new reverse Archimedes screw. Installed and brought into use during the summer of 2014, the screw uses the power of the water falling from Tumblerton Lake to generate electricity over a wide variety of flow levels. When operating at its optimum, it can generate about 12 kilowatt of electricity, enough to light all the 5 watt LED lights in the house. Thus Cragside, famous for being the first house in England to be lit by electricity, is once again being powered by hydro technology.

The second advantage was to have the expert guidance, not only of Marilyn, but also of Robin Wright, head engineer at Cragside estate, who led us along the Armstrong Trail to the Power House, supplying lots of interesting extra information along the way.

The following day we visited Alnwick Castle where the highlights were a visit to the dynamo house on the river Aln and the chance to explore basements beneath the castle to see the remains of an early hydraulic lift. This time, our on-site guide was Graham Luke, estate fire officer. The original turbine, supplied by Gilbert Gilkes of Kendal, was installed in 1889 but replaced in 1938 by a ‘Francis’ type of turbine, controlled by an oil governor which remains in situ although no longer working. The second turbine fell out of use when mains electricity arrived in 1947 but in 2007 it was refurbished and a new generator fitted so that now, Alnwick, too, is supplied with hydro-electric power.

In the castle basement, we saw the remains of two dumb waiter lifts. Both were long disused but, together with the remains of the hydraulic ram, provided plenty of interest. Around the corner from one was a row of six servants’ flush toilets, looking rather odd now with the dividing partitions removed. One was apparently for the personal use of the butler only!

Before crossing the Scottish border we made a short visit to Heatherlaw Mill. There has been a mill on the site since before 1300 but the present building was erected in 1768 to house two mills. We have all visited mills before and know how they work so we were glad that our guide, head miller, Julia Nolan, was able to adapt her tour for us and let us into some of the trials and tribulations of her job as a twenty first century miller in an eighteenth century listed building!

On a very auspicious day for Scotland (the referendum), our morning visit was to Abbotsford, the former home of Sir Walter Scott, followed in the afternoon by Traqair House, still home to the Maxwell Stuart family.

Abbotsford was the first country house to be lit by gas. Several former gas lights can still be seen in the house but there was little other evidence of gas installation for us to see. Even the cast iron retort which Marilyn had spotted on a previous visit had been removed to storage. Internal communication with the servants had once been by sprung bells and we were able to see some novel bell levers. Instead of operating by way of wires, a lever was depressed which sent a ‘pip’ rocketing down to strike a bell in the servants’ area. Scott apparently thought this a great improvement on wires but we did wonder how easy it was to retrieve the said ‘pip’ and return it to its starting position!

Country House Comfort and Convenience

Reverse Archimedes screw installed below Tumblerton Lake at Cragside

Cragside. Part of a contemporary art installation “Illumine” by Imogen Cloet in the dining room of the house. Made up of different kinds of filament lamps, it celebrates Armstrong’s fascination with light

Cragside. One of Armstrong’s original turbines in the Power House

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Cragside. One of Armstrong’s original turbines in the Power House
At Traquair, the sprung bells were a special focus. Being an ancient house, the bell wires could not be concealed within the walls and so it was possible to see and trace their route around the rooms. One extraordinary example ran straight across part of the drawing room! We were told that the bells still worked but were too fragile to be operated. We also visited the Traquair House Brewery and sampled some of its products. However, a barrel of Referendum Beer, which I noticed in the brewery shop, remained unopened, as did the famous Bear Gates, locked after the exit of Bonny Prince Charlie and not to be opened again until a Stuart king sits on the throne. What a place to be visiting on Scottish Independence Referendum day!

On our last day, we visited Manderston which was famously featured in Channel 4’s ‘The Edwardian Country House’ as well as various other films. Like Traquair, Manderston is still a family home and we were met by Rhona, a most charming lady who had spent her whole life (80 years we calculated) on the estate and was able to amuse us with anecdotes about her long association with the family as well as providing excellent guidance around the house. Again the bells were of special interest, 56 in the massive basement and a further 25 in the attic. The basement bells were said to each have a different tone so that a servant could recognise from whence the summons was coming without even being able to see the bell. As at Traquair, the bells still work and Rhona was able to demonstrate one for us.

This was a most enjoyable and interesting tour. All aspects were impecably well organised by Bill Barksfield and expertly guided by Marilyn who, not only laid on special opportunities to see things not usually available to the public, but also found the energy to entertain us on two of the evenings with two excellent lectures.
Campaign to save Enderby House, the birthplace of international telecommunications

A south-east London group is campaigning to preserve Enderby House, where the international telecommunications revolution began in the 1850s. Enderby House, on the riverside just north of the old Royal Naval College in Greenwich, became crucial to the history of the world’s communications after the Atlantic Telegraph Company was set up in 1856 to provide a telegraph link between the UK and North America.

Alan Burkitt-Gray
Chairman of the Enderby Group

Originally called Telcon – for Telegraph Construction and Maintenance, created in a merger between Glass, Elliott and Company and the Gutta Percha Company – this is the oldest continuously operating telecommunications factory in the world. In its first 100 years the Enderby Wharf factory made 82%, 713,000 kilometres of the world’s sub-sea cables. During the Second World War Telcon used the factory to build Pluto, the ‘pipeline under the ocean’ that delivered fuel to Normandy after D-Day in 1944.

Several years ago Alcatel-Lucent, the current owner, sold the riverside part of its site, including the grade II Enderby House, to Barratt, the house development company. Alcatel-Lucent continues world-leading work on telecommunications technology on the rest of the site, while Barratt is well advanced with building houses and flats.

Barratt is required to keep Enderby House – badly deteriorated in condition but partly protected by a fence – but the company has not yet found a function for it. That is why locals have set up the Enderby Group, to find a secure long-term use that honours and recognises its role in the telecommunications revolution.

After a series of meetings called by Dr Mary Mills from early 2014, Dan Hayton of GLLAS and the Newcomen Society chaired a meeting in September that formally set up the Enderby Group, appointing officers and starting work on a business plan that aims to see the survival of the house.

The group is already in touch with the Porthcurno museum in Cornwall, where many of Enderby’s cables came ashore, and with other interested parties.

History of Enderby Wharf

The wharf is named after Samuel Enderby, who had an oil and chandlery business in the area and bought an existing ropewalk on a former gunpowder test site to develop a factory to make canvas and rope. Enderby House was built on the riverside in the early 1840s. Woolwich-born General Charles Gordon is believed to have spent his last night in Britain at Enderby House before leaving for Sudan, where he met his end.

The whole area around Enderby Wharf — and on the other side of the river — has had a long connection with telecommunications, running through to recent times.

A century after TCM made the first cables, a young Chinese student called Charles Kao came to Woolwich Polytechnic — now transformed into the University of Greenwich — to study for his first degree, in electronic engineering. By then TCM had become part of the giant Standard Telephone and Cables group, and Kao went on to work there — where in the 1960s he came up with the idea that fibres of glass could carry information in the form of laser light. In 2009 Sir Charles Kao, as he now is, won the Nobel Prize for Physics for his work.

Part of the cable for the first, unsuccessful attempt to build a transatlantic cable was made by Glass, Elliott at Morden Wharf, just down river from Enderby Wharf. In 1862 Glass, Elliott used the Enderby Wharf factory to build a better protected — and successful — cable. The ship used to lay it across the Atlantic was Isambard Kingdom Brunel’s Great Eastern, built on the Isle of Dogs just across the river.

From then until the 1970s the Enderby factory continued to make subsea telecoms cable, which was loaded onto cable-laying ships via gear that still survives on the riverside — though the ownership of that is still unclear. The Enderby Group wants to preserve the cable-laying gear and Enderby House as the birthplace of the international communications revolution.

Longer Articles

Sharp eyed readers will have noticed that this edition contains an article considerably longer than we normally have space to publish. We hope to repeat this in the future and invite readers to submit articles between 2000 and 3000 words which might be of general interest to other members of the AIA but are not suitable for expanding into academic work. Pieces on less well known subjects are particularly welcome. They need not be referenced but should be appropriately illustrated. Please contact the Editor if you have a subject in mind.
Ken Hawley
29 June 1927 – 15 August 2014

The death of Ken Hawley, historian and tool collector, at the age of 87, deprives us of the nation’s single most prolific and inexhaustible source of knowledge and wisdom on the edge tool and cutlery trades of Sheffield. For over thirty years he ran in the city a retail shop as a specialist tool merchant – not an ironmonger - which, in order to distinguish it from ordinary hardware stores, carried the locally renowned sign ‘we sell nowt but tools’.

