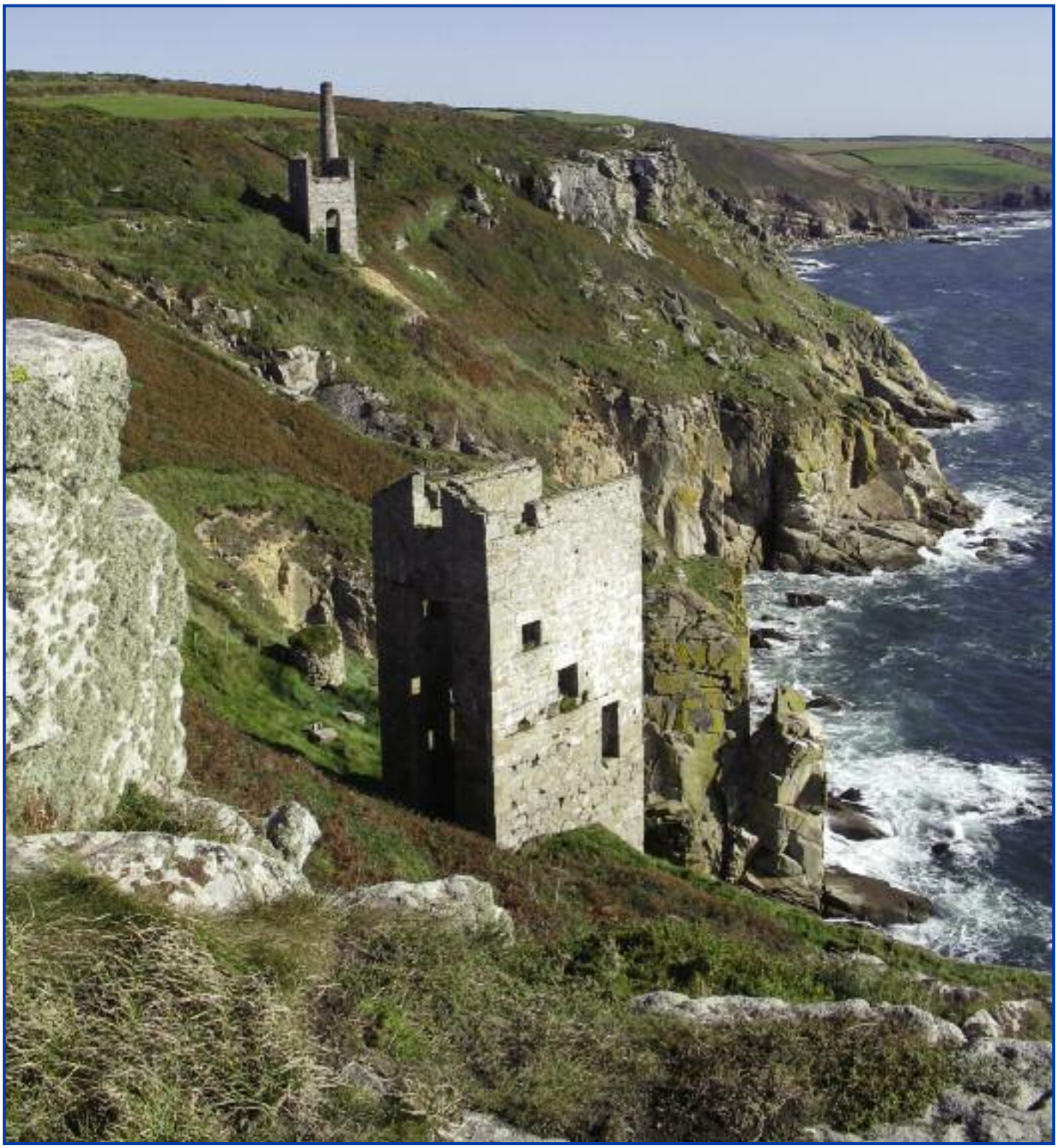
INDUSTRIAL ARCHAEOLOGY NEWS

146
AUTUMN
2008

THE BULLETIN OF THE ASSOCIATION FOR INDUSTRIAL ARCHAEOLOGY

FREE TO MEMBERS OF AIA



Saarland • Hereford waterworks • Trewavas Mine • Bull engine at Kew • future directions
Saving the Industrial Revolution • regional news • Affiliated Society feature • publications

INDUSTRIAL ARCHAEOLOGY NEWS 146 Autumn 2008

Liaison Officer
James Gardiner, AIA Office, School of Archaeology and Ancient History, University of Leicester, Leicester LE1 7RH
Tel: 0116 252 5337, Fax: 0116 252 5005
e-mail: AIA@le.ac.uk
Website: www.industrial-archaeology.org.uk

COVER PICTURE

The dramatic engine houses at Trewavas Head in Cornwall, recently acquired by the National Trust (see page 8) *Photo: Peter Stanier*

Saarland

There were 31 on the AIA/Heritage of Industry trip to Saarland, 19-26 May 2008.

Where is Saarland? When I said I was going there everyone asked. It is in Germany south of Luxemburg, on the border with France. Saarbrücken, the state capital, is at 49º 15N, 6º 58E. The party was treated to a wide variety of industrial sites, and some of their website addresses are given in the text for those who wish to find out more.

Richard Hartree

Travelling east across northern France, especially on the left-hand side we could see coal mine spoil tips and WWI cemeteries. Our first night was spent in Dizy outside Epernay. The following morning we visited the Castellane champagne house with spectacular architecture fronting 6km of 'caves' and the champagne production and bottling plant. In our tour we saw clinically clean process equipment and dusty cobweb-covered bottles of fermenting wine. At the end we had a tasting, and some purchasing. We went on to Saarbrücken, arriving in time to see some of the sights of the town. A few interesting historic buildings and, for IA enthusiasts, a reconstructed riverside crane with a golden eagle at the top of the boom and the 160m high Römerbrücke power station chimney.

The next day we got down to serious IA visits. The Velsen coalmine, nearly on the French border, had the oldest steam winding engine in the Saar coalfield but, unfortunately, the owners of the winding house would not allow us to go in to see it. Next to the site was a brand new power station fuelled with refuse. Trucks of all sizes were crossing the entry weighbridge all the time we were there. Also there was collection system for underground methane from the old coal mine which appeared to be being used to initiate the combustion of the refuse. It should be of interest to future seekers of industrial heritage.

Our next visit was to the UNESCO World Heritage site of Völklingen Ironworks. It closed in 1986 after over 100 years of growth and operation. There are six blast furnaces, 104 coke ovens and vast ore, burden and sinter handling and blast blowing facilities. All the construction is on an enormous scale. There was a marked 5000m route around the site which included a 45m climb to the top platform of the blast furnaces. A quite strenuous three hour visit was needed to take it all in. One remarkable feature was the huge inclined ore lift which handled the feed for all six furnaces. Its height restricted that of the furnaces and hence their potential for improvement. Another was the huge blast-blowing plant which had been driven by six blast-furnace gas powered engines; only two could still be seen.

The site enables the visitor to gain a good impression of the scale of the operation but very little idea of what it was like to be there when it was working. There are many signs of corrosion and deterioration of the structure, with weeds and trees growing up in inaccessible places. The effort and expenditure which will be required to maintain it in a condition safe for visitors will be large. To increase visitor revenues the operator is trying to make the place more 'visitor friendly'; although often in ways which diminish its industrial heritage value. Can this, or any other such site, be sustained as a 'World Heritage Site' for future generations, and to learn what? (see www.voelklinger-huette.org)

We followed this with a visit of great contrast. In an old water turbine driven mill building in Merzig we saw the Feinmechnisches

Headframe of the Velsen mine in the Saar coalfield *Photo: Barry Hood*

Blast furnace pipes at the Völklingen Ironworks *Photo: Barry Hood*

The UNESCO World Heritage site of Völklingen Ironworks *Photo: Barry Hood*

Walkway, or windweg at the Völklingen Ironworks *Photo: Barry Hood*

Loading point on top of a blast furnace at the Völklingen Ironworks *Photo: Barry Hood*

Museum. All the machines were of appropriate scale. The founder Johann Peter Hartfuss had specialised in tools for the jewellery industry. In 1931 he patented a machine for engraving wedding rings on the inside surface and also made standard sets of tools under the trade name Multiplex. (see it on www.merzig.de) This was followed by a visit to the Villeroy and Boch porcelain main office with its museum, showroom and the restaurant decorated in the 1892 style used for Paul Pfund's famous coffee shop in Dresden.

Our second day of visits started with the 'Alte Schmelz' ironworks at St Ingbert, which had been a larger operation than Völklingen a century ago. One half of the old the works has already been destroyed and the area is being redeveloped. The remainder is classed as a national and state treasure and is under protection. We were welcomed by a very enthusiastic volunteer group known as the 'Initiative Alte Schmelz St. Ingbert' who research and record the history of what remains and participate in the reconstruction; particularly the workers' housing which continues in use. The business was founded in 1732 by the local Count making use of the ore, wood and water supply on his lands. The oldest remaining building is the blast furnace burden hall of 1750. It has a clock tower, under repair for our visit, which gives it the appearance of a chapel! An archaeologist showed us excavation trenches behind this which had enabled the foundations of an old maintenance shop to be recorded and the likely location of the original blast furnace to be identified beneath it. The trenches were being filled in to allow for the new development as an 'events' centre. This development is already making use of the last-used maintenance shop as a venue for dramatic productions and musical performances and there were signs of other buildings being used for 'events' purposes; a seemingly benign reuse of those parts of the site. There is still a working steel rod-rolling and wire-drawing plant operating occupying a large part of the 'protected' area, as well as the nineteenth-century English landscape garden created by the then owners and now part of an Industrial Landscape! The diverse nature of the whole place coupled with the enthusiasm of the volunteers made this a very special visit. (the Initiative can be found on www.alte-schmelz.de)

We followed this with a visit to the Losheim Railway Museum which was run by another very dedicated group of volunteers. They have restored carriages and locomotives, both steam and diesel, and operate tourist trains in the summer. They had even gone to the trouble of producing a guide sheet in English for our visit. It seemed remarkably similar to a volunteer run railway in Britain and belied the idea that, in Europe, volunteering is peculiar to Britain. (see www.museumbahn-losheim.de)

Our third visit that day was to the Ölmühle Wern at Fürth im Ostertal. This is a small, family-owned mill built as a corn mill in 1841 using water rights on a stream. In the 1850s it was converted to an oil mill using rapeseed as its raw material. The present machinery was installed in

Völklingen Ironworks inclined ore lift *Photo: Barry Hood*

An exhibit at the Villeroy and Boch porcelain museum
Photo: Barry Hood

Coking ovens at the Völklingen Ironworks *Photo: Barry Hood*

Restored carriage at the Losheim Railway Museum *Photo: Barry Hood*

1923. During WWII the mill had been used to extract oil from a wide range of seeds and nuts. We were guided by the present owner, a member of the Wern family. We first saw the rather overgrown dam and leat and then he explained the processes for extracting oil. There was the preheater for the stock, the edge-roller mill, the compressor to squeeze out the oil and the hydraulic pump to power the compressor. He was a very enthusiastic guide and showed us each of these turned by the waterwheel.

