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Inspiring adaptation

Peter Wakelin

In the last issue of IA News Dr Peter Wakelin reported on the recent TICCIH conference in Germany about preserving industrial landscapes. Here he describes several innovative schemes within the Ruhrgebeit which show how large and complex industrial sites - traditionally thought unsuited to adaptive re-use albeit that they are essential to the character of industrial landscapes - may successfully find future roles.

Try this puzzle. Take one recently closed steelworks, the size of a city centre, and see what you can think of to do with it. You have at your disposal a motley collection of generator houses, offices and other buildings, huge blast furnaces, ore hoppers, gas tanks, cranes, settling ponds, chimneys and hundreds of miles of steel pipes. This has been the focus of local life for three generations, but it now lies silent and decaying.

In the Ruhrgebeit region of Germany, several giant steelworks have closed in recent years. Some are sitting derelict. Some have been cleared at great expense for their sites to be redeveloped. But one is being preserved in its entirety, and re-used in a multitude of imaginative ways. The site is becoming once again a focus for its community - and at a fraction of the cost of clearing it away. It is one of several innovative adaptive re-use projects in the Ruhrgebeit initiated by the International Building Exhibition, an organisation funded by the regional government to promote economic and environmental regeneration.

The Meiderich Steelworks at Duisburg was built in 1902 and closed in 1985. Since 1992 it has been fully open to the public as the Duisburg North Landscape Park, and last year alone it attracted over half a million visitors. They come for guided tours of the industrial archaeology. They come to study how nature comes to terms with this most intensely abused of landscapes. People all around use the area for recreation and walking; even for picnicking. Stairways to the top of Blast Furnace Number Five give access to some of the best views in the whole region. A gas tank filled with water is used for training divers. Landscape gardens have been established in the old cinder bunkers, and the former office block is now a bar and restaurant, with an exhibition about the site upstairs. One of the power halls has been adapted for conferences or parties to be held amidst its machinery with minimal internal alteration. Ore bunkers are used as climbing walls for training by the German mountaineering club. Even concerts and operas are held, under the furnace canopies.

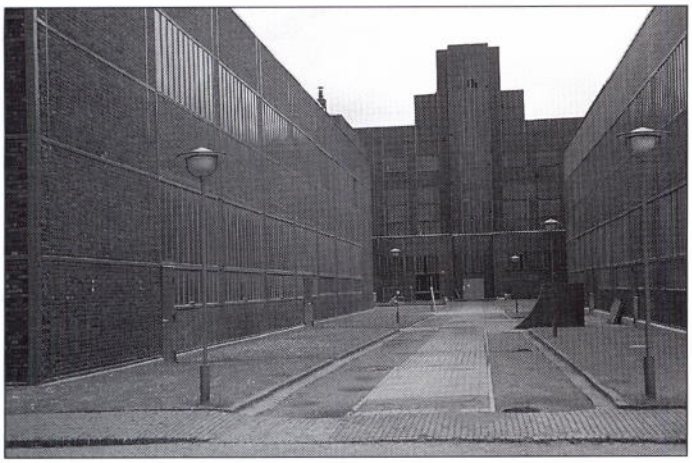
Demolition and reclamation of the site would have cost 137 million Deutschmarks (£60 million), but the full programme of adaptation is costing 87 million (£38 million). Running costs are easily met by revenue from new uses and by interest from the funds deposited by local government and the former owners in part-payment of their obligations toward reclamation. The most expensive work has been the removal of small bore pipes which could have become dangerous; but most of the steelwork requires little or no maintenance, and much of the site is recolonising naturally. Despite the many dangers to visitors that might be imagined, in practice the site is remarkably safe and insurance costs for the operators have been low. Amazing though the concept seems of retaining something so recently and widely thought an unacceptable eyesore, it is rapidly gathering favour. The project is cheaper, it retains historic landscapes and local identity, it provides for beneficial uses of the site, and it is in tune with green philosophy. And, surprisingly, many people are beginning to find the landscape beautiful.

The International Building Exhibition has participated in several other exciting and imaginative schemes of adaptive re-use in the region. At another former steelworks a few miles away at Oberhausen, the giant gasometer was saved temporarily last year to see what could be done with it. At 120 metres high and 50 metres in diameter, its interior is the largest room in Europe. How could such a space be used? The answer was an exhibition, put together as conversion works took place, all within only a few months. Entitled 'Fire and Flame', the exhibition relates superbly the evolution of industrial culture in the region. It uses three levels - the huge circular floor of the gasometer, the spaces between the radial ribs of the plunger which was supported by the gas, and the top of the plunger which is open to the roof 100 metres above. An express lift takes visitors up the dark inside of the structure, watch-

Preserving an industrial landscape: Meiderich Steelworks Urban Park

Photo: Peter Wakelin

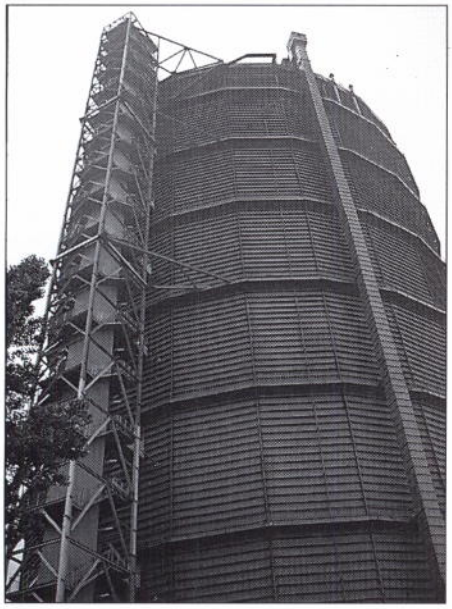
Sheffield Conference 1995 • Forth Bridge • 1740s Birmingham trades • Irish Canals
Presidential change • Sewerage manufacturing • SPAB mills • Inspired IA in Germany



The former boilerhouse at Zollverein XII Colliery, being converted by Sir Norman Foster to the North-Rhine Westphalia Design Centre. Photo: Peter Wakelin

The Bochumer Verein blowing engine hall, now a multi-purpose space for exhibitions, raves and sports events Photo: Peter Wakelin

ing the lights of the exhibition slip into the distance, like a scene from '2001'. Visitors can then step onto the roof for a panorama of the area. The whole stunning experience attracted 270,000 visitors last summer, and re-opened this year by popular request. The gasometer has already become a landmark which people come from all around Germany to visit. After only a year, the idea of demolishing it is no longer the obvious, but instead the unthinkable.



Biggest room in Europe: Oberhausen gasometer, home to the popular exhibition 'Fire and Flame' Photo: Peter Wakelin

Several other buildings have been retained with minimal cost and intervention, simply to be used as large covered spaces when the need arises. They have found regular uses already, for trade shows, raves, exhibitions, conferences, concerts and sports events. Toilets have been built, and screens, seating, special lights and heaters can be hired in if they are wanted. Why adapt further when it could inhibit uses or increase costs? Minimal conversions like this provide such spaces much more cheaply than building new. The approach has worked well at the Bochumer Verein blowing engine hall as well as at the Meiderich steelworks and Oberhausen gasometer. Such flexibility of beginning with minimal alteration and investment and working only gradually towards comprehensive plans has made conservation conceivable at several large and complex sites. Re-use tends to evolve and gather pace if it is given the opportunity, whereas expensive and ambitious schemes may fall at the first hurdle of finding investment all at once.

The adaptation of Zollverein XII Colliery has been an excellent example of the gradualist approach. With 20 separate buildings, each of massive scale, an overall plan would have taken far too long to agree. When the colliery closed nine years ago, a job creation scheme was established to undertake basic care and maintenance and begin conversion of a few structures. A decision was taken that the uses of the site should focus on art and design, capitalizing on its architectural quality as a Bauhaus inspired superpit of 1930. One by one, buildings have been taken over, some privately as design and architecture offices; others in major grant-aided or public initiatives. One houses a private art collection. Another is available for temporary exhibitions. The boilerhouse is being converted to the North-Rhine Westphalia Design Centre - designed by the British architect Sir Norman Foster and even utilising the interiors of the boilers as exhibition spaces. The washery plant is the last to have been assigned a use, but is shortly to re-house the department of design of the University of Essen.

Without any marketing or encouragement, Zollverein XII is already attracting 150,000 visitors a year to guided tours, including local people who once again see the site bringing hope for this area of high unemployment. The cost of the conversion compares reasonably with that of building similar sized spaces anew - with historic buildings grants making costs to users highly favourable. But the quality, sense of identity and excitement offered by the surroundings could not be matched by any new-built scheme. And a superb monument to Europe's industrial past has been permanently preserved.

Try this puzzle. Take a redundant colliery like Penallta in the Rhymney Valley, a closing steelworks like Ravenscraig, or an empty power station like Battersea. What do you do with them? Maybe the Ruhrgebeit can give us some ideas.

AIA

ASSOCIATION FOR INDUSTRIAL ARCHAEOLOGY

ANNOUNCING THE THREE FIELDWORK AND RECORDING AWARDS FOR 1996

The AIA Fieldwork Award scheme exists to encourage recording of the physical remains of the industrial period to high archaeological standards. The awards are open to both amateur and professional field workers, and have been operating successfully for almost a decade.
Work submitted may already have been published or if not, may be encouraged to publish.
As well as the main award there is also the Initiative Awards for innovative projects eg those from local societies and to encourage the future industrial archaeologists, a Student Category.

THE CLOSING DATE FOR ENTRIES IS 1ST MAY 1996

Successful Entries will be notified in August
The successful authors will be invited to attend the AIA annual conference in Bangor to collect their awards in September 1996
Entries should be sent to:
Victoria Beauchamp, c/o The Division of Adult Continuing Education
University of Sheffield, 196-198 West Street, Sheffield S1 4ET
FURTHER DETAILS WILL ALSO BE AVAILABLE FROM THE ABOVE ADDRESS

Two omissions . . . . .