Neil Cossens

I first met Ken Hawley in 1969 when we were judges together on the BBC Television Chronicle series of industrial archaeology competitions and we were to become lifelong friends. He had an engaging, limitless and generous capacity to explain, about steel and how it could take and hold an edge. Regularly, he and his wife Emily would drop in to see us in Shropshire, ostensibly for a few words but invariably staying for several hours, to talk about his collection and its future and reminisce about manufacturers, their skills and specialisms. Sitting at our kitchen table he’d run his thumb along the blade of a table knife with a look of ill-disguised disdain. Fortunately, I have only Sheffield-made tableware otherwise the consequences would have been frightful. It was on one of these visits that he watched while a couple of builders struggled, with lump hammer and cold chisel, to open up a doorway in a stone wall. Taking the cold chisel he told them exactly what he thought, of it and them: ‘it’s blunt. You could ride bare-assed to London on that!’ It was only much later I learnt that Ken took his own knife, with of course a shear steel blade, to restaurants, not least to make clear the knife, with of course a shear steel blade, to only much later I learnt that Ken took his own knife, with of course a shear steel blade, to restaurants, not least to make clear the knife, with of course a shear steel blade, to

Ken Hawley’s education was cut short at fourteen by the war years which he spent measuring factory machinery and designing safety guards. This inculcated an emphasis on accuracy and detail but, importantly, it brought him into contact with innumerable Sheffield workshops and tradesmen, sparking his curiosity about why and how the city’s cutlers and toolmakers were world famous. On completion of his National Service in 1947 he went into the retail tool business, setting up on his own in 1959. The succeeding twenty years saw Sheffield companies, and the ‘little masters’ who formed the backbone of the city’s craft tradition, go out of business in their hundreds. Ken established himself as the ultimate source of knowledge about their history, skills and products. This was to become legendary. Part of that legend was based on his enthusiastic collecting and the boundless knowledge that inspired and informed it. Planes, hand saws, files, taps and dies, cutlery, steel rules and micrometers, caliper and vernier gauges, scissors, shears and hammers, filled two garden sheds, then the garage, then a storey added above, as well as the attic of his house. Large items were stored in spaces begged elsewhere.

It was a chance conversation with Janet Barnes, the then Director of Sheffield’s Ruskin Gallery, in 1991, that led to the first public exhibition – The Cutting Edge - drawn from Ken Hawley’s collection. This had two effects. It brought Ken’s endeavours and his collection into the wider public view and it ultimately led - in 1995 - to the setting up of the Ken Hawley Collection Trust with the objective of acquiring the collection and securing its future. Its transfer into university premises in Mappin Street under the wing of ARCU (Archaeological Research and Consultancy at University of Sheffield) was carried out with the enthusiastic support of the late Professor (later Sir) Gareth Roberts, the then Vice-Chancellor of the University, practical support from David Crossley, and a major award from the Heritage Lottery Fund in December 1998. Ten years later a further and much larger HLF grant led to a building at the Kelham Island premises of the Sheffield Industrial Museum Trust being converted to provide permanent storage and display and this opened in March 2010. At the same time the Trust published a book, The Ken Hawley Experience, illustrating material from the collection and with a text and glossary of terms rich in the mysteries of the edge steel and cutlery trades. A second phase at Kelham Island opened a couple of years later and a third had been proposed by the time of Ken Hawley’s death.

In order to achieve all this Ken encouraged and mentored a team of volunteers, not only to catalogue but also to become experts in their own right on various aspects of Sheffield’s steel products. In addition, Ken Hawley was one of the driving forces – for over forty years – in the preservation of Wortley Top Forge, a former finery forge and ironworks, dating from at least the seventeenth century and widely thought to be the oldest surviving heavy iron forge in the world.

In 1995 Ken Hawley was awarded an Honorary Fellowship by Sheffield Hallam University and in 1998 appointed MBE. His wife, Emily, survives him as do two sons, Duncan and Clive.

In his profound knowledge and unquenchable enthusiasm Ken Hawley’s death leaves an unfillable void. But through his collection there remains an abundant wealth of material evidence, something of which Sheffield and the nation can feel justifiably proud.

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**Cutting Edge**

Ken Hawley demonstrating hand file cutting, using a lead bed and leather straps, held down by his right foot, to secure the file blank. Note the heel of a shoe, used as a hammer holder.

Photo: Neil Cossens
Risks, opportunities and issues for the Iron Bridge

Part of the author’s Conservation Plan for the Iron Bridge prepared for English Heritage required identifying future management issues. The Plan was a winner of an AIA Archaeology Report Award this year.

David de Haan

Not surprisingly, rust is a feature of cast iron unless it is well protected from moisture. A key area of concern can be found in the decorative scallops near the end of each deck plate, which have a history of failure over the decades. They lie too close to the main deck beams to adequately waterproof the gap between them and so rust builds up, ultimately snapping off the protruding end of the deck plates at the junction of the scallops. Remedial work was done in 1902 and 1937, with the most recent failure occurring in 2011 when a trench was dug near the upstream railings. In the next round of major repairs it is hoped to remove the asphalt road surface down to the cast iron deck plates some 30cm below prior to replacing it with a lighter aggregate, but there are fears that the vibrations from drills will cause more of the scallops to fall off. The work will therefore have to be done using a very light touch and with great care. Another area where rust is a problem is in the 1902 horizontal straps inserted about 50cm above the base plates where cast iron blocks are held together by a steel strap. The two metals have set up a zone of rusting – in some cases quite extensive – which means the strap will have to be replaced.

Longer term, the greatest risk to the Bridge is from the instability of the Gorge, where both banks are moving towards the river. Many of the bolted-on plates on the iron side arches of 1823 have twisted and buckled owing to land movement and some will need replacing. Inclinometers installed by Telford & Wrekin Council in 2009 have recorded a movement of 5mm since then and there are many incidents of failures to walls and buildings nearby. The sides of the Gorge are too steep and nature is gradually finding a gentler angle of repose. Fortunately, the underwater concrete strut inserted between the abutments in 1973-4 is resisting this movement, but without it the Bridge would probably have failed by now.

An opportunity will present itself when the road surface is removed to relay it without the pavements and return the appearance of the Bridge to its original configuration. They now contain the main services which should be relocated, but the main purpose was to reduce the carriageway from 24ft (7.3m) to 14ft (4.3m) so that two lorries could not pass each other. The problem was removed when the Bridge was closed to traffic in 1934, so the pavements no longer serve any purpose. Ideally a replacement road surface should resemble the original material of clay mixed with slag, but in a more sustainable modern material.

The increased incidents of flooding in recent years require consideration to be given to protecting the lower parts of the Bridge from debris floating down the swollen river, where trees and other items could strike the ironwork. The Conservation Plan recommends consideration of some kind of deflector that would direct any such debris into the centre of the river, but designed in such a way as not to be too visually intrusive at normal river levels. Existing flood barriers are erected to protect the local buildings but do nothing to protect the Bridge – a big challenge for English Heritage’s engineers.

Christine Ball (1948-2014)

Christine Ball died in July after a short illness. She was a member of the Council of the AIA between 2004 and 2010.

She was born in Saddleworth when it was in Yorkshire. She gained qualifications in archaeology and as a librarian, and was a librarian in the architecture department at the University of Sheffield. Later she worked, as a staff member and then as a volunteer, at the Hawley Tool Collection, which was housed at the University before it moved to Kelham Island Museum.

Her interest in industrial archaeology led her to join the team under David Crossley which produced Water Power on the Sheffield Rivers (1989), and she edited the revised second edition of 2006. The book is a detailed and authoritative account of the history of the mills, forges and grinding wheels which were essential to the growth of Sheffield’s steel, cutlery and edge tool industries. David supervised her taught MA in archaeology, for which she made a study of millwrights and their work in the Sheffield area, discovering many new sources of information.

She made a very large contribution to the South Yorkshire Industrial History Society (SYIHS), as a council member (1993), its first woman President after more than 60 years (1997-9), Hon. Secretary (1999 to her death), Hon Editor, Hon. Archivist, and its representative on Sheffield Conservation Advisory Group. As editor she launched the Society’s Journal, produced four numbers, and was working on a fifth until just before her death. We may well need several people to continue the work she was doing for us.

Nor was that all. She belonged to many other societies, and played an active part if she could. They included the Hunter Archaeological Society in Sheffield, where she was a council member and Hon. Editor, the Council for British Archaeology, keeping an eye on Sheffield planning applications, the Historical Metallurgy Society and Sheffield Civic Trust.

Christine was rightly described at her funeral as ‘a doer’. She was remarkable for her wide interests, enthusiasm, hands on approach and many contacts. We are much the poorer for her early and unexpected death. We offer our sympathy to her husband, Tony, and their sons, Nick and Andrew.

Derek Bayliss
Llay Miner’s Institute and the deepest coal shaft in Wales.

At this year’s conference the venue for the Tuesday evening hotpot meal and Salt in Cheshire talk deserves some mention. It was built 1929-1930 by F.A.Roberts, noted for his Queen Anne brick and Portland stone designs with a little classicism added. [He was also involved with the earlier Miner’s Institute at Rhosilanerchrugog 1924-1926].

Terry Evans

The Llay Institute followed the building of the village, which was started in 1920. It lies just outside the planned settlement. It was the sinking of Llay Main Colliery from 1914 that led to the need for housing. The Great War caused cessation of work in 1917, resumption taking place in 1919. The enterprise was ventured by Messrs. Rea of Liverpool, coal exporters, and the Hickleton Main Colliery Co. of Yorkshire. The latter involvement explains the abnormal use of Main in a Welsh colliery title. Winding commenced in 1923. No.1 shaft was 905yd deep and No.2 was 830yd deep on a 13ft 2in seam. Both were deepened following 1947 nationalisation to 1000yd. although winding from 776yd. This is a Welsh coal shaft depth record. For comparison, the deepest coal shaft in Britain and also in Western Europe was located in Newcastle-under-Lyme at Wolstanton No.2. It was 1140yd in depth.