For our final day we went over the border to Sarreguemines in France. In the 1800s this was the home of an important earthenware manufacturing business founded by Paul Utzschneider who converted an oil mill on the Blies river to grind flint to make silex. What had once been a very busy, noisy and dusty site is now the very clean, quiet and well presented Museum des Faiences Techniques. The dam on the river, the sites of the turbines, a couple of old turbine wheels, the edge mill and some used wheels were to be seen outdoors. In the old building were a good sectional model of the working mill and samples of the equipment used for each stage of the process through to first firing and on to decoration and to final firing. The chemical laboratory for quality control and product development was well displayed.

In the town of Sarreguemines we saw one of the original kilns. It is the only example of the English design of kiln to be seen in continental Europe. There was an amazing display of faience tile work in the Winter Garden of Paul Geiger who had succeeded to the management of the firm in 1871. The Cité de la Faiencerie was a very good example of workers' housing. Built in 1870 and renovated, with garages added, in the 1980s. There ware also houses from the 1920s, which lacked the charm of those of the 1870s. The Casino which had been built on the riverside as a workers' place of culture and a place to meet was unfortunately closed. The gift shop was open.

The waterwheel in the oil mill at Fürth im Ostertal *Photo: Barry Hood*

Oil seed grinding mill at Fürth im Ostertal *Photo: Barry Hood*

In the Museum des Faiences Techniques at Sarreguemines *Photo: Barry Hood*

This pottery kiln of English design at Sarreguemines is unique in continental Europe

Photo: Barry Hood

After lunch we boarded the coach and returned to our first night's hotel at Dizy near Epernay. We arrived in time for a short walk to look at the town and the champagne vines.

The following day we visited Reims with its famous thirteenth-century cathedral where Kings of France were crowned. Here, in a World Heritage Site of great age, requiring a vast maintenance programme and still in use for its original purpose, it was interesting to reflect on the future prospect for, and significance of, the World Heritage Site at Völklingen Ironworks.

Our final visit was to Laon, famous for its older, less elaborate cathedral on the top of the hill and reached by the Poma 2000. This cable-driven people mover took us up and down the 100m hill from the railway station to the old town. Some likened it to a gentle fairground ride which made it the last happening worth mentioning!

Waterworks Museum – Hereford

Chairman of the Waterworks Museum at Hereford, Dr Noel Meeke, outlines the history of the waterworks from its establishment in the mid-1850s to the present day when it has become a highly successful museum of the water industry run by its enthusiastic volunteers. The museum trust's newsletter WaterWords *is an award winner in this year's AIA Publications Awards.*

Noel Meeke

The Hereford Improvement Act of 1854 allowed the city fathers to pave the streets of the city centre, install gas lighting and provide a supply of potable water. For a suitable source of water there was little choice. Herefordshire has no natural lakes, the topography is not suitable for open reservoirs, and it has no aquifers large enough to sustain the population. What Herefordshire does have is the magnificent River Wye, bringing large quantities of fresh water from the Cambrian Range in mid-Wales right through the heart of the county.

Within two years of the Act the pumping station was erected on the first river terrace, fed directly from an intake at the riverside. The water treatment works was perched above on Broomy Hill. The situation was almost perfect. Historically, water intakes were generally upstream of the city they served to minimise pollution and effluent. The first river terrace ensured that the pumping station was above the flood plain, and the storage reservoirs on Broomy Hill were conveniently higher than the city centre. This meant that the houses and businesses could be supplied by gravity.

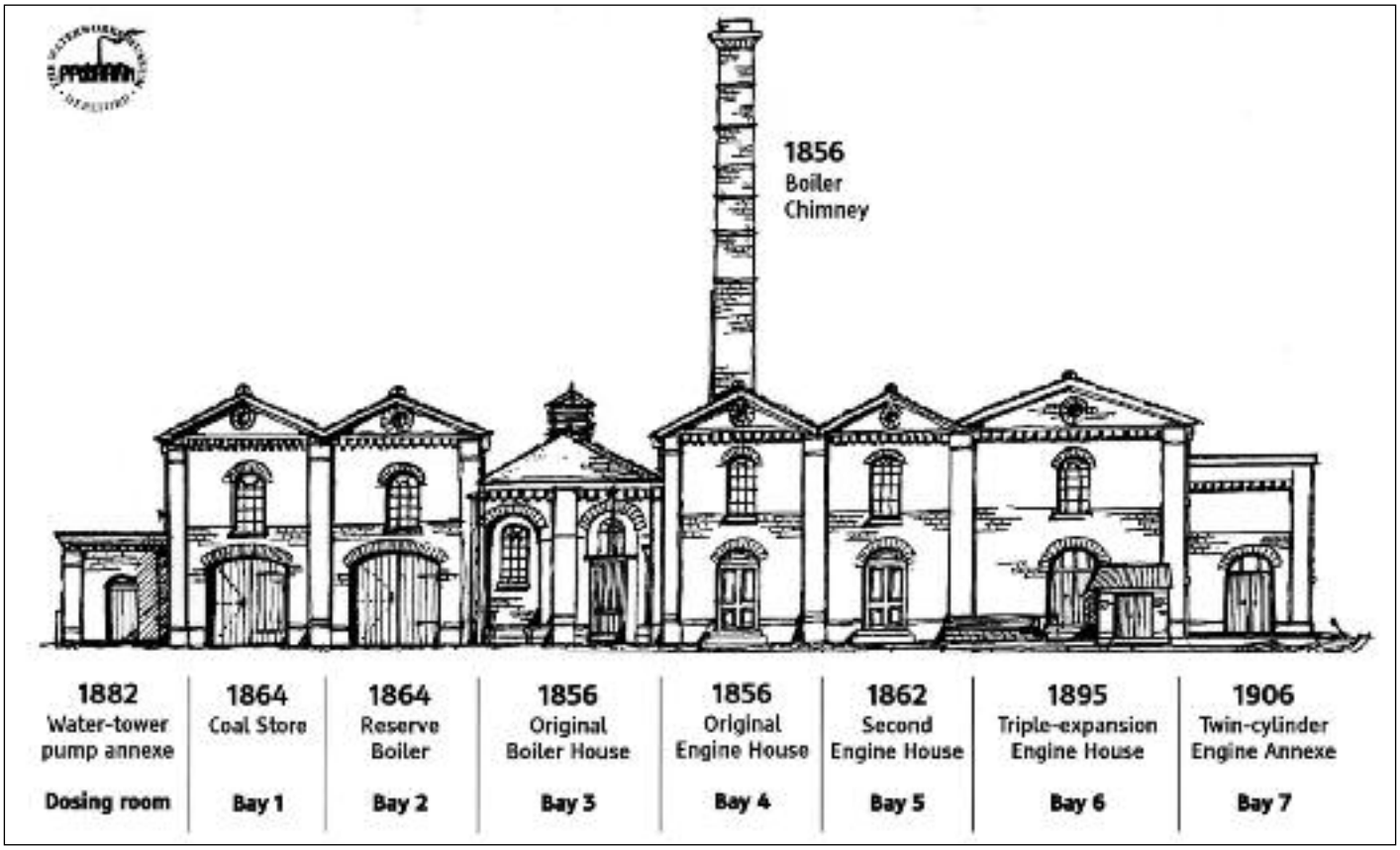
By late 1856 the first water supply system was in place and drinking water was being provided. The pumping station consisted of two adjoining buildings: boiler house and engine house, with the tall boiler chimney behind. Within a few years the original Simpson beam engine could not satisfy the increasing demand and a second was installed to the west followed by an extra boiler room to the east, plus a coal store. In the mid-Victorian period houses were being built away from the centre of Hereford along Aylestone Hill and this caused immediate problems because they could not be supplied with water by gravity from the Broomy Hill reservoirs.

In 1883 a water tower was erected, designed to provide water to the theoretically highest house in Hereford. The junction of Aylestone Hill and Folly Lane is the highest point in the city and a three-storey house was imagined at that point. The beam engines were not suitable for the extra lift required and an annexe was built at the east end of the pumping station to house a high pressure Joseph Evans' pump to supply the storage tank in the tower.

Within a decade the beam engines and boilers were coming to the end of their useful lives and the technology was moving on. By 1895 a Worth Mackenzie triple-expansion steam engine had been installed and commissioned. It was at the forefront of steam technology for the time and could pump one million gallons of raw river water every 12 hours. However, the demand for water was ever increasing and by 1906 an extra two-cylinder Worth Mackenzie steam engine was installed in an annexe at the far western end of the building to supplement the lift of clean water to the water tower.

With the start of the twentieth century the technology was changing and many towns opted for internal combustion engines. Hereford, however, took quite a leap and went straight to electric power, which was in its infancy. The first electric pumps were installed in the base of the water tower in 1911 and at the pumping station in 1914. During the Second World War, and in time of floods into the 1950s, the steam engines were still used but were shut down thereafter.

Throughout the post-war years there were numerous small water undertakings in the county, in addition to the water services in Hereford city. In 1960 the Herefordshire Water Board was formed with Stephen Southall as its first chairman. This brought all the water undertakings in the county into one organisation. He was taken on a tour of all the water supply sites and saw for the first time the massive steam engines lying idle and covered in cobwebs at Broomy Hill. He records that the sight 'took my breath away' and he resolved there and then that the pumping station would become a museum dedicated to water supplies. However, the



The history of Hereford's water supplies is reflected in the building sequence at the lower pumping station, now the main museum building *Image: Waterworks Museum Hereford*

magnitude of the task of providing piped water for all the rural areas of the county meant that he could not carry his dream into reality at that time.

Water undertakings were privatised in the early 1970s and Herefordshire was incorporated in the interim Welsh National Water Development Authority. In 1974 privatisation was complete and the local supplies formed part of the south-eastern division of Welsh Water. The company installed a new pumping station and helped to set up the Waterworks Museum as an independent charitable trust with Stephen Southall as its founder and chairman. He is now the Museum's President.

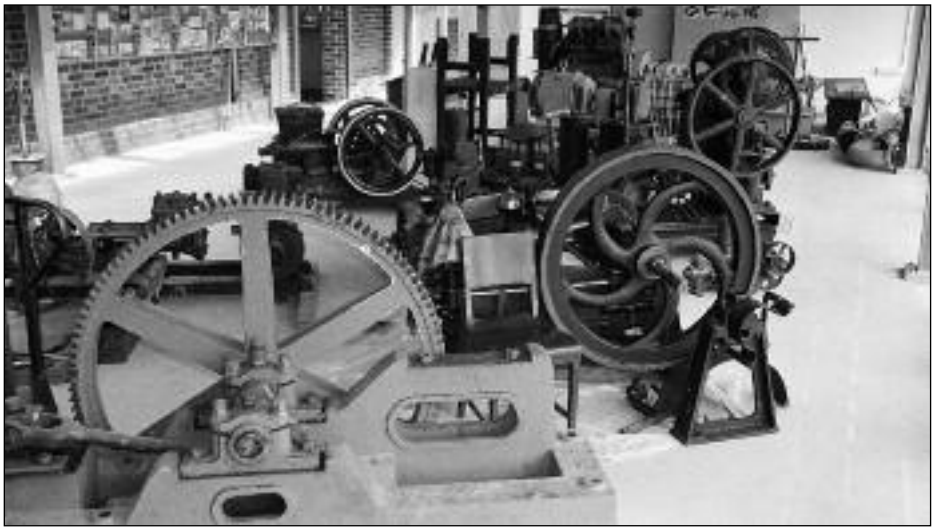
The early days of the Museum were hectic and a great deal was achieved in a short space of time. Most importantly, the Lancashire boiler and the steam engines were brought back into operation. The 1980s was a difficult period but a few dedicated volunteers managed to keep the Museum in operation and open to the public. Through the 1990s the Museum developed in a number of ways. The water-pumping station at Leominster was rescued from the bulldozers and re-erected at the Museum as the Tangye House. A quite superb 97 litre single-cylinder Tangye diesel engine and triple pumps (1932) from Pembroke Dock were rescued, installed and brought back to life. A small visitor centre was created and the historic pumping sets from Ross-on-Wye were installed and refurbished. It was a period of great activity.

