

# INDUSTRIAL ARCHAEOLOGY NEWS

**119**  
WINTER  
2001

THE BULLETIN OF THE ASSOCIATION FOR INDUSTRIAL ARCHAEOLOGY

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Cambridge Conference • Saving the Éolienne Bollée • Fish and Ships  
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# INDUSTRIAL ARCHAEOLOGY NEWS 119 Winter 2001

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**COVER PICTURE**

Denver Windmill, near Downham Market, Norfolk.  
This impressive tower mill of c1835 was restored by  
the Norfolk Windmills Trust, and was visited by a  
party from this year's AIA Conference  
Photo: Mike Harrison

## Cambridge Conference 2001

*This year's annual conference had a water and fenland flavour. It was based at Fitzwilliam College, and the organisers would have been hard put to better the venue. The standard of the accommodation and services were absolutely first-rate.*

Roger Ford

Seminar day started with Paul Sowan giving one of his usual erudite discourses on underground Surrey, with special emphasis on providing the stone for prominent London buildings such as the Tower, etc. Ray Riley followed, using illustrations of a gasworks and a water-powered corn mill to develop his topic of context versus artefacts, or mix-and-match. John Crompton spoke of research carried out on repairs and rebuilds to the Elsecar engine – the oldest known stationary engine still occupying its original house.

Last to speak before lunch was Miles Oglethorpe on Scottish coalmining – with the help of outstandingly good slides we were shown a synopsis covering the 'golden period' of the industry from nationalisation to the sixties, making the point that recorders are much more concerned with the disappeared than the disappearing.

The afternoon session began with Mike Nevell on the distribution of early eighteenth century textile mills around Greater Manchester; next up, Henry Gunston gave the first introductory talk on fen drainage north of Cambridge – this complex subject was the main theme of the conference.

Penultimate speaker was Jim Arnold, showing the restoration of New Lanark Mills, which has come on by leaps and bounds since it was visited during the Glasgow Conference in 1985. It has now been put forward to become a World Heritage Site, and of course is lined up for a visit in next year's Edinburgh Conference. Finally,

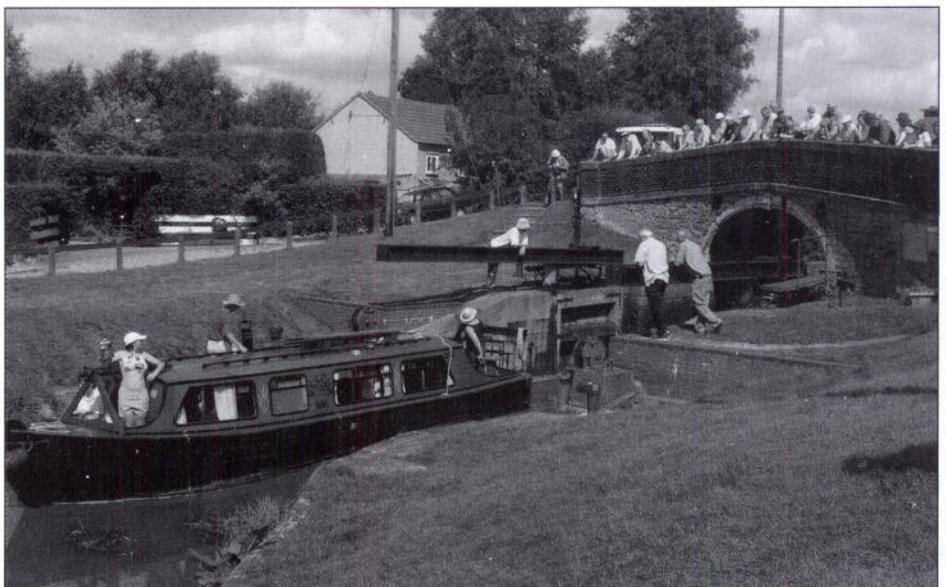
David Brumhead spoke on the excellent New Mills and millennium walkway, which last year's conference delegates were able to inspect and enjoy.

To give delegates some exercise there followed either a short walking tour of Cambridge, guided by Alan Brigham, or punting along the Cam to inspect the bridges. Both activities were very well supported in the sunshine.

After dinner came the welcome to Cambridge, then Don Unwin delivered an introduction to the IA of Cambridge, profusely illustrated with slides covering every aspect of the county. A quick burst of members' contributions followed. Paul Sowan described a fascinating week that Subterranea Britannica spent inspecting some of the 650 secret Cold War underground bunkers of the former East Germany – these included former Russian nuclear warhead stores, STASI and army bunkers, and also a nerve-gas factory! Ian Mitchell described the Midland Railway tarpaulin sheet stores at Long Eaton and, to finish, John Watt gave us another of his acoustic treats, showing a video that concentrated on the exhaust 'music' from slow-speed diesel pumping engines on the Somerset levels.

The first Saturday morning lecture was on the topic of 'Draining the Great level between 1630 and 1830' by Nicholas James. He pointed out that fen drainage was the biggest engineering project of the second millennium AD, and for sheer scale (11,000 labourers were at one time employed digging the straight cuts to get the water away) was surpassed only by Hadrian's Wall on the British mainland. Next speaker Keith Hinde carried this theme on into more recent times by concentrating on pumping stations.

To round off the morning we enjoyed a talk by Mike Petty, who specialises in writing historical articles for the regional newspapers. His topic



*This narrow boat has badly timed its passage through Salters Lock to coincide with a visit by the AIA delegates, who were no doubt lending many helpful gems of advice!*  
Photo: Mike Harrison



West Fen engine house

Photo: R J M Carr

was early photographers and their 'end results'. Research has resulted in the discovery of a collection of 100,000 glass negatives that were stored in boxes in an outhouse down an alleyway beside Cambridge Post Office!

Several trips were on offer for the afternoon. Number one was fen drainage, starting at Wicken Fen with its small smock windpump of 1908, moved, restored and re-erected there in 1955 to

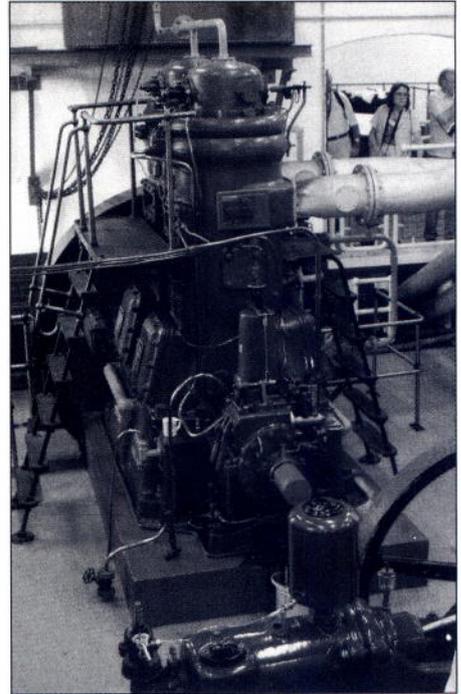
pump water INTO the fen. Next to Stretham to see the steam pumping machinery of 1831, which last worked in 1941. The boilers are still *in situ*, as is the scoopwheel that did the work. On to Earith to see the sluices, then to Willingham where a Ruston & Hornsby diesel replaced a small steam engine of 1848 (this scoopwheel drained only 1000 acres) and last worked in 1978.

Trip 2 went to Ely, taking in the station area and the waterside, then concentrating on the cathedral. Here one party visited the recently established stained glass museum, whilst the rest marvelled at the timber engineering of the Octagon, completed in 1334.

The Saturday evening's excellent conference dinner was followed by an entertaining hour with Bernard Ambrose, who had brought along a selection of models that he had made, based on inventions by Leonardo Da Vinci.

Sunday's proceedings opened with the AIA Awards presentations, the results of which are reported in detail on page 10. Another award, the bi-annual AIA Ironbridge Award from the CBA, which was given in 2000 to New Lanark (see *IA News 116, 3*), will become known as the AIA Award when it is next presented in 2002.

At the AGM, Angus Buchanan formally took over the Presidency of the Association, whilst Mike Harrison handed over the Chairmanship to Mike Bone. Council gained Mary Mills as a new member, and Peter Neaverson came back on again. Otherwise, things carry on as much before, except that Michael Messenger, after 20 years' stalwart service as Treasurer, is resigning at the end of this year. A successor to this vital post has not yet been found.



Vickers Petter diesel engine at Prickwillow Pumping Station  
Photo: Mike Harrison

After morning coffee, Stuart Smith delivered the Rolt Memorial Lecture on 'The development of Industrial Museums in the Landscape', concentrating on his work for the Trevithick Trust in Cornwall. Here ended the main conference. There were afternoon visits to the Prickwillow museum of fen pumping engines, following a quick look at Isleham limekiln, or to the Duxford aircraft museum (an enormous site which would



## ASSOCIATION FOR INDUSTRIAL ARCHAEOLOGY

### ANNOUNCING THE THREE FIELDWORK AND RECORDING AWARDS FOR 2002

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 many years.

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 Award for innovative projects, e.g. those from local societies; and to encourage the future industrial archaeologists, a Student Category.

### THE CLOSING DATE FOR ENTRIES IS 1ST MAY 2002

Successful Entries will be notified in July

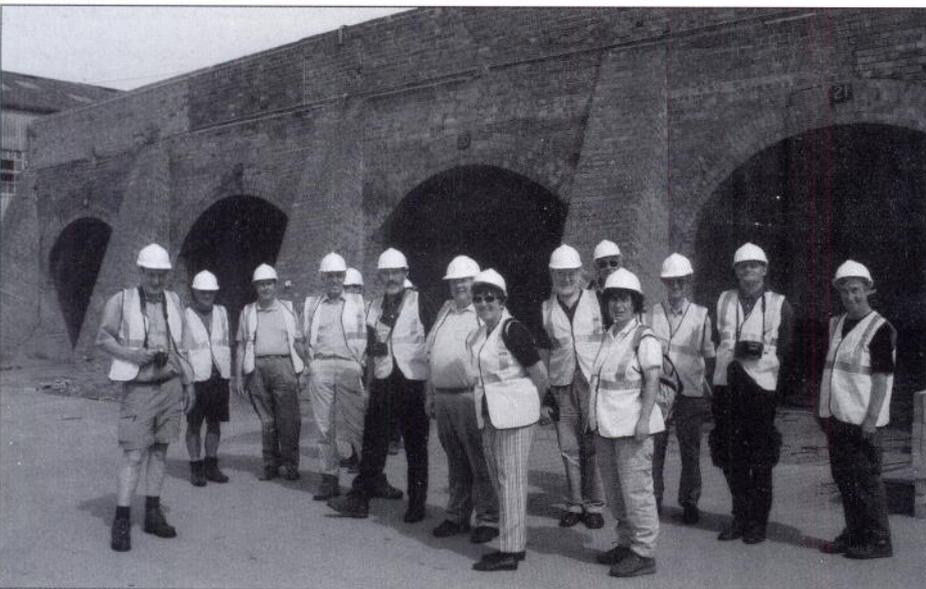
The successful authors will be invited to attend the AIA annual conference in Edinburgh to collect their awards in September 2002

**Enquiries for further details should be sent to:**

**Dr Victoria Beauchamp, 3 Parsonage Court, Walkley, Sheffield S6 5BU**



Waldersey pumping station, Wisbech. The first of three engine houses was built in 1832 for a Cornish beam engine by Harvey & Co of Hayle  
Photo: R J M Carr



AIA delegates beside the Hoffman kilns at Kings Dyke Brickworks near Peterborough

Photo: Mike Harrison



Excavator stripping clay from the quarry face at Kings Dyke Brickworks

Photo: Mike Harrison

take an entire day to take in) with a conducted tour that emphasised restoration work in progress.