Renaming for Politeness

Over the last century or so we have seen examples of place names being changed to something more palatable in order to give residents a sense of living in a superior and less vulgar location. Hazel Grove to the southeast of Stockport, Greater Manchester, was formerly known as Bullock Smithy. This name originated from the Bullock Smithy Inn. However, tiring of jokes about uncouth residents - there was even a humorous article in the Manchester Guardian - a new name, Hazel Grove, was adopted in the 1830s. The pub's name changed too; it became the Bull's Head.

The renaming of Bullock Smithy proved to be a sound idea and Hazel Grove is now one of the most sought after addresses in Greater Manchester, so much so that things have recently gone full circle. The Bull’s Head public house has reverted to its original name and there is a Bullock Smithy public house once more.

Now to the southeast of here we have Buxworth which prior to April 1930 was Bugsworth. It seems the syllable ‘bug’ was the problem, so Bugsworth in Derbyshire, at the southern end of the Peak Forest Canal, was renamed Buxworth to make it sound more refined - like Buxton. No doubt this pleased estate agents. Presently road signs for both Buxworth and Bugsworth can be seen and older people still say Bugsworth.

In London, we too have recently been having a problem with the syllable ‘bug’. The Port of London Authority (PLA) proposed changing the name Bugsbys Reach to Waterman’s Reach ‘in commemoration of the 500th Anniversary of the 1514 Act of Parliament for regulating watermen, wheremyn and bargemen when King Henry VIII granted Royal Assent’. As we proceed downstream the Thames successive reaches are Blackwall, Bugsbys and Woolwich. Bugsbys Reach is the stretch of the Thames to the east of the Greenwich Peninsula which separates Greenwich from Newham.

The name Bugsbys is traditional. Mr Bugbsy was probably a market gardener although there have been more bloodthirsty suggestions involving a robber and even piracy. A map of the early 1870s shows the northern part of the Greenwich Peninsula, to the south of Blackwall Point, with the name Bugbsy’s Marsh. Anyway, there has been outrage and protest regarding the recent PLA proposal to change the name to Waterman’s Reach and the traditional name should be safe for the time being. The trouble is that so little is sacred; there has even been discussion of changing the name of Enderby Wharf. Might this be on the grounds of political correctness? The Enderby family have a bad record as far as whales are concerned.

Robert Carr

Twentieth century buildings

This year the Twentieth Century Society marks 100 years from the starting date of its coverage of British architecture in 1914. To celebrate, the Society have compiled an online gallery of one building from each of these years, nominated by their supporters. All 100 buildings are featured in an exhibition at the Royal Academy, and in a book published by Batsford.

Not all these important buildings are still with us: an early nomination was the Firestone Factory, famously demolished over a bank holiday weekend.

In one sense all buildings are industrial in that they were constructed by an industry but those below also have or had an industrial purpose.

1917 Cardington No1 Shed, Bedfordshire

1926 Shredded Wheat Factory, Welwyn, Herts

1928 Firestone Factory, Brentford

1932 Boots D10 Pharmaceutical Building, Beeston, Notts

1933 Battersea Power Station

1940 No 4 Boathouse, Portsmouth Dockyard

1942 Wythenshawe Bus Depot, Manchester

1945 Waterloo Bridge, London

1948 St Theresa’s Bakery and Store, Dingle’s, Portsmouth

1952 Stockwell Bus Garage, London

1969 Preston Bus Station, Lancashire

1988 Isle of Dogs Pumping Station, London

2002 Gateshead Millennium Bridge

2005 Vauxhall Bus Station

To see more details and the full list go to the society’s website.

100th Engineering Heritage Award goes to …

On 10 October the Institution of Mechanical Engineers presented their 100th Heritage Award to Abraham Darby’s Old Furnace at Coalbrookdale in recognition of its part in starting the Industrial Revolution. The awards were started in 1984 and the Institution has produced a magnificent brochure listing all 100 sites, which was launched at the ceremony. Fittingly, there were 100 guests present. The award was presented to the Ironbridge Gorge Museum by the President of IMechE, Group Captain Mark Hunt. The Old Furnace joins a list that includes the Anderton Boat Lift, Papplewick Pumping Station, Tower Bridge, Volks’s Electric Railway, SS Great Britain and the Kirkaldy Testing Machine.

David de Haan
Industrial archaeology in North Norway

In IA News 170 Chris Barney contributed an article on a fascinating collection of engines and other artefacts that has been built up by the blacksmith at Sund in Lofoten. He suggested that this might be the most northerly museum of engineering industry. Rising to this challenge it is worth looking further beyond the Arctic Circle in northern Norway. There is a lot more to be found.

Vaughan Pomeroy

The northern counties of Norway – Nordland (which includes Lofoten), Troms and Finnmark – have never been regions of large-scale industrial endeavour but nevertheless there are some interesting examples that provide a fascinating insight into a harsh and difficult existence. The region has a long history with ancient rock carvings dating back 7000 years, but the recent past is typified by subsistence communities based on nomadic reindeer herding, farming and, particularly, fishing. The growth in fishing, along with the preservation of the catch by salting, drying, canning and freezing, and an export trade has left an historical trace in the landscape. The development of small coastal settlements, now almost all abandoned or at best occupied only in the summer months, with open beaches where boats could be brought ashore have left remains showing the increasing scale of fishing as trading expanded. The adoption of larger and heavier motor fishing vessels rendered these locations impractical and the larger settlements around protected harbours developed. Fishing has always been cyclical, with variations in fish stocks and in trade. The reduction in Arctic Ocean stocks and the sharp fall in some of the principal markets for stockfish, notably during the Biafran War in Nigeria, has left many processing plants idle. As the industrial scale grew the larger harbours and processing fish factories dominated, leaving a large variety of historical remains in the form of buildings and abandoned fishing vessels.

Latterly, the exploitation of natural resources, through the extraction of minerals and rock, the development of offshore oil and gas reserves and the production of power from hydroelectric schemes, has also left a record.

This note is based on six visits to this northernmost region of Norway, travelling no further south than the southernmost tip of Lofoten, during the period 2006 to 2011. The visits were primarily undertaken for birdwatching and exploring the natural world, but inevitably we were drawn into the local culture and history. The article concentrates on the most remote county, Finnmark, which covers an area roughly two and a half times that of Wales and yet has a population of only 72,000 (or 1.5 persons per square kilometre). The four main centres of population are Kirkenes, Vadsø, Alta and Hammerfest, accounting for 42,700 people. For convenience the following notes start at the frontier between Norway and Russia east of Kirkenes and work westwards along the coastline.

In terms of the remains of lost industries there is a fundamental problem for the student. In 1944 the retreating German army pursued a scorched earth policy to deny the area to the Soviet armies. The inhabitants were either forcibly moved or hid in caves and very remote settlements. Many of the former towns and villages were abandoned and never reoccupied. However, many of the former towns and villages were reoccupied and reconstructed. The story is well told in the Gjøreisningsmuseet, the Museum of the Reconstruction in Hammerfest, and in a number of smaller local museums. The period of occupation by German forces has left remains, notably the large coastal artillery forts at Kongsfjord and Kiberg. Although destroyed during the withdrawal ahead of the Russian advance, these heavy reinforced concrete structures remain simple to interpret although the published guidance material is limited. In the case of Kongsfjord the remains include a Renault FT-17 light tank, which was built in 1917 and captured during the occupation of France. Although some preservation work has been started there is no protection of this relic and in 2008 some parts of the engine and the tracks disappeared.

In such a remote area there is inevitably a constantly changing economic situation, helped in the case of Norway by the income from oil and gas production and the willingness to use central government funding to support the distant rural communities. The change continues. With the advent of natural gas produced in fields in the...
Arctic Ocean, Hammerfest has become a major terminal, with the infrastructure of shore facilities for treatment, liquefaction, storage and shipment providing the future industrial archaeologist with new opportunities.

The industrial relics that exist are mostly in situ with no attempt at preservation or protection, although the arid and cold climate means that the usual destructive processes of rot and corrosion are much slower than would be the case in other situations.

**Transportation and roads**

This was, and in many respects still is, a seaward facing community, with practically no land transport routes of any substance until comparatively recently. There are airports close to most settlements, with the clear traces of earlier airstrips at, for example, Gamvik and Kjøllerfjord where the gravel runway remains evident because the encroachment of vegetation is very slow. This slow pace of reclamation by nature of the man-made landscape also means that the original roads, mostly constructed after 1945 during the reconstruction of Finnmark, can be identified and, in some cases, still used with confidence. However, some communities can still only be reached by sea and regular services are provided.

The landscape transforms in the winter months but the snow cover provides the opportunity to reach places that are not served by metalled or gravel roads by snowscooter. This modern means of transport allows materials to be transported with minimal disruption to remote locations, such as the remote cabins favoured by Norwegians.