However, in 2000 the Trustees were informed by English Heritage that the main Victorian building, Listed Grade II and a Scheduled Monument, had been placed on the Register of Buildings at Risk. This threw great responsibility on the shoulders of the Trustees and, in discussions with English Heritage, they were encouraged to think through their future requirements in total. After the usual round of designs, consents, fund-raising and many problems, an excellent building emerged which provided a visitor centre, education area, small-engine gallery and workshop facilities. The new building was officially opened by Sir Neil Cossons, then Chairman of English Heritage, in June 2006 (see *IA News 138*, p12).

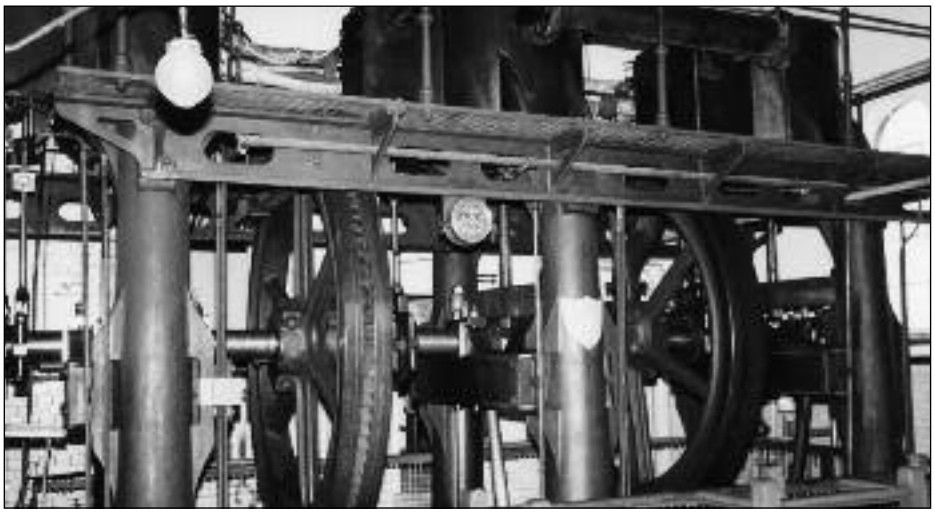
At the Waterworks Museum nothing stands still. During the traumatic period of the new build the Trustees' attention was drawn to a massive pumping engine installed at the WW2 Royal Ordnance Munitions Factory in Hereford. This was a Blackstone 5-cylinder diesel engine with all its ancillaries intact, installed in 1939 and due to be excavated to expand a business park. Clearly it had to be rescued but would require a new building of its own. This was designed to house, in addition to the engine, a permanent exhibition of the role Hereford played in WW2. The building was opened officially by the Mayor of Hereford in September 2007.

The future? This is the only working museum in Herefordshire and, whilst a period of consolidation is required following a turbulent few years, there is no question of resting on laurels. More artefacts are awaiting renovation and more are in the offing. The long-term aim is to display representative working examples of pumping engines from every decade between 1850 and 2000. This is quite an ambitious goal for a wholly volunteer museum, but one well within reach now for this highly competent group.

The Hereford & District Preservation Society visited the waterworks museum in April 2008
Photo: Waterworks Museum Hereford



Inside the new engine hall *Photo: Waterworks Museum Hereford*



Triple expansion pumping engine on display in the waterworks museum *Photo: Waterworks Museum Hereford*

The Waterworks Museum is at Broomy Hill, Hereford HR4 0JS, Telephone: +44 (0)1432 344062.

A cliff top Cornish mine saved by the National Trust

The National Trust has acquired 30 acres of Cornish coastline in Mounts Bay, which include the substantial but vulnerable remains of the nineteenth-century Wheal Trewavas copper mine. As well as two Grade II-listed engine houses, the site includes shafts, stacks, flues and work platforms. It is a Scheduled Ancient Monument and part of the Tregonning and Trewavas District within the Cornish Mining World Heritage Site. The precarious engine houses present a challenging programme of conservation.

Graham Thorne

The two engine houses at Trewavas are sited on the cliff edge and are as dramatic as those at The Crowns, Botallack, though far less well known. The Carn Brea Mining Society, who undertook the conservation of the Botallack engine houses when they were at serious risk of collapse in the 1980s, have long argued that the same should happen at Trewavas. This will now be undertaken by the Trust.

Wheal Trewavas operated from 1834 to 1846, producing some 17,000 tons of copper and employing 200 people. Four copper lodes were worked, varying in thickness from six inches to four feet. Like the more famous examples at Botallack and Levant it worked lodes under the sea. The Mining Journal of 17 October 1835 said that its lodes were discovered by 'some of those amphibious creatures who obtain their livelihood by fishing in summer and mining in winter'. It was on the face of it a profitable mine, and some mystery surrounds its rather abrupt closure. The story, related to the late Hamilton Jenkin, that the sea broke into the workings just before the annual underground feast, is now generally discounted. Another report, which claims that the mine was abandoned and flooded to conceal evidence of illicit undersea mining, may well have some basis in fact. The truth is probably less dramatic in that the mine had been operating for some time effectively on credit from its bankers.

April 1845 saw word of a new lode 'of great richness', but little seems to have come of it. By December of that year the bank was demanding a reduction of at least £2,000 in the mine's £5,000 overdraft and in May 1846 it was reported that all levels had run into poor ground. Closure was then swift and involved the immediate removal and sale of materials, 'including only such as it would pay to remove'. The inland part of the sett was reworked in 1879 under the name of New Penrose; no results of this activity are known. More detail on the mine's history is in Kenneth Brown and Bob Acton's *Exploring Cornish Mines, Volume 2* (Landfall Publications, 2001), which also includes a detailed description of the site in 2001.

The National Trust now plans a £250,000 restoration programme to be completed next year, using traditional methods and materials. This will improve access to the site and develop the area's potential for nature conservation. Cornwall County Council's Historic Environment Service has completed a detailed archaeological and historical assessment of the site and this is guiding current planning and development activity. It covers the history and development of the site and the individual surviving features. A full Biological Survey is also under way.

Activity is now starting on the logistics of designing, delivering and erecting the scaffolding required around and inside the buildings. Storage sites and access routes for materials need to be identified in a way that protects the site while work is in progress. The state of the buildings means that the full extent of work required cannot be finalised until they can be inspected from safe scaffolding. Areas to be addressed include rotten and lost lintels, erosion of pointing and serious structural faults.

Specialist historic building contractors will undertake the work using traditional materials and techniques. Lime mortar will be used for re-pointing with aggregates reflecting original materials and locally sourced stone for structural repairs. The Trust describes the philosophy and approach as one of 'sensitive repair and restoration – the aim being to understand the separate phases of development of the mine and protect the buildings essentially as they are today.' The works will also enhance safe public access and include low impact safety works around the shafts.

The two surviving engine houses at Trewavas both contained Cornish beam engines. The eastern house on New Engine Shaft housed a 45-inch pumping engine from Harvey of Hayle in 1836 and installed by 1838. The nature of the engine in the western house at Old Engine Shaft is not certain. Records show that there were two whim engines on the mine, an 18-inch on the eastern part of the sett and a 16.5-inch on the western. The surviving western house seems too large for such a small engine but no obvious remains of other engine houses have survived.

Both engine houses are in a dangerous condition and, due to their location, the work will be both complex and difficult. Adjacent to Old Engine Shaft is a capstan plat, the best such remaining in Cornwall, used by RNAS Culdrose for helicopter training. The Trust will also manage the coastal wildlife, clear the scrub covering much of the site and introduce grazing. Until the work is complete there is no access to the engine houses due to the dangers of open shafts, sheer drops and unstable masonry. The land purchased by the National Trust also contains the remains (building bases only) of a World War II Chain Home Low Radar station, designed to detect aircraft flying below 1,500 feet.

Half a mile north west of Trewavas at Rinsey is Wheal Prosper mine. This was worked for tin on an extension of the Trewavas lodes in the 1860s. The National Trust conserved the Wheal Prosper engine house, which contained a 30-inch engine, in 1970 when it was one of the first to be so treated in Cornwall. Much has been learned about the conservation of mining sites in the last 30 years, leading to a more sensitive and less radical approach on recent schemes in Cornwall and this will clearly be to the benefit of the works at Trewavas.

Mike Hardy of the National Trust says: 'The work to stabilise and protect the buildings is going to be challenging due to the sensitivity of the site and the difficulties of providing access to the engine houses, but we are working closely with everyone concerned to complete the work as soon as possible. Our partners have all been very supportive to the aims of the project and we would like to thank them for their encouragement…We would really

Shaky stonework at the eastern engine house – restore it or lose it!

Photo: S Geake

The shaft between the cliff edge and the western engine house at Trewavas Mine *Photo: S Geake*

This view clearly shows the western engine house's proximity to the sea *Photo: S Geake*

welcome any information people may have about the site, be it old maps, photographs or memories. All these help to build up a better picture of the history of the area and improve our understanding of it.'

The National Trust's Neptune Coastline Campaign funded the purchase of Wheal Trewavas. This appeal remains open to ensure that the Trust can move quickly to acquire important areas of coast when they become available. This stunning piece of industrial archaeology certainly comes into that category.

Thanks are due to Sid Geake of Carn Brea Mining Society for photographs and information from unpublished sources, particularly a report, 'Project Trewavas', by Lawrence Holmes who was a founder member of the Society. Thanks also to Mike Hardy, National Trust Project Manager for detail of the proposed works. Mike can be contacted on 01326 561407 or at mike.hardy@nationaltrust.org.uk .

Treasurer's Report for the year-ended 31 December 2007

This is intended as background information to the detailed accounts circulated with the AGM papers included with this issue.

A £5,000 donation from a member was received during the year for the financing of the Association's annual Initiative Award. Discounting this specific donation means that what appears to be a healthy surplus of £3,494 for 2007 is in fact a deficit of £1,506. That compares with a deficit of £918 for the previous year. For the sake of simplicity I shall refer to variances between the two years from now on in thousands of £'s.