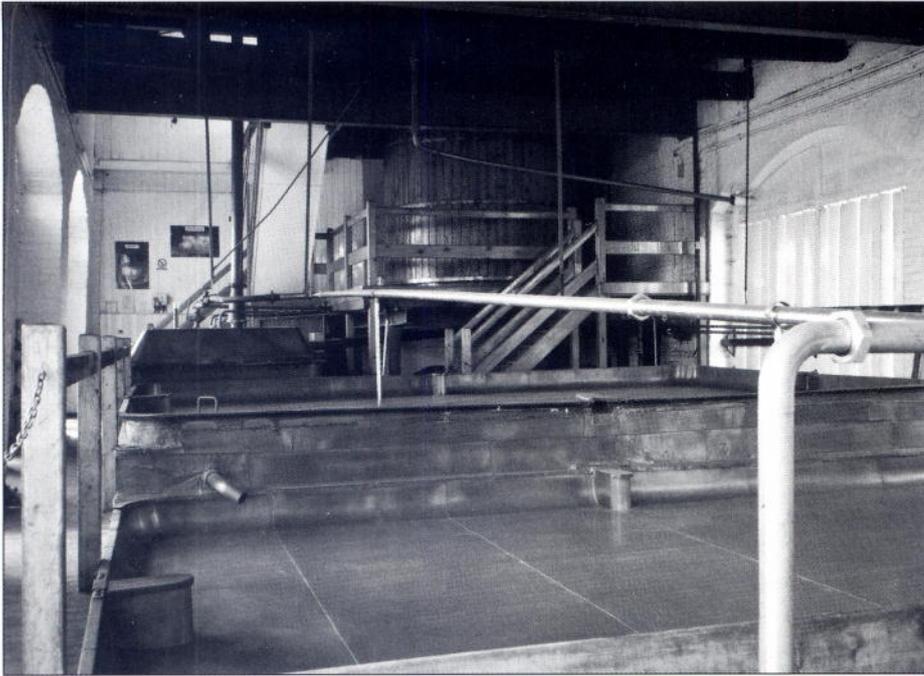
On Sunday evening delegates enjoyed a reception at the Cambridge Museum of Science and Technology at Cheddars Lane; following a buffet supper, a whole variety of machinery (steam and diesel) was run for our benefit.

On Monday the ancillary programme commenced with a choice of trips to Peterborough or to south west Suffolk. At Peterborough the main attraction was the Perkins diesel engine factory, plus a supporting cast of Thorney museum and a choice of either King's Dyke brickworks, or the medieval man-crane high up in Peterborough Cathedral. The Suffolk tour took in Chantry mills at Haverhill, started and still owned and run by the Gurteen family. Here delegates inspected 'Caroline', the mill engine installed in 1880 and still occasional steamed for the public, and a most interesting museum. Lunch was at Sudbury Quay, where a short trip on the restored River Stour navigation was included. The Bulmer brick and tile works was an education, as the current owner has gone over entirely to producing hand-made bricks and tiles for restoration work, with a very fine coal-fired downdraught kiln. The mid-fifteenth century Moulton packhorse bridge was seen on the return journey. It is believed to be the oldest extant of its type, though a suggestion that the midpoint might be the highest spot in the county was denied!

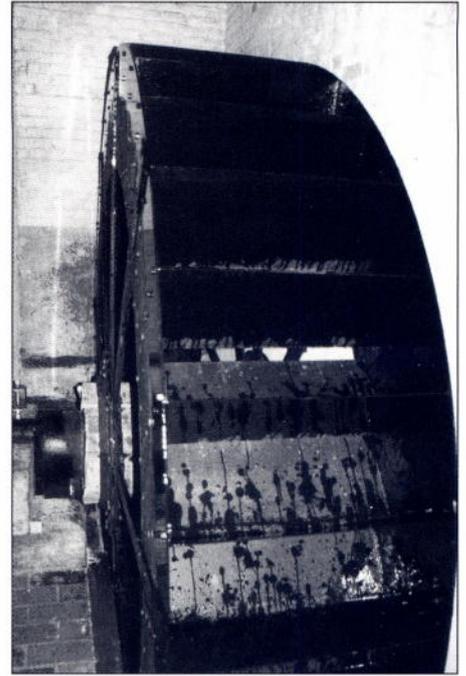
The first lecture of the evening was undoubtedly the most memorable of the conference. Bernard O'Connor spoke on the coprolite industry of Cambridgeshire. Coprolites are fossilised dinosaur droppings, discovered in huge quantities in the nineteenth century. The yield was 250-300 tons per acre, and after treating with sulphuric acid this was sold as superphosphate. The slides of individual turds will long be remembered! The second offering was a further talk by Don Unwin on Chivers, who started jam production at Histon in 1873.

The beautiful weather continued on Tuesday with tour selection number one being south west Cambridgeshire with a choice of seeing either Foster's Mill (1876, originally steam), or a walk around the station, then on to Hobson's conduit. Then to Rugby cement works at Barrington for lunch, a sight-seeing drive through St Neots and on to Little Barford gas-turbine power station. The second tour started at the Grimes Graves Neolithic flint mines, including a lesson in flint-knapping, before proceeding to Euston Park where we were greeted by the owners, the Duke and Duchess of Grafton. After viewing their just-restored watermill (1731, built to resemble a church) we were invited to walk up and see the stately home. There followed a look at the unique Rushford limekiln (it has four drawchutes from the central, subterranean annular chamber). After lunch in Thetford, there was a visit to the Burrell Museum (see *IA News 118*).

A conducted tour of Home Farm, Culford, took in a variety of agricultural machinery housed in the curiously-constructed nineteenth century



Elgood's Brewery, Wisbech. First floor with beer cooling trays in the foreground. Simple cooling using the wind is no longer allowed here due to recent health regulations  
 Photo: R J M Carr



Restored waterwheel at Euston Hall, originally used to pump water for fountains. The wheel is by Burrells of Thetford and the only known example  
 Photo: Jim Hawkins



Euston Hall Mill, built in 1731 to resemble a church

Photo: Jim Hawkins

buildings, and then we viewed a cast-iron bridge of 1803 in the grounds of Culford School. We were most hospitably received by the headmaster, who also took us round some of the Earl of Cadogan's stately home in which the school is housed. It was a very aristocratic day, but lack of time ruled out the last visit, to Mildenhall (to see a flash lock, not the treasure!).

For the last lectures Hilary Bracegirdle gave an amusing overview of the history of horseracing at Newmarket, followed by Peter Filby, who attempted to show slides of every iron foundry, engineering and millwright's works in Cambridgeshire.

Wednesday was Northern Fens day – two coaches on different routes, with common ground at Elgood's brewery at Wisbech, Salter's Lode lock and Marshland Smeeth pumping station, where one of the preserved diesels was started up for our benefit and we enjoyed tea and home-made cakes in the station manager's cottage next door. Sites visited by only one coach party included Denver Sluice, Hundred Foot engine house (occupied by a 1951 Ruston diesel, though the 1911 Lancashire boilers are still there), Eagle Mill and Denver Mill. In the evening both coaches descended upon Kings Lynn for conducted tours of the port and harbour areas. Dinner was taken

at Knight's Hill Hotel, South Wooton, where we bade farewell to Bob Malster who had given up the whole week to act as guide on one of the coaches. His services were invaluable. The stalwart on the other coach was David Alderton, assisted by Ann.

On the last morning we took a tour of Reach at the end of the Devil's Dyke (a post-Roman earthwork of 17 miles delineating the extremity of Newmarket Heath), which developed as an inland port of such significance that by the twelfth century it was the main port for Cambridge. We also went around Swaffham Bulbeck and its loading place to connect with the river, built at the start of the nineteenth century. Still extant are the original seventeenth-century merchant's house which dominated the wharf, salthouse, maltings, warehousing and workers' terraced cottages. All are now very desirable residential properties. We also visited the Bulbeck lead foundry, which has only been going for a short period, producing pure lead statuary, urns, fountains, planters and cisterns to traditional patterns. We were shown two different types of castings being prepared and poured. Then, to the horse racing museum at Newmarket, lunch and a conducted tour to Tattershall's.

It had been an outstanding conference. Our sincere thanks go to all the organisers, particularly David Alderton and our new Conference Secretary Tony Parkes. The next conference is at Herriot Watt University, Edinburgh, 6-12 September 2002.