The Editor apologises for the omission of two captions in IA News 94. On page one, the plate depicts 8-14 Bridge Street, Port Sunlight, photographed by Bedford Lemere in 1896. (Photo: RCHME © Crown Copyright). This particular building was bombed in the Second World War and rebuilt in the 1950s so perfectly that it was Listed in the 1960s before the mistake was realised!
On page four, readers will make more sense of the cartoon sketch by inserting the caption: 'Ironbridge Weekenders find themselves still undaunted by their fifth delivery of IRIS recording forms.'

Sheffield Conference 1995

Bill Firth

The 1995 AIA Conference was held over the weekend of 8-10 September with a supplementary programme lasting until the following Thursday afternoon. The venue was Ranmoor House, the largest of the University of Sheffield's halls of residence and where everything was under one roof. The local organiser was the South Yorkshire Industrial History Society (SYIHS), which is the new name of the Sheffield Trades Historical Society.

New for this year, a most successful seminar was held before the main conference, on current research and thinking in industrial archaeology. This will be reported in the next issue of IA News.

The official events started on the Friday evening at the Sheffield Industrial Museum at Kelham Island, with a welcome by its Executive Director John Hamshere followed by the opening of the conference by Ken Hawley of SYIHS and David Crossley of the University of Sheffield. The highlight was the steaming of the large three-cylinder River Don Engine, built in 1905 by Davy Brothers for an armour plate rolling mill. It could roll a 50-ton plate up to 16 inches thick. The reversal of the engine in seconds, as would happen between passes in the mill, was most impressive. The museum provided an excellent buffet supper. Back at Ranmoor House, Derek Bayliss set the scene with his talk 'Introduction to the Industrial Archaeology of South Yorkshire'. He showed that there was a lot more to the Sheffield area than just the steel industry.

Saturday morning started with Members' Contributions, while Jane Robson announced a number of competitions for IRIS forms during the conference, the first of which, in due course, was won by Tim Smith. There were three lectures - 'From centurion to Concorde: Two Millennia of South Yorkshire Steel' by Trevor Lodge, Press Officer of British Steel; 'Recording the Industrial Heritage: the RCHME's Survey of the Coal Industry' by Barry Jones, with a shorter note on the industry in Wales by Peter Wakelin; and Victoria Beauchamp on 'Cutlery Workshops in Sheffield'.

In the afternoon there was a choice of three excursions: Abbeydale Industrial Hamlet and Ecclesall Woods; Elsecar Newcomen engine and workshops; and Wortley Top Forge with a coach trip through the Lower Don steel area. In the evening we had an excellent Conference Dinner at which the principal guests were the Master Cutler and the Mistress Cutler, Mr Christopher Jowitt and his wife.

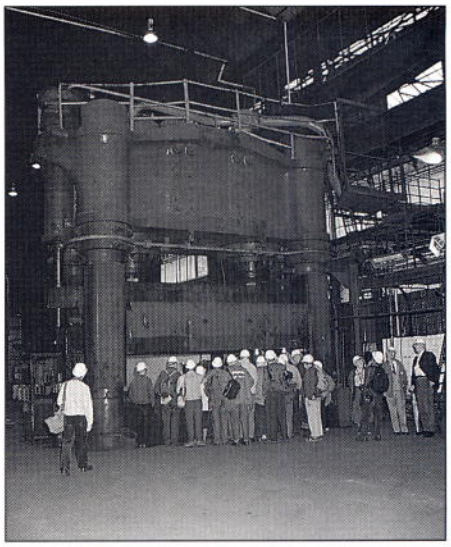
It was hard after such feasting to return to the lecture theatre to hear Professor Francis Evans of Hallam University talk on 'Understanding Bridges'. However, no one need have worried - we were treated to a highlight of the conference. Professor Evans had a series of models by which, in a most entertaining way, he demonstrated the strengths and weaknesses of various types of structure and materials of construction. After about an hour (which did not seem that long) he gave us time to go to the bar, but many stayed on to continue discussions with him and to use his models.

Sunday morning started with the AGM (reported elsewhere), followed by the presentation of the Association's awards. The Fieldwork and Recording Award went to the Scarborough Archaeological and Historical Society for their work on the Saltwick Alum Works. The Initiative Award went to Mike Morris for his work 'Towards an Archaeology of Navvy Huts and Settlements of the Industrial Revolution'. Lastly, the Manchester Region IA Society were highly commended for their work on a water wheel site at Dale Street in Manchester. There followed a brief report from the Scottish Royal Commission and Anna Niznik's fascinating preview - which she repeated at greater leisure later - of a salt recovery works in Poland, as a trailer for the AIA Polish trip in 1996.

The Rolt Memorial Lecture concluded the conference. This year's lecturer was Dr David Crossley, Reader in Industrial History and Archaeology, Division of Adult Continuing Education in the University of Sheffield. The title was 'The Fairbanks of Sheffield: Surveyor's Records as a Source for Regional and Economic Development in the Eighteenth and Nineteenth Centuries'. The full text of the lecture will appear in *Industrial Archaeology Review*.

Here ended the main conference, but over 100 delegates stayed for most of the Supplementary Programme. There were four choices of excursion on Sunday afternoon - Kelham Island Conservation Area, Cutlery Workshops, the Sheffield Canal, or the Porter Valley and Shepherd Wheel. In the evening there was a talk on the Newcomen engine by John Allen, and some videos of Sheffield trades were shown.

Two coach-loads set out on Monday morning for Rockley Furnace and Engine House, Low Mill Furnace, Worsbrough Mill and other sites at Silkstone, and, after lunch, Elsecar. This was an excellent day but too much was seen for it to be described in a few lines.

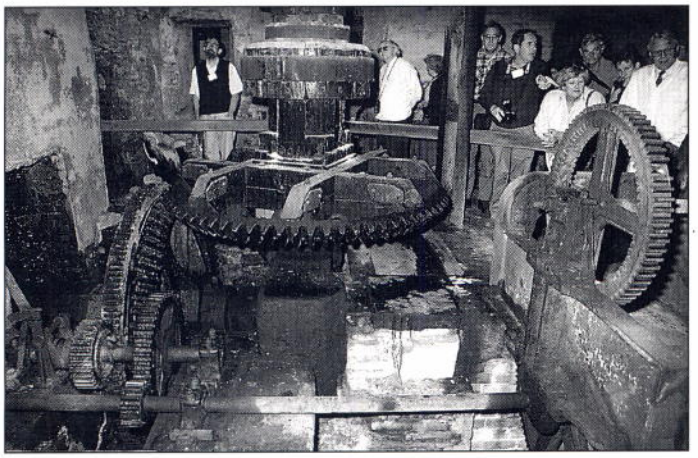


Pressed together: delegates admire the 8000-ton press of 1912 at the Avesta Cyclops Works, Sheffield Photo: Michael Harrison

The evening lecture 'Planning, Conservation and Industrial Monuments in the Lower Don Steel Area' was given by Simon Ogden, a City Planner, who added background to the visits in this area. This was followed by Ken Hawley who had been unable to introduce his videos on Sunday. He described how he had set about videoing Sheffield trades before they disappeared and also demonstrated some of his large collection of tradesmen's tools before showing more of his films.

Tuesday's visits were confined to Sheffield. In the morning, we visited Gripple Ltd in the West Gun Works and the Avesta Cyclops Works in the Lower Don steel area. The Gripple visit was an interesting glimpse of the prize-winning refurbishment of a gun shop of 1863 for a modern industry. Avesta Cyclops is a working steelworks celebrating 150 years on this site and provided a contrast to Gripple. The afternoon visits included the Sharrow snuff mills and cutlery workshops. The snuff mills date from the eighteenth century and the early machinery remains although no longer in use. The evening lecture was given by Jon Whiting and Graham Hague on 'The Woodhead Route' which served as an introduction to Wednesday's visit. We also had more videos.

continued over



Visit to the Sharrow Mills snuff grinding mill Photo: Michael Harrison

Fishing for clues at Worsbrough Mill Photo: Michael Harrison

Birmingham manufacturers in 1740

David L. Wykes, University of Leicester

Descriptions full of industrial interest and detail sometimes come to light from a most unexpected source. One such is a letter written from Birmingham in 1740 by the Rev Samuel Say to his only child Sarah. This is held in Dr Williams's Library, the important non-conformist library in Gordon Square, London.

At the time of this letter, the Rev Samuel Say had been minister at the Presbyterian Princess Street Meeting in Westminster since 1734. He was born at Southampton in 1676, the son of the Rev Giles Say, and was educated at Thomas Rowe's Academy, London, where he was a contemporary of the celebrated hymn-writer Isaac Watts. After a few years as a chaplain to a private family, and preaching at Andover and Yarmouth, he was chosen in 1707 as minister at Lowestoft. He moved to Ipswich in 1725, before being called to one of the leading London pulpits be the Congregation at Princess Street, Westminster, as the successor to the Rev Dr Edmund Calamy.

Say's letter is of interest not only for his considerable descriptive powers and his account of the various manufacturing processes at such an early date, but also for a rare reference to a black man working in the slitting mill. The line of Shakespeare [from As You Like It, Act II, Scene II, 38-9; not quite the text of the modern edition] which followed this reference was typical of Say, a well-read man whose familiarity with both ancient and modern writers was extensive, and who was a noted critic of Milton' s poetry. Say died in 1743, when the letter and the rest of his surviving papers were left to his daughter Sarah, who was married to the Rev Isaac Toms, the Congregational minister at Hadleigh, Suffolk. They were given to Dr Williams's Library by Basil Cozens-Hardy, into whose possession they had come.

The letter forms part of the Say Papers, MS 12.107(217), and is published by kind permission of the Librarian and Trustees of Dr Williams's Library. Paragraphs have been inserted for clarity and contracted words have been extended, but otherwise the original spelling has been retained.