In 2006 the conference bookings, and hence the collection of monies, was handled by the Isle of Man travel services, in 2007 your Association dealt with the monies directly. This has an effect on the accounts in various ways. Both Annual Conference income and expenditures are significantly higher but the net result is a small surplus on the Preston meeting of £1.5k and that is after the refunds we made to those attending. More importantly is the resultant increase in interest earned, up £4.3k on 2006.

You will notice a near 50% increase in expenditure on Administration, up by £6.4k. In part this is again due to the Isle of Man conference. We were fortunate that the local organisers donated the gazetteers to us. Versus 2007 their generosity saved us £2.3k. As you know, the Association makes a number of awards each year. The number made is dependent of course upon how many applications are received. In order to increase awareness and to publicise the new Neaverson awards we incurred an additional £1.6k on publicity. Hopefully this will also help to redress the falling membership numbers which reduced our subscription income by £1k last year.

The balance of the increase in Administration costs was due to a number of factors; a small increase in the Leicester office charges and additional travel cost for Council members attending meetings plus increased room hire costs to accommodate those meetings.

I shall of course be on hand at the AGM to answer any questions.

Bruce Hedge, Hon. Treasurer

The Seminar at the AIA Lincoln Conference 2009

Council believe that Conference Seminars, which are generally viewed as pre-Conference events for professionals, should be made an integral part of Conference and be of interest to both Individual and Affiliate members. It has decided to try a new format at Lincoln in 2009.

Many of us are involved with IA specific studies of sites and artefacts and know that there are many What? Why? Who? How? types of questions the answers to which could lead to a fuller understanding of our subjects. Answering these questions takes us into the fields of Local, Family and Business History in which other people specialise. At the 2009 Seminar we hope to discuss how all these fields could be brought together most successfully.

We wish to arrange three of four contributions which are based on work being done by AIA Affiliate Societies together with their neighbouring Local, Family, Business or other Societies. These can be about new studies and describe 'work in hand' rather than completed projects. In this way the discussion at the Seminar can benefit their completion. There will also be contributions by specialists in the fields, who will join in the discussions.

Our host society in Lincoln has already agreed to provide a contribution which will be about a multi-disciplinary project's 'work in hand' (concerned with Bishopbridge at the head of the Ancholme navigation). We invite other Affiliates to propose contributions which they believe would be suitable.

If you wish to learn more about the Seminar, or discuss a possible contribution please contact me (email: richard@hartree.org.uk). Thank you.

Richard Hartree

AIA Chairman retires from the University of Leicester and our office moves too!

Marilyn Palmer retired from full-time teaching at the University of Leicester on 30 April 2008 but retains the title of Emeritus Professor of Industrial Archaeology as well as her two year Leverhulme Emeritus Fellowship. Among her gifts was a David Hockney print of Saltaire Mill.

AIA Chairman Marilyn Palmer receiving a Hockney print of Saltaire at her University of Leicester retirement party

The AIA office will move to the Ironbridge Institute in August 2008 and members will receive details of the move as soon as it is finalised. James Gardiner, our present Liaison Officer, is leaving to take up a temporary post teaching English in Korea before going on to teacher training, and we are grateful to him for the work he has put in on maintaining and improving our membership database. AIA Council greatly welcomes a stronger link with the Ironbridge Institute as well as with the publishers of *Industrial Archaeology Review,* Maney of Leeds, who will also be administering our subscriptions from 2009. Further details will be available at the AGM in Wiltshire as well as in a future edition of *IA News.*

Modern Military Matters

This year's pre-Conference Seminar on 22 August is on the twentieth century defence heritage of Britain Friday, with speakers on Wiltshire and the Great War, Imber on Salisbury Plain, Corsham's underground tunnels, St John's school air raid shelters at Redhill, the designation of twentieth-century militaria in Scotland, interpretations of England's twentieth-century military landscapes, recent work by English Heritage on the defence estate, archaeological contractors and modern military sites, and interpreting Bletchley Park. There are still places on this exciting seminar: £35 AIA members, £40 others including lunch etc. To book, contact Michael Messenger (Michael@twelveheads.com) or send booking fee to him at 144 Lake Road East, Roath Park, Cardiff, CF23 5NQ.

VISIT THE AIA WEBSITE

www.industrial-archaeology.org.uk

Our website contains information on the Association for Industrial Archaeology, including Membership, Abstracts of *Industrial Archaeology Review*, Awards, Conferences, Affiliated Societies and Sales. The Diary gives notice of events, day-schools and conferences, often in more detail than can be published in *Industrial Archaeology News*. Links give access to other societies, museums and organisations in the world of industrial archaeology.

Bull Engine launched at Kew Bridge

The 70-inch Bull Engine at the Kew Bridge Steam Museum is the largest in existence, the only one on its original site and now the world's only working example. To have restored this fine engine to working order is a wonderful achievement and the completion of this important work was celebrated in appropriate style on Monday 12 May this year at a grand inaugural working. Television personality Anna Ford performed the starting ceremony. In her speech she referred to the Ravenglass and Eskdale Railway with which, when young, she had had very close familiarity - an unexpected personal touch.

The Bull engine then ran for half an hour and guests were able to get close to the works and observe this singular machine in action. The restoration of this historic engine to good working condition was by no means straightforward. A crucial member of the restoration team led by Nick Morgan was John Vineer, who contributed brilliant ideas and earlier had performed wonders at Kempton Park.

Following the starting of the Bull Engine and before an excellent lunch in the Steam Hall, Professor Isobel Pollock of the Institution of Mechanical Engineering presented their Heritage Award in the form of a plaque to the Kew Bridge Steam Museum. This was followed by a warm response from Museum Director, Ernest Buchner.

With lunch over the Bull engine ran for a further 30 minutes and after yet more refreshments in the Steam Hall, this exciting day came to a close with the steaming of the great 90-inch Cornish beam engine. Sadly the current high price of gas prevents this impressive spectacle being presented to visitors more often. But at the Bull Engine launch we did see this giant in motion and what a wonderful all-day party it was.

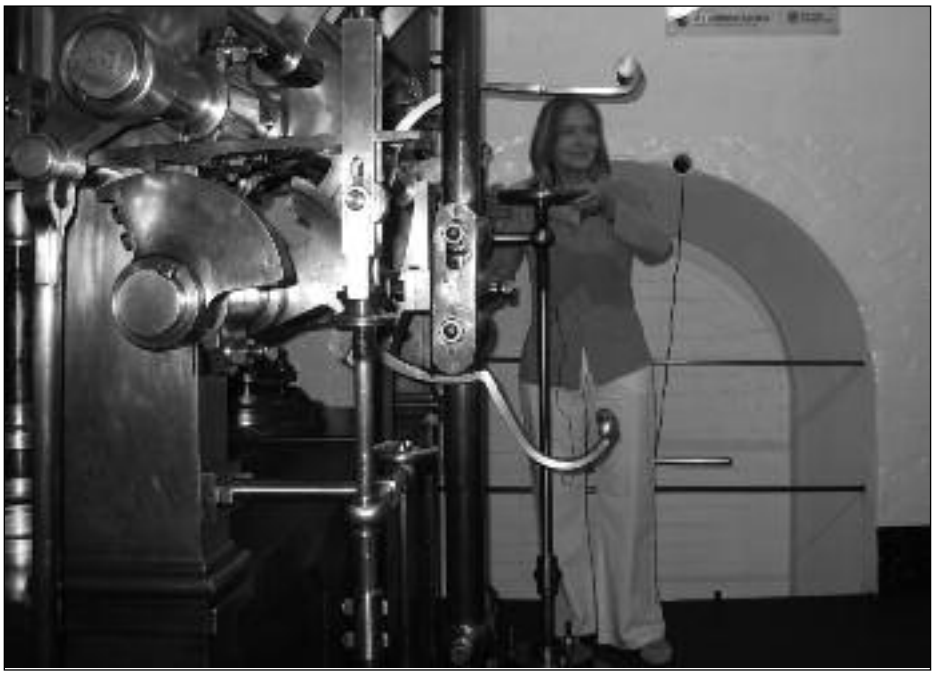
The Bull Engine design was developed by Edward Bull (1758-1798) at the end of the eighteenth century in Cornwall. Boulton and Watt considered that this work violated their steam-engine patent and legal proceedings against Bull were started in 1793. The case was a protracted one and only finally resolved, in favour of Boulton and Watt, in 1799. Meanwhile Bull had died at an early age. Relatively poor, he was essentially a broken man. The Watt patent finally expired in 1800.

The Bull Engine is an inverted vertical alternative to the conventional beam engine with the steam cylinder placed directly above the pump. More compact than a beam engine it needed fewer iron castings and a smaller engine house, making it an attractive cheaper alternative. However, for mine pumping the beam engine layout is more desirable because the heavy steam cylinder can be kept at a more comfortable distance from the vulnerable edge of the shaft which can all too easily cave in. It is also a good idea to remove as much clutter as possible from the vicinity of the shaft. Apart from pumping the shaft was probably also used for handling men and materials and often for winding minerals as well. Rather like dam building it is necessary to have the right geology and in coal mining the surface geology frequently involved soft ground so the Bull engine probably had few applications there. However, it did find a niche in waterworks pumping. Here there is more choice in the arrangement of cylinder and pump and safe foundations can be secured more easily.

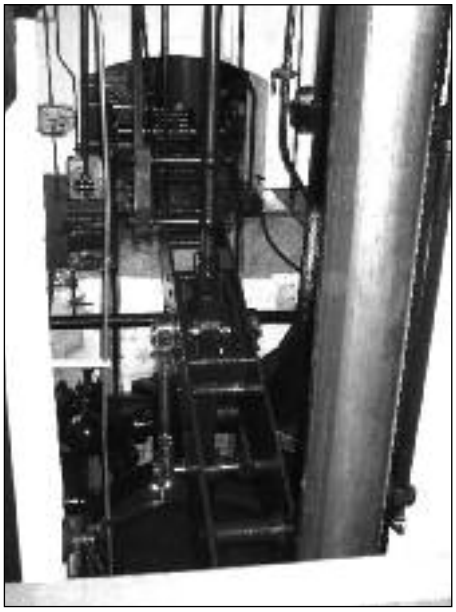
Ordered from Harvey and Company of Hayle in 1856, the engine preserved at Kew Bridge first ran there in March 1859. It is single acting and works on the Cornish principle. It was used to supply water to the new pumping station at Campden Hill, Kensington W8. Here there were two more Bull Engines, similar in design to the one at Kew and also of 70 inches diameter. The Bull Engine was quite popular in the London area in the Victorian period. Harvey's supplied at least 12 for water-supply pumping. As well as the three already mentioned there was a later 90-inch Bull Engine at Campden Hill, a total of five at Hampton, two at Battersea (one of them had a

A proud moment when the Bull Engine was re-started at Kew Bridge on 12 May. From left to right: Oliver Pearcey, Chairman of the Trustees of Kew Bridge Engines Trust; special guest Anna Ford, TV presenter; Cllr Andrew Morgan-Watts, London Borough of Hounslow Mayor; and Ernest Buchner, Director of Kew Bridge Steam Museum

Photo: Clive Penfold



Anna Ford starts the Bull Engine *Photo: Peter Stanier*



The Bull Engine at work – not as visual as a beam engine but a unique experience

Photo: Peter Stanier

cylinder 112 inches in diameter) and another for the West Middlesex Company. Harvey's also supplied two Bull Engines to the pumping station at Shortlands Kent, in 1867 and 1873.