The road system is sparse, and the lack of roads has left some settlements isolated. The first roads were narrow and gravel, and some of these survive in use. These are very resilient and last well despite the winter freeze. The replacement roads, mostly completed by 1990, make greater use of built up ground, rock tunnels and cuttings to achieve a better alignment. Frost heave during the winters ensures a regular programme of remediation during each spring and summer. Now the last of the original metalled main roads are being realigned and raised to ease snow clearance during the winters. The roads are kept clear by snowploughs with a convoy system, whereby normal vehicles travel from collection points behind the snowplough and progress between these road sections to complete journeys, a time consuming process.

The protected harbours, the local ferries, the Hurtigruten (which still provides an essential link for the residents of Finnmark), the bus network and the airfields that are served by regular scheduled services complete a comprehensive transport infrastructure which is remarkable for the size of the population.

**Kirkenes**

Kirkenes is a town built entirely on iron ore, expanding rapidly as the opencast magnetite mines near Bjørnevatn, ten kilometres south of
the town centre, were developed in the early twentieth century. The iron ore was discovered in 1866 but was not viable until new technology became available. A/S Sydvaranger was established in 1906 and production started in 1910. After the onset of the First World War production halted and the company never fully recovered during the difficult post-war trading conditions. The mining and production infrastructure was destroyed in 1944 to keep it out of Russian hands but, after receiving substantial funding under the Marshall Plan, production restarted in 1953. The company eventually succumbed in 1996, under cost pressure from cheaper sources of high grade iron ore. The premises of A/S Sydvaranger became derelict and the history of the enterprise is recorded in the nearby Grenseland (Border or Frontier Country) Museum. With the closure of the iron ore mines and the ore processing the government stepped in and provided NOK200 million to establish a new engineering company, Kværnes Kirkenes Mekaniske Verksted, or KIMEK, to undertake ship repair work.

However, since our last visit to Kirkenes in 2008, the iron ore operations have been acquired by Northern Iron Ltd of Australia, with strong links to the Tschudi Group, a Norwegian family with a history of ship owning. Production restarted in 2009, including the reopening of the railway linking the mines around Bjørnevatn with the processing plant and shipping terminal in Kirkenes. At Kirknes the iron ore is separated and pelletised before shipment, producing material with an iron content of nearly 70%. There are plans to double the current production capacity of 2.8 million tonnes per year. The level of concern about the environmental damage caused by an expansion of mining has recently heightened, so we will have to wait and see where the extraction industries go next.

Vadsø and Ekkerøy

Vadsø is the county town of Finnmark, although the smallest of the four major centres. Here, in 1860, Svend Foyn constructed the world’s first modern land-based whaling station. Although this factory complex was comparatively short-lived, not least with the closure of Arctic whaling in the early twentieth century, it included a guano factory, a fish oil distillery, a whale oil refinery and a flensing platform. The buildings fell into disuse and the final building was destroyed in a fire training exercise in 1980, so only the area and photographs remain.

A remarkable piece of industrial archaeology at Vadsø is the airship mast, which was constructed in 1926 in connection with the successful flight to the North Pole by the Norwegian explorer Roald Amundsen and the Italian Umberto Nobile in the airship ‘Norge’. A later flight by Umberto Nobile in 1928 ended in disaster as the airship crashed on ice near Spitsbergen, although Nobile and some of the crew survived. The mast has been restored and a commemorative plaque installed. A small museum, part of the multiple-site Vadsø Museum, contains memorabilia and artefacts.
relating to Arctic airship exploration and the Vadsø connection. This is located close to the Hurtigruten quay and opens only between 07.30 and 08.15 to coincide with the daily sailing, and by special arrangement.

Ekkerøy is a small community located 12 km east of Vadsø, with evidence of wartime activities and of farming, fishing and peat cutting. The former fish factory of Kjeldsen, known as Kjeldsenbruket, has been turned into a museum, another part of the Vadsø Museum. The factory was built in 1911, closed in 1969, but is one of the very few pre-war fish factories that remain intact. Apart from general information on the area and the remarkable wildlife, the museum includes the jetty, a steaming plant for cod liver oil preparation and the shrimp factory. The buildings used for baiting lines and gutting and cleaning fish contain many of the original fittings.

**Berlevåg**

The large harbour at Berlevåg, with four massive breakwaters, was only completed in 1975, after beginnings at the start of the twentieth century, but leaves an interesting industrial landscape that is well presented. The connection to the sea was extremely important, not only for the rich fishing on the local banks but as the only means of communication with other communities. The road only arrived in 1959 and until the current road was completed in 1980 it was a ‘summer only’ route. Berlevåg Havnenmuseum provides an illustrated history of the fishing industry, the communication routes and the construction of the harbour. It is housed in several buildings previously owned by the Harbour Authority and includes a well-preserved ‘pram boat’ that was used to shuttle passengers and cargo out to the Hurtigruten ship that moored offshore until the harbour was completed. The primary interest must be the harbour construction, which eventually succeeded through the use of concrete tetrapods that protect the outer face of the main breakwaters. Some of the rolling stock, including a locomotive, and a short piece of railway track are displayed. However, it is more than an indoor museum as the museum has set out a historical trail around the whole of the industrial complex that grew to support the harbour construction. This included quarrying, rock crushing, concrete casting and the accommodation for the workers, all linked by the construction railway.

The result is a complete story, with museum staff who can explain the story based on personal experience such as the memory of being lifted into the Hurtigruten ship in a basket from the pram boat because the weather was too rough to use a ladder.

**Gamvik**

Now, Gamvik does claim to be the northernmost museum on the mainland of Europe at 71°5′N. The museum is situated in a former fish factory owned by a merchant family from Varde named Brodtkorb, hence known as Brodtkorpbruket. The displays include a number of artefacts related to fishing and fish preservation including the presses used to reduce the bulk of stockfish before shipment. The trade in fish, which moved fishing into an industrial scale with the Pomor community that came from the White Sea region around Arkhangelsk demonstrated how the expansion of the population of this inhospitable area became possible as rye, salt, peas and timber were bought in exchange for cod. This trade with Russia began in the early nineteenth century and continued until the border was closed in 1917 but by then other markets had opened up, notably shipping large volumes of the air-dried fish or stockfish to Italy, Spain and West Africa. It was the loss of the trade with Nigeria in 1969 that led to the closure of this fish factory.

Industrial whaling is included, since after establishing the factories at Vadsø, Svend Foy moved on to Mehamn which is close to Gamvik and has better harbour facilities. It is common in this part of Norway to see large racks for drying fish, particularly cod, in the open air. These racks come in two principal forms – either a flat structure with the fish hung on a single level or as a triangular ‘flake’ structure known as a ‘hjell’. The museum has a large flake that is being maintained to demonstrate a typical post-war arrangement that was used until about 1970 and is one of the last standing in the area. Gamvik museum has two interesting boats. The first is an early motor fishing vessel that was built in the early 1930s with a 4hp Grey engine. It was hidden during the war and so survived intact. The other is another ‘pram boat’ used to shuttle between the shore and the Hurtigruten ship. Since 1985, when good road access between Gamvik and Mehamn became available, the ship no longer calls at Gamvik. This important boat is stored outside, but thanks to the climatic conditions is in good condition. It was built in 1971 in Vestnes by J R Ås.

The museum service has also constructed a trail from the Slettnes lighthouse (the most northerly mainland lighthouse in Europe) that takes the visitor around a number of former settlements, abandoned during or shortly after the Second World War. The remains of the foundations of buildings are clear, along with some identifiable field structures, fish drying racks, mooring bolts and a shelter constructed from an upturned lifeboat that came ashore from a ship sunk in an Arctic Convoy.

**Oksevågen**

A few kilometres east of Kjellerfjord there can be found the remains of a large whaling station, associated with Svend Foy, at Oksevågen. The area is interpreted on several information boards. The most apparent remains are large boilers and the supporting structures that were used for rendering down the blubber into whale oils. There is little information readily available, other than that provided at the location.

**Kåfjord, near Alta**

The Alten copper mine and associated works at Kåfjord, on the main road west of Alta has a heritage trail. The mine operated under English ownership from 1826 until 1878 and then under Swedish ownership until 1909. The trail forms one of the heritage sites maintained by the Alta Museum, which focuses on the ancient rock carvings that were discovered by chance and are now included in the UNESCO World Heritage List.

**Narvik**

One further museum that is worth a visit is housed in the former offices of the railway company that established the link between the Swedish iron ore mines and the port of Narvik, made famous by the attempts to deny the port to Germany following the invasion of Norway in April 1940. The location provides excellent views of the ore loading terminal which is generally active, loading bulk carriers from the stock yards through conveyors.

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**Heritage of Industry Tours 2015**

**Industrial Explorer Weekend**
Sheffield & South Yorkshire – 9 – 12 April 2015

**Country House – Comfort & Convenience**
The North West – 27 April - 1 May 2015

**AIA Spring Tour**
The Rhone Valley 11 - 17 May 2015

**Country House – Comfort & Convenience**
East Anglia – 1 - 5 June 2015

**City Safari**
Norwich & Great Yarmouth – 17 - 20 September 2015

As on a number of previous occasions Heritage of Industry intends to arrange a visit for members (and others) to join the Engineering Heritage Australia Conference. We can now confirm that the Conference will be in Newcastle, New South Wales from 7 to 9 December 2015. The pre-Conference tour organised by EHA will be 3 - 6 December.