Birmingham July 21st 1740

My Dear Daughter, Your Letter which I received this morning was very welcome to me as it brought me an Account of all your Healths after the Silence of one Post. I thank God I also continue in health with some Improvement after the fatigue of my journey was over, & the pleasant Rides of Fryday & Saturday. Mr Carletons Chaps makes us as welcome as Princes whenever we come & bear us company and I believe my Landlord will be our Companion the First 18 or 20 miles in our return, & take my Horses as he has always done hitherto, & let me ride his, whose motions are very easie.

The Roads here are usually very bad for the most part, but mended by Act of Parliament so that every 2 or 3 miles we have generally a Turnpike. The Prospects are large & fine. The People all imployd & busy in some Manufactury or other almost from Infants. And when you go into the House of a Manufacturer you see Swarms of People crowding every room, & Glass or Metal running from hand to hand, & formed into Buttons and Bucckles in such an Instant of Time that it looks like the Power of Creation.

In other places massiv[e] Bars of cold Iron, such as you see in the stilyard [steel yard], are clipt by an engine movd by the Force of Water into numerous pieces as easily as you would clip a piece of Paper, or Linnen. These pieces of about 2 foot length are thrown into a Furnace of prodigious Heat, & drawn out again, & passd by Iron Tongs under a round Beam of Iron whose motion rolls it along & at the same time squeezes it into twice or thrice the length & breadth it was before, after which it is guided by another hand over on indented Beam which in its motion cuts it into Great Numbers of Small Sticks (if I may call it so) of Iron, much like the Fishhouse Spits [for drying or smoking fish?] at Yarmouth proper for all sizes of Nails, or other like Uses. And these are press'd thro' the Engine with such Rapidity, & succeed one another so quick that I can hardly write lines so fast as they cut out the Bars. This was done to shew us the manner, while the poor Black that sat between the Two Rollers, & guided the Bars into the engine that Splitt 'em came out hotter in a few minutes time than ever He was, I suppose, by the burning heat of the Sun in his own Country, & in the words of Shakespear, The big-round-Drops cours'd one another down His cheeks.

In the country we saw them take the Buckles of plain metal out of the Fire, & stamp 'em into all their beautiful Forms by one Blow of an engine that descended with the weight of more than a 100 pounds. In the same manner that Brass or Bath-metal [an alloy of 3 or 4oz of zinc to 1lb of copper, commonly used at one time for cheap table-ware] Buttons are made of little bars of Glass by Men & Boys that sit round a table under which is a large pair of Bellows, that blows Flame out of different Pipes upon the ends of the slender Glass which melts 'em in an Instant, & the Youths nip 'em off with Pincers which at the same time mou[ld and] form the Buttons into all its Variety of Shapes, some [f]orms of which I shall bring with me, as also Two or 3 of the Buckles. Birmingham would not afford me a Bottle skrew [cork-screw?] of good Temper, & therefore I am pleas'd that Mr Monier has bespoke the Spring Snuffers [tongs used as candle-snuffers?] which I shall take care of.

We lay out Fryday night at Bilson [Bilston, Staffordshire], where I descended into a Coal pit, & where I saw at my First descent, the Place where Two of the men paring the Coals too near the stones that separate between the Vein & the Earth, had been buried under or rather betwixt the fall of those stones till they were digd out by their Companion, one of them was hurt but neither kill'd. The stones, as I imagine, falling between the Inner & the outward Workmen. These People must have a miserable & dangerous employment. For they are liable to damps at the first opening of the Pits, and the Waters would rise upon them were it not for a Fire engine which consumes a Tun of Coals a day, & heats a Vast cover'd Copper of Water whose steam alone works predigious engines that pump the Water out of an open Well of twice the depth of the Coal pit & pour out a continual torrent of Water that runs off into a River. This steam is so irresistible that it would blow up House & engine & all in case of too great a Heat were it not for a waste pipe at the opening of which unawares to me I was so frightened by the Roar the cause of which I saw not that I run backward to the edge of a small Pit into which I was like to have tumbled.

I wish I had not cutt off my Paper at the beginning of the Letter I have room now only to give Love & Service as in my Former, who is Yr affectionate Papa.

S.S.

[Postscript] Mrs Carleton, I perceive, chooses we should return the Road we came which is safer, & that we should meet at Barnet on Saturday by Noon. How they will settle your meeting I know not but wish you may be early. I am in such a Hurry of company that I have not time to read this over.

***Conference 1995** – continued from previous page*

On Wednesday the visits were the Woodhead route and Stocksbridge steelworks. The Woodhead railway line of the then Sheffield, Ashton under Lyne and Manchester Railway was opened throughout in 1845 and is thus celebrating its 150th anniversary. Sites at Penistone and at Woodhead Tunnel entrance were visited. The origins of Stocksbridge steelworks were a cotton mill. In 1841 Samuel Fox began making wire in the old mill and in 1852 he patented the Paragon folding umbrella frame, ancestor of all modern folding umbrellas. The works are now part of British Steel Engineering Steels and make special steels using the electric arc process, a continuous caster and rolling mills. We walked down the entire length of the works through the various shops. The loading of steel scrap into an electric arc furnace and the arc melting were most impressive.

The evening lecture was 'Barnsley Linen' by Harold Taylor, who introduced us to another industry of the area but one which has now ceased. More trades videos followed.

The final visits on Thursday morning covered various water powered sites in the Loxley Valley, in particular Low Matlock Rolling Mill and Mousehole Forge. Again, justice cannot be done to these sites in a few words.

So many people were involved in the visits that they cannot all be named, but I hope they will all accept our thanks under this blanket acknowledgement. However, specific mention must be made of Derek Bayliss, current President of SYIHS, on whom fell the main burden of organising the conference and running it day-by-day and with him should be coupled all his colleagues who assisted.

Before ending, mention should be made of the weather. We are generally lucky and this year was no exception. It rained at night, we had forecasts of at least showers by day but most of the time we had sunny spells, and no one got wet. I don't know who manages to arrange this, but the weather gods must smile on us.

Abbey Pumping Station

Stuart Warburton

Ever wondered how soap works or how water gets from the sky to your tap? And where does it all go when you pull the chain? These questions and many more are now answered at the Leicestershire Museums Service's Abbey Pumping Station in Corporation Road, Leicester, which has recently reopened with a permanent exhibition of the county's water, sewage and public health. There is more than just a museum here as the site contains the original pumping engines which played a significant role in Leicester's development.

An important aspect of the well-known pumping station is the presence of four Woolf compound beam engines. Built by Gimson's of Leicester between 1887 and 1891, these are now the largest of their type in the country. They were used from 1891 until 1964 to pump Leicester's sewage up 167 feet to the massive treatment works at Beaumont Leys. Two of the engines are steamed four times a year.

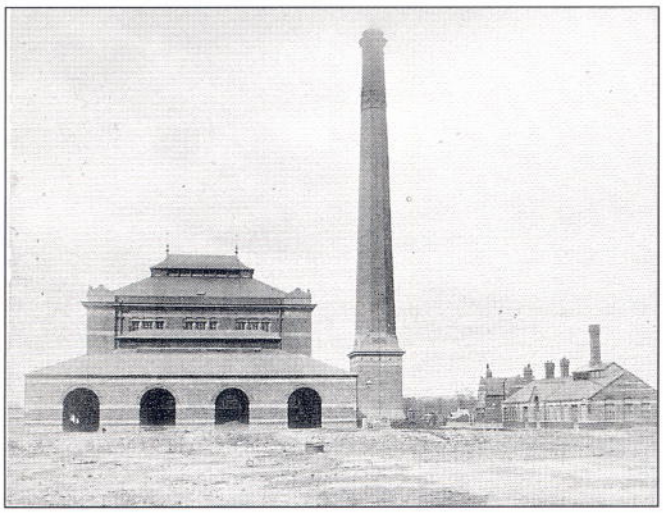
The establishment of the site in 1887 was the result of about 40 years of mismanagement of sewage removal from the expanding industrial town of Leicester. In 1849 Thomas Wickstead, a London sewage and water engineer, applied for permission to build sewers and treatment works for Leicestershire called the 'Patent Solid Sewage Manufacturing Company'. The proposal was opposed by Edwin Chadwick of the Board of Health in London and for three years there was a dispute between Wickstead, Chadwick and the Corporation. By 1852 Robert Stephenson was approached for his comments on the ability of the scheme and he found in favour of Wickstead.

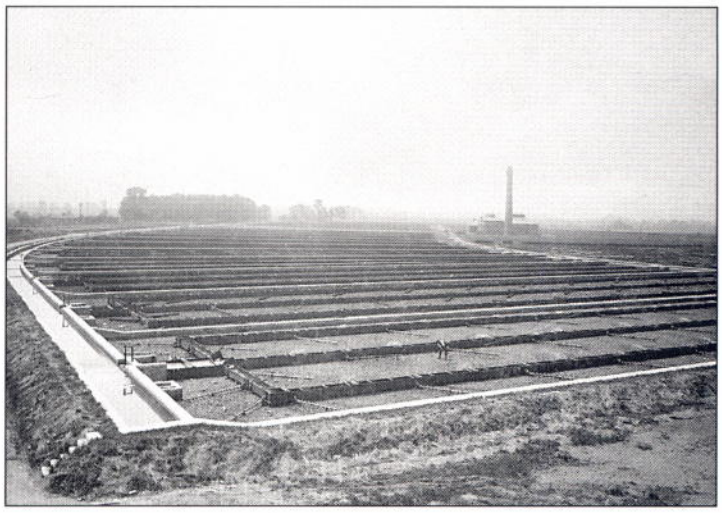
Wickstead's sewers and treatment works at Belgrave in Leicester were operational by 1856, but by 1870 it was a commercial and practical failure. The company had failed to anticipate the growth of the town's population from the 1860s; also, changes in local agriculture from arable to pastoral seriously affected the sale of manure produced at the treatment works. Wickstead's engineering works were also subject to criticism as the sewers were in general poorly constructed and the treatment works were unable to cope with the amount of sewage received. As a result, untreated sewage was 'piped' into the River Soar. This practice caused an outcry from the people of Belgrave, who in 1884 complained to the government about river pollution and smell. The complaint was upheld by the local government board and Leicester was told to buy out Wickstead's company and plan a new sewage system.

