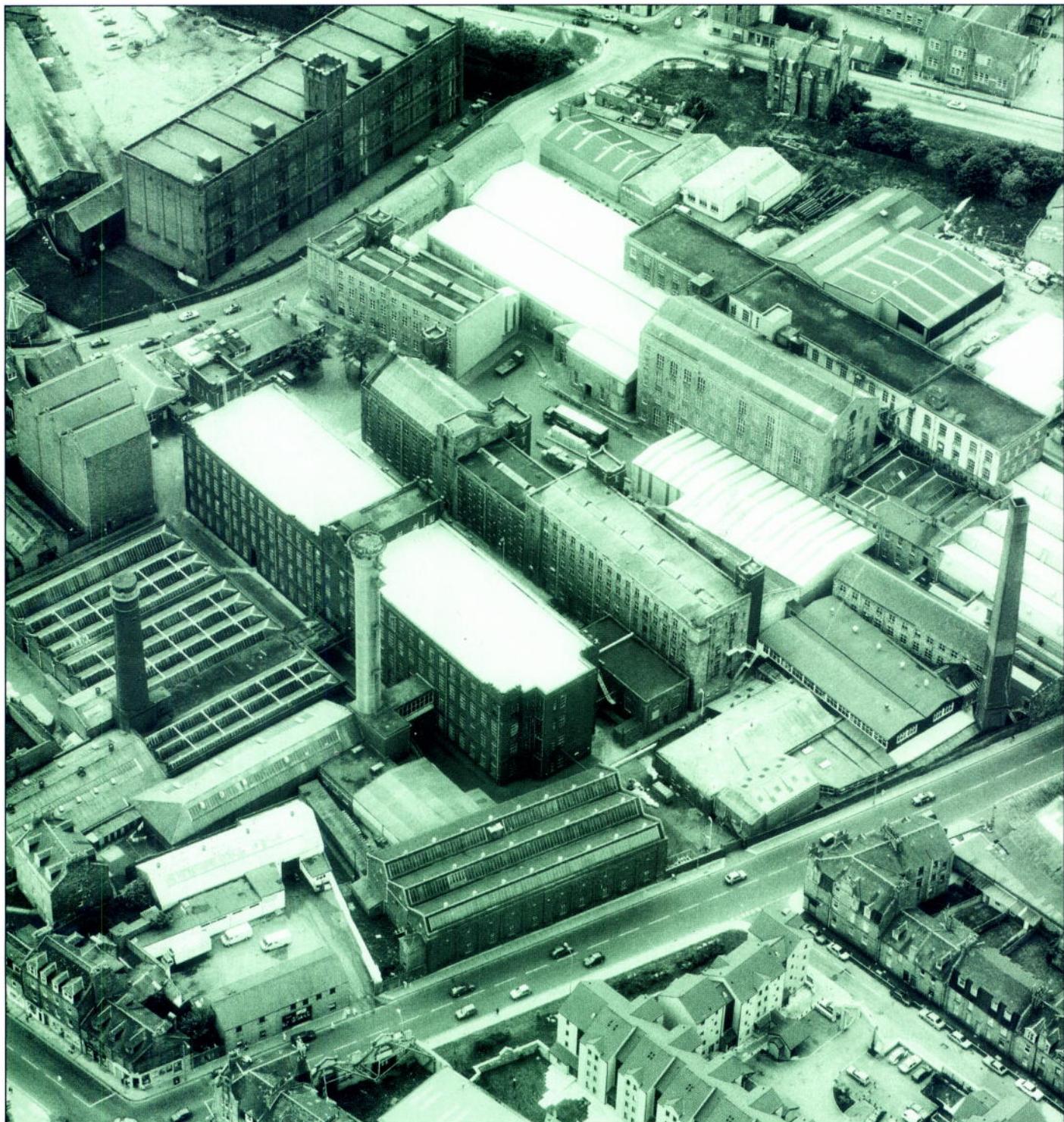


INDUSTRIAL ARCHAEOLOGY NEWS

121
SUMMER
2002

THE BULLETIN OF THE ASSOCIATION FOR INDUSTRIAL ARCHAEOLOGY

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Greenfield Mills • Solovki Islands • Eric de Maré • Thermos survey
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INDUSTRIAL ARCHAEOLOGY NEWS 121