As before, we intend to organise 3 or 4 days of additional touring as a pre-pre-Conference Tour and EHA have already offered us help in finding exciting places to visit in Canberra and NSW.

Please register interest now if you are at all interested so that we can send you any further details as they emerge.

We would be particularly interested if you thought a post-Conference tour instead of the pre-pre-Conference tour would suit your arrangements any better.
At the recent AIA Conference most delegates who stopped to look at the Greenwich Industrial History stand said that they were only aware of the Cutty Sark ship in relation to Greenwich IA. Of course there is a vast amount more – but how many of them realised that only a few yards away from Cutty Sark is an unusual means of crossing the River — the Greenwich Foot Tunnel. This has recently been the subject of a major renovation programme which has uncovered a great deal of information about the tunnel and its construction.

Dr Mary Mills, Chair of Friends of Greenwich and Woolwich Foot Tunnels. (FOGWOFT)

As far as we are aware the Greenwich Foot Tunnel – and its sister at Woolwich — is one of only a few sub-river pedestrian tunnels. It was opened in 1902 having been designed by Sir Alexander Binnie for the London County Council. It was built in order to allow access for south London residents to jobs in the Docks and also to enable east and south east Londoners to cross the river for free — like west Londoners who cross on untolled bridges.

Construction began with the sinking of a shaft on the north bank of the river and advanced under the river with special measures taken to prevent compression sickness amongst the workforce. The tunnel is formed of 32mm iron plates bolted together, lined with concrete and white glazed ceramic tiles. It is reached by lifts and spiral staircases — 88 steps on the north side and 100 at Greenwich. The stairs are of wrought iron with brittle non-polishing cast iron tread plates. The shafts are reached through brick entrance rotundas capped with (listed) glass domes. The walls of the rotundas are built over the outer edge of caissons which hold the shafts; the lift and stair structures hang from the caisson, and do not bear structurally on the horizontal surface at the base of the shafts. A thick vertical stanchion stands in front of the lift doors and this runs the whole depth of the shaft and ties the stairs and lifts together. Hundreds of people have used the tunnel daily to cross the river — and pedestrians have now been joined by many cyclists, for whom it is the major crossing point between Tower Bridge and the Woolwich Free Ferry.

The tunnel is now over a hundred years old and feeling its age. In 2008 it was agreed that it needed to be, at least, refurbished. Work began in 2009 but it soon became clear that the project was running very late and was in trouble. As 2012 approached, when the tunnel would be needed as a river crossing during the Olympics, public disquiet grew. At this point FOGWOFT was launched — Friends of Greenwich and Woolwich Foot Tunnels.

In 2012, with works still in a complete mess, the Royal Borough of Greenwich set up an inquiry into the refurbishment scheme. The eventual consultant’s report to the Council commented that while work on the tunnel was a small job for the construction industry it was nevertheless unique and complex in a way that had not really been appreciated.

FOGWOFT has worked closely with Council officers and reported on work as it has been completed. As work progressed problems with century old structures were uncovered as well as problems of drainage and the formation of miniature stalagmites as condensation drips on to the floor. The clear wired glass on the domes had the dirt of many decades on it and people assumed the murky look was traditional. English Heritage agreed that the new laminated glass would have a feint white smoke tint to reproduce that unwashed look! FOGWOFT helped with a public consultation as to whether the tunnel should be re-tiled or whether the traditional tile work should be cleaned and remain, albeit very scarred.

The original mahogany lift interiors have been re-installed in new state-of-the-art lifts — but there have been frequent lift breakdowns. The ventilation system allows hot air from the tunnel to be vented through louvres in the cupolas but solar heat builds up under the (listed) glass domes. The electronic lift controls cut out at temperatures above 43°C — the highest recorded temperature in the domes has been 56°C. Initially it became a struggle to keep the new equipment cool; temporary air conditioned boxes were built round the control cabinets and industrial fans used. Even so, they could not cope and now permanent cool boxes have been installed as well as back up air conditioning units and since then the lifts have been more reliable — it has been a lesson in how advances in technology produce new problems.
AIA 2014 AGM

At the 2014 AGM in Chester, Keith Falconer was elected as Chairman to succeed Mark Sissons who had completed his three year term. Michael Nevell was elected as Vice Chairman. Mark has been co-opted to Council to continue his good work managing the Restoration Grants.

David de Haan continues as Secretary and John Jones as Treasurer.

Shane Kelleher, Ian Miller and Tegwen Roberts were elected to the Council. Steve Miles, Ian West and Roy Murphy retired from the Council but have all been co-opted back – Steve as Conference Booking Secretary, Ian as co-editor of IA Review and Roy as Publicity Officer.

AIA Award Winners 2014

The Saturday afternoon sessions at the Chester AIA Conference witnessed a bumper crop of awards being made, showing that the Association is meeting one of its main objectives in helping to raise standards of publication and recording.

Thanks to the generosity of the late Peter Neaverson, the AIA is able to make annual awards for contributions to outstanding scholarship and two were made this year, one to Jonathan Coad for his magisterial Support for the Fleet: Architecture and Engineering of the Royal Navy’s bases, 1700-1914, and the other to Mike Williams for his long-awaited Textile Mills of South-west England. Both are published by English Heritage and the AIA’s awards for these books are now acknowledged on their website. The Publications Award for commercially produced publications went to Barrie Trinder, a long-standing friend of the AIA, for his definitive Britain’s Industrial Revolution: the Making of a Manufacturing People 1700-1870. The Local Society Publications Award went to the Sussex Industrial Archaeology Society for the high standard of their various publications, including Sussex Industrial History.

The Archaeological Report Award for funded reports was shared between David de Haan for his Iron Bridge Conservation Plan and Shane Kelleher and Rick Tyler for their Middleport Pottery Historic Building Record Report. The award for an unfunded archaeological report produced by volunteers went to the Roggins Local History Group for their work on the Silkstone Waggonway in South Yorkshire.

The AIA’s newest award, the Peter Neaverson Award for Digital Initiative and Innovation, was given jointly to the Glamorgan-Gwent Archaeological Trust for their excavation and reconstruction drawings of the Ynysfach Ironworks in South Wales and to IDEA, an organisation sponsoring young people to engage in digital initiatives of this kind. Their presentation was much admired and it was excellent to have six young people at an AIA conference to receive their award.

Marilyn Palmer

The 2014 award winners at the Chester Conference in September – left to right

Colin Bower, Roggins Local History Society: Unfunded Archaeological Award;
David de Haan, Ironbridge Gorge Museum Trust; joint winner, Funded Archaeological Report Award;
Paul Sautter, receiving Local Society Publications Award on behalf of the Sussex Industrial Archaeology Society;
Marilyn Palmer, President, AIA;
Barrie Trinder, Commercial Publications Award;
Kai Fraser, IDEA: Digital Initiative Award;
Shane Kelleher; joint winner, Funded Archaeological Report Award
Rowena Hart, Glamorgan-Gwent Archaeological Trust: Digital Initiative Award;
Richard Lewis, Glamorgan-Gwent Archaeological Trust: Digital Initiative Award;
Liam Fraser, IDEA: Digital Initiative Award;
Nick Cooper, IDEA: Digital Initiative Award;
Keith Falconer, receiving Peter Neaverson Award for Outstanding Scholarship on behalf of Mike Williams, English Heritage;
Jonathan Coad, Peter Neaverson Award for Outstanding Scholarship.
An enquiry answered

The AIA receives a number of very varied enquiries and we do our best to help.

On 14 July Gary Wyatt emailed the AIA office – ‘I look after the archive material for Hethersett, a village near Norwich. I have recently been asked by a resident about the history of an iron plate/drain cover or similar set in the tarmac of a village road. I’ve attached a picture and would be very grateful if you can tell me what it might be? It’s about 15cm both in length and diameter, and has the clear markings B G L C. It doesn’t look like any kind of modern service duct. Any info would be much appreciated.’

The AIA Liaison Office at Ironbridge published the enquiry and John Jones of Stoneham in Suffolk (our treasurer) replied – ‘I suspect the initials could refer to the British Gas Light Company Limited, who were supplying the city of Norwich with gas from their works at Bishop’s Bridge and St Martin’s at Palace, according to Kelly’s Directory of 1892. There are similar entries in the 1904 and 1925 editions of the Directory. The directories do not state whether the supply was extended to Hethersett.’

Ian West (joint editor of the IA Review) added – ‘a (medium pressure) main was laid from Norwich to supply Wymondham in 1939. This would have been done by BGLC and I imagine this main followed the main road and passed through Hethersett. However, the object in the photo, which is probably a valve box cover, looks to me to be older than 1939, so either there was already a gas main supplying Hethersett from Norwich before 1939 or they re-used an old valve box cover.’ He also added a summary of the development of the gas industry in parts of Norfolk which began after 1815 when John Taylor of Norwich and his partner Martineau obtained a patent for apparatus to manufacture gas from oil. In 1820 they formed the Norwich Gas Light Company. In 1825 the British Gas Light Company purchased the undertaking although the company continued to trade as Norwich GLC. They continued to manufacture gas from oil until 1830 when the undertaking converted to coal gas manufacture.