The new system was started in 1887 and finished by 1891. It included the Abbey Pumping Station (then called Beaumont Leys Pumping Station), 11 miles of new sewers and a 10-acre sewage treatment works at Beaumont Leys. The total cost was £189,718 (today's equivalent of about £33 million) with £45,439 (equiv. £8 million) being spent on the construction of the engines and pumping station buildings. This system proved successful and was extended and modified, with the addition of three sets of electrically-driven Tangye ram pumps (since removed), in 1923. The pumping station and Beaumont Leys treatment works closed in 1964 when a new treatment works at Wanlip, about five miles from Leicester, was opened. Thankfully the site was moth-balled by Leicester City Council, who in 1968 decided to make it into an industrial museum, which opened in 1973.

left: The Abbey Pumping Station, Leicester, formerly known as the Beaumont Leys Pumping Station, photographed in 1891 just after completion
right: Beaumont Leys treatment works, showing the hign level contact beds in 1904

Photos: Leicester Museums, Arts and Records Service





White Mill, Dorset

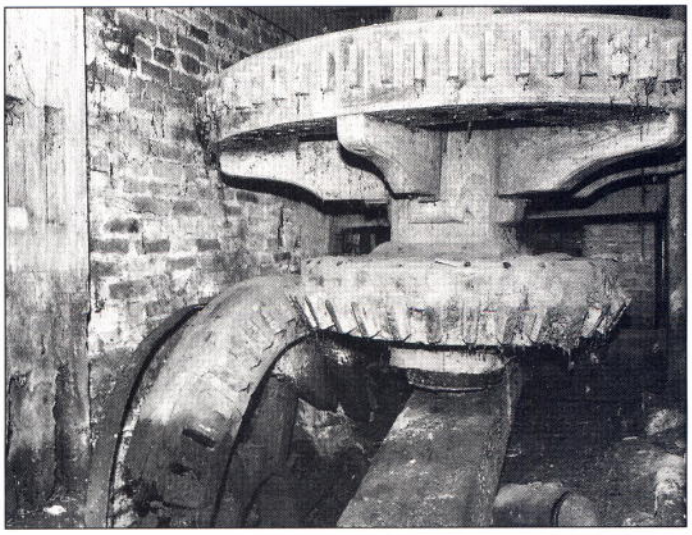
On 30 May, Sir Angus Stirling, Director-General of the National Trust, formally opened White Mill on the Kingston Lacy estate near Wimborne in Dorset.

The mill, just upstream from the fine medieval Whitemill Bridge on the River Stour, probably occupies a Domesday site. It was substantially rebuilt in 1776 by Henry Bankes as an impressive four-storey brick building with an adjoining cottage and lean-to bakehouse. The buildings had been disused for some time and extensive repairs were undertaken by the Trust over two years. The watermill comprises two mills under one roof, driven by two timber waterwheels set side by side in a central chamber. Only a small fragment of one wheel survived, which has been removed for analysis and conservation, but almost two complete sets of machinery remain and these have been repaired and conserved in situ. It is the remarkable survival of two comparable yet contrasting sets of late eighteenth-century timber machinery that makes White Mill of national importance.

An early decision was made to carry out only essential repairs and conservation work, to put the building in good repair but not to return the mill to working order because the original machinery is too fragile or decayed to turn again. The reconstruction of a hand-driven mill, of which the lower stone survived in place in the loft floor, was undertaken so that the milling process could be demonstrated to visitors in a practical way. The repairs and conservation of the mill machinery and the reconstruction of the hand mill were carried out by millwright Martin Watts.

The rare all-timber pitwheel, wallower and spur wheel at White Mill before conservation

Photo Martin Watts



Ironbridge Weekend

The annual AIA Ironbridge Weekend will be held from 22 to 24 March 1996. Please note that this is not just for affiliated societies, as individual members are very welcome too. This year Gordon Knowles has again organised an interesting programme on the theme '20th Century Industry, Obsolescence and Change'. Details and a booking form are included with this mailing. Enquiries should be addressed to Gordon Knowles, 7 Squirrels Green, Great Bookham, Leatherhead, Surrey KT23 3LE.

AIA Polish Visit

It has been necessary to move the dates to the second half of July 1996. If you are interested, please send SAE to David Alderton (48 Quay Street, Halesworth, Suffolk IP19 8EY) who will mail details as soon as they are finalised.

Farewell Mr President

We thank John Crompton for his Presidential supervision of the AIA for the last three years, during which time he has moved from the West Midlands to Scotland, yet continued to devote much time and hard work to the running of our affairs. The work of the President and indeed other officers of the AIA is unseen by most members, which is perhaps as it should be when things are running smoothly. John's particular innovation has been the introduction of the Forward Plan which sets out clearly our aims and objectives with a series of specific priorities to aim at each year.

AGM Report

A well attended Annual General Meeting of the AIA was held this year at Ranmoor House, University of Sheffield on Sunday 10 September.

This year the AIA has a new President, Hilary Malaws, with her predecessor John Crompton becoming Executive Vice-President. All of the officers of the Association were re-elected to their posts, and Council Members offering themselves for re-election were also duly returned. Peter Wakelin has resigned from Council and he was thanked for the work he has put into the AIA, particularly as the former IA News Editor. There is a vacancy on Council and there was a worrying shortage of names being put forward for election. The AIA needs new blood!

Due to unforeseen circumstances, Michael Messenger was unable to attend but gave his annual treasurer's report by a short letter in which he also pointed out that the last time he missed a Conference and AGM he was voted in as Treasurer (a warning there!). The accounts were approved after some discussion over the best methods of auditing.

There was general discussion on the various committee reports and Marilyn Palmer announced the imminent publication of last year's Leicester seminar papers. Gordon Knowles gave notice of the Ironbridge Weekend and members were sounded out on the popularity of a different future venue for this event.

Conference Gazetteer

Regrettably, it was not possible to complete the Sheffield Gazetteer in time for the conference this year. The guide is packed with information and members should find the wait well worthwhile.

Winners! Winners! Winners!

Last year the IRIS Initiative launched a competition offering one year's free affiliated membership to any society completing over 100 IRIS forms in a given 12-month period. The closing date was Monday 11 September 1995. Four societies were successful: The Society for Lincolnshire History and Archaeology (168 IRIS forms) The Shropshire Caving and Mining Club (133) The Surrey Industrial History Group (133) The Halifax Antiquarian Society (111)

Alongside this, one year's free ordinary membership was offered to the individual completing the most IRIS forms. This prize went to Adrian Pearce of Shropshire (133 forms). The AIA also made a special award of one year's membership to Mike Gill of Northern Mine Research in acknowledgement of the 1,554 mining records he donated to the IRIS Initiative in a compatible database form.

Another IRIS competition was held during the AIA Conference in Sheffield, to win a free bottle of wine. Various categories were established and the winners are: The best completed IRIS form: Tim Smith of GLIAS - 'Bridge over the River Don, Wortley, South Yorkshire'. The most imaginative IRIS form: Henry Gunston of Vale of the White Horse IA Group - 'Toilet block around chimney, Arundel Street, Sheffield'.

WELL DONE to all the above winners. Watch this space for more IRIS offers!

Jane Robson

New members

The Association welcomes the following new members:

N K Allen, Leeds
Brian Blackman, Chichester
A V Burgess, Norwich
Eric Coates, Wirral
Dr S Colville-Stewart, London
J B Crawford, Witney
Juian Demetriadi, London
C Robert S Dey, Aberfeldy
David Eve, Maidstone
F Fidler, South Moreton
Jonathan Gill, Oxford
Marcus Gillespie, Portsmouth
Rachel M Green, Wantage
Isobel Hartley, Darlington
P J Hudson, Lancaster
Eric Instone, Newcastle upon Tyne
Simon James, Wimborne
R N Jones, Derby
Ed Kent, Sedgefield
R M Kinchin-Smith, Banbury
T S Langdale Smith, Market Rasen
John Leach, Buxton
Dr W Lloyd Jenkins, Colwyn Bay
G P Loosemore, Solihull
Bruce Macdonald, Chapman ACT, Australia
D J Mechem, Birmingham
A R Ovens, Exmouth
A E Parkes, Rugeley
Tim Richardson, Birmingham
J N Rimmington, Durham
Alan Robinson, Darlington
Jane Robson, Lancaster
Richard Sheppard, Nottingham
John Silman, Chandlers Ford
Robert Simpson, Craven Arms
Dr Patrick Strange, Matlock
Alan C Strong, Northampton
Tim Taylor, Market Harborough
A J Thomas, Southampton
J Verbruggen, Uden, Netherlands
Roger Viggers, Coalbrookdale
Gary Vines, Highpoint City, Australia
K F Wilde, Liverpool
David Willson, Flimwell
B J Woodley, Shrewsbury

The following institutions have also become subscribers:

Bournemouth University
Essex County Planner, Chelmsford
Robert Gordon University, Aberdeen
Shropshire Caving & Mining Club, Telford
University of Washington, Seattle, USA
West Midlands SMR, Solihull

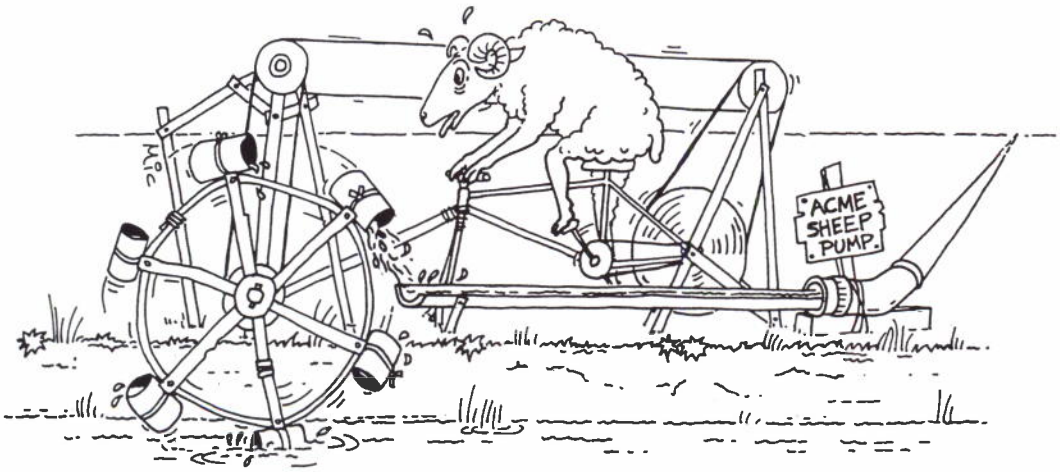
LETTERS

Readers are encouraged to write to the Editor with their views on matters raised in IA News, the Comment feature or other current issues.