In 1944 the Kew Bridge Bull Engine was decommissioned and evidence obtained during the recent restoration work indicates that by the time it was shut down it was in poor condition. We are very fortunate to have such an important engine once more in working order. The Project started in earnest in February 2001 and restoration has required more than 7,000 volunteer man-hours and £45,000 in grants and donations. Finance came from the Heritage Lottery Fund, the PRISM Fund, and generous donations from private individuals.

Robert Carr

Ernest Buchner thanks Professor Isobel Pollock for the Institution of Mechanical Engineering's Heritage Award

Photo: Peter Stanier

Future Directions for the Archaeological Study of post-1550 Britain and Ireland

The conference called 'Crossing Paths, Sharing Tracks' was held at the University of Leicester from 4-6 April 2008, attracting nearly 100 delegates which included visitors from the USA, Denmark and Rumania. It was organised by Dr Audrey Horning, Secretary of the Society for Post Medieval Archaeology and the Irish Post-Medieval Archaeology Group, and Professor Marilyn Palmer, Chairman of the Association for Industrial Archaeology. The conference theme was prompted by the long-running debate in *IA News* on the relationship between theory and practice in industrial archaeology, and was intended to enable members of each organisation to put forward their viewpoints on the study of the material heritage of the post-1550 period. It was also intended as a follow-up to the conference in Nottingham which preceded the publication of *Understanding the Workplace.*

The discussion-focused conference enabled some lively debate to take place on the role of technology in this period as well as the significance of other artefacts. The theme was encapsulated in Michael Nevell's paper on 'People versus machines or people and machines' as well as Geoff Egan's 'Things for people', a paper which considered the ways in which people made use of small objects. Other speakers covered a whole range of topics, including the re-development of one of London's railway viaducts, landscapes of coal in North Antrim and the Isles, industrialisation and rural settlement in north-west England and the design, evolution, and management of English industrial landscapes. Professor Patrick Martin of Michigan Technological University and the Society for Industrial Archaeology in the USA presented a paper entitled 'The Pitfalls of Pigeonholing: Progress or Polemics', which included discussion of the archaeological and historical work that his students have been carrying out on the West Point Foundry, Cold Spring, New York. Professor Stephen Mrozowski of the University of Massachusetts, Boston, summarised the conference in his concluding paper 'Pulling the Threads Together: Exploring the Fabric of the Modern World'.

The purpose of the conference was to foster enhanced understanding and cooperation between the organisations and their approaches, with in-depth consideration of the future of the broader field of historical archaeology. The organisers were looking for ways to avoid fragmentation of a still small discipline into subfields such as pre-1750 post-medieval archaeology, post-1750 industrial archaeology, or the incorporation of theory as somehow outside of the purview of the work of the older organisations. The impetus for the conference lay also in the expansion of interest in the period in both university, commercial, and voluntary sectors. The papers are to be edited by the organisers and published this coming autumn as a Society for Post-Medieval Archaeology monograph which will also bear the imprint of the participating societies. The volume will bring the debate from the conference to a wider academic, professional and volunteer audience.

Marilyn Palmer

STIR Saving the Industrial Revolution

STIR is a new initiative to secure a sustainable future for Britain's preserved industrial archaeological sites, buildings and collections.

Most preserved industrial sites in Britain are in the care of locally-based trusts. A smaller number are managed by local authorities. Only a very small minority are in the guardianship of English Heritage, Historic Scotland or Cadw or the respective National Trusts, for England and Wales and for Scotland. So, while the pre-industrial heritage of the nation is broadly speaking in the hands of national bodies most of the industrial heritage is locally managed. A survey carried out for English Heritage in 1998 indicated some 600 preserved industrial sites, of which about a third were rural wind- and water-mills, a third concerned with transport and a third covered all other types of industrial activities, from framework knitting to water supply, from gunpowder to tin mining. STIR is concerned in the main with this last group.

The large majority of these locally-based preservation trusts are run by volunteers and have no paid staff, but their opening arrangements are generally impressive, both in terms of days per year and numbers of hours a day. In the wider context the achievements of these trusts are equally something of which the nation can be proud for without their energy, enthusiasm and determination the history and heritage of the industrial revolution years would not have been preserved for the benefit of future generations.

Most of these trusts came into being in the 1960s and '70s at a time of great economic change and when many traditional industrial enterprises were either going out of business or modernising their plant, resulting in the loss of early buildings and machinery. This was the time when Industrial Archaeology was coming into prominence as a response to the same influences. Today, the success of this preservation work is enjoyed by millions of visitors each year and is an important element in the tourism economy of many parts of the country. But behind this success lies vulnerability. Volunteers are in short supply, vital conservation and maintenance work needs money, and many trusts cannot afford to run educational programmes for young visitors. And, because virtually all have few sources of income other than to charge their visitors they suffer from the inevitable fickleness of the market. And for those dependent on local authority grants the situation is equally precarious with lack of consistency year to year cited as the major problem.

Under the STIR initiative some 30 of these trusts came together at the invitation of Neil Cossons to see what might be done to improve the situation. A Working Group has been set up and AIM (the Association of Independent Museums) has offered to provide the umbrella for STIR as its policies emerge. There will be close liaison with the Newcomen Society and the Association for Industrial Archaeology. A forthcoming survey by English Heritage (it is hoped with the participation of Historic Scotland and Cadw) should provide more quantitative data on the nature and scale of the issue by the autumn.

Members of the Working Group are Les Birch, Herefordshire Waterworks Museum; Chris Charlton, Arkwright Society; John Hamshere, Sheffield Industrial Museums Trust; Oliver Pearcey, Kew Bridge Engines Trust; and Catherine Wilson, Dogdyke Pumping Station Preservation Trust. Neil Cossons will continue to offer support and Steve Miller has agreed to provide meeting room space at Ironbridge. Priorities for the Group are, to determine the nature and scale of the issues facing preservation bodies, their key requirements, financial circumstances and confidence in the future.

Neil Cossons

Heritage Lottery Fund's new Strategic Plan

On 7 April 2008 the Heritage Lottery Fund (HLF) launched its new strategy, *Valuing our heritage: Investing in our future,* which will see almost £1billion invested in the UK's diverse heritage over the next five years. HLF is the biggest dedicated funder of heritage in the UK and over the last 14 years the Fund has radically transformed our heritage, investing over £4 billion in a wide variety of heritage projects, including funding over 1770 industrial, maritime and transport (IM&T) projects with awards amounting to over £680 million. In the last year HLF has funded such projects as the Ken Hawley Collection of hand tools, Knockando Woolmill in Scotland, Yarmouth's pier (IoW), the longest wooden pier in Britain, and the GWR Steam Railmotor & Auto Trailer.

HLF has reviewed its funding in the light of the impact of Lottery funding for the 2012 Olympics, as well as its own approach to committing funding in advance. Whilst competition for funds is expected to be tougher over the coming years, HLF will still be the largest source of heritage funding available in the UK with £1.9 billion to spend up to 2019. All the main programmes will continue: Heritage Grants, from £50,000 upwards; Your Heritage, from £3,000 to £50,000; and Young Roots, from £3,000 to £25,000, for projects led by young people.

In future HLF will continue to:

- keep conservation, participation and learning at the heart of its work;
- maintain a broad definition of heritage as 'what people value and want to hand on to future generations';
- fund heritage projects of all kinds and all sizes, from £3,000 upwards, plus some major awards around £5 million;
- have development staff in each English region and in Scotland, Wales and Northern Ireland to offer help and advice; and
- distribute some £180 million in awards per year (£220 million in 2008/09).
- HLF's new developments for the new Strategic Plan include:
- online application forms for all programmes with simpler and quicker processes:
- a new outline first-round application for Heritage Grants (£50k and above) with a decision after 3 months, then the possibility of financial and mentor support to work up an application to the detailed level for the second-round;
- a new style 'activity plan' for Heritage Grants integrating all the previous plans such as audience development, access, training, and learning;
- simpler forms and quicker decisions (10 weeks) for Your Heritage and Young Roots;
- mentors to help inexperienced applicants with specialist aspects of developing projects of £50k and above e.g. business planning, managing archives or collections, or audience development and outreach;
- mentors to help community groups and small organisations deliver Your Heritage and Young Roots projects;
- new easy-to-use guidance on topics such as Community Participation, Audience Development, Volunteering, Learning, Interpretation and Oral history; and
- case studies of successful projects on the website.

For further information visit www.hlf.org.uk

South Wales and South West Region IA Conference

This well-attended conference on 17 May was hosted by the Bristol IA Society at the Kingswood Civic Centre. Professor Angus Buchanan's opening talk on the dawn of IA in the South West paid tribute to the part played by Sir Neil Cossons, of the Bristol IA Society, to conserve and at least save from destruction some early industrial buildings and artefacts. He quoted some of their numerous and unfortunate failures, but there were successes such as the return of the *SS Great Britain* (which stopped the destruction of part of the Floating Harbour), the Saltford Brassworks, the massive task of restoring the Kennet & Avon Canal, and the preservation of Brunel's mud dredger used at Bridgwater Docks. This sharpened everyone's mind to the continuing necessity to press for the conservation of industrial artefacts which so quickly could be lost forever.

Dr Malcolm Nixon and Captain Len Holder shared a talk on commercial traffic and trade on the Severn above Tewksbury. Hazards faced by mariners included the very wide tidal range, horrendous currents, the formation of sand banks, the Severn Bore and flooding after high rainfall in Wales. Nevertheless river trade continued for centuries, with coal, pottery and china from industrial Shropshire, and salt via the canals from Droitwich, carried downriver with a variety of cargoes being borne upstream. The Severn Trow was adapted to suit the physical properties of the river. Those for up-river trade were built more like a Norse long ship, while the down-river trows were larger and stouter, reaching about 70 feet in length by 15 feet beam, and able to carry about 100 tons. Steam propulsion was introduced, e.g. the Gloucester, Tewkesbury & Upton Steam Navigation Co., while Heads of Bristol were one of the largest companies and also the last operators of steam vessels on the Severn.

Boat lift remains on the Grand Western Canal, centrepiece of the Nynehead Project described at this year's South Wales and South West regional conference

Gradually the trows became unseaworthy, their hulls either being burnt or left to rot.

During his talk on the Whitlington underground quarries in Gloucestershire, Arthur Price presented a remarkable collection of slides showing the numerous underground passageways connecting the small quarries which had been exploited in the early nineteenth century to provide building stone for Cheltenham. The use of trolleys had caused deep furrows in the passageway floors. Much work had been carried out recently to clear some falls and open up the passageways to enable exploration.