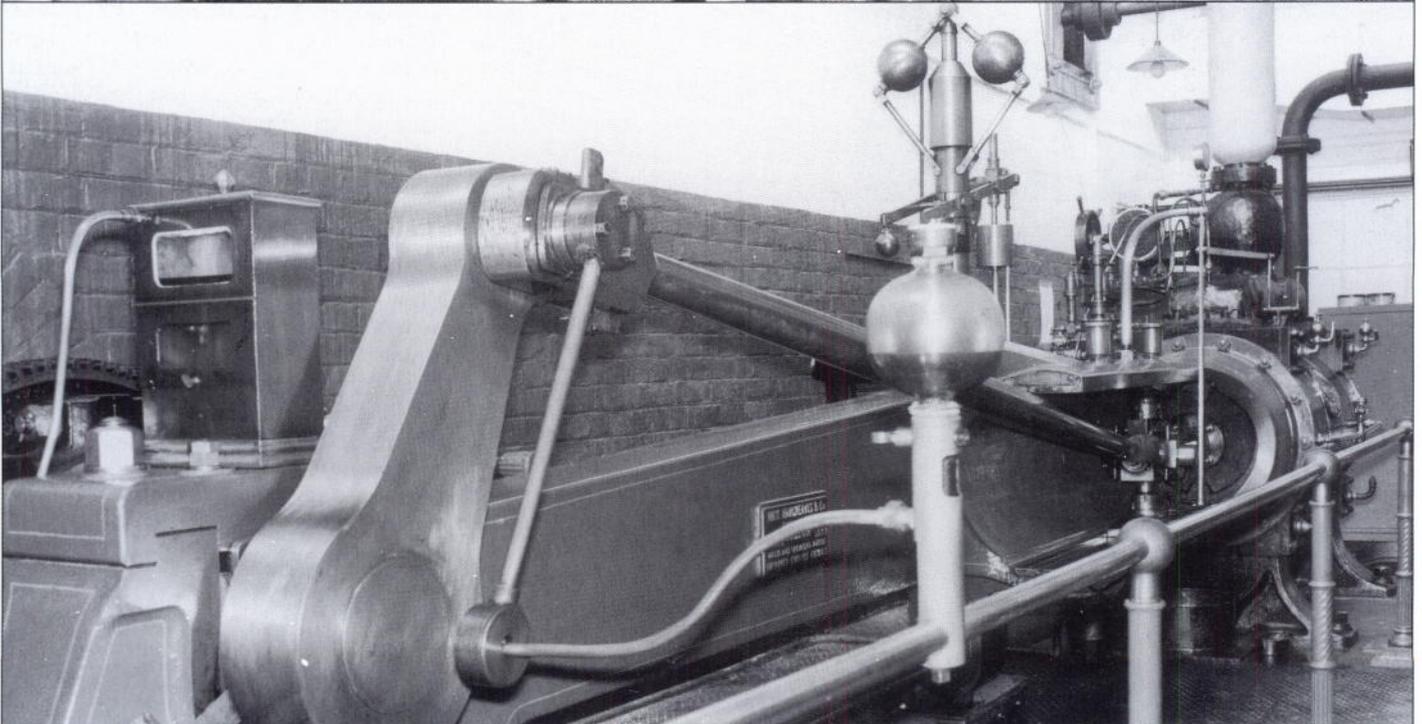
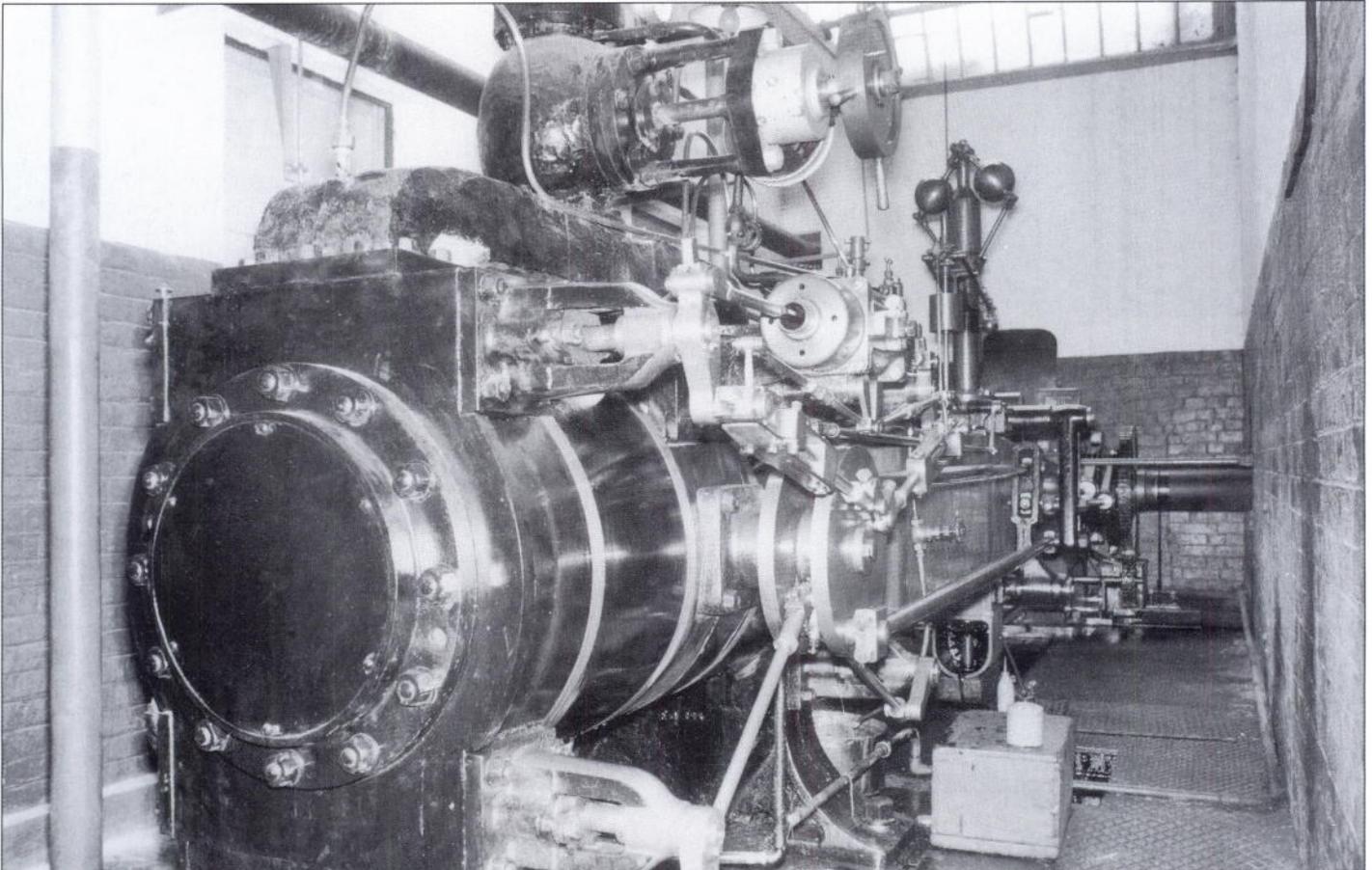
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## CHAUNTRY MILLS STEAM ENGINE

AIA Conference delegates visited D Gurteen & Sons Ltd, Chantry Mills, Haverhill on 20 August 2001. The steam engine here was built by Hick, Hargreaves & Co of Bolton as their No. 519 of 1879, and fitted with Inglis & Spencer's valve gear it is probably the earliest Corliss valved engine remaining *in situ* in the United Kingdom. Also, having apparently been practically unaltered since its alteration, it is probably little different from the Hick, Hargreaves engines built in the late 1860s, which were among the first Corliss valve engines built in the UK. Its 18in x 48in stroke cylinder took steam at 80 psi and, with a design speed of 55 rpm, developed 120 hp, driving by ropes from a 16ft flywheel. The engine was named *Caroline* on 3 January 1880, probably when it started work, and continued in use until July 1961.

It was very unfortunate that we were unable to see the engine under steam, as it is still possible at times on special occasions – usually once a year.

*Photos & Text: Colin Bowden*



# Saving the survivor: the British Éolienne Bollée

*The Éolienne Bollée is an innovative nineteenth-century wind-engine, originating in Le Mans, that generates power from a simple reaction turbine instead of conventional sails or a multi-blade rotor. Its development coincided with a universal realisation that polluted water supplies could be linked directly to health issues; by 1914, therefore, more than 300 turbines of this type had been installed across mid-central France.*

*Among the examples of Éoliennes Bollée in Britain, the remains of one in Sussex was chosen by the British Engineerium and the University of Brighton as a project for the latter's postgraduate Conservation of Industrial Heritage course. The Éolienne project has benefited from the enthusiastic support of many people, including Dr Jonathan Minns of the British Engineerium, J. Kenneth and Helen Major, André Gaucheron, Dominique Bollée and the owners of the wind engines visited in France. The Sussex Industrial Archaeology Society and the South East Regional Industrial Archaeology Conference have both actively supported the work. Additional information can be found at [www.bollee.fsnet.co.uk](http://www.bollee.fsnet.co.uk)*

John Walter

The Éolienne Bollée originated in Le Mans, which stands at the confluence of two rivers. However, the districts to the north and east are part of the Beauce Plain, a limestone plateau running south-west of Paris to the Forest of Orléans and on into 'la petite Beauce'. Rain has always been plentiful, but the permeability of limestone ensures that much of the ground water is lost to the Eure, flowing northward into the Seine, and to the rivers that flow into the Loire to the south. At the height of summer, therefore, it has often been difficult to find enough water to support the agriculture that is so vital to the economy of the Beauce. Hand pumps were never able to provide sufficient water from wells that were usually only a few metres deep, and even deep-drilling had its problems: the shaft at Epuisay had to be sunk 118m before anything was found.

The wind turbine was patented in France in 1868 by Ernest-Sylvain Bollée, an engineer and *Constructeur hydraulicien*, but no Éoliennes of the original type survive and it is suspected that none other than a prototype – perhaps only a large model – were ever built. Testing would undoubtedly have shown the need for improvement, and the most important changes had been made by the time production began.

The ineffectual fan-tail was replaced by a small winding fan, the *Papillon à mise au vent* or *Papillon orienteur*, mounted in front of the turbine head; the main vertical drive-shaft and its bevel gearing were sensibly enclosed in the supporting column, instead of being exposed to the elements down one side; the multi-part cast-iron column was strengthened by the attachment of a spiral staircase, giving access to the cap; and



*The Éolienne Bollée, customarily driving three-throw pumps, greatly improved communal water supplies. This is Nogent-le-Phaye's 3.5m-diameter 'No. 2' machine, completed in 1896. The pump house may be seen in the foreground at the base of the column, with the roof of the Lavoir or wash-house to the left. A flower bed occupies the base of the water-tank plinth*

Photo: John Walter

the unique construction of the turbine unit was greatly refined.

No trace has yet been found of a patent of improvement other than Auguste Bollée's 1885 Entonnoir or 'wind deflector', but this may simply be due to the quirky nature of French patent law and to the fact that the 1868 patent would still have had 11 years to run when production of Éoliennes Bollée began.

The oldest Éolienne, said to date from 1871-2, survives in the Bollée bell-foundry in St-Jean-de-Braye (Orléans). However, its claim may be undermined by the list of clients published by Auguste Bollée fils in August 1888, which says simply 'Bollée, Amédée, propriétaire à Orléans, 1874, [no.] 2'. There seems no good reason for the manufacturer to misrepresent the date that a machine had been supplied to his uncle – assuming that the machine erected in St-Jean-de-Braye was not the Le Mans prototype, sent to Amédée Bollée only after it had outlived its usefulness on Ernest-Sylvain's factory or estate.

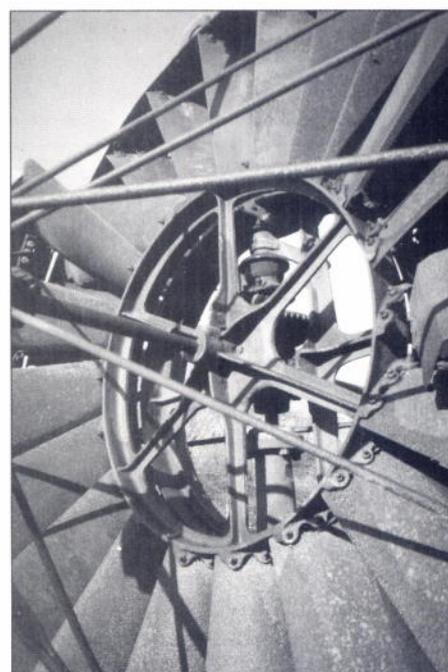
The St-Jean-de-Braye machine undoubtedly does have features that differ from the Éoliennes Bollée surviving in France, but, as only one of these pre-dates the 1881-vintage machine in England, the chronology of design changes remains difficult to determine. A detailed examination of the Éolienne erected in the grounds of the Chateau du Hutreau in Saint-Gemmes-sur-Loire in 1874 may yet provide evidence to show that several machines had been made before the pattern changed. However, none of the subsequent alterations seem to be anything other than the result of experience and,

perhaps, complaints voiced by purchasers.