Gary Wyatt replied on 17 July – ‘Many thanks for the input from yourself and your group. Much appreciated. It has prompted me to look into when a gas supply first reached our village, which at the time BGLC was founded would have been rather remote form Norwich. It is not clear to me if this plate provides access to the modern gas supply (seems unlikely and I probably shouldn’t lift it to inspect!!) but if not, then I’m surprised it has survived resurfacing over the years (the road in question is not a heavily used one but must have been done a number of times).’

Unfortunately we are not always able to answer queries so thoroughly or promptly.

Welcome to new members
Andrew MacDairmid Carlisle
David Hardwick Wootton-under-Edge, Glos
Dr Diana M Leitch Manchester
Chris Talbot Azores
Derek Stagg Coventry

European Industrial Heritage Year 2015

As its contribution to European Industrial Heritage Year 2015, the AIA is planning to address two vital questions.

How to put a value on the contribution made by Britain’s industrial heritage to its cultural and economic welfare and how to fund and sustain this industrial heritage.

A day is being set aside before the AIA conference at Brighton in September next year at which speakers from a wide range of disciplines will be invited to share their views on these important topics.

We must all feel a sense of relief that the Wedgewood Collection has been saved and this through concerted action by a range of organisations, including the Art Fund. Perhaps we should work towards setting up a similar mechanism to save our important industrial heritage sites?

The European Federation of Associations of Industrial and Technical Heritage (E-FAITH) dealt with similar themes at its 8th European Industrial and Technical Weekend at Lyon in France in October this year.

E-FAITH was set up some years ago by associations from different European countries to promote industrial heritage at a European level. One of its initiatives was to launch a campaign for a European Industrial Heritage Year in 2015, a project that was endorsed by the Council of Europe.

At present more than 150 organisations and institutions from 19 European countries have endorsed the initiative, and in many places volunteers and NGOs as well as public authorities and institutions are devising projects and programmes to take place in 2015.

The European Industrial and Technical Heritage Year will be and should be a tribute to the non-paid and unselfish dedication of so many, within organisations, or individually.

If your association is planning to organise special events in 2015 or if you are aware of special events to be organised by others under the heading of the 2015 campaign, E-FAITH would like to know.

A start has also been made by E-FAITH on establishing trans-national thematic working groups to explore common problems and to prepare gazetteers and record specific types of industrial and technical heritage. The initiative for a working group is taken by a non-profit association from one country (the leader), who involves at least two other associations (partners) from two different countries. The intention is that these working groups will start in 2015 but continue their approach beyond that year, develop a strong project, and - who knows - one day could become eligible for a European grant.

Paul Saultner
Acetone and Women workers in WW1

Further to the letter from Martin Adams (IA News 170) giving details of the acetone process developed in WWI and the distillery where the work took place, John McGuiness in his original letter (IA News 169) also raised the question of the employment of women workers in WWI and images of their work.

A major example of the acetone connection and of the large scale employment of women for the first time was the Royal Gunpowder Factory at Waltham Abbey, a few miles to the north of Bromley-by-Bow. Between 1888 and 1891 a chemical explosives complex had been erected on the South Site of the factory to manufacture cordite. From its inception, acetone for this process was bought in from a chemical manufacturer in East London. Costs were high and, in order to reduce the amount purchased, an innovative acetone recovery plant was developed in 1905, involving the capture of the acetone vapour which had previously been wastefully driven off into the air in the process of cordite drying. In WWII pressure on acetone supplies continued to be a preoccupation and a second recovery plant was built.

Up to WWI the factory workforce had been virtually 100% male. From 1916 female workers were recruited; by 1917 they numbered around 3000, almost exactly equal to the male staff. By the end of the war there were 6000, representing a tenfold increase from the prewar level. It has been particularly noticeable that, in the media, a preponderance of images of female munitions workers in WWI have been shown in filling factories where munitions were assembled and explosives were filled into shells etc. and very few showing the actual manufacture of explosives. The series of images taken in 1917 at Waltham Abbey of female workers standing alongside the manufacturing plant they operated, which is held in the Factory Archive, is therefore of particular value, both as an illustration of their important work and as a record of a technology previously unpublicised.

Les Tucker

Hoffmann kilns

In an earlier work (see below) I dealt at length with the history and technology of the Hoffmann (sic) kiln process. I listed all Hoffmann lime kilns that my research had identified and gave their current status. There are indeed three surviving true Hoffmann kilns – one at Langcliffe in the Yorkshire Dales, one at Ingleton in the same area and one at Minera near Wrexham. I also included the Llanymynech kiln (IA News 170 p5) in the list but what I did not discuss in that paper is the fact that this kiln is a Hoffmann-derivative kiln rather than a true Hoffmann. To be pedantic, perhaps, it should be referred to as a Warren kiln as it was constructed according to the specification (Patent no. 23,946 of 22 December 1894) of George Warren, brickmaker of Danby Terrace, Exmouth, entitled ‘Provisional specification: improvements in the construction of continuous kilns or ovens for burning brick, lime, or cement’. It built on improvements to the Hoffmann patents/designs patented by William Sercombe (patent no. 238 of 31 October 1891), a brick works manager also in Exmouth.

Various modifications to Hoffmann’s basic principal were unable to solve the problem of ensuring an even burn across the width of the firing chambers as the extraction flues were only sited on the inner face of the chambers. This had the effect of drawing hotter air to that side with
The fish market in Grimsby is one of the most important in Europe and Lincolnshire is the largest producer of potatoes in the UK. Not surprisingly there are several fish and chips shops in the county town of Lincoln itself and, moreover, invention is not dead. Lincoln has been in the news recently following an innovation in catering involving fish and chip outlets. Over the Easter period this year 2014, Elite Fish & Chips in Moorland Way, Lincoln, were selling chocolate creme eggs deep-fried in batter. Originally something of a joke introduced to raise money for charity, the deep fried eggs proved surprisingly popular. They cost £1 to take away and in the chip shop restaurant served with ice cream the cost was £2. As well as the premises in Lincoln, Elite have branches in the High Street, Ruskington and Grantham Road, Sleaford. This Elite charity raising initiative received quite wide press coverage and there was even a report in the New Zealand Herald in April.

Robert Carr

The Home Front Legacy 1914-18 – A War of Production

The Council for British Archaeology (CBA) supported by English Heritage, Cadw, Historic Scotland, the Northern Ireland Environment Agency, and other partners has launched a project to document the physical legacy of Home Front 1914-18. A recording toolkit has been developed with the Universities of Bristol and York and partners across the four home countries – www.homefrontlegacy.org.uk/wp/. The concept is very similar to the AIA’s early 1990s initiative to record sites of industrial archaeological interest. On the CBA’s website is a form that may be downloaded or completed electronically via an i pad or iphone. A guide to completing the records and an electronic thesaurus is also provided. A practical handbook is planned for next year. Records created are sent directly to the local Historic Environment Record and will also be used to populate a national map.

The fortunes of the armed forces depended directly on the industrial base to equip and sustain the huge citizen armies. During the war the Ministry of Munitions controlled around 6000 factories. These ranged from state of the art and newly constructed national factories to older workshops modified for war production. The armed forces required everything in huge quantities from boots to boxes, small arms ammunition to large shells, and new machines of war, such as aircraft and tanks. Many factories will already be known, but often their contribution to the war effort is unrecorded. At Leigh, Lancashire, a recently completed mill was converted into a prisoner of war camp and prisoners were employed at a local colliery and other places. The war also resulted in the displacement of thousands or workers, and in some places, housing estates and single dwellings may be the only traces of these wartime enterprises. The project is also keen to document buildings which assumed new wartime roles, for example, as headquarters for charities or soldiers’ rest rooms.

In answer to John McGuinness’s question about conkers; the fermentation process took place at the Synthetic Products Company, King’s Lynn, and the Royal Naval Cordite Factory, Holton Heath Dorset, where the remains of the plant are scheduled. More information is given in Cocroft Dangerous Energy (2000).

The Britain from Above project team is also asking for assistance to tag traces of the First World War visible on the online Aerofilms collection. Some of the 95,000 images on their website date from 1920 and provide a unique record of Britain at the end of the war. It is also a largely untapped source of information for early twentieth century industrial landscape www.english-heritage.org.uk/about/news/britain-from-above-first-world-war. For more information on the Home Front during the WWI please also see www.english-heritage.org.uk/caring/first-world-war-home-front.

Wayne Cocroft

Paper mill expert

I am looking for an expert on paper mills – I have a client who owns what was once a paper mill (it subsequently became a corn mill) and I need someone who can provide expert advice and potentially carry out a survey of the building identifying how it would originally have functioned. Would you be able to recommend anyone who would be considered the best choice for this? I can be contacted at george@wsarch.co.uk

George (Anelay) MFA, Director, West Sussex Archaeology Ltd

‘The table attracts more friends than the mind.’