After lunch Dr Andrew Swift drew attention to the difficulties under which some contractors building the railway through Bath had worked due to Brunel's perfection for detail and the lack of it being sufficiently expressed in the initial specifications on which they formed their quotations. He exposed an apparent side of Brunel's nature that had possibly remained unknown to many people in his inflexibility and attitude of no compromise when claims for extra work, some approaching very large sums of money, were contested by the Engineers Department. In some instances the contractors finally sued the railway company, often winning their cases many years after the event.

Dennis Dodd gave the final talk on the Nynehead Project centred on one of the boat lifts on the now derelict Grand Western Canal in Somerset. He explained how much work has been done clearing trees to preserve embankments, dredging the water-filled channel and exposing the stonework of the lift chamber where boats were lifted 24 feet, the stabilisation of which forms a major part of the project. The Nynehead Project is a ten-year plan to renovate and conserve the existing structures of the canal and Wharf Cottage, although only the foundations of the lift cottage remain.

At the close of a very interesting conference, delegates had the opportunity to visit a choice of three sites: the South Gloucester Coalfield, Warmley Museum or the Bristol Docks area.

Robert Cox

Derby roundhouse

Work has finally started on conversion of the Derby Locomotive Works buildings into a new campus for Derby College. The photograph shows work under way on the North Midland Railway roundhouse building. This was visited during the AIA Derbyshire Conference in 2005.

Pulp mill pulped

On 30 April it took just one minute for part of Lochaber's industrial heritage to disappear. The prominent 64m high power house of the former Arjo Wiggins paper mill at Corpach on Loch Eil near Fort William, was demolished by using controlled blasts. It has stood as an industrial landmark since the 1960s when it was built to house two massive boilers. The 2,000 tonnes of metalwork and rubble are to be sent by sea to Belgium for recycling, an ironic move as the multinational company's headquarters are situated in that country and it was they who took the controversial decision to close the Corpach plant three years ago with the loss of 120 jobs. The cleared site is earmarked for a new £25m sawmill for BSW Timber, currently awaiting planning consent from Highland Council.

Scottish Industrial Heritage Society

The BIAS Brunel Prize

Bristol Industrial Archaeology Society's Brunel Prize is awarded every other year for an original study or record of any facet of local industry, preferably in an archaeological context. First awarded in 1996, past winners have included a survey of the Rolls Royce aero engine works at Filton, John Lysaght's galvanised iron business, the Wick ochre mines and works, a study of the evolution of canal lifts, Robert Weldon's caisson lock, William Smith and coal exploration, and the development of the Bristol axial bus engine. Entries for the next award (of £150) will be judged after the closing date of 31 August 2008. Hopefully the winner will be published in *BIAS Journal.* For details please contact Owen Ward, 77 Hansford Square, Combe Down, Bath BA2 5LJ.

'Cherish or Perish' Buildings at Risk Register

Cherish or Perish, SAVE's 2008 Buildings at Risk Catalogue, is now available in a new handbook-sized format and in full colour. From isolated farmhouses in Wales to huge Victorian institutions, this year's Buildings at Risk Catalogue locates and illustrates a selection of more than 100 buildings at risk in England and Wales. This is highly recommended for those looking for an architectural adventure focused on unloved and overlooked elements of our built heritage. The buildings in this catalogue have been taken from a selection on SAVE's online register, which contains about 800 buildings at risk. *Cherish or Perish* is available for £12 (Friends of SAVE £10) from SAVE Britain's Heritage, 70 Cowcross Street, London EC1M 6EJ.

Olympics brings industry to Lea Valley museum

A four year long wide-ranging cultural festival taking place across the whole of London starts this summer, following the Olympic Games in Beijing and continuing over the period of the London Games throughout most of 2012. At the Lea Valley Experience (TQ 362 882) plans are at quite an advanced stage for a large new museum building. The total cost of this extension is expected to be more than £2m. It is hoped to attract funding earmarked for the 2012 Cultural Olympics. The Museum will tell the story of industry in the Lea Valley and environs. The intention is to bring back to the area of their manufacture large items currently in National Museums.

Robert Carr

Kelly Mine open day

Kelly Mine in Devon won the 2007 Dorothea Award for Conservation (see *IA News 144,* p9). There will be free admission on 31 August 2008 to this unique example of an early twentieth century iron mine with many original features in working order, including Californian stamps, water turbine, winching system, waterwheel and ore drying furnace. The mine is off the A382 near Lustleigh on the eastern edge of Dartmoor, and is reached by a 250-yard walk from a field car park. For more details contact Nick Walter, telephone 01626 853127, or see the website www.kellymine.freeserve.co.uk

The Derby roundhouse gets some attention at last *Photo: Ian Mitchell*

Finch Foundry looks for volunteers

Finch Foundry at Sticklepath near Okehampton in Devon is the last working water-powered forge in England. The National Trust is looking for volunteers to join the small team at Finch Foundry to assist in bringing the history of the foundry to life through helping with demonstrations of the machinery, welcoming visitors to the property, or working in the shop. Anyone interested should contact Debbie Halls, Administrator, Dartmoor Countryside Office, e-mail: Deborah.Halls@nationaltrust.org.uk .

Jubilee Bridge centenary upgrade

The Jubilee Bridge to Walney Island has been refurbished at a cost of £1.5m and painted in its original colours of black and gold in time for its 100th anniversary. It was built in 1908 to enable workers at the Vickers shipyard in Barrow to cross over the Walney Channel from Vickerstown. The bridge includes a lifting section so that boats can pass through.

Midland Railway Butterley Works Open Day

An open day is being held on 23-25 August at the Midland Railway Centre near Ripley in Derbyshire. In addition to railway activities there will be presentations each day on the history of Derby locomotive works, industrial archaeology of the Amber Valley and the history and development of the Midland Railway Butterley.

Robin sails to Lowestoft

Nishani and David Kampfner (see *IA News 126,* pages 7-8) have worked wonders yet again. The future of the *SS Robin* built at Blackwall, London, in 1889-90 was decidedly perilous and it seemed almost certain that the vessel could not be saved. An announcement that she was to go for scrap appeared imminent. However, we now hear the incredible news that enough money has been raised to save the ship. She arrived safely from London at Lowestoft for restoration on 29 June.

Robert Carr

REGIONAL NEWS

West of England

The development of IA in the South West, as elsewhere in the UK, has been profoundly influenced by the ups and downs of the economy and reports from local societies reflect the opportunities and threats that have come during a long development boom, now perhaps threatened by a global credit crunch and rise in commodity prices.

In Gloucestershire, the future of the Cotswolds Canals restoration project retains its high profile. A new bridge over Stroudwater Canal at Oil Mills, Ebley, was opened to traffic in April, using as much of the original brick-built abutments as was possible. However, the success of the bigger project has been threatened by the failure of the application to Big Lottery to restore the canal from Saul junction to Stonehouse and the withdrawal of British Waterways as lead partners. The Cotswolds Canal Trust and Stroud District Council, supported by HLF, the Regional Development Agency and the County Council, were working frantically to keep the project alive.

In Somerset, it is pleasing to see that hard work by IA enthusiasts over the years in two areas has paved the way for two significant restoration and interpretation initiatives. AIA award-winning work on the legacy of the County's turnpike trusts by Brian Murless and the late John Bentley has provided a benchmark for restoration of milestones by Somerset Heritage Services. The first scheme involved a five-mile stretch of the road from Taunton to the Quantock Hills and a second project is underway on the former Minehead United Trust road from Dunster into Devon. On the Brendon Hills, the ventilation chimney of Bearland Wood haematite mine (1854-1880s) has been conserved with Lottery support and the Exmoor National Park has appointed an officer with a particular responsibility for the interpretation of the remains of the West Somerset Mineral Railway.

Brian Murless also reports that Westonzoyland Pumping Station has recently received two steam-driven pumping engines of 1864 and 1869 vintage, plus a twin-lift hand pump. They had previously been in store at Aldermoor Pumping Station which has now been sold and converted into holiday accommodation.

SIAS continues to monitor and respond to planning applications. Some, like the large and important former woollen manufacturing sites at Tone and Tonedale Mills, Wellington, require a long-term commitment! The arrival of a new developer, with experience of industrial conversion, it is hoped, will bring about an acceptable scheme of adaptive reuse. As a case study, this initiative warrants a fuller report than we can provide here.

The closure of the former Royal Ordnance Factory at Puriton, the last explosives factory to operate in the UK, has challenged local capabilities to record and conserve its heritage of this 500 acre site with its associated works. BAE Systems has commissioned an initial appraisal and archives and photographs have

An unusual hand pump now on display at Westonzoyland Pumping Station
Photo: Frank Hawtin

been deposited at Kew and Taunton. It is possible that some artefacts and machinery will be displayed at Waltham Abbey.

Regeneration, business closures and development schemes continue to have an impact on the industrial heritage of the Bristol/Bath area. Construction is now underway on the old Bristol Brewery site, as mentioned in our previous reports, and work on what has been described as 'one of the best sites ever excavated in Bristol' has uncovered evidence of tanning, iron and cloth working as well as brewing. Excavation at Redcliffe Wharf has also uncovered remains of glass-making and the original floor plan of the Steamship Engine Works was uncovered prior to development of the site adjacent to the *SS Great Britain.* Such are the research gains that can follow on from the loss of industrial features. In Bath, a new scheme for Sir James Dyson's School of Design has been prepared for the Newark Works site and, further west along the Lower Bristol Road, Tesco wishes to develop the fine twentieth-century Bath Press building. Nearby, German supermarket rivals, Lidl, have their eyes on a sympathetic conversion of the former Herman Miller furniture factory built in 1967 and recently listed on account of its innovative 'Mero' roof design which cut the number of supporting pillars required in this single-storey block.

Meanwhile, in Dorset two parallel lines of stone sleeper blocks laid end-to-end were recently unearthed during work to extend a stone quarry on the Isle of Portland. They supported a probable iron plateway for carrying waste overburden to a waste tip at a site where a 'rail road' was marked on a map in 1828. Work continues on the re-assembly of a Hathorn Davey steam engine for the waterworks museum at Sutton Poyntz. A major problem causing considerable delay has been the need to remove asbestos from around the cylinders and steam receiver. Sutton Poyntz has been the primary source of Weymouth's water supply for 152 years and utilised three sources of power: water for 101 years, steam for 89 years and electricity since 1958. The Hathorn Davey is the only piece of steam plant left.

Tonedale Mills, Wellington. The 1860s spinning block is currently under conversion to housing but the combing shed (centre) and the weaving sheds (left) have been demolished *Photo: Frank Hawtin*

Away from the field, there are a number of developments affecting the future direction of IA in the West of England to report. IA is well represented in the 371-page publication of the Resource Assessment and Research Agenda of South West Archaeological Research Framework (SWARF) which has recently been published as The Archaeology of South West England by Somerset County Council. Work on the Research Strategy , the final phase of this project, is due to be concluded later in the year. BIAS, who celebrated their 40th 'birthday' last year, have also been looking to the future with a major review 'BIAS - The Next Forty Years', published with their recent Bulletin. Changes in the context in which we have operated since 1967 are reviewed and progress towards achieving the original aims of BIAS assessed. One of the major concerns was the lack of opportunities for research, particularly in the field, and neighbours SIAS have also commented on the need to do much more in this respect. The BIAS document is to be discussed at the first of the Society's winter meetings and it is to be hoped that much will come from this essential exercise in planning for the future. There will, I'm sure, be much for AIA to do in response to initiatives of this kind. Finally, AIA members will have an opportunity to get first-hand experience of the IA of the West of England at our forthcoming Annual Conference in Wiltshire.