The 1888 list, if the date of the St-Jean-de-Braye Éolienne Bollée is accepted as 1874, indicates that there were at least three earlier installations: one in 1872 and two in 1873. There was then a sudden spurt in production – eight in 1874, thirteen in 1875. Could this indicate a new confidence arising from the perfection of the design? Before the identification of 'prototype features' can be justified for St-Jean-de-Braye, therefore, it is vital to trace details of the three 1872-3 Éoliennes that may hold a vital key to the design history.

Most nineteenth-century Éolienne Bollée enthusiasts were members of the aristocracy, landed gentry and Propriétaires, who used their purchases to raise fountains, irrigate gardens and create ornamental lakes. However, Éoliennes Bollée soon attracted the interest of a few forward-looking villages keen to provide clean drinking water and facilitate the washing of clothes in the communal Lavoirs. The first of these Éoliennes Bollée was apparently erected in 1879 in Saint-Germain-sur-Avre (Eure-et-Loir), to provide drinking-water fountains, and the Compagnie de Chemin de Fer du Nord installed one in the same era to supply the water-tower of the railway station in Mouy-Bury (Oise).

The era of aristocratic patronage had declined by 1900, indicating, perhaps, that the Éolienne Bollée no longer represented cutting-edge technology – or, alternatively, that the sale of the business to Lebert in 1898 brought a change of direction. Yet just as individual purchases dwindled, so the interest in communal water supplies rose and Auguste Bollée's successors – Lebert, Duplay and La Société



*This view of the rotor side of a No. 1 (2.5m) power-head shows the sophistication of the castings, which reflects the bell-founding heritage of the Bollée family*

Photo: John Walter



The communal machines erected early in the twentieth century were invariably No. 3 (5m diameter) patterns. This is Epuisay's, completed in 1912, which ran with minimal trouble until 1967. The pump is contained in the base of the mass-concrete water tower

Photo: John Walter

Anonyme des Éoliennes Bollée – continued erecting Éoliennes into the 1930s.

The engines were originally made in three sizes: Nos. 1, 2 and 3, with rotor diameters of 2.5m, 3.5m and 5m respectively. No. 2 was most popular in 1888, but the 5m design was preferred by twentieth-century communal purchasers. Pumps were also standardised. A catalogue published in 1902 by Lebert lists seven piston diameters ranging from 33mm to 120mm, typical hourly water-raising capacity (assuming a constant wind of 6 m/sec and a head of 25m) being rated at 650 litres for the No.1 turbine, 1500 litres for the No. 2 and 3600 litres for the No. 3.

Some Éoliennes Bollée were mounted on lattice-type towers or Pylônes in the 1880s, but the elegant cast-iron columns were preferred – especially by individual purchasers – until sales of communal machines increased after the transfer of business in 1898. Columns needed to be stayed in a way that the lattice towers did not, but the treads of the spiral stairs could be attached directly to the central 'spine', providing a compact and aesthetically pleasing solution, and height could be adjusted simply by adding another section. In addition, unlike the towers, columns protected the drive shaft and its bearings from wind or rain.

Pumps were enclosed in buildings that could range from an iron-roofed hard-standing, or a modest roundhouse, to the crenellated near-folly enclosing a column-type Éolienne at Le Clône à Pons-Gemozac (allegedly made from the remnants of two windmill towers) and the château-in-miniature in the grounds of the Château de Chaalis at Pomponne. Water towers ranged from simple sheet-iron tanks raised on brick or timber plinths to spectacular-looking brick, stone or mass-concrete creations doubling as supports for the Éolienne.

The introduction of a French wind-engine to rural Sussex was due to the foundation of a

monastery. Based in Chartres, on the northern edge of the Beauce, the Carthusian Order customarily employed French architects to build even its overseas Charterhouses. Consequently, French-made wind engines were installed not only in Britain but also in Spain.

Auguste Bollée's 1888 catalogue confirms that a large No. 3 Éolienne had been sent to Britain in 1879, presumably when construction work began on the new Charterhouse, and that a small No.1 had followed in 1881. The former was felled by a gale in the 1960s, the remnants being broken up c1984; the latter, however, still stands in its enclosure. Bounded by a wrought-iron fence, the comparatively low '3½ unit' column still has its spiral stairs, balusters and hand rail. The stairs give access to the platform that, though its floor plates are now badly wasted, retains the original hand rail and serpentine wrought-iron balusters complete with finials.

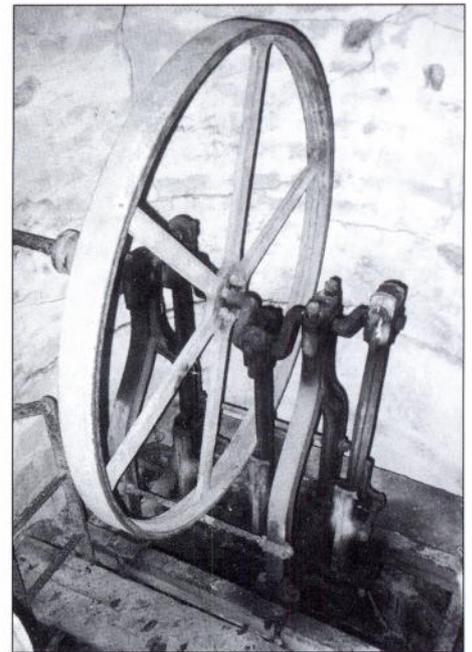
The turbine and associated control gear are now in relic condition, but sufficient remains to guide restoration. Power was once transmitted by shafts and bevel gears from the turbine head down through the supporting column, then out horizontally to an intermediate bearing and thence through the wall of the tiny circular pump house. Made Normandy-style of bricks laid radially, lined with limed mortar and roofed conically with graduated slates laid on wooden joists, the pump house is now in poor condition – owing partly to the ravages of time and partly to the malign influence of a large ash tree. However, the pump house has protected the three-throw pump and its brick-lined sump well enough for the machinery to survive in surprisingly good condition.

The Éolienne Bollée has been selected by the British Engineerium and the University of Brighton as a 'field project' to provide not only a focus for the 2000/01 postgraduate Conservation of Industrial Heritage Course, but also challenging long-term conservation work. The surviving machine, unique in Britain, presents an interesting contrast with nineteenth-century



As this picture shows, the 'Sussex' Éolienne Bollée is now in a sorry state. Virtually all of the turbine casing and all but the structural blades of the rotor/stator assembly have gone. However, the column and staircase remain sound

Photo: Dr Jonathan Minns



The pump mechanism accompanying the Sussex machine is also in surprisingly good shape, excepting for wasting in the lower 'I'-beams. Note that the right-hand crank is overhung. This particular example has a flywheel with straight spokes, though later examples were customarily serpentine

Photo: Dr Jonathan Minns

British wind-engine technology; and the survival of comparable Éoliennes in France allows the parts that are missing from the Sussex engine to be replaced in appropriately sympathetic ways.

A detailed assessment of condition has already been made, but the English machine is sited in such a sensitive position that it must be removed before remedial work can begin. This undoubtedly destroys the integrity of the original installation, but prospective restorers have no control over this aspect of the project. Additional questions are now being posed by the discovery of inter-connected water chambers beneath the bank outside the enclosure – an unexpected surprise of the initial survey.

Even the first steps have revealed how little we know about the Éolienne Bollée, and how quickly information is being lost. No-one has ever recorded the 'oral history' that could once have been provided by operators and maintenance staff throughout France, and the subtleties of operation can be retrieved only by returning our machine to working order.

Few acceptable surveys have been undertaken of Éolienne Bollée sites, and invaluable details of pipe-runs, heads of water, design of tanks and construction of ancillary buildings have been lost. It is vital that this process is reversed; there is an understandable tendency to 'prettify' the surviving communal water-supply Éoliennes, now seen more as monuments than tools, and unrecorded contextual material remains under threat. For example, the plinthed water-tank and supply pipes that still stood *in situ* in Nogent-le-Phaye in 1983 had been replaced by 1993 with an ornamental flower-bed set in the tank-plinth base, and the unique roundhouse of the Éolienne Bollée at La Houdière was converted into a house c1997!

## A message from the President

I would like to thank members of the Association for Industrial Archaeology for the great honour they have bestowed upon me by appointing me the first President under the new arrangements for allocating Council offices.

One score and ten years ago, the forerunners of Industrial Archaeology held a conference in Bradford. This was after a series of six annual conferences which I hosted in Bath, which brought together the group of people who were to become the founders of the AIA. These Bath conferences had been very successful, and had generated intense discussion about the desirability of a national organisation, and about ways of setting it up. After six years, however, I felt that we had exhausted the resources of the Bristol-Bath region to provide material for the Saturday afternoon field parties. So in 1971 we became

peripatetic. The next year, 1972, we met in Glasgow, and on that occasion Sir Arthur Elton, one of our keenest supporters, moved a formal resolution that at our next meeting we should form a national association for industrial archaeology. Thus the AIA came to be established at the Isle of Man Conference in 1973.

The AIA has performed well the tasks envisaged by its founders. For 28 years it has drawn together the widely scattered local societies in Britain, and provided a common forum and mouthpiece for them. It has pressed for the efficient recording of industrial monuments. It has supported measures for the preservation of many deserving monuments. And it has put its weight behind the creation of a climate of conservation, which has transformed for the better national attitudes towards the industrial heritage.

There is still much to be done, however, in representing the importance of industrial

archaeology in the British national heritage; in ensuring the designation of outstanding industrial monuments as World Heritage Sites; and in fostering international linkages between industrial archaeological organisations all over the world. Above all, perhaps, the AIA has a responsibility to promote, through its work and publications, a mature understanding of industrial archaeology and its contribution to the academic discipline of interpreting the past.

I look forward, as President of the AIA, to working towards such creative developments for industrial archaeology.

Angus Buchanan  
President

## New editor for the Review

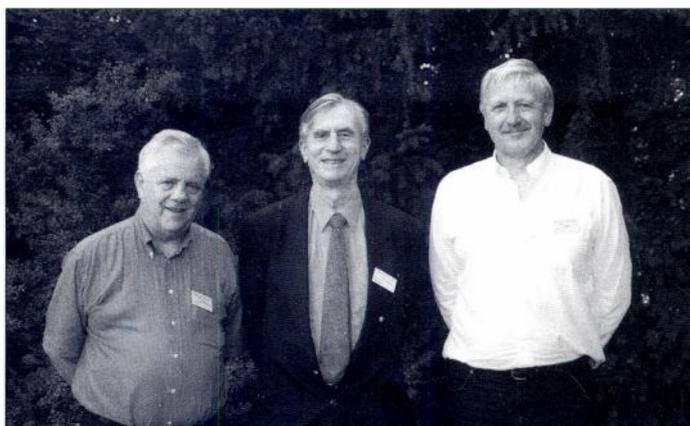
Dr David Gwyn will be taking over publication of *Industrial Archaeology Review*, from the next issue. The AIA owes a great deal of

thanks to Peter Neaverson and Marilyn Palmer who have worked very hard to present us with this top industrial archaeological journal at a consistently high standard since Vol. VII, No.1, Autumn 1984. For the time being, Peter will continue to abstract notes and articles for the *Review* at Leicester.