At this year’s Annual Conference in Chester, an old saying was proved to be true.

To accompany the launch of the Cheshire gazetteer wines were laid on, together with a splendid selection of local cheeses and rustic bakes. Noticeable was the delight shown by those present in rapidly reducing these offerings to a handful of small crumbs on the plates.

The amount of toil and fact-gathering to produce the gazetteer seemed of little consequence compared with raiding the food table. Similarly no conversation took place regarding the historic change from hard year-aged Cheshire cheeses to younger (hence cheaper) crumbly cheeses demanded by the growing industrial towns of Merseyside and Staffordshire. The building of canals, improved roads, railway growth and agricultural improvements were as nought to the call of the stomach. Sales of Cheshire Blue at the close-by shop reached record levels over that weekend.

Will the 2015 Conference publication be launched with a stick of Brighton Rock for everyone?

Terry Evans
Clipstone Colliery headstocks

At 200 feet Clipstone headstocks are the tallest headstocks in the United Kingdom. They are Grade II listed structures equipped with one of the only remaining examples of a Koepe winding system. They are currently in danger. A planning application has been submitted by Welbeck Estates to get the structures de-listed and demolished. They are a national asset of international importance to the heritage community and a valuable community asset. Clipstone Colliery Regeneration Trust - a not-for-profit community group wants to see them saved and believes the site can be transformed into a mixed use commercial, entertainment and residential area. Among the plans is a mile-long zip wire, a climbing centre, a start-up business area and self-build housing. The Trust wants the planning application to be refused and the government to protect its heritage assets.

The Trust would like your support by signing the petition – go to epetitions.direct.gov.uk/petitions/61497.

David St John Thomas

Members will be sorry to read that David St John Thomas died on 18 August shortly before his 85th birthday. He was on his favourite cruise ship in the Baltic. There must be few of us who do not have on our shelves books written by him or at least published by him.

He formed David & Charles in 1960 with Charles Hadfield in Newton Abbot, Devon. In the 1970s the company bought the Readers’ Union, a group of book clubs catering to enthusiasts of needlecraft, handicrafts, gardening, equestrian pursuits and photography, and established David & Charles Inc in Vermont. At its height, the combined operations employed over 300 people.

Besides publishing a wide range of books on transport and engineering history and biography, the company was also noted for publishing facsimiles of historic reference books such as sections of Rees’s Cyclopedia and Bradshaw’s Canals and railway timetables.

St John Thomas wrote over 30 books himself, including many titles about railways. In the late 1980s, the business was sold to Reader's Digest, but he kept the Writers News division, which he continued to run for many years.

Vulcan refitted and on show

The full scale replica of the Vulcan, the world's first fully iron-hulled boat, was officially opened by Hilary and Tony Howatt and David Wilson – three descendants of Thomas Wilson, the visionary shipwright of the Vulcan.

EMIAC

The East Midlands Industrial Archaeology Conference which was planned for October 2014 unfortunately had to be cancelled. It was to have been on aspects of the Form ula One motor racing industry around Silverstone in Northamptonshire. However, with a few weeks to go, it proved impractical to get a confirmed speaker line up due to the seemingly volatile nature of employment in the motor racing industry, which also impacted on the proposed venue for the event. Thus the decision was taken to cancel.

Heritage Day 2014

We have good news this year. Ed Vaizey MP, Minister for Culture, Communications and Creative Industries, Helen Goodman MP, Shadow Minister for Culture, Media and Sport, and Baroness Bonham Carter, Liberal Democrat Speaker on Culture, will be joining The Heritage Alliance for the annual Heritage Day meeting on 4 December 2014.

This will take place at Glaziers Hall in Central London and the day will see Heritage Alliance Chair, Loyd Grossman, bring together representatives from the three main political parties to debate the place of heritage in national life before the issue is opened to the floor for questions.

Heritage Day is one of the biggest events in the heritage calendar. The event offers delegates the chance to meet a wide range of colleagues from across the sector, hear eminent speakers address the latest issues affecting the future of heritage and the chance to take part in a lively question and answer session. The afternoon will see political hustings led by Heritage Alliance chairm an Loyd Grossman and the fourth annual presentation of the Heritage Alliance Heroes Awards.

Robert Carr

News from the North West

Work has recently started at Nenthead mines site, after the landowners qualified for Higher Level Stewardship (Natural England). The work is being overseen by the Nenthead Mines Conservation Society. The plans include restoration of the northern explosives store with volunteer labour. Professional stone masons (William Aney Ltd.) are undertaking work on the smelt mill spine wall, the culvert outside Smallcleugh mine entrance and the Stagg condenser wheel pit and the associated flues. Various walls holding mine and dressing floor waste from entering the river have also been repaired.

Altogether Archaeology, a volunteer group organised by the North Pennine Area of Outstanding Natural Beauty, have also been working on the site. They have carried out a survey of the watercourses and leats on the site and there is a series of small excavations planned to investigate some new sites and possible blockages in the leat system. It is hoped that the survey will allow some of the water courses and leats to be reinstated to help prevent flooding on the site and the washing of mine waste into the river.

Another scheme to restore Warwick Bridge corn mill and produce an artisan bakery has been put forward. The mill II* and on the English Heritage at risk register is a complete mill last worked in 1970s.

The redevelopment of the Back Barrow iron works site, in south Cumbria, for housing is to start again. Part of the requirements, are that the furnace stack is to be consolidated before the construction of housing can start.

Graham Brooks

Vulcan on the Monkland canal with Tony and Hilary Howatt and David Wilson aboard the three descendants of the original Vulcan shipwright Thomas Wilson
Rover Safety Bicycle

In September the Institution of Mechanical Engineers awarded their 97th Engineering Heritage Award to the Rover Safety Bicycle, recognised as the first modern bicycle.

With its low riding position and chain driven rear wheel, John Kemp Starley’s design revolutionised society’s approach to cycling and continues to be the basic pattern used in today’s bicycles.

Designed and built in Coventry in 1888, the Rover Safety Bicycle’s front wheel was slightly larger than the rear, resulting in steering that was more positive and cushioned than the smaller front wheels of rival designs. The handlebars and seat were adjustable, and the chainwheel and rear sprocket could also be changed to alter the bicycle’s gearing.

This pioneering design allowed the bicycle to be enjoyed by all and sparked a large increase in the number of people who used cycling as a primary form of transport.

It is also credited with playing an important role in the women’s liberation movement, as it offered women the ability to travel independently and acted as a key mode of transport for suffragettes.

An example is on show in the Coventry Transport Museum.

Waterworks Museum Wins Heritage Award

The Waterworks Museum in Hereford has been presented with an award by the W H Allen Engineering Association for the rescue and restoration of an historic steam engine. Three years ago the single-cylinder Allen engine was discovered lying derelict in a farmer’s field in Upton Bishop near Ross-on-Wye. Brought to the museum it was stripped down, rebuilt and restored to working order.

The recovered engine has been stripped, rebuilt and completely restored to working order by Museum volunteer engineers. The award was presented on 31 August by Mr David Allen, great-grandson of the company founder, William Henry Allen.

Original Great Western building uncovered by Crossrail

A turntable, built in Swindon in 1881-2, together with the foundations of an 1850s 200m engine shed have been uncovered by engineers working on Crossrail at Westbourne Park. The 45 foot diameter turntable allowed both broad and standard gauge engines to use the shed which had four tracks with inspection pits. The shed was demolished in 1906.

Railway Heritage Trust sponsors two new walking routes

The Railway Heritage Trust has awarded two grants, each of £200,000, to Railway Paths Limited to create new walking routes over viaducts on closed railway lines.

Torksey Viaduct links Nottinghamshire and Lincolnshire over the River Trent. Built in 1847 by the Manchester, Sheffield & Leeds Railway, to the designs of John Fowler, it is widely considered as the first box girder bridge ever built, but it was not satisfactory in service. In 1897 it was strengthened by the insertion of a centre set of main girders. The viaduct closed to rail traffic in 1959, but has been listed. BRB (Residuary) Ltd transferred ownership to Railway Paths Ltd many years ago, and the Railway Heritage Trust has been pleased to give a grant towards partial repainting of the structure, and the provision of a walkway that will create a new link between Torksey in Lincolnshire, and Cottam in Nottinghamshire. These two villages are less than two miles apart physically, but currently it takes a journey of over ten miles to get from one to the other.

Lumb Viaduct lies on the Ramsbottom - Accrington branch of the Lancashire & Yorkshire Railway, opening in 1848, and closing finally in 1966. The viaduct is a conventional masonry structure over the River Inw ell, and by restoring the parapets it becomes possible to extend an existing cycle route from Stubbins, which ends at the south end of the viaduct, to link with Helmshore, a mile to the north.

Hemerdon tungsten mine

Work has started to excavate Britain’s first new metal mine for more than 40 years.

The Hemerdon tungsten mine near Plympton on the edge of Dartmoor will cost about £130m to dig and is expected to start producing the metal in 2015.