Mike Bone

A newly exposed line of tramway sleeper blocks in a Portland quarry
Photo: Peter Stanier

North West England

Fred Dibnah is now honoured on the streets of Bolton by a statue, joining other worthies including Samuel Crompton, inventor of the spinning mule, and Sir Benjamin Dobson, chairman of Dobson & Barlow, textile machine makers and several times Mayor of Bolton. A change in cultural values is perhaps indicated by the fact that where previous generations commemorated inventors, businessmen and civic leaders in this way we now commemorate media stars. The statue was unveiled, in pouring rain, on 29 April 2008 and appropriately stands in Oxford Street next to the glass case containing the Bolton-built Hick, Hargreaves engine from Ford, Ayrton's silk mills at Low Bentham.

Still in Bolton, in January 2007 Bolton Metropolitan Borough Council launched the Bolton Mills Action Framework, an advisory document compiled to help guide the future role of mill premises across the Borough. This has led to a process of assessment and prioritisation of the 108 mills they found still standing in the Borough, down from 143 extant sites recorded by the Greater Manchester Textile Mills Survey in the mid-1980s. The key objectives of the

The recently unveiled statue of Fred Dibnah attracts the attention of passers-by in Bolton town centre
Photo: Roger N Holden

framework include: recognising the value of Bolton's mills; conserving the best of Bolton's industrial heritage; maximising Bolton's available employment space; preserving local distinctiveness; and ensuring that the mills are an asset to the community in which they sit rather than a liability. It is gratifying that the Council's view of mills is essentially positive, recognising both the heritage and economic value of the surviving mills. Indeed, they state that they were surprised to discover that 'only 13% were listed'! One use which mills are increasingly being put to in Bolton, as elsewhere, is housing. The surviving two of James Chadwick's Eagley Mills have been converted, and new housing built on the rest of the site. Similarly, Sir John Holden's Mill at Astley Bridge. This was Bolton's last spinning mill built in 1926 and, despite its vast size, the developer has found it necessary to add two extra storeys onto its flat roof, subtly altering its appearance.

Moving to Oldham, whose Council has yet to take such a positive view as Bolton, Less-Newsome Ltd, one of the few surviving textile businesses in the town, ceased operations at the end of 2007. This company had been operating at Ashley Mill since 1875 and, ironically given the dominance of spinning in Oldham, this was one of Oldham's few weaving mills, although in recent years the company had concentrated on non-wovens. Ashley Mill will be demolished and the site re-developed for the inevitable housing.

The University of Manchester Archaeology Unit (UMAU) reports another busy and productive year, having surveyed several mill sites including Thorp Street Silk Mill in Macclesfield, Brownsfield Cotton Spinning Mill in Manchester, the Greenbrook Felt Works in Bury, Slackcote Mill in Saddleworth, Borough of Oldham, and Booths Hollings Mill, a woollen mill in the remote Longden End Clough in the Pennine hills west of Milnrow, Borough of Rochdale (well, it would be remote except for the M62 which now roars past). They also surveyed the Victoria Warehouses in Trafford Park and a small village forge in Rochdale. Excavations have been carried out at The Pump House in Manchester, 22 workers' houses in Loom Street, Ancoats, and at the Old Quay Bridgewater Canal interchange in Runcorn.

Other survey work has been carried out in the town centre of Bury in advance of re-development, covering mill and workers' housing sites, also the Knowlsley Street railway station. In north-east Cheshire a survey of Cheadle Bleachworks, again in advance of redevelopment for housing, produced the important find of two waterwheels which had been hidden from view beneath later concrete flooring.

On the publications front, the Strategy Document, forming the second volume of *The Archaeological Research Framework of North West England,* which includes the industrial period, was published at the beginning of May last year (2007) and also that month Oxford Archaeology North published the results of their survey of Murray's Ancoats Mills in Manchester. The UMAU's 'Archaeology of Tameside' series continues with the seventh volume published on *Denton and the Archaeology of the Felt Hatting Industry,* which complements Penny McKnight's study of the industry in Stockport published 2000.

With thanks to Bill Jones who keeps me posted with what is happening in Bolton. I would be pleased to receive reports from elsewhere in the region as I am aware that these reports tend to focus rather too much on the Greater Manchester area and on the cotton industry.

Roger N. Holden

Ashley Mill, one of Oldham's few weaving mills, operated by the same company since 1875 closed down at the end of 2007

Photo: Roger N Holden

The remote Booth Hollings Woollen Mill in Longden End Clough, Milnrow, Rochdale, surveyed last year by UMAU

Photo: Roger N Holden

The Leicestershire Industrial History Society

This is the first of an occasional series giving an insight into the activities of individual local societies affiliated to the AIA. The Editor of IA News would be pleased to hear news from other affiliated societies.

The Leicestershire Industrial History Society (LIHS) was established back in 1969. Current 'hands on' activities include the excavation of a late eighteenth century coal mine site at Swannington, taking place at least once per month all the year round; photographic recording of work being undertaken in 175 year old railway tunnel at Glenfield, leading to a complete revision of the Leicester to Swannington Railway history; assistance with site interpretation at Stoney Cove in conjunction with the Nautical Archaeology Society and local history group; recording the history of a large local factory producing electric light bulbs of all descriptions on its closure and move to Europe; and a major recording of the last operations at the Timken hot and cold tube mills at Desford (see cover, *IA News 141).* A DVD has sold over 450 copies and as an ongoing project LIHS is writing up the company history, taking documentary evidence from the company, with the intent of placing all the information in the public domain on completion. This idea of recording the actual workings of a site immediately prior to dismantling or closure will give IA students of the future actual details of the site 'as it was', and could be copied by other societies

LIHS is publicised through its own website (lihs.org.uk), the production of full colour, ISBN Bulletins on the outcome of the society's work, two for example, produced in 2007. A substantial newsletter is sent to members twice per year, which includes a synopsis of the monthly LIHS series of winter lectures, summer visits and articles by members and other contributors.

LIHS has been active in joining in with other East Midlands IA associated groups in the organising of the successful heritage days (EMIACs) at six-monthly intervals. The dig site is opened to the public for a whole week in association with the CBA's National Heritage Week, and other ways to keep the public informed include manning a stand with Bulletins, reprints, DVDs and CDs of local IA involvement at various local association group meetings, taking to local schools, preparing teaching aids and encouraging youngsters and the teachers to take an interest in local industrial history. LIHS provides a programme of summer walks and visits to local, or occasionally further afield IA areas of interest, which can be attended by non members too. A small library of associated books is maintained and other local history groups are assisted when requested.

To ensure that the IA message and heritage preservation gets across to the public and local council bodies, individual members of the LIHS have, for example, become members of the Conservation Advisory Panel to the local council, taken an active part in local School Governorship, frequently submitted photographs and articles to the local press, carried out their own research, sharing results, and using the society's resources for publication etc. They have also become members of the AIA, standing for council on occasions. One member has rebuilt a windmill dating back to 1809 and now produces specialist flour. Some members work with museum groups on various projects, while others have interests as wide ranging as vintage machinery, boats, railways, road vehicles, etc.

These are activities that we consider are important if we are to remain a viable member of the East Midlands IA scene. We are less than 60 in number, but we do not stand around 'collecting train numbers'. We welcome new ideas, new members and constructive criticism! We are fortunate in being financially stable thanks to the generosity of one of our former deceased members, but much of our success has been self generated and sustained, because we have a belief in our ability, our membership and our hope that we can sustain this philosophy.

David Lyne

LIHS members in action at the late nineteenth-century Califat mine, Swannington, digging out the foundations of a substantial engine base together with extensive system of tunnels which could have been a mechanical ventilation system to the nearby mine shafts
Photo: David Lyne

PUBLICATIONS

Local Society and other periodicals received

Abstracts will appear in *Industrial Archaeology Review.*

Brewery History, 126, 2007
Brewery History Society Newsletter, 40, Christmas 2007
Bristol Industrial Archaeological Society Bulletin, 123, Spring 2008
Bristol Industrial Archaeological Society Journal, 40, 2008
Conservation Bulletin, 56, Autumn 2007, 57, Spring 2008
Cumbria Industrial History Society Bulletin, 69, December 2007, 70, April 2008
Dorset Industrial Archaeology Society Bulletin, 18, May 2007, 19, September 2007, 20, January 2008
Greater London Industrial Archaeology Society Newsletter, 233, December 2007, 234, February 2008, 235, April 2008
Hampshire IA Society Focus on Industrial Archaeology, 69, December 2007
Hampshire Mills Group Newsletter, 79, Winter 2007, 80, Spring 2008
Histelec News: Newsletter of the South Western Electricity Historical Society, 37, December 2007, 38, April 2008
Historic Gas Times, 54, March 2008
ICE Panel for Historical Engineering Works Newsletter, 116, December 2007, 117, March 2008
Industrial Heritage, vol.33, no.2, Autumn 2007, vol.33, no.3, Spring 2008
Lancashire History Quarterly, 11/3, Winter/Spring 2008
Leicestershire Industrial History Society Newsletter, Spring 2008
Manchester Region Industrial Archaeology Society Newsletter, 123, February 2008
Merseyside Industrial Heritage Society Newsletter, 282-5, February-May 2008
The Mole: newsletter of the friends of Williamson's Tunnels, 18
Museum of Bath at Work Newsletter, Autumn 2007
Northamptonshire Industrial Archaeology Group Newsletter, 105, Winter 2008, 106, Spring 2008
Piers: the Journal of the National Piers Society, 87, Spring 2008
Scottish Industrial Heritage Society Bulletin, 46, March 2008, 47, June 2008
Somerset Industrial Archaeological Society Bulletin, 106, December 2007, 107, April 2008
Suffolk Industrial Archaeology Society Newsletter, 99, November 2007
Surrey Industrial History Group Newsletter, 161, January 2008, 162, March 2008, 163, May 2008
Sussex Industrial Archaeology Society Newsletter, 138, April 2008
Sussex Industrial History Journal, 38, 2008

Sussex Mills Group Newsletter, 138, April 2008
TICCIH Bulletin, 38, Winter 2007, 40, Spring 2008
Trevithick Society Journal, 34, 2007
Trevithick Society Newsletter, 136, June 2007, 137, October 2007,138, December 2007
WaterWords (News from Waterworks Museum – Hereford), Winter 2007, Spring 2008
Welsh Mines Society Newsletter, 58, Spring 2008
Worcestershire Industrial Archaeology and Local History Society Journal, 33, Winter 2007, 34, Spring 2008
Yorkshire Archaeological Society Industrial History Section Newsletter, 72, Early Spring 2008

Books received

Devon Leather, by Martin Bodman, Leat Press, 2008. 168pp, over 190 illus. ISBN 978-0-9548758-1-7. £28.00. Special offer £22.00 incl p&p to AIA members, direct from Martin Bodman, 25 Chaffinch Drive, Cullompton, Exeter EX15 1UJ.