David Gwyn works for the Gwynedd Archaeological Trust in Bangor and is also the editor of *Industrial Gwynedd*. He will be known already to members of the AIA because he was co-author of our conference guide to North West Wales in 1996, and he wrote the article 'Power Systems in Four Gwynedd Slate Quarries', in *Industrial Archaeology Review*, Vol. XXI, No. 2, November 1999, 83-100.

The contact address of your new Editor of *Industrial Archaeology Review* is:

Dr David Gwyn, Gwynedd Archaeological Trust, Craig Beuno, Fford y Garth, Bangor, Gwynedd LL57 2R.



Our new President, Angus Buchanan, with retiring Chairman Mike Harrison (left) and new Chairman Mike Bone (right)  
Photo: Ann Harrison



David Gwyn (left), who is taking over as the new Editor of *Industrial Archaeology Review*, is seen here at Streham Old Engine during the Cambridge Conference with his predecessors Peter Neaverson and Marilyn Palmer  
Photo: Mike Harrison

## LETTERS

*The Editor welcomes correspondence on all matters of interest to our readers*

### Valetta Convention, Article 3

Article 3 of the European Convention on the Protection of Archaeological Heritage, updated at Valetta in 1992, was signed by the British government in March 2001, and details and a discussion were published, e.g. in *Current Archaeology* No. 174, June 2001. Having read it through, it rapidly becomes clear that independent and amateur field archaeologists are currently facing the imposition of a statutory ban on fieldwork. The proposed ban appears to outlaw all unlicensed archaeological excavations, fieldwork considered 'destructive', and archaeological prospecting (Kevan Fadden, of the Council for Independent Archaeology, believes

that 'prospecting' may include apparently non-destructive activities such as field-walking, etc).

I fear that many industrial archaeological field projects will also fall foul of the proposed legislation, English Heritage is pressing for the early implementation of Article 3, and the Institute of Field Archaeologists has offered to provide EH with a register of approved practitioners whom they consider 'suitably qualified' to undertake *all* licensed fieldwork. Thus, should Article 3 be implemented, only IFA recognised field archaeologists will be legally allowed to excavate and investigate archaeological sites – which must include early industrial locations.

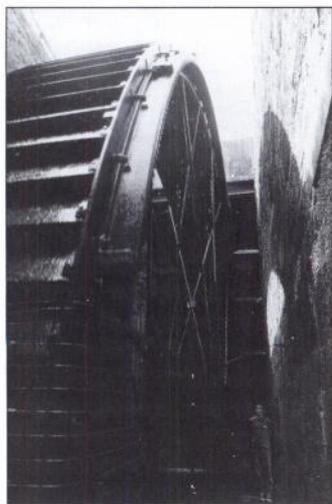
The Council for Independent Archaeology has launched a campaign to halt the implementation of Article 3. It is my sincere belief that the Association for Industrial Archaeology should fully support their campaign. Implementation of Article 3 will seriously hinder informed investigations into our industrial heritage. Industrial archaeologists undertaking apparently harmless fieldwork may even face arrest. It should be noted that most IFA recognised field archaeologists *do not* have specialist qualifications in IA, and many express little interest in post-medieval topics.

Paul H. Vigor  
Flat 6, Elmscourt, Bratton Road,  
Admaston, Telford, Shropshire TF5 0HA

As usual all entries were to a high standard and diverse in the subjects they covered. The Main Award went to A. Dutton of Gwynedd Archaeological Trust for a collection of five reports covering three inter-related and broadly contemporary sites within the Dinorwic Quarry, Llanberis, and a fourth site, the Dorothea Cornish Beam Engine at Dorothea Quarry, Nantlle.

Work was initiated at the Dinorwic site in response to plans by the Museums and Galleries of Wales to refurbish a waterwheel in the quarry workshops complex, restore to working order the V2 tank incline in the adjacent Vivian Quarry and to carry out work in the Rear Yard of the Welsh Slate Museum.

The iron waterwheel at Gilfach Ddu is the largest in mainland Britain. It is constructed entirely of iron and totally enclosed within a massive wheel pit built out of slate. It was worked until 1925, but interim repairs and modifications have allowed the wheel to continue to turn all be it with water fed from a plastic pipe rather than from the header tank and valve system which has fallen into disrepair. A survey of the wheel was carried out using the traditional methods of measured survey rather than a Total Station due to the restraints of the wheel pit. Detailed drawings are presented in the report and article in *Industrial Gwynedd*, vol. 4 (1999).



*The iron waterwheel at Gilfach Ddu*

The third and fourth reports cover the excavation, survey and restoration of the V2 incline. The documentary evidence suggests that the incline was built between 1873 and 1877 and remained in use until perhaps 1936. It was possibly

rebuilt in 1904 using iron travellers rather than the original wooden ones. Excavation has further enhanced existing documentary evidence about the feature. Contained within the reports are details of the condition prior to restoration, photos and the measured survey drawings.

The final report presents photographic and detailed scale drawings of the cylinder casting prior to removal at the Dorothea Beam Engine. Built in 1904 and used until the 1950s the site comprised of a pump house, beam engine, boiler house, boilers, fuel hopper, chimney stack and windless. The engine was designed by Nicholas Trestrail and built by Holman Bros. of Camborne, Cornwall. It is housed in a purpose built engine house built of local slate but designed in Cornwall. Its prime purpose was to pump out the deep workings at the quarry.

The judges were unanimous in agreeing that these reports were an outstanding piece of fieldwork and recording 'we should all live up to' and 'providing a good example of the application of archaeological standards to industrial subjects.'

The second award this year was a 'Special Award' for *The Engineering and History of Rocket* (NRM Publication, reprinted 2001, ISBN 1-900747-18-9) by M. Bailey and J. Glithero. One of the judges described it as 'a very important piece of work demonstrating how comprehensive research married with meticulous recording can illuminate even very well known subjects...it stresses the dynamic and altering nature of all industrial artefacts in use... the same circumstance should be shown to sites.'

The report uses techniques employed by industrial archaeologists, engineers and historians and is divided into the following sections: Rocket's place in locomotive history, Rocket's history from Specification and Development to Preservation and Display, a survey of the structural components, wheel sets, boiler, fire box, smoke box, cylinders, driving motion and vales and Options for interpretation and preservation. The drawings and photographs present a detailed record of Rocket's appearance both originally and after several changes. The authors emphasise at the start the greater importance of Rocket than its success at the Rainhill Trials in 1829.

1. It is an important example of prototype locomotive manufacture in a time of rapid design evolution.

2. It was designed and built in a period of transition from millwright based to factory-based practise in the late 1820s.

3. It was the first machine to convey people at a sustained speed greater than that of animals.

4. It was the earliest locomotive maintained and modified by railway and contractor teams charged with keeping a fleet of main-line locomotives in service.

5. It was employed as a test bed for dynamic and thermodynamic experiments.

The new evidence presented in this report will significantly help in the interpretation of Rocket to museum visitors as it aims to develop a comprehensive understanding of the technological context in which Rocket was built and modified.

Other entries received included a *Historical Study of Chadderton Mill* by R. Holden. The mill, situated off Fields New Road, Chadderton, Oldham (SK907044) was constructed between 1884 and 1885 for Chadderton Mill Co Ltd and extended on numerous occasions until the 1930s. It remained in use until 2000 when the author of the report visited the site as Shiloh Spinners moved out. The report consists of mainly documentary evidence which complements the more archaeological approach of surveys carried out by the Greater Manchester Textile Mills Survey of 1986 and English Heritage for the purpose of improving listing descriptions in 1996. It makes the 'instructive point that deposited building plans are not totally reliable' and provides a detailed description of the development of the site, pointing out that the remains are a good example of a mill of its period and type of construction.

Peter Rowe of Tees Archaeology submitted a report entitled *The 19th Century Industrial Archaeology of Hartlepool*. The aim of the survey was to record the early industries and industrial infrastructure of Hartlepool based on the first (1857) and second (1895) Ordnance Survey maps. The result is a gazetteer giving basic descriptive information

on 189 sites with baseline interpretation of features, their development and survival. Twenty-six site types were identified including dock facilities, gravel and sand extraction, limekilns, rope manufacture, salt production and ship building. Only 30 sites were shown to have retained any substantive historical features and these were prestigious examples such as Throston Engine House, Lion Brewery and Elwick Windmill. The report points out that although many of the buildings have been lost, the archaeological potential of the sites has not yet been investigated. It is hoped that the report can be used to target future conservation and interpretation projects and that new surveys and research will be stimulated for industrial remains.

The final entry was from B. Lamb on *The Transport Triangle of Manchester AD78-1980*. This described an area of Manchester defined to the north by an ancient crossing of the Irwell, close to the present day Victoria Bridge, to the south by the Roman fort of Mancunium and to the west the River Irwell. The base of the triangle is made up of the Bridgewater Canal built in 1758 and Castlefield Quay (1763). The report aimed to show the congestion of various forms of transport in the small area and emphasized the number of 'firsts' it contained such as the first 'true' canal and first passenger railway station, Liverpool Road. It includes a chronology of the developments that took place within the area together with a collection of references, maps and vignettes. The work was completed over 25 years, based on research and study carried out as a teacher at the Manchester Urban Studies Centre.

There were no Student entries this year. The winners attended the conference in Cambridge to collect their awards. All the entries are lodged with the appropriate National Monuments Record. Entries are now being invited for the 2002 Award (see page 10).

My thanks go to the judges, Keith Falconer (English Heritage/National Monuments Record), Amber Patrick (AIA) and Mike Nevell (University of Manchester Archaeological Unit).

*Victoria Beauchamp  
(AIA Fieldwork and Recording  
Award Co-ordinator)*

## Fish and Ships at Grimsby

The 61st East Midlands IA Conference was held at Grimsby, hosted by the Society for Lincolnshire Archaeology on 19 May 2001, with the interesting theme 'fish and ships'.

Garry Campbell, of Associated British Ports, gave a profile of the development of the port of Great Grimsby from prehistoric times to the 1960s. The early settlement around the creek utilised one of the few navigable inlets between the Humber and the Wash. The Freshney River was diverted through the New Cut to reduce silting, always a major problem with Humber Ports. The port received its charter 800 years ago. The development of the modern port began with the building of the Alexandra Dock in 1800, following the passing of the Grimsby Harbour

Act in 1796. The Royal Dock was built in 1852. This included the prominent Grimsby Hydraulic Tower, designed by J.W. Wild with the hydraulics by Armstrong.

At this time fish landings were made at the herring slip in the Royal Dock Basin. The Number One fish dock was built on reclaimed land and enlarged in 1856 to 4 acres, and in 1878 to 13 acres. The Number Two dock of 1870 was later enlarged to 16 acres. Landed tonnage of fish rose from 459 tons in 1854 to 92,000 tons in 1895 and 292,000 tons in 1948. The population of the surrounding town rose from 3700 in 1841 to 56,000 in 1891. Number Three dock followed a further Act in 1929. Throughout this period all the other functions of a busy port were built up, including graving docks and coaling facilities.