Hydraulic sheep

Back in the fifties a salesman in the firm I worked for passed me a letter with the comment 'I can't make head or tail of this. Can you sort it out Pat?' The letter, written with the aid of a dictionary, from a third world country, asked us to supply them with a 'water sheep'. A careful reading of the letter, a look in a trade directory and a couple of phone calls enabled me to pass it on to the firm who made...Hydraulic Rams. (see *IA News* 93)

Patrick Graham London N6 5RN



COMMENT

Your new AIA President introduces herself:

A native of Kent, I graduated in Geography and Librarianship at the University of Wales, Aberystwyth, after which I returned to Westminster City Libraries, where I had worked for a short while previously. I soon realised that public libraries (even London ones) were not really for me and the lure of Wales brought me back to Aberystwyth where, in 1977, I joined the staff of the Royal Commission on the Ancient and Historical Monuments in Wales in order to curate the National Monuments Record of Wales. I continue to undertake this massive but enjoyable task today and, needless to say, I have a particular interest in the industrial archaeology parts of the collections! I should also mention that I wear two other honorary hats: Group Affairs Officer for the Institute of Field Archaeologists and Secretary for the Welsh Mills Society.

It was through my husband, Brian, and our late colleague, friend and neighbour, Douglas Hague, that I first got involved in the AIA, being thrown in at the deep end to help organise the Aberystwyth conference in 1984 - parts of which I still prefer to forget! Since then I have done what I can (although sometimes not as much as I would have liked) to help the Association which I have always admired for the quality of its conferences and seminars and for its success in bringing together the so-called 'professional' and 'amateur' groups of industrial archaeology specialists (the only real difference between them being that one group is paid).

I am very appreciative of the great honour that has now been given me but, as you may imagine, I accepted Council's nomination with much trepidation. The past Presidents of the AIA are formidable acts to follow; their dedication and sheer hard work have firmly established the Association as the lead national organisation in the IA field. The IRIS initiative has now been up and running for some time but it needs continuous effort to keep the momentum going - yet this is vital work if IA sites are to be properly considered alongside archaeological sites and historic buildings in the planning process. The Forward Plan, introduced under John Crompton's leadership, must be reviewed regularly and updated to meet the changing needs of the Association and of IA in general. Continuity in such initiatives is vital and I am fortunate in having no less than four past Presidents on Council to sustain the work; however, I also believe we need to encourage more new people to bring their skills to Council or its sub-committees in order to gain experience for the future. To assist this I intend (with Council) to review the Memorandum and Articles of Association - this may sound somewhat tedious but the documents set out the way we must conduct our affairs and it is important that these adequately meet the needs of the Association as it evolves towards the millennium. If you have any thoughts on this or other aspects of the AIA please write and let me know.

Hilary Malaws

OBITUARIES

Leonard Cooper (1909-1995)

Len started his working life in the late 1920s on the Liverpool Cotton Exchange but soon moved into the brewing industry, first with Friary Ales of Guildford. He also gained experience with a Pontefract maltster and then worked for Border Breweries of Wrexham; Boddingtons of Manchester; Youngs, Crawshay and Youngs of Norwich; Bullards of Norwich and finally Joshua Tetley of Leeds. In 1965, when the old mash tun room was demolished, Len arranged for some structural members to go to Cusworth Hall Museum near Doncaster. He retired in 1971 as brewer, but was retained to sort out the company's archives, which he arranged to be delivered to the city archives in Sheepscar by horse dray.

In 1969 Len joined the Industrial History section of the Yorkshire Archaeological Society, and in 1978 was a founder member of the Thwaites Mills Society. He helped to arrange the 1981 North West and Yorkshire IA Conference at Armley Mills and was one of the hosts at the 1989 AIA Conference in Huddersfield. His first AIA conference had been in 1978 at Penzance, and he was a familiar figure at all subsequent conferences.

Len was a modest and unassuming person, always ready to share his interests in IA and his experience of the brewing industry. He held his opinions firmly and could express them very clearly whenever the occasion demanded. He leaves a widow, Nancy, and two children, of whom Bob with his mother have been regular attenders at AIA conferences.

W J Thompson

Leonard Cooper (centre), seen here delivering the 1792 ledgers and other Tetley brewery archives in 1975

Photo: Jack Hickes

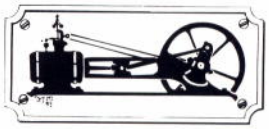
Owen Ashmore (1920-1995)

A former member of the AIA Council, Owen Ashmore died in July. He was born at Disley, Cheshire, and after graduating from Cambridge taught history at New Mills Grammar School. Here he developed an interest in the early textile industry in north-west Derbyshire and its connections with Lancashire - the beginning of a lifelong interest in, and contribution to, industrial archaeology.

Upon appointment as tutor in the Manchester University Extra-Mural Department, Owen encouraged IA classes around the district. He became associated with the Stockport Historical Society and under his leadership, its IA section carried out surveys of textile mills and other industries, resulting in his book on the IA of Stockport, this following up his study of Lancashire. In 1964, he was a founder member of the Manchester Region Industrial Archaeology Society, insisting that it should be a fieldwork based rather than purely a lecture society and suggesting the establishment of an archive for members' work. He became head of his department and built up a programme of weekend courses, summer schools and field excursions in history and I A which has in part survived his retirement in 1980. His book *The Industrial Archaeology of the North-West* (Manchester University Press) breaks away from the industry by industry account in favour of a survey by districts; it remains one of the most comprehensive studies of a region's monuments.

Owen played a major part in the organisation of the 1977 AIA Conference in Manchester. He will be missed by his former colleagues and students to whom he introduced the methods of fieldwork and publication, and by Sheila his widow.

A D George



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DIARY

5 December 1995
INDUSTRIAL ARCHAEOLOGY
National Trust Centenary lecture by Sir Neil Cossons, at the Science Museum. Tickets from Autumn Lecture Series, National Trust (Enterprises) Ltd, 36 Queen Anne's Gate, London SW1H 9AS.

22-24 March 1996
AIA IRONBRIDGE WEEKEND
at the Long Warehouse, Coalbrookdale, on the subject of '20th Century Industry, Obsolescence and Change'. Details are included with this mailing.

12-14 April 1996
THE ARCHAEOLOGY OF MINING IN SOUTH-WEST ENGLAND
weekend conference at Seale-Hayne College, Newton Abbot, Devon, sponsored by the Historical Metallurgy Society and the Peak District Mines Historical Society. For details or submission of papers, contact Phil Newman, c/o RCHME, Rose Duryard, Lower Argyll Road, Exeter EX4 4PB.

20 April 1996
RECENT DEVELOPMENTS AT CASTLEFIELD AND ALONG THE ROCHDALE CANAL IN MANCHESTER
day school reviewing the activities of the Central Manchester Development Corporation, at the Museum of Science and Industry, Castlefield. Details and bookings from Derek Brumhead, Gayton, Laneside Road, New Mills, via Stockport, SK12 4LU.

5 July-7 July 1996
24TH HISTORY OF ELECTRICAL ENGINEERING WEEKEND
at York University. Contact: Elizabeth Hartree, Science, Education & Technology Division, IEE, Savoy Place, London WC2R 0BL ☎ 0171 344 5439.

c15-25 July 1996
AIA VISIT TO POLAND
please note the change of dates. Arrangements are still in hand, but for details when available, send SAE to David Alderton, 48 Quay Street, Halesworth, Suffolk IP19 8EY.

16-18 August 1996
RUSSIA AND WEST EUROPE: INTERACTION OF INDUSTRIAL CULTURES, 1700-1950
International Scientific Conference at Nizhny Tagil in the Urals, with pre- and post-conference tours. For details contact Dr Eugene V. Logunov, Institute of History of Material Culture, PO Box 65, Ekaterinburg B-109, Russia 620109, FAX 3432 297731.

6-12 September 1996
AIA ANNUAL CONFERENCE 1996
in Bangor. Details will be circulated with a future mailing.

29 September - 2 October 1996
ENGINEERING HERITAGE SHAPING OUR FUTURE
the First International and Eighth Australian Engineering Heritage Conference, at Newcastle, NSW, with papers and visits to local engineering heritage sites. Further information from Prof Raymond L. Whitmore, 297 Indooroopilly Road, Brisbane, Q4068, Australia.

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.