This attractively produced book outlines the history of one of man's oldest industries yet now almost lost. Until the mid-nineteenth century tanning was the fourth largest industry in the country, and Devon was one of the three leading counties with over 100 tanneries at work in 1815. Today, the only surviving oak-bark tannery in the UK is worked by J. & J.F. Baker at Colyton in Devon. The author describes how a tannery worked while also covering the family history of a number of tanners, rounded off with a comprehensive gazetteer of over 100 tannery sites, all fully illustrated with photographs, and well-drawn maps and plans. The subject breaks new ground and its high standard is an encouragement for similar studies in other counties.

Fire-fighting in Warwick, by J. A. Powell, Warwickshire Local History Society, 2001. 56pp, 17 illus. Available at £2 plus 50p postage, cheques to 'Warwickshire Local History Society'. Contact Christine Woodland, 28 Lillington Road, Leamington Spa, Warwickshire CV32 5YY.

Jim Powell's father and grandfather both served in the Warwick Volunteer Fire Brigade. He traces the history of fire-fighting in Warwick, beginning with an outline of the rudimentary facilities prior to the Great Fire of 1694. He shows how the modern service developed, initially through insurance societies. The volunteer force was established in the 1860s. There are sections on the equipment purchased, how it was used, the training involved, the political background, membership of the force, and a summary of what survives today in the way of equipment and buildings.

From Field to Factory: Flax and Hemp in Somerset's History after 1750, by C.A. Buchanan, SIAS Survey No.18, 2008. 80pp, 59 illus. ISBN 978 0 95587 42 0 8. £9.00 plus £1.00 p&p, cheque payable to 'SIAS' from SIAS Hon Sec, Geoff Fitton, Giles Cottage, Brent Knoll, Highbridge, Somerset TA9 4DF.

Flax and hemp was grown, processed, spun and woven in south Somerset long before the nineteenth century. Products included ropes, twine and canvas, although with the advent of efficient steamships there was a decline in the demand for sailcloth. Sandy Buchanan and the Somerset Industrial Archaeology Society have produced the first popular book on the subject. The main sections cover the processes and the changing technologies involved, the entrepreneurs and engineers, survival and decline, and lastly a chapter on the industrial archaeology which describes the most important sites. Highly readable, the book is well illustrated with photographs and plans.

Inventing Pollution: Coal, Smoke, and Culture in Britain since 1800, by Peter Thorsheim, Ohio University Press, 2006. 307pp. ISBN 13: 978-0-8214-1681-5. $26.95 soft cover $21.56.

Britain's supremacy in the nineteenth century depended in large part on its vast deposits of coal which not only powered steam engines in factories, ships, and railway locomotives but also warmed homes and cooked food. As coal consumption skyrocketed, the air in Britain's cities and towns became filled with ever-greater and denser clouds of smoke. In this far-reaching study, Peter Thorsheim explains that, for much of the nineteenth century, few people in Britain even considered coal smoke to be pollution. To them, pollution meant miasma: invisible gases generated by decomposing plant and animal matter. Far from viewing coal smoke as pollution, most people considered smoke to be a valuable disinfectant, for its carbon and sulphur were thought capable of rendering miasma harmless. Inventing Pollution examines the radically new understanding of pollution that emerged in the late nineteenth century that gave birth to the smoke-abatement movement and to new ways of thinking about the relationships among humanity, technology, and the environment.

Rendel's Floating Bridges, by Alan Kittridge. Twelveheads Press, 2008. 144pp, 155 illus. ISBN 978 0 906294 67 3. £12.50.

Although he tried and failed six times to build a major suspension bridge, Devonian James Meadows Rendel (1799-1856) was the reluctant inventor of the floating bridge as a cheap, temporary, substitute to maintain essential turnpike communication across estuaries. Fixed to land by chains for traction but never leaving the water, five steam-powered floating bridges at Dartmouth, Saltash, Torpoint, Southampton and Portsmouth were born of necessity where land bridges, for reasons of navigation or lack of finance, failed to materialise in the 1830s. Fourteen further floating bridges were established in the United Kingdom after Rendel's death. Eight survive today, including the Torpoint floating bridge, the largest operation of its type in the world. Happily Rendel was an inveterate social networker and climber so this history is a veritable who's who of famous engineers and local nobility. But we also meet unsung heroes: local engineers and shipbuilders working in the brand new steam, iron and chain technologies, attempting to realise the demands of a new breed, the Civil Engineers.

Tacky's Tugs, by Capt Stephen Carter, Twelveheads Press, 2008. 144pp, 140 illus. ISBN 978 0 906294 66 6. £12.50

An important history of the last fleet of coal fired steam tugs in Great Britain. They were operated by W. J. Reynolds Ltd of Torpoint, who were also one of the last companies in Devon and Cornwall to use heavy horses on a full commercial basis. From the 1920s to the 1970s the firm was the largest employer of civilian labour in the Cornish town of Torpoint, situated across the River Tamar from Devonport Dockyard. The latter provided lucrative contracts carrying ash and other waste in barges towed by the tugs which were also employed for berthing commercial ships and salvage work around the coast. Captain Stephen Carter, a marine pilot and tug master, has unearthed the history of the firm and its subsidiaries from its inception in Victorian England to its final demise in the early 1970s. Many previously unpublished photographs are included and the activities of the company are traced in detail with reminiscences of family members and former employees.

22 AUGUST 2008
MODERN MILITARY MATTERS
at Lackham College, Chippenham. Day seminar preceding the AIA Conference. See inside for details, or website: www.industrial-archaeology.org.uk.

22-28 AUGUST 2008
AIA ANNUAL CONFERENCE
at Lackham near Chippenham, Wiltshire, the AIA's annual conference. It may not be too late to book! See website: www.industrial-archaeology.org.uk or contact the AIA Liaison Officer immediately, details on page 2.

31 AUGUST 2008
KELLY MINE OPEN DAY
at Lustleigh, Devon, iron mine restored in working order. Contact Nick Walter, Tel: 01626 853127, or details on website www.kellymine.freeserve.co.uk

1-4 SEPTEMBER 2008
TICCIH 2008: 1ST CHINESE INTERNATIONAL CONFERENCE ON INDUSTRIAL HERITAGE
at Chengdu City, The International Committee for the Conservation of the Industrial Heritage's first conference in China. Everyone interested in presenting a paper is requested to send the complete title and its summary on one A4 page (about 500 words) by 29 February 2008. For further information, see website: www.mnactec.com/TICCIH/

29 SEPTEMBER – 4 OCTOBER 2008
THE SPIRIT OF PLACE BETWEEN THE INTANGIBLE AND THE TANGIBLE
at Quebec, Canada, the 16th ICOMOS General Assembly and International Scientific Symposium. For information, see the General Assembly Web site at http://quebec2008.icomos.org

4 OCTOBER 2008
MILESTONE SOCIETY ANNUAL CONFERENCE
at Coventry Transport Museum in Millennium Place, the Annual Conference & AGM. The museum 'pays tribute to the birthplace of the British cycle, motorcycle and motor car' and also houses three fine examples of Coventry city boundary markers. Enquiries to John Atkinson via Terry Keegan, email: terry-keegan@supanet.com or Tel: 01299 832358.

18 OCTOBER 2008
EMIAC 76
WELLINGBOROUGH – AN INDUSTRIOUS MARKET TOWN
at Wellingborough School, Northants, hosted by Northamptonshire Industrial Archaeology Group in conjunction with Northants Association for Local History and Wellingborough Archaeological and Historical Society. For details and a booking form send SAE to: Mrs J Waterfield, 6 Baker's Lane, Norton, Daventry, Northants, NN11 2EL.

18 OCTOBER 2008
AN OPPORTUNITY FOR BULL!!
at Kew Bridge Steam Museum, a seminar on the newly restored 1859 Bull engine, with talks on Edward Bull, the engine, why it was selected for the Kew Bridge works of the Grand Junction Waterworks Company, the restoration of the engine, and the problems and the solutions. For details, contact Kew bridge Steam Museum, Green Dragon Lane, Brentford, TW8 0EN, Tel: 020 8568 4757.

19-20 NOVEMBER 2008
ON THE WATERFRONT CONFERENCE
at Liverpool, the European Capital of Culture 2008, a major international English Heritage conference to explore the future of port cities, from Shanghai to Mumbai. There is a full programme of workshops and Liverpool city walks. To book a place visit www.english-heritage.org.uk/onthewaterfront.

25 APRIL 2009
SERIAC
at the Guildhall, Winchester, the South East Region IA Conference on the theme of IA in Hampshire and the Isle of Wight, with a post-conference visit to Twyford Waterworks. Hosted by Hampshire IA Society. Advance notice.

3 - 7 JUNE 2009
COALBROOKDALE 300 - FOOTPRINTS OF INDUSTRY
at Ironbridge, a celebration of 300 years of coke smelting of iron and 50 years since the restoration of the old furnace at Coalbrookdale. Hosted by the Ironbridge Gorge Museum Trust, with the AIA, Historical Metallurgy Society, Society for Post-Medieval Archaeology and the Newcomen Society. More details to follow.

30 AUGUST – 5 SEPTEMBER 2009
TICCIH 14TH CONGRESS: INDUSTRIAL HERITAGE, ECOLOGY AND ECONOMY
at Freiberg, Germany. Advance notice only.

Trewavas Head and its engine houses from the air. Conservation of this fragile site will present new challenges for the National Trust in Cornwall (see inside, page 8) *Photo: B Gamble*

INDUSTRIAL ARCHAEOLOGY NEWS
(formerly AIA Bulletin ISSN 0309-0051)
ISSN 1354-1455

Editor: Dr Peter Stanier

Published by the Association for Industrial Archaeology. Contributions should be sent to the Editor, Dr Peter Stanier, 49 Breach Lane, Shaftesbury, Dorset SP7 8LF. News and press releases may be sent to the Editor or the appropriate AIA Regional Correspondents. The Editor may be telephoned on 01747 854707 or e-mail: aianewsletter@yahoo.co.uk.

Final copy dates are as follows:

1 January for February mailing
1 April for May mailing
1 July for August mailing
1 October for November mailing

The AIA was established in 1973 to promote the study of Industrial Archaeology and encourage improved standards of recording, research, conservation and publication. It aims to assist and support regional and specialist survey groups and bodies involved in the preservation of industrial monuments, to represent the interests of Industrial Archaeology at national level, to hold conferences and seminars and to publish the results of research. The AIA publishes an annual Review and quarterly News bulletin. Further details may be obtained from the Liaison Officer, AIA Office, School of Archaeological Studies, University of Leicester, Leicester LE1 7RH.
Tel: 0116 252 5337 Fax: 0116 252 5005.

Registered in England under the Companies Act 1948 (No. 1326854) and the Charities Act 1960 (No. 277511)
Registered office: c/o IGMT, Coach Road, Coalbrookdale, Telford, Shropshire TF8 7DQ
Produced by TBC Print Services Limited, Blandford Forum, Dorset DT11 8ST