The collapse of Britain's middle and distant water fishing industry



The bridge of the preserved middle-distance trawler *Ross Tiger* at Grimsby, visited during EMIAC 61. One of 12 ships in the class, she was built in 1957 and had a crew of 12. She carried 40 tons of ice and hopefully filled the hold with 90 tons of fish before the end of her 18-day voyages. Accommodation was good and these ships were popular with the crew. No long-distance trawlers were preserved

Photo: R J M Carr

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was sudden. Following progressive territorial water extensions around Iceland and Norway from 1952, Iceland eventually extended to 200 miles, which caused a virtually total loss of landed fish between 1969 and 1971. Most of the fleet went for scrap with a few vessels converting to North Sea oil rig tender work.

Ray Roberts, a retired trawlerman, gave a graphic profile of the hard yet addictive life of a crew member of a Grimsby trawler. Working in the North Sea and North Atlantic in all weathers was indeed hard and dangerous. Losses of vessels and crew were alarmingly high and the further north, the greater the risks. He also quoted many statistics giving a picture of the industry at its zenith, when it was reckoned that for every trawlerman nine shore jobs were created. In the 1950s the British fishing industry had 7991 registered vessels working from 280 ports with 28,332 registered fishermen. In 2000, there were just 585 registered fishermen. Annual landings of fish in the peak years in the major ports were 285,000 tons in Hull, 196,000

tons in Grimsby and 93,000 tons in Aberdeen.

In the Second World War, the trawlers were used for minesweeping, submarine hunting and convoy escorts. Of 57,000 enlisted men, 11,500 lost their lives.

Ray painted a vivid picture of life on board a middle water trawler with a crew of 20. Life became marginally easier when the change from steam to diesel took place in the late 1950s. Constant coal trimming and moving coal from the fish holds to the bunkers became a thing of the past, although the tasks while fishing remained as arduous as ever with almost endless working hours when the trawl was running.

After the morning talks lunch was provided in the bar on the former Humber paddle steamer ferry *Lincoln Castle*, which, with her sister ships, were the last coal-fired paddle steamers in service in the UK. This was a familiar location to your correspondent who spent many Sunday afternoons in a misspent youth drinking across the river and back – it was the only bar open in Hull on a Sunday afternoon!

Moored alongside the *Lincoln Castle* is the *Ross Tiger*, the last of the near water trawlers in Grimsby. Later in the afternoon one of her sister ships was seen being converted into a three-masted schooner for an Australian client. Visits were made to the fisheries heritage centre and a tour by bus of the former fish dock including the empty ice factory of 1900, a problematical listed building disused since 1990. We visited the new fish market, a shadow of the original market that was over a mile long. The new market receives the majority of its fish by road from other ports.

Mark Sissons

## Steam for the future

The Trevithick Society's conference on steam for the future held at Falmouth in September was an absolute triumph. Proceedings opened on the Friday with a conducted coach tour of the mining district, followed by a meal and welcome from the president. The next day's speakers were garnered from all over the world, and the audience was regaled with the very latest developments in modern steam to back up their message for today's engineers: 'get your hands on modern steam, and the future is yours.'

The opening speaker was Tony Stebbing on climate change, and the absolute necessity to reduce emissions if we are to survive. He was followed by Ted Pritchard from Melbourne, Australia, who has developed a uniflow V-twin steam unit, whose production costs are only 25-50% of internal combustion engines giving an equivalent performance. He showed a film of a Ford falcon fitted with this engine and under test in the Melbourne traffic. Another version was produced for heavy goods vehicles.

Professor John Sharpe spoke on modern domestic waste burning units generating steam via a modern efficient boiler. He later discoursed on air expansion ice making by steam – a further development of a Trevithick invention. Next came Roger Waller of Switzerland, who builds modern highly efficient steam locos requiring a crew of only one, and capable of being kept in steam, on shed, completely unattended. These

locos are up to five times as powerful as their diesel counterparts. He has them working on rack railways in Austria and Switzerland. They give clean combustion – no smoke, no ash, no cinder, no sparks – and one line has three that have now worked for ten years. In 2001 the firm launched a paddle steamer on lake Geneva, featuring an unmanned engine room, all controlled from the bridge by one man.

John Tilston told of experimental steam development at DERA Farnborough, then Dr Alec Moulton spoke on his steam experiences. The last speaker was Jack Metz, also from Switzerland, on the Equal Zero Emission Engine. This is the product of a £25m development programme to compete against the fuel cell. The key is the burner in the form of a calorific, porous zirconium oxide sponge where combustion takes place inside the cells enclosed in a very well insulated sleeve. There are no flames, no temperature peaks, and homogenous temperature diffusion.

After this high-powered session delegates were vastly entertained by Northern Ireland's Eric Hughes in a superb, self-built steam dog-cart, which quite effortlessly flashed up and down the 1 in 4 hill at Falmouth College of Arts.

There followed the Trevithick Society's AGM and annual dinner. The highlight of the weekend was kept for Sunday morning, when all gathered in Arwenack Street where the 'Puffing Devil' replica of Richard Trevithick's steam road loco led a procession of steam cars to Falmouth Docks. Tours of the docks were also laid on, as well as rides on the steam chariots – all in all, it was a weekend not to miss.

Roger Ford

## The British Archaeological Awards

Founded in 1976, these prestigious awards are made every two years and there are at present 12 of them. The next presentation ceremony will be held in November 2002 and is likely to take place in Liverpool. In the years between the Awards a Biennial Lecture is held, generally in London in the autumn.

Funding and sponsorship is presently excellent and industrial archaeology is highly regarded. The

sponsorship of an Award by the AIA for the adaptive re-use of buildings and structures is greatly appreciated.

There is insufficient space in *Industrial Archaeology News* to do justice to the scope of the Awards and the following list can only serve as a brief introduction (sponsors' names appear in brackets). There are awards for the Young Archaeologist of the Year (Yorkshire Bank), a Sponsorship Award (Wedgwood), the Heritage in Britain Award (English Heritage, Historic Scotland and Cadw) for the best long-term preservation of a site or monument, a Finders Award (Tarmac), the Pitt Rivers Award (Robert Kiln Trust) for the best project by volunteers, our own AIA – Ironbridge Award for adaptive re-use, the Virgin Holiday Award (Virgin Holidays) for the best presentation of an archaeological project or theme to the public, the Transco Press Award (Transco) for the best reporting of archaeology in newspapers, a Book Award (Ancient and Medieval Book Club), the Channel Four Award (Channel Four Television) for film, video and computer based work, the ICI Award (ICI Corporate Real Estate) for the best archaeological project offering a major contribution to knowledge and the Silver Trowel Award (Spear & Jackson) for the greatest initiative in archaeology.

The periodical *Current Archaeology* no.173 issued a special illustrated supplement, describing the Awards in more detail and covering the presentation ceremony for 2000 which was held in the Great Hall of Edinburgh Castle on 16 November. HRH Prince El Hassan of Jordan, Patron of the Council for British Research in the Levant, presented the Awards that day. The Supplement contains information regarding winners and runners-up.

Industrial archaeology is now generally regarded as a part of mainstream archaeology. For instance the very popular television programme 'Time Team' deals with industrial archaeology from time to time. It must be stressed that many of the British Archaeological Awards are directly relevant to industrial archaeology and readers who are unfamiliar with the scope of the Awards should take some trouble to find out more about them. Not all industrial archaeologists regularly read mainstream archaeology periodicals. There may well be AIA

members who might appear as Award winners at Liverpool in 2002. For further information contact Mr Richard Brewer, Department of Archaeology and Numismatics, National Museum and Gallery, Cathays Park, Cardiff CF10 3NP, ☎ 029 2057 3247.

Robert Carr

## Urban Design Week 2001

Urban Design Week is now in its fourth year. In September 2001 an excellent series of events – walks, seminars, exhibitions etc – were organised throughout Britain. The annual Urban Design Alliance Conference for 2001 took place in Birmingham on 20 September.

Don't miss Urban Design Week in 2002. It is organised by the Urban Design Alliance (UDAL) which includes Civil Engineers, Town Planners and Architects. Much of the work of UDAL has relevance to industrial archaeology. For further information contact the UDAL Secretariat, Institution of Civil Engineers, 1 Great George Street, London SW11 3AA, ☎ 020 7665 2221, web: [www.udal.org.uk](http://www.udal.org.uk).

Robert Carr

## Hejaz Railway to ride again

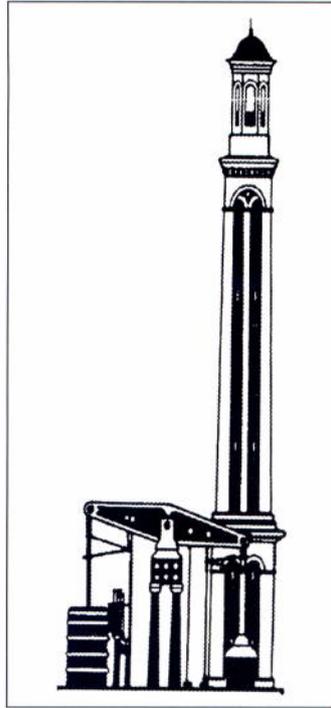
Plans are afoot to restore the 800-mile desert railway between Damascus in Syria and Medina in Saudi Arabia. Sections were blown up by Lawrence of Arabia in the First World War and the track south of Maan in Jordan has been closed ever since, leaving steam locomotives stranded at the terminus station at Medina. The tourist potential is tremendous and already steam trains are operating successfully from Amman in Jordan.

## King Edward Mine

A new heritage centre has been opened at King Edward Mine in Cornwall. Formerly known as South Condurrow, the site became the teaching mine of the Camborne School of Mines who gave storage space for the Trevithick Society's mining collection, much of which will be on show. More of the Society's artefacts are displayed at Geevor Mine which is now being managed by Heritage Projects for its owners, Cornwall County Council.

## Kew from the top

On 1-2 September visitors to the Kew Bridge Steam Museum at Brentford, Middlesex, had a rare opportunity to climb the 261 steps of the famous tower. Built in 1867, the 196-ft tower is a well known West London landmark, with views as far as Canary Wharf, the London Eye and the Dome on a clear day. Not a chimney stack, it is a stand pipe tower housing two systems of vertical pipes through which water from the station's Cornish engines was pumped before passing into the mains. The stand pipes acted as a 'buffer state' between water under the pulsating pressure of the engines against possible damage due to sudden loss of load on the event of, e.g., a burst water main. The museum is open every day. For information, ☎ 0208568 4757 or view the website: [www.kbsm.org](http://www.kbsm.org)



## Bude sea lock reopened

The sea lock at the entrance to the Bude Canal basin on the north Cornish coast was officially reopened on 19 June after new lock gates were fitted to replace those damaged by storms.

## GLIAS internet site

The Greater London IA Society's internet site is now to be found at [www.glias.org.uk](http://www.glias.org.uk)

## Old information?

There has recently been a popular notion abroad, perhaps perpetuated by computer salesmen in the high street, that information written on magnetic disc by obsolescent personal computers is all but lost and at best very difficult to retrieve. This is not really the case and like much else in life it's fairly easy when you know how. For industrial archaeologists the problem should be straightforward.

Just as for old motor cars there is a body of enthusiasts who maintain and operate 'classic computers', often alongside those of recent manufacture and for these enthusiasts there are societies and periodicals which give plenty of advice on how to repair and operate older machines. Appropriate software is also distributed. If you have access to the internet, just try looking for computer enthusiast web sites and you will find there is plenty out there.