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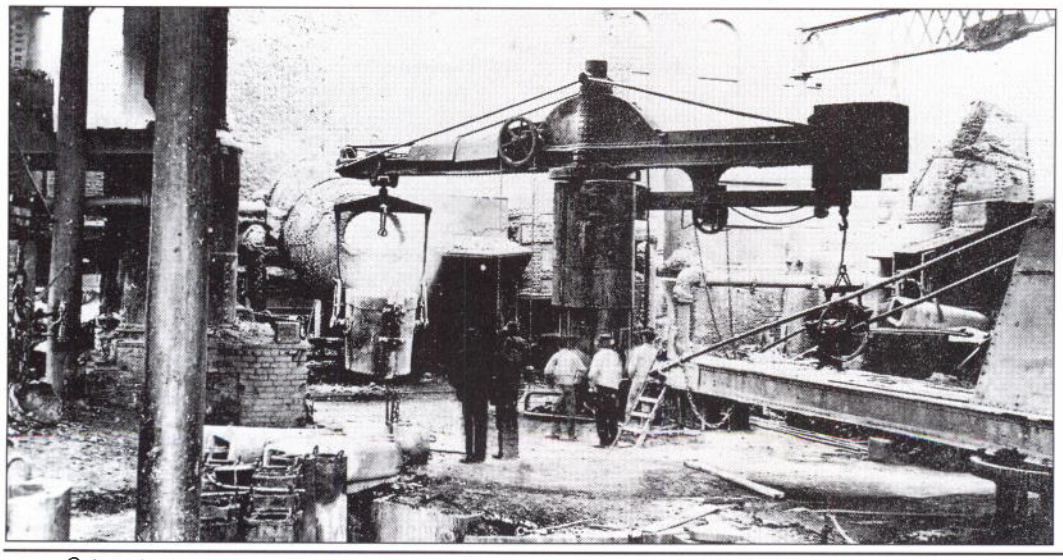
New books in Wales

Two new books published by the National Museums and Galleries of Wales were launched in July at the Welsh Industrial and Maritime Museum, Cardiff Bay. Welsh Steel *by Robert Protheroe Jones is said to be the first published history of that industry, while* The Great Western Railway in Wales: the Work of the Official Photographer *by Gwyn Briwnant-Jones and David Jenkins draws from the official collection of negatives on loan from the National Railway Museum.*
From Welsh Steel: A typical early Bessemer plant with two converters and a crane-served casting pit at the Rhymney Iron Works.
Photo: Welsh Industrial & Maritime Museum



AIA

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Designer: John Stengelhofen

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Final copy dates are as follows:
30 September for November mailing
30 December for February mailing
30 March for May mailing
30 June for August mailing

The AIA was established in 1973 to promote the study of Industrial Archaeology and encourage improved standards of recording, research, conservtion and publication. It aims to assist and support regional and specialist survey and research 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. Further details may be obtained from the Membership Secretary, Association for Industrial Archaeology, The Wharfage, Ironbridge, Telford, Shropshire, TF8 7AW, England ☎ 01952 433522.

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

High farming

English Heritage is setting up a project to look at the planned farms of the eighteenth and early nineteenth century and the buildings of the 'high farming' period of the mid-nineteenth century. For this help is needed in identifying such farmsteads across England.

Improved farming was fashionable with the aristocracy and gentry from the mid-eighteenth century and model farm architecture is found on their estates, with leading architects such as Sir John Soane, John Carr and Samuel Wyatt all producing their own designs. It reflects the philosophy and practical developments of the 'agricultural revolution'. 'High farming is generally understood to cover the prosperous years 1840-70, when a highly capitalised system of agriculture developed on the back of earlier advances. Although the advantages of this high-input, high-output method was greatly publicised, we know very little about the extent to which it was adopted. One of our main sources is the elaborate farmstead, often containing covered yards and loose boxes for cattle, steam and horse engines for threshing and feed preparation, tramways, and other labour-saving devices imported from the world of industry.

Like all old farm buildings, planned and model farmsteads are difficult to adapt for modern use. They are often arranged around a courtyard, the entrance to which is too narrow for modern machinery. As a class of building they are at great risk; yet as a historical source they are of vital importance. We know little about their distribution on a national scale, who built them, or where and why. This information would help answer historical questions about the nature, distribution and extent of landlord influence on improved and 'high' farming.

Because many 'model' farms date from after 1850, they were often not deemed eligible for listing at the time of the re-survey and their industrial/non-vernacular style has not attracted the attention of students of vernacular architecture. Any attempts to preserve these buildings will have to be very selective and for this reason it is extremely important to choose the right ones. This makes a national survey and the production of a national gazetteer essential to the making of informed choices.

The project consultant would be very grateful for any information on planned or model farms, whether from documentary or field evidence. **Contact Dr. Susanna Wade Martins, The Longhouse, Eastgate St., North Elmham, Dereham, Norfolk NR20 5HD**

Bryanston Home Farm was part of Lord Portman's estate near Blandford Forum in Dorset, A steam engine of the 1850s was later replaced by a water turbine
See High Farming (left)
Photo: Peter Stanier

The future of the Forth Bridge

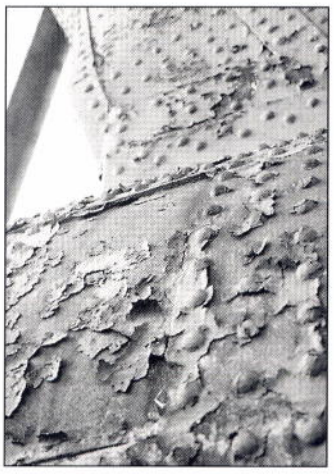
The Forth Railway Bridge is, in broad terms, the world's largest railway bridge, and unique in its design and appearance. It has stood for over a century, and with proper care should, in centuries to come, rank with the Pyramids as a wonder of primitive engineering. Sadly, neglect of proper maintenance over the past 20 years is threatening its long term survival, and urgent attention is needed if corrosion is not to gain the upper hand.

Unfortunately, Railtrack labour under the misapprehension that steel structures, in a hostile environment, are painted only for cosmetic reasons, and have made public statements to this effect. There is, however, a better informed body of opinion that rejects this view, and is pressing vigorously for action to be taken. As a result, the Secretary of State for Scotland has instructed the Health & Safety Executive to inspect the bridge, and a report is expected towards the end of the year.

When originally constructed in the 1880s, the bridge was designed and built to exceptionally high standards, because the fall of the Tay Bridge in 1879 had shaken public faith in iron bridges and their designers. With its two main spans of 1710 feet each, it far exceeded any girder bridge of its time, and to this day is exceeded only by the single span Quebec Bridge, of similar appearance, completed at the third attempt in 1918. It was the first major cantilever bridge, and the first major steel bridge in Europe. Only the best Siemens-Martin open hearth steel was used, and every rivet hole (some 20 million) was drilled and not punched, to avoid damage to the metal. It was designed to withstand a wind pressure of 56 pounds a square foot - higher than current standards.

To protect the steel, all components were primed with a coat of drying oil applied over the mill scale after fabrication. After assembly, two coats of red lead paint were applied, followed by two coats of iron oxide paint. The finishing coats were formulated to prevent flaking, so that subsequent coats could be applied after wire brushing. Parts of the bridge today show that thirty coats have been applied over the years.

The advent of the Health & Safety at Work Act in 1974 forced a complete rethink on methods of access to the structure, and from that date large areas of the main tubes have been left unpainted. In consequence, the paint is flaking off and leaving the steel unprotected, except by any remnants of the Victorian priming coat. The more vulnerable lattice structures are receiving attention meanwhile, with five coats of modern paint applied after sandblasting down to the bare metal. This is expected to have a life of 20-25 years, and the work was expected to take another 8-10 years, after which the tubes would receive attention. However, in a letter to the Railway Magazine, Dr Paul Prescott, Director of Railtrack, Scotland, has stated that work on the tubes will start next year. It is to be hoped that this will be additional to the scheduled work on the lattice structures and that extra funds are available.



Flaking Forth: a detail well illustrating the problem caused by lack of painting of the main tube structure
Photo: Glyn Satterley

The Government has refused to take any action to protect the bridge as a National Monument, and expects any expenditure on safeguarding the bridge to come from voluntary or charitable sources. Although the bridge is listed Category A, this offers little effective protection against neglect by its owners. As things are at present the industrial archaeologists of the 21st century will have a rusting hulk on which to practise their profession, and our descendants will have been robbed of the most magnificent memorial to Victorian pioneers.

John Rapley

Golden Section

1996 marks the 50th anniversary of the Wind & Watermill Section of the Society for the Protection of Ancient Buildings. The Section, as it is familiarly known, is a long standing part of SPAB which was founded by William Morris in 1877. In response to a press article lamenting the loss of working windmills in the 1920s, a windmill committee was first formed in 1931 and a number of publications and county surveys followed, as well as appeals to raise funds for essential repairs to keep some windmills standing and others at work. It was not until 1946, however, that watermills were formally included in the Section's terms of reference and the Wind & Watermill Section came into being.

The Section is the national society for all those interested in and committed to the repair and upkeep of our milling heritage. Annual events include National Mills Day, held in May, two spring and autumn London meetings and two mill tours. The Section also maintains a list of practising millwrights and, through its voluntary committee, gives specialist advice on the repair, conservation and running of mills. Much committee time is devoted to casework and dealing with listed building applications.

To celebrate its 50th anniversary, the Section has published a calendar with twelve colour photographs of windmills and watermills. Details of membership and other events during 1996 are available from Lucy Worsley, Section Administrator, SPAB, 37 Spital Square, London E1 6DY. ☎ 0171 377 1644 (Mon-Thur).

A new canal era for Northern Ireland?

Following the successful reopening of the Ballinamore and Ballyconnell Canal there is renewed interest in re-watering the remaining canals in the north of Ireland. The Ballinamore and Ballyconnell Canal, or Shannon Erne Link, connects the Shannon system in the Republic of Ireland with the Erne system in Northern Ireland. The majority of the canal lies in the Republic.