The mine which will exploit the world’s fourth-largest deposit of tungsten will be responsible for three to four per cent of global tungsten production. The tungsten deposit was initially discovered in 1867; further exploration in 1916 revealed a wide-spread, low grade wolframite deposit. It was worked between 1917 and 1920 and between 1934 and 1944.

Australian owners Wolf Minerals hope to produce about 3,000 tonnes of tungsten and tin each year with the tungsten worth around £25,000 per ton.

The proposed development is huge. The planning permission allows for an opencast pit that could eventually be about 850m long, 540m wide and 200m deep. The planned processing plant will be able to process three million tonnes of rock per year over an operating period of about 13 years.

**1888 design Rover Safety Bicycle by John Kemp Starley**

The fully-enclosed high-speed steam engine was made by WH Allen & Co Ltd of Bedford for use on an Admiralty patrol boat in 1917. It was in naval service until 1939 when it was converted for land use near Bristol. History between then and its discovery in a Herefordshire field is sadly non-existent.

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Proposed development at Smithfield turned down

The Department for Communities and Local Government has agreed with the Planning Inspector’s recommendation to refuse an application for the redevelopment of part of Smithfield Market in London, which was put forward by TIAA Henderson Real Estate (Henderson Global Investors).

The plans for Smithfield Market would have seen the partial demolition of existing buildings and other structures, alongside the part redevelopment of the existing buildings to provide office (B1) and retail (A1-A3) uses. In the decision letter, DCLG stated that there was a ‘strong presumption’ against the grant of planning permission ‘for development which would harm the character or appearance of a conservation area of the setting of a listed building’.

Gleneagles Station restored

The Railway Heritage Trust awarded First ScotRail two grants, totalling £131,000, towards the restoration of the historic station at Gleneagles, as part of an industry programme to ensure the station was at its best for the 2014 Ryder Cup. The station was built by the Caledonian Railway to serve the company’s new luxury hotel at Gleneagles, and replaced the earlier Crieff Junction. The station opened in 1919, five years before the hotel was complete. Gleneagles was the first station that the Caledonian built after the Great War, and probably the last station that it ever built, as it was amalgamated into the London Midland & Scottish Railway in 1923.

The station has been repeatedly repainted throughout its life, and was in the colours of the former Strathclyde PTE. Decreasing traffic levels meant that the station was no longer manned, and all the windows had been boarded up. The station, which is Category B listed, looked very woebegone.

With the 2014 Ryder Cup at Gleneagles the industry and the Scottish Government decided to upgrade the station, with a new road access and full disabled provision, as well as new waiting and toilet facilities. The quality of the design and workmanship on this scheme has been outstanding, especially the provision of the new lifts to the footbridge, which has been done without compromising the original 1919 design in any way: a major achievement. The Trust has given £131,000 towards restoring the windows of the buildings, and to general heritage improvements. In particular, the station has been repainted in the original colours of the Caledonian Railway, which it only carried for its first few years of life, but which suit it particularly well.

If Lloyd Grossman ruled the world

Writing the popular and always entertaining column in Prospect magazine, If I Ruled the World, Heritage Alliance Chairman Lloyd Grossman explains what really bothers him.

Following previous contributors, Lloyd Grossman tells us what he would do if he were in power. He suggests he would encourage a closer engagement with the past; he would ‘decree that all should benefit from a more thorough acquaintance with all the stuff left over by the past’; and he would make history a compulsory subject until the age of 16.

‘Where is the government policy that treats heritage not as a burden but as one of our greatest national assets?’ Addressing the Chancellor: ‘So dear Chancellor, if you are reading this - please think about getting rid of the ridiculous VAT regime which slaps a full rate of heritage tax on the repair and maintenance of old buildings but levies 0% on new build and demolition’.

LOCAL SOCIETY AND OTHER PERIODICALS RECEIVED

Abstracts will appear in Industrial Archaeology Review.

Bristol Industrial Archaeological Society Bulletin, 142, Autumn 2014
Cumbria Industrial History Society Bulletin, 89, August 2014
Greater London Industrial Archaeology Society Newsletter, 273, August 2014
Histelec News: Newsletter of the South Western Electricity Historical Society, 57, August 2014
Historic Gas Times, 80, September 2014
ICE Panel for Historical Engineering Works Newsletter, 143, September 2014
Industrial Heritage Association of Ireland Newsletter, 44, April 2014
Leicestershire Industrial History Society Newsletter, 2/8, Spring 2014
Manchester Region Industrial Archaeology Society Newsletter, 146, March 2014; 147, August 2014
Midland Wind and Watermills Group Newsletter, 109, August 2014
Merseyside Industrial Heritage Society Newsletter, 334, June 2014; 336, September 2014
National Association of Mining History Organisations Newsletter, 68, June 2014; 69, September 2014
Northamptonshire Industrial Archaeology Group Newsletter, 131, Summer 2014
North East Derbyshire Industrial Archaeology Society Newsletter, 55, August 2014
Piers: the Journal of the National Piers Society, 112, Summer 2014
Scottish Business and Industrial History, 28, July 2013
Scottish Industrial Heritage Society Bulletin, 71, June 2014
Somerset Industrial Archaeological Society Bulletin, 126, August 2014

SOUTH WEST WALES INDUSTRIAL ARCHAEOLOGY SOCIETY NEWSLETTER

South West Wales Industrial Archaeology Society Bulletin, 120, June 2014
Suffolk Industrial Archaeology Society Newsletter, 126, August 2014
Surrey Industrial History Group Newsletter, 200, July 2014
Sussex Industrial Archaeology Society Newsletter, 163, July 2014
Sussex Industrial History, 44, 2014
Sussex Mills Group Newsletter, 163, July 2014
Trevithick Society Newsletter, 164, Summer 2014
WaterWords: News from the Waterworks Museum, Hereford, Summer 2014

BOOKS


The facts behind the myths and mysteries using modern research and newly discovered information. What was life really like for railwaymen in the days of steam? Was GWR influence to be seen in far flung parts of the world like Egypt Malaya and Australia? The author reveals the facts about the mythical ‘Hawkesworth Pacific’ and the projects that were never progressed. The author paints a broad canvas putting Swindon in its British, European and world wide context.


Bradshaw’s Guide was published very shortly after the line opened. It gave the reader a unique insight into the new world of the Victorian railways but went beyond the engineering aspect to record the sights to be seen in towns encountered along the route. Brunel expert John Christopher presents Bradshaw’s original account as a continuous journey from Paddington to Penzance. The text is accompanied by contemporary images as well as many new colour photographs of the same journey today.
DIARY

22 November 2014
CELEBRATING STEAM SYMPOSIUM.
Wiltshire Archaeological and Natural History Society, Devizes Town Hall. Tel 01380 727369
wanhs@wiltshireheritage.org.uk

4 December 2014
ANNUAL HERITAGE DAY
Glaziers Hall, 9 Montague Close, London SE1. See page 21

2015 EUROPEAN INDUSTRIAL AND TECHNOLOGICAL HERITAGE YEAR
(See E-FAITH website www.e-faith.org for details)

20 - 21 March 2015
CONSTRUCTION HISTORY SOCIETY
Second Annual Conference
Queens’ College, Cambridge

9 – 12 April 2015
INDUSTRIAL EXPLORER WEEKEND
Sheffield & South Yorkshire see page 15

18 April 2015
SOUTH WALES AND WEST REGIONAL IA CONFERENCE
Petroc College, Tiverton, Devon bren danhurl ey@fastmail.co.uk

25 April 2015
SERIAC
The Hub, City College, Chapel Road, Southampton SO14 5GL
Hosted by Hampshire I.A Society

27 April - 1 May 2015
COUNTRY HOUSE - COMFORT & CONVENIENCE
The North West see page 15

11 - 17 May 2015
AIA SPRING TOUR
The Rhone Valley see page 15

4-7 June 2015

4 - 9 September 2015
AIA ANNUAL CONFERENCE, BRIGHTON
The Association’s AGM and annual conference in 2014 will be in Brighton. Full details and a booking form will be enclosed with the next edition.

6 - 11 September 2015
TICCH 2015 CONGRESS
Lille, France; Industrial Heritage in the Twenty-First Century ticch-2015.sciencesconf.org/ ?lang=en

Information for the diary should be sent directly to the Editor as soon as it is available. Dates of mailing and last dates for receipt of copy are given below. Items will normally appear in successive issues up to the date of the event. Please ensure details are sent in if you wish your event to be advised.

More Diary Dates can be found on the AIA website at www.industrial-archaeology.org

Boarding the Birkenhead tram at the Chester Conference

Crofton Winter Work Open Days
See behind the scenes at the Crofton Pumping Station this winter, when our teams of dedicated volunteers cosset and maintain the two historic beam engines.

The Pumping Station will be open free of charge on the following days from 10.30 to 3.30 pm.

Saturday 13 December 2014
Saturday 7 February 2015
Saturday 7 March 2015

This winter we are giving visitors a rare chance to see maintenance works in progress, when we dismantle parts of the engines normally hidden from view. It’s cold inside the Pumping Station during the winter as the boiler is not in steam and drained down but tea, coffee and biscuits will be available for a small charge.

The views expressed in this bulletin are not necessarily those of the Association for Industrial Archaeology.