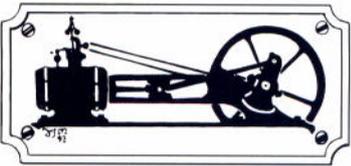
For say a three inch Amstrad PCW disc there should not be much of a problem. If you have something a little more difficult, perhaps a data disc from a SuperBrain and you can't find anyone running one or with an appropriate disc drive and emulation on a PC, look at the internet site [www.diskdoctor.co.uk](http://www.diskdoctor.co.uk). Dave's Disc Doctor Service is sadly no longer in business but the website provides links to other people who offer services including disk salvage.

Similarly with photography we now hear a great deal about digital techniques but there are still photo-processors who use traditional silver based chemistry and will print from almost all (including obsolescent and obsolete) negative sizes. If you are really stuck try contacting Gordon Bishop Associates, 23A Paddington Street, London W1U 5QT, ☎ 020 7486 1464.

*Robert Carr*

## BIAS Brunel Prize 2003

Using income from funds passed on by the former Brunel Society, the Bristol IA Society has established a prize, known as the BIAS Brunel Prize, to encourage archaeological and other research into, and the publication of work on, the industrial archaeology of the Bristol/Bath region. The sum of £150 is made available every two years and the next award will be made in 2003.



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Open to BIAS members and to other persons or groups with an interest in the IA of the Bristol region, the competition requires that entries should consist of a written report or record which should (a) conform to the guidance notes for BIAS Journal and should not have been published elsewhere; (b) reflect original research into and/or recording of IA sites in the region; and (c) be submitted by 31 August 2002.

Further details can be obtained from Mike Bone, Sunnyside, Avon Close, Keynsham, Bristol BS18 1LQ.

geography of trade routes. Until the 1950s the town of La Ferté-sous-Jouarre (60 km east of Paris) was one of the foremost centres for the production of millstones which were exported and renowned throughout the world. The history of the millstone industry, so long neglected, is now the object of renewed interest. For more information please contact Mouette Barboff and Francois Sigaut, Maison des Sciences de l'Homme (Salle 115), 54 Boulevard Raspail, 75006 Paris, France.

## Millstones Colloquium

An international colloquium is being held on 16-19 May 2002 at La Ferté-sous-Jouarre in France on the long term history millstones. Until their replacement by cylinder mills at the end of the nineteenth century, the quarrying, working and trade of millstones was an important industrial activity. From one period to another, continual change can be observed in the geological nature of stone used in millstones, in the choice of quarrying sites and in the

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All proceeds contribute to the costs of the Newsletter and the work of the Association which is a registered charity. Inserts may be mailed with IA News at a charge of £25.

For further details, contact the Editor.

**Local Society and other periodicals received**

Abstracts will appear in *Industrial Archaeology Review*.

- BW Monthly*, June, July, August & September 2001
- Brewery History*, 103 & 104, Spring & Summer 2001
- Cumbria Industrial History Society Bulletin*, 49, April 2001
- Focus on Industrial Archaeology* (SUIAG), 56, June 2001
- Manchester Region Industrial Archaeology Society Newsletter*, 96, August 2001
- The Mundling Stick*, 712, Summer 2001
- Scottish Industrial Heritage Society Bulletin*, 18, September 2001
- Somerset Industrial Archaeological Society Bulletin*, 87, August 2001
- Sussex Industrial Archaeology Society & Sussex Mills Group Newsletter*, 111, July 2001
- TICCIH Bulletin*, 12, Spring 2001
- Warp & Weft* (Stroudwater Textile Trust), 5, Spring 2001

**Books Received**

The following books have been received for review in *Industrial Archaeology Review*.

*A Guide to the Industrial Heritage of Northamptonshire*, by Peter Perkins, Geoffrey Starmer and Roy Sheffield. Northamptonshire Industrial Archaeology Group, 2001. 101 pp, 95 illus. ISBN 0 9541132 0 9. £4.95. Obtainable at £6, incl. p&p, from Roy Sheffield, 7 Elysium Terrace, Northampton NN2 6EN.

Over 450 sites are described in this gazetteer, which is well illustrated and indexed. After a brief introduction to the range of industries, including iron ore extraction, boots and shoes, mills, breweries, roads, canals and railways, the sites are listed by parish in alphabetical order. Locations are found by easy reference to a county map. In addition to the usual traditional industries, the guide is brought up to date by including the striking 418-ft Express Lift testing tower at Northampton, dating from 1982. Northampton has much to offer and this is a valuable sourcebook for industrial archaeologists.

*Amtrak's High Speed Rail Program New Haven to Boston: History and Historic Resources*. Rhode Island; PAL Inc, 2000. 80 pp, illus.

This book contains a brief history of the Amtrak Northeast Corridor railway network between New Haven and Boston. Recently it was the subject of a modernisation programme which began in 1992 and was completed in 2000 with the introduction of the Acela Express high-speed service between Washington DC and Boston. A systematic study was made of railway buildings and structures and other buildings adjacent to the rail corridor with a view to ensuring their recording or retention.

*Early Limestone Railways*, by John van Laun. The Newcomen Society, 2001. 252 pp, 165 illus, 21 maps. ISBN 0 904685 09 8. £27.50 from The Newcomen Society, The Science Museum, London SW7 2DD, plus p&p £4.85 (UK), £9.70 (Overseas).

This book records the author's investigation into the development of railways which served the iron furnaces of South Wales – much the largest

producer of iron in Britain from the 1790s to the 1840s. The work is based upon documentary sources and extensive fieldwork and is generously illustrated. It examines the history of railways in the area and the evolution of their permanent way and offers a detailed account of the earliest all-iron edge rails in the world and a provisional typology of plate rails.

*Enamel Advertising Signs*, by Christopher Baglee & Andrew Morley. Princes Risborough Shire Publications, 2001. Shire Album 389. 40 pp, illus. ISBN 0 7478 0510 5. £4.50.

Enamel advertising signs emerged in the late-Victorian era and commanded public attention for over 50 years before technological, economic and social change combined to render them redundant. Of the millions produced, only a few thousand have survived to become collectors' items or to lend authenticity to restored railways and museum displays. This Shire Album is copiously illustrated with the majority in colour.

*Gunpowder Mills, Documents of the seventeenth and eighteenth centuries*, by A.G. Crocker, G.M. Crocker, K.R. Fairclough & M.J. Wilks. Woking: Surrey Record Society, 2000. 181 pp, 27 illus. ISBN 0 902 978 11 X. £15.00.

This volume consists of a transcription of four documents: three inventories, 1661, 1678 and 1753, which illustrate the development of technology during a period of change and a letter book which chronicles the day-to-day running of a gunpowder business over twelve months in 1790-1. The book includes sections on the technology of gunpowder manufacture and the historical background of the documents. Comprehensive indexes and selected illustrations are included.

*Mills of the Isle and its tributaries*, by Derrick Warren. Taunton: Somerset Industrial Archaeological Society, Survey 15, 2001. 84 pp, 60+ illus. ISBN 0 9533539 4 X. £4.50.

The River Isle rises near Wadeford (340ft OD) and flows north-easterly for 14 miles to join the River Parrett at Thorney. In the first six miles it falls 250ft and most of the 41 mills described are located on this section. Brief histories of sites and mill are provided, together with photographs, maps and drawings, where available. Many of the mills were originally concerned with woollen cloth manufacture.

*Mining in Cornwall Vol 4: Hayle to Kerrier & Carrick*, compiled by L.J. Bullen. Stroud, Tempus Publishing, 2001. 128 pp, 200 illus. ISBN 0 7524 2133 6. £10.99.

This is the fourth outing in a series of mining scenes aimed at industrial archaeologists and local people. The material comes from 'the largest collection of Cornish mining photographs in the world', although the details of this collection are not given. A number of the photographs show small operations in the 1920s. In contrast, views of the developments at Wheal Jane, Mount Wellington and Pendarves mines during the tin mining revival of the 1960s and early 1970s are now of great value as all these recent mines have so quickly passed into history.

*Proceedings of Mill Research Conferences*, The Mills Research Group, 1998, 1999 & 2000. £3.50 each incl. p&p from Mills Research Group, 1 High Street, Mistley, Manningtree, Essex CO11 1HA.

Four volumes have been received relating to for the 14th to 17th conferences held 1996 to 1999. Among articles of general interest are 'Barn-top mills' and 'The fen millwrights' (14th); 'The smock mill in Cambridgeshire: an historical survey' and 'The smaller English windpump' (15th); 'Oil and cake mills in and around Cambridgeshire' (16th); and 'Early types of water turbine in the British Isles' (17th).

*R R Angerstein's Illustrated Travel Diary, 1753-1755: Industry in England and Wales from a Swedish perspective*, trans. by Torsten and Peter Berg. Science Museum, 2001, 278 pp, 334 illus. ISBN 1 900747 24 3. £34.95.

Angerstein was an 18th century industrial spy. He travelled widely in Europe in the 1750s, supported by the Swedish government, gathering information about trade and emerging technology. The diary of his trip to

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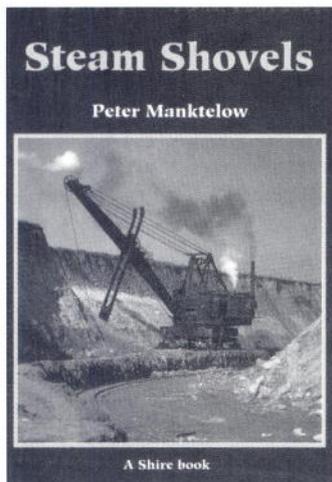
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Britain is extraordinary for its quality of observation and insight, its comparative nature and the large number of detailed illustrations, which often provide a unique impression of 18th century industrial operations and landscapes.

*Steam Shovels*, by Peter Manktelow. Princes Risborough: Shire Publications, 2000. 32 pp, 46 illus. ISBN 0 7478 0483 4. £3.50.

The steam shovel was the forerunner of all powered excavators and was the first machine to successfully replace the hand shoveller in loading wagons. Steam shovels revolutionised the removal of earth and minerals from the earth's surface. It found applications in the construction of roads and railways, irrigation and drainage projects, dams and waterways as well as in the extraction of minerals. This book explains the workings of the machine and the applications demanded of it.



*The Diary of Charles Wood of Cyfarthfa Ironworks, Merthyr Tydfil 1766-1767*, ed. by Joseph Gross. Cardiff: Merton Priory Press, 2001. 237 pp, 6 illus. ISBN 898937 48 6. £20.00.

This volume makes available an important and hitherto little known contemporary account of the building of one of the earliest modern ironworks in South Wales. Wood made a daily note of the progress of the work, including a forge, to use for the potting and stamping process for refining iron with coal, and a water-powered blast furnace. The book provides a glimpse of life in upland Glamorgan at that period.