The remaining five canals in the north of Ireland are centred around Lough Neagh. The Lagan Navigation, linked to the sea at Belfast, has three sections of approximately equal length. The western third is mostly watered, with later fixed weirs in the lock chambers. The middle section (between Moira and Lisburn) was obliterated in the 1960s when the M1 motorway was constructed along its bed. The eastern part is mostly infilled, and a number of weirs on the river sections are in poor condition. A feasibility study, commissioned by Lisburn Borough Council, has established that it would be possible to to reinstate a waterway by clearing and restoring most of the existing locks, and utilising the River Lagan to replace the missing third of the original canal. The proposal suggests 'locking down' to pass under the motorway, and accepts that winter flooding of the river will limit the navigable season.

The Newry Canal lies to the south, entering the sea at Carlingford Lough. It is mostly de-watered, and is only maintained as a drainage ditch. Much of the clay puddling was removed during drainage clearance works, so the canal bed leaks badly. There are four very low fixed road bridges in Newry Town. Four main options have been identified: - leave the de-watered channel as existing, but restore the towpath to maximise enjoyment by a wide variety of land-based users. - re-water to a reduced depth (1 metre) to permit navigation as far as Newry by craft of limited draft, retain most of the built heritage and limit the risk of flooding. - re-water to 1.55 metres (the original design depth, which matches the Shannon Erne Link) and reconstruct the lock chambers at a lower level to limit the flood risk. - as above, but to include raising the road bridges in Newry.

The Ulster Canal, extending to Lough Erne to the south west, has the narrowest locks of all the major canals in the Irish network. About half of the waterway lies in the Republic and many of the reaches and locks on both sides of the border have been infilled. One lock, and a very short stretch of canal, near Benburg in County Armagh has been re-excavated recently. Numerous options for re-watering being considered range from constructing a new canal along the original line, with locks and reaches matching the size of those on the Shannon Erne Link; widening the locks by working on one side only of the original chambers; to re-watering the original locks to the existing dimensions. In all cases, the original stonework would be retained or reused as a facing to new concrete work.

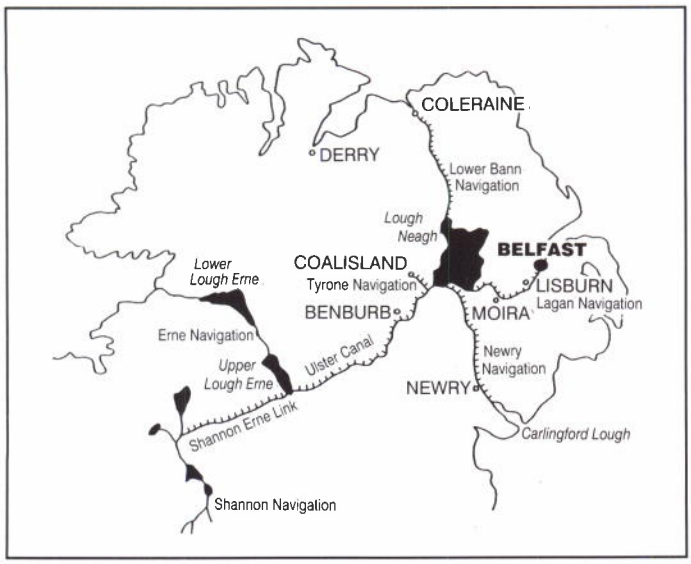
Most of the short Tyrone Navigation serves only as a drain. The original canal basin in Coalisland was infilled some years ago, but recently a small part has been re-watered. Re-watering of the canal is proposed.

The Lower River Bann Navigation is still operational, and navigable to the sea near Coleraine to the north.

Ireland has an extensive network of waterways connecting the chain of major lake/river systems linked to the Shannon, Erne and Lough Neagh. The Ulster Canal, if re-watered, would provide the final link. It is here, where the existing locks and reaches are exceptionally narrow, that the pressure for substantial alteration is greatest. Conservationists favour the retention of the original structures with minimal alterations. The majority of the charter boat companies, who operate the hire fleets on the Shannon and Erne systems, are thought to favour rebuilding the canal (and the network) to increased dimensions, to match the Shannon Erne Link. The cost and funding of the proposals will be major factors in any choice of option. The basic questions are: - should the existing built heritage determine the maximum size of craft which may use the re-watered network, OR - should the size of the majority of craft operating on the linked lake systems of the Shannon, Erne and Lough Neagh determine the size of locks and reaches along the line of the old canals?

The debate is on-going. Watch this space for further developments!

Michael Coulter



New Threlkeld museum

The Threlkeld Quarry and Mining Museum was opened in July, in a venture combining the Caldbeck Mining Museum and Threlkeld Quarry Project. The quarry was opened in 1870 to supply ballast for the expanding Cumbrian railway network, and later worked for granite setts, building facing stone and slabs; it also had a tarmacadam plant. Throughout its history up to closure in 1982, it had provided work for hundreds of men from Threlkeld, St Johns and Keswick. Many of the original quarry buildings survive, such as the weighbridge, powder store and engine house incorporating the smithy and maintenance shop.

On site can be seen navvies and excavators used in the latter days of Threlkeld, and many other large machines and quarrying artefacts. The museum contains the collection from the former Caldbeck Mining Museum, with many more artefacts, plans and photographs of quarrying and mining in the Lake District from the earliest period to the present day. The shop boasts the largest collection of mining and geological books in the county. The Mines of Lakeland Exploration Society is based here, dedicated to the protection of the Cumbrian quarrying and deep mining heritage.

The Threlkeld site lies off the A66 east of Keswick, and is open every day except Thursdays. ☎ 017687 79747

Saltford Brass Mills reopened

On a superb July evening, Avon Industrial Buildings Trust (AIBT) held a very successful reopening ceremony at this mill (ST 687670) which represents the most complete remains of the once-important brass industry of the Avon valley. A former fulling mill site, it was leased for brass manufacture in 1721 and continued to roll brass sheet until its closure in 1925. The mill is unique in its possession of an almost complete coal-fired annealing furnace. There is also a waterwheel which powered a rolling mill.

Pioneering work on the site was undertaken by Joan Day of AIA and BIAS, an authority on the industry and author of Bristol Brass: a history of the industry (1973). Since 1981, the mill has been leased to AIBT whose aim has been to repair the building and open it to the public.

The reopening marked the end of a long process, which was successful due to a combination of: the early work of volunteers; co-operation of the owner; the tenacity of AIBT, supported by Avon County Council staff; and the realism and generosity of English Heritage who provided £120,000 towards the cost of the work.

The next phase of the project will involve the construction of a footbridge and work with local groups to secure the future management of the site and to facilitate public access.

The reopening ceremony was attended by 200 people, including local residents, politicians and representatives of IA and conservation groups, including a number of AIA members. Principal speakers were Jane Sharman, Head of Conservation at English Heritage and BIAS President Angus Buchanan.

Mike Bone

English Heritage policy

At the Europa Nostra Forum 'Conserving Europe's Industrial Heritage', held in Manchester on 16 September, English Heritage launched Industrial Archaeology: a policy statement. The booklet signals EH's commitment to industrial archaeology by setting out their strategy for identifying, recording, conserving and managing our industrial heritage and identifying key future issues. A second publication, Conserving the Inheritance of Industry, analyses the £12.4 million of EH grants for industrial archaeology offered in 1984-93. Free copies of both publications are available from English Heritage Customer Services (☎ 0171 973 3434).

Greater London

There is now a real chance that the Euston Arch, demolished in 1962, may be rebuilt close to its original site on the Euston Road. At least 4,000 tons of masonry still survive filling a hole in the river bed where the Prescott Channel meets the Channelsea River just east of Three Mills, Bromley-by-Bow, East London. Suitable gritstone to replace damaged or missing sections can still be obtained in Yorkshire. A trust committee has been set up and an application for funding made to the National Heritage Lottery Fund. Total cost is estimated at less than 5m.

The great railway termini are the cathedrals of the nineteenth century, a fact that was already recognised by the 1890s. It is presently planned to terminate the fast rail link from the Channel Tunnel to London at St Pancras. What, one wonders, will foreigners make of us on their first arrival in this country if they travel by train? The architectural excesses of King Ludwig of Bavaria (or prosaically more likely Euro-Disney) will come powerfully to mind on seeing the fairy castle adjacent to William Barlow's great single span train shed. Now thoroughly cleaned, the exterior of the St Pancras Station Hotel on Euston Road presents a surprisingly changed appearance. Its murky steam railway past has been swept away to reveal an almost yuppie-like post-modern looking building which will take some getting used to.

South of the river at Waterloo, the acclaimed international terminal station by architect Nicholas Grimshaw is now beginning to have something of a train service to the Continent. Down below, beneath rail track level, the mobile fish sculptures by artist Jean-Luc Vilmouth squirm and wriggle in a surprisingly life-like manner over the heads of passengers. One wonders if nervous would-be travellers find this off-putting.

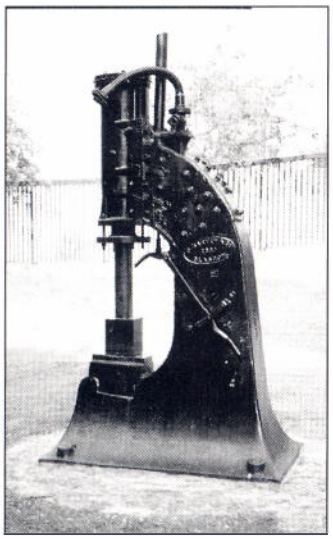
Under the river, the situation regarding the proposed shotcreting of the Thames Tunnel (see *IA News 93*) was still unresolved in late September, with LUL threatening to close the tunnel altogether if they cannot do what they like with it. They are looking for support from local people, blaming extreme conservationists (like ourselves). The excellent engineer's report is available on open shelf access at the ICE library, but I am afraid ignorance is rife.

The important London ship repair industry was nationalised in the 1970s and the former private companies grouped together as River Thames Shiprepairers Ltd (RTS). Unfortunately, as the up-river port in East London was running down rapidly, RTS did not stay in business for long and in July 1980 there was a great sale by auction covering a number of dry dock sites at which all the machinery was sold. More modern items were taken to other engineering sites for re-use but most of the older and more interesting plant was scrapped on site. This machinery was old because it had been kept for occasional use on standby, for which it was sufficient. By contrast, in a shipbuilding establishment it would have been worked to death fairly quickly and replaced.

Amongst the old plant one exception was preserved. Largely through the personal efforts of Bob Barnes of the Brunel Project at Rotherhithe, a steam hammer (dated 1888 by R. Harvey of Glasgow) from the blacksmiths' shop at the Royal Albert Dock Works was saved from the scrap merchants. It was taken to the Brunel boiler house at Rotherhithe for safe keeping, where it remained until quite recently when it was transferred to the Old Station Museum at North Woolwich. This year it was moved to the east end of the Royal Victoria Gardens at North Woolwich and is now on full view to the general public. It has been repainted in black and there is a notice giving a brief history.

The hammer's last working site was at the Royal Albert Dock in the works of R. & H. Green and Silley Weir (a considerable constituent of RTS) around the two dry docks. Instead of steam, it ran on compressed air produced in the adjacent heavy machine shop by two Ingersoll-Rand Imperial Type 10 air compressors, themselves of great interest and the subject of a paper in *London's Industrial Archaeology* No.3.

Robert Carr



Hammer in the park: the 1888 steam hammer by R Harvey of Glasgow in the Royal Victoria Gardens, North Woolwich, June 1995 Photo: R J M Carr

West Staithe, North Blyth, Northumberland. Dating from 1911-28, the last ship load of coal left in 1989 Photo: RCHME © Crown Copyright

Northern England

Just before Christmas we moved to a house near Bardon Mill in Tynedale, returning to the area where we set up our first home over 30 years ago. Some things have changed greatly. Others hardly at all. Nearby, a children's playing field and a plantation of fir trees mark the site of Bardon Mill colliery. It was a drift, put down in 1940, and one of many small mines in west Northumberland working the Little Limestone seam. I used to take my sixth-formers from the grammar school in Hexham down it. It was always a dramatic experience for them, even those from mining families. The seam was only 19 inches high, and the men worked lying on their sides. It was also a wet pit. The manager, Dennis Partis, was determined to keep it going for as long as he could, and to maintain a six-figure output. The mine closed in 1973, and at its peak brought out 143,000 tons of coal per annum.

On vesting day, when the collieries were nationalised, there were 128 on the Great Northern Coalfield. Today there is one, at Ellington on the Northumberland coast. It was the only colliery to be bought as a going concern when privatisation took place. Before moving to Bardon Mill we lived at Morpeth, on the edge of the coalfield. There we saw the closures of the mines in Ashington, once described as the world's biggest mining village, and in Blyth, once a thriving coal port. The speed with which the mines were closed, buildings demolished and sites cleared was such that it is doubtful if any recording was possible. The Ashington site is now the home of Wansbeck Business Park. The Bates site in Blyth is razed and grassed and awaiting development. Near Ashington, Woodhorn Mining Museum stands on the site of the former 1,000-man colliery. Its collection and its presentation continue to improve, supported by its many Friends and by Wansbeck District Council.

In Sunderland, the demolition last autumn of the two tall winding towers of Wearmouth Colliery attracted large crowds. The site is now earmarked as the new location for Sunderland Football Club's new stadium. Sunderland Harbour, and the engineers who built it, was the subject of the AIA's first Tom Rolt Memorial Lecture at our Durham conference in 1975. Professor Skempton told a thrilling tale of bold engineering and of civic entrepreneurship which created one of the country's busiest coal-exporting harbours and an outlet for a thriving shipbuilding and repair industry. The basins are very quiet now. There is no coal to export, no ships are built, and the cars made at the highly successful Nissan plant in Washington are exported via a new facility at Jarrow on the Tyne. The former shipyards have also become business parks, save one, which is now the site of the St Peter's Campus of the University of Sunderland, magnificently situated on the Monkwearmouth bank of the Wear estuary.

The Tyne's last shipbuilding yard, Swan Hunter, closed last year. The liquidators found that buyers were thin on the ground, but the yard was sold in early June to the Dutch group THC. The shape and scale of future marine engineering here remains to be seen. It may have just been saved from the fate of other Tyneside sites, where houses with moorings for leisure boats mark the places where ocean-going liners, merchant vessels and battleships were made.

This year's annual Ironbridge weekend had as its theme the closure of major industrial sites and how best to record them. This is timely, as I hope my remarks about coal mine and shipyard closures in Northumberland and Durham have indicated.

Fred Brook

5 December 1995
INDUSTRIAL ARCHAEOLOGY
National Trust Centenary lecture by Sir Neil Cossons, at the Science Museum. Tickets from Autumn Lecture Series, National Trust (Enterprises) Ltd, 36 Queen Anne's Gate, London SW1H 9AS.

22-24 March 1996
AIA IRONBRIDGE WEEKEND
at the Long Warehouse, Coalbrookdale, on the subject of '20th Century Industry, Obsolescence and Change'. Details are included with this mailing.

12-14 April 1996
THE ARCHAEOLOGY OF MINING IN SOUTH-WEST ENGLAND
weekend conference at Seale-Hayne College, Newton Abbot, Devon, sponsored by the Historical Metallurgy Society and the Peak District Mines Historical Society. For details or submission of papers, contact Phil Newman, c/o RCHME, Rose Duryard, Lower Argyll Road, Exeter EX4 4PB.

20 April 1996
RECENT DEVELOPMENTS AT CASTLEFIELD AND ALONG THE ROCHDALE CANAL IN MANCHESTER
day school reviewing the activities of the Central Manchester Development Corporation, at the Museum of Science and Industry, Castlefield. Details and bookings from Derek Brumhead, Gayton, Laneside Road, New Mills, via Stockport, SK12 4LU.

5 July-7 July 1996
24TH HISTORY OF ELECTRICAL ENGINEERING WEEKEND
at York University. Contact: Elizabeth Hartree, Science, Education & Technology Division, IEE, Savoy Place, London WC2R 0BL ☎ 0171 344 5439.

c15-25 July 1996
AIA VISIT TO POLAND
please note the change of dates. Arrangements are still in hand, but for details when available, send SAE to David Alderton, 48 Quay Street, Halesworth, Suffolk IP19 8EY.

16-18 August 1996
RUSSIA AND WEST EUROPE: INTERACTION OF INDUSTRIAL CULTURES, 1700-1950
International Scientific Conference at Nizhny Tagil in the Urals, with pre- and post-conference tours. For details contact Dr Eugene V. Logunov, Institute of History of Material Culture, PO Box 65, Ekaterinburg B-109, Russia 620109, FAX 3432 297731.

6-12 September 1996
AIA ANNUAL CONFERENCE 1996
in Bangor. Details will be circulated with a future mailing.

29 September - 2 October 1996
ENGINEERING HERITAGE SHAPING OUR FUTURE
the First International and Eighth Australian Engineering Heritage Conference, at Newcastle, NSW, with papers and visits to local engineering heritage sites. Further information from Prof Raymond L. Whitmore, 297 Indooroopilly Road, Brisbane, Q4068, Australia.

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.

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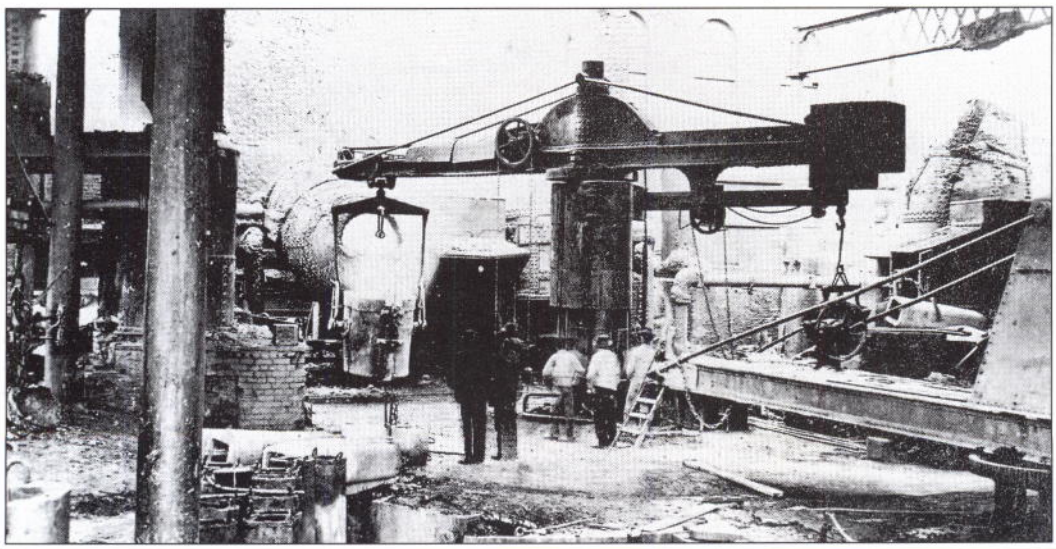
New books in Wales

Two new books published by the National Museums and Galleries of Wales were launched in July at the Welsh Industrial and Maritime Museum, Cardiff Bay. Welsh Steel *by Robert Protheroe Jones is said to be the first published history of that industry, while* The Great Western Railway in Wales: the Work of the Official Photographer *by Gwyn Briwnant-Jones and David Jenkins draws from the official collection of negatives on loan from the National Railway Museum.*

From Welsh Steel: A typical early Bessemer plant with two converters and a crane-served casting pit at the Rhymney Iron Works.

Photo: Welsh Industrial & Maritime Museum



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The AIA was established in 1973 to promote the study of Industrial Archaeology and encourage improved standards of recording, research, conservtion and publication. It aims to assist and support regional and specialist survey and research 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. Further details may be obtained from the Membership Secretary, Association for Industrial Archaeology, The Wharfage, Ironbridge, Telford, Shropshire, TF8 7AW, England ☎ 01952 433522.

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

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