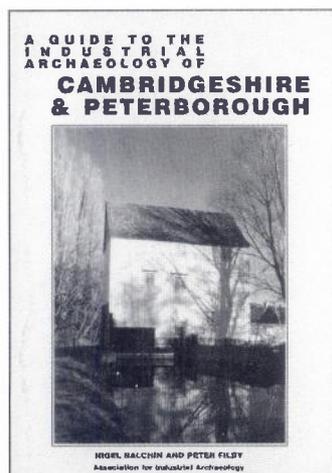
### LANDMARK COLLECTOR'S LIBRARY

Landmark Publishing is introducing a series of important new industrial histories. Several titles are in the pipeline, and already available are two books by John Cornwell: *Collieries of South Wales: 1* (ISBN 1 84306 015 9. £22.50) and *Collieries of Somerset & Bristol* (ISBN 1 84306 029 9. £14.95). Richard Moore-Colyer has written *Roads & Trackways of Wales* (ISBN 1 84306 019 1. £19.95) and *Welsh Cattle Drivers* (ISBN 1 84306 21 3. £19.95), and additional titles on the subject of roads are David Hey's *Packmen, Carriers & Packhorse Roads* (ISBN 1 84306 016 7. £19.95) and A.E. & E.M. Dodd's *Peakland Roads & Trackways* (revised edition, ISBN 1 901522 91 1. £19.95). For the latest on new and current titles, contact Landmark Publishing Ltd, Ashbourne Hall, Cokayne Avenue, Ashbourne, Derbyshire DE6 1EJ, or visit [www.landmarkpublishing.co.uk](http://www.landmarkpublishing.co.uk)

### NEW AIA CONFERENCE GUIDE

*A Guide to the Industrial Archaeology of Cambridgeshire & Peterborough* by Nigel Balchin and Peter Filby. Association for Industrial Archaeology, 2001. 53 pp, 97ills. ISBN 0 9528930 4 5. £4.95.

The essential up-to-date IA guide to this region, published to coincide with the AIA's Cambridge 2001 Conference. Distributed free to members, but additional copies are obtainable from Roger Ford, AIA Sales Officer (address, page 2).



### THREE TEMPUS TITLES

Tempus Publishing of Stroud have produced these recent titles on canals.

*Boats, Smoke, Steam and Folk: Exploring the Canals of the West Midlands*, by Robert Davies. Stroud: Tempus Publishing, 2001. 128 pp, 94 illus. ISBN 0 7524 1765 7. £11.99.

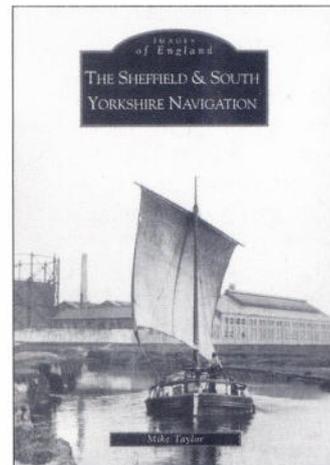
This book encourages the reader to explore the canals of the West Midlands, combining maps, detailed walks and historic and contemporary illustrations. The many topics include Stourport and its basins, the Dudley and Netherton tunnels and the Bratch pumping station. It also answers questions such as when and why the canals were built; what it was like to work on them, doing maintenance or moving goods. Also included are interviews and memories of canal workers of the 1950s and '60s when road transport was taking over the role of moving heavy bulky loads around the country.

*The Anatomy of Canals: The Early Years*, by Anthony Burton & Derek Pratt. Stroud: Tempus Publishing, 2001. 160 pp, 140 ills (29 in colour). ISBN 0 7524 2137 9. £15.99.

The book covers canals of the years before 1790 when the first rush of canal building ended. Canals built afterwards used different engineering techniques and materials and are therefore of a different character. These early canals helped fuel the industrial revolution, giving new industries a reliable and effective means of transporting goods and raw materials. Using the photographs of Derek Pratt and a text by Anthony Burton, as much as possible is conveyed of the original character of each waterway, showing how it developed in response to the landscape and decisions made by engineers and builders. Today, the leisure industry is beginning to impose changes on the canals and so this book is an invaluable record of canals as they were before restoration projects change their character once again.

*The Sheffield & South Yorkshire Navigation*, by Mike Taylor. Stroud: Tempus Publishing, 2001. 128 pp, 191 ills. ISBN 0 7524 2128 X. £10.99.

The Sheffield & South Yorkshire canal linked industrial South Yorkshire with the ports of Hull and Goole. It played a major part in the export of coal from the many collieries in the region and the import of grain, timber, steel and more general cargo. This new volume in the Images of England series includes a diverse collection of images of the navigation, its traffic and the surrounding area. We follow the water traffic from the sea docks at Hull, via Goole, all the way upstream to Sheffield. Historic photographs of keels under sail on the navigation contrast with modern push-towing barges and tugs seen in the 1990s.



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**23 MARCH 2002  
SERIAC**

at Cranbrook School, Kent, the South East of England Regional IA Conference, hosted by the Medway IA Group. For details when available, contact Bob Barnes, 3 Vespers Cottages, Cage Lane, South Marden, Ashford TN27 8QD, ☎ 01233 770355.

**6-7 APRIL 2002  
AIA IRONBRIDGE WEEKEND**

at Ironbridge, the Affiliated Societies' Weekend, on 'The Adaptive Re-use of Port Structures'. Advance notice only. Details will be posted in the next issue of IA News, or contact the AIA office at Leicester (see page 2 for address).

**20 APRIL 2002  
SWWRIAC**

at Crosskeys College, Risca, the South Wales & West Region IA

Conference, organised by Oxford House IA Society. SAE for details when available from Tony Jukes, 26 Dan y Graig, Machen, Caerphilly CF83 8RF.

**16-19 MAY 2002  
INTERNATIONAL MILLSTONE  
COLLOQUIUM OF LA-FERTE-  
SOUS-JOUARRE**

at La Ferté-sous-Jouarre, on the quarrying, stone working, trade and use of millstones, long term history. Information from Mouette Barboff and Francois Sigaut, Maison des Sciences de l'Homme (Salle 115), 54 Boulevard Raspail, 56006 Paris, France.

**5-8 JULY 2002  
NAMHO 2002 THE  
APPLICATION OF WATER  
POWER IN MINING**

at the University of Wales, Aberystwyth, a weekend conference

with supporting programme of mine and field trips, hosted by the Welsh Mines Society with the assistance of other members of the National Association of Mining History Organisations. To register interest, send SAE to John Hine, The Grottage, 2 Cullis Lane, Mine End, Coleford, Glos GL16 7QF. Papers are invited on the application of water power in all aspects of mining from across the world, outlines to be sent to Peter Cloughton, Rosebush, Clynderwen, Pembrokeshire SA66 7RE e-mail: P.F.Cloughton@exeter.ac.uk

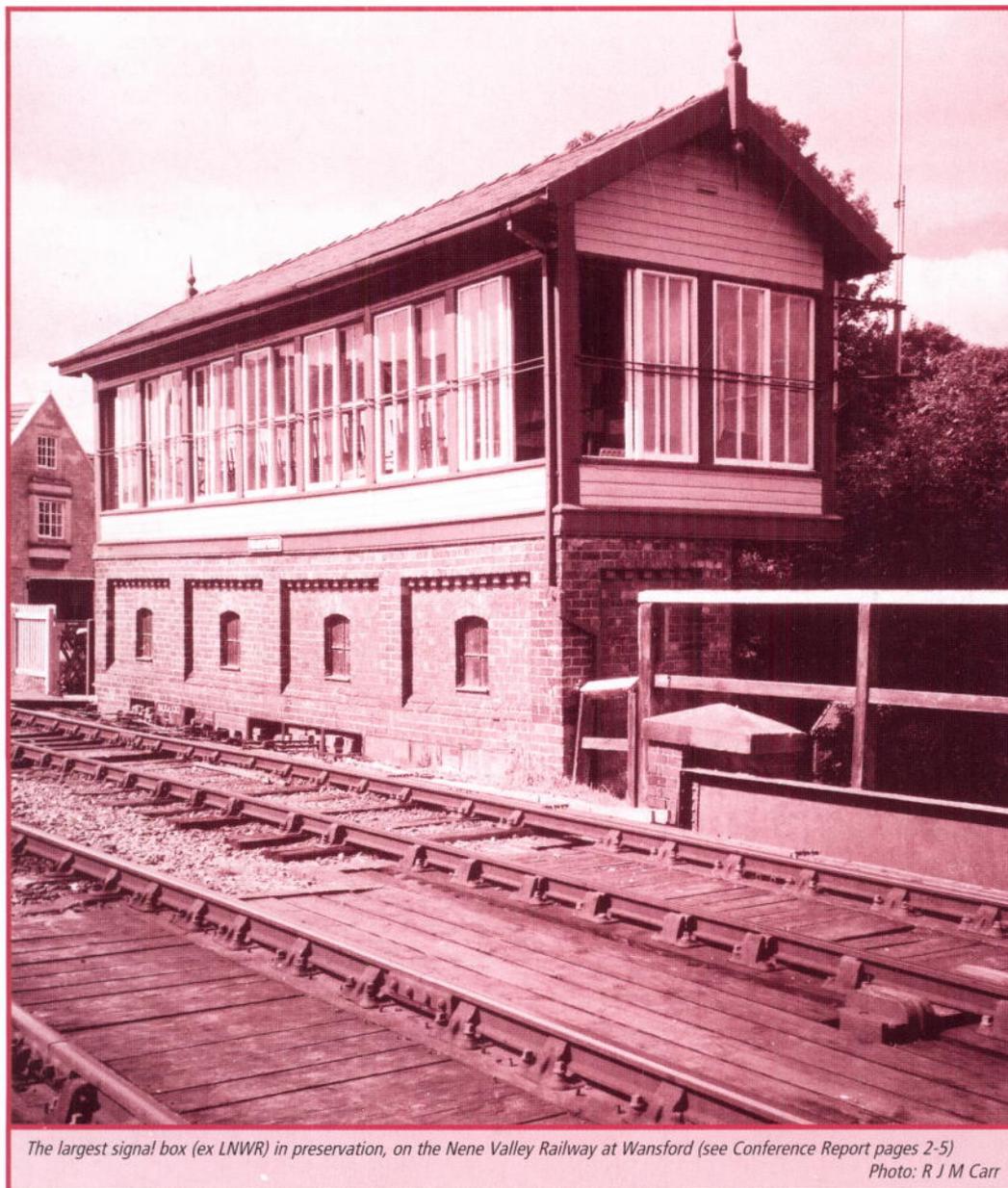
**6-12 SEPTEMBER 2002  
AIA ANNUAL CONFERENCE  
IN EDINBURGH**

at Herriot Watt University, Edinburgh. Advance notice only. Details to be included in future mailings.

**AIA DIARY PAGE**

*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.*

*A full diary can also be viewed at [www.industrial-archaeology.org.uk](http://www.industrial-archaeology.org.uk)*



*The largest signal box (ex LNWR) in preservation, on the Nene Valley Railway at Wansford (see Conference Report pages 2-5)  
Photo: R J M Carr*



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*Final copy dates are as follows:*

- 30 March for May mailing
- 30 June for August mailing
- 30 September for November mailing
- 30 December for February 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.  
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The views expressed in this bulletin are not necessarily those of the Association for Industrial Archaeology.