Summer 2002

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COVER PICTURE

Aerial View of Broadford Works, Aberdeen, 1989. A remarkable survival with an uncertain future (see page 13)

Photo: Crown Copyright: RCAHMS, B22561

The Solovki Islands

A group of islands in the Russia White Sea may seem an unusual place to find industrial archaeology, but a recent visit to the Solovki Islands provided much of interest. The visit was undertaken with students of industrial history from Wroclaw Polytechnic, Poland, in co-operation with the Solovki Museum, to record some of the industrial sites on the islands, parts of which have been declared a World Heritage Site.

Mike Clarke

The Solovki Islands are probably best known as the site of the first Russia Gulag, prisoners being processed here in the 1920s and '30s. However, the most impressive building on the islands is the monastery. Monks have lived here since the fifteenth century, and construction of their monastery started in the following century. Improvement continued until the start of the twentieth century, only ceasing when Communism took control in Russia.

The monastery had many small-scale industries. A canal system, linking lakes on the island, was developed for drinking water, agricultural purposes and to supply a water mill within the monastery. The canals are of two types, used either simply for water movement or for transport as well. The former are usually up to 0.5 metre wide, while the latter are over 1.5 metres wide. The earliest canals were probably too small for navigation, but boats and rafts could have been used on the lakes.

Steam boats were in use by the early twentieth century after the canals had been enlarged and extended to supply a hydro-electric power station, possibly the first in Russia. Dams were built to raise the levels in the several lakes, and a ridge of high ground was cut through by a new canal. In places, rock had to be excavated to a depth of around 10 metres. Wharves for loading timber and stone were also constructed.

The system was still being extended at the time of the Communist takeover, when work ceased and the full potential of the water supply system was probably never realised. The system's original function - a drinking water supply - remained intact, but the developments associated with the hydro-electric scheme fell into disuse. Over the last ten years or so, several of the canals have been restored by voluntary workers, and the whole of the navigable system can be used by small boats. A boat-hire base has been established and two wooden piers erected for use by boaters to the north and west of the system.

The hydro-electric station opened in about 1908. Because its water supply was restricted, steam powered generators were installed around 1920, these being taken from a Russian naval vessel which had been captured during the war with Japan and subsequently returned. The plant was extended a second time, but was eventually replaced by diesel generators, and diesel power still provides the island with its electricity.

The islands relied heavily on shipping, and an interesting dry dock was constructed in 1799-1801 to the south of the monastery. It was used for boat building and repair, as well as for storing boats during the winter to prevent damage by ice. It was unusual in that it did not use tidal variations to create a difference in water level within the dock, nor was water pumped out of the dock. Instead, the water level in the dry dock was raised by water supplied from the nearby Saint Lake, whose level was some 8 metres above that of the White Sea.

The dry dock had a wet dock area which always contained water and a slipway area alongside whose level was just above the White Sea's highest tides. The dock operated as follows. First the gates were opened and a boat would sail into a wet dock area. The gates were closed and the dock was filled with water from the Saint Lake. When the water was high enough, the water feed was stopped and the boat was moved sideways over the slipway area where, on the original dock, there were three rows of wooden or stone keel blocks on which boats could sit. The boat was held



The water mill inside the monastery walls, Solovki Islands

Photo: Mike Clarke



The hydro-electric station remains with the dry dock beyond, seen from the monastery fortifications. The roof on the left is the grain store



Canal K10 lies in a deep cutting. It was built c1908 to extend the water supply for the hydro-electric station by creating a route to the large lakes to the north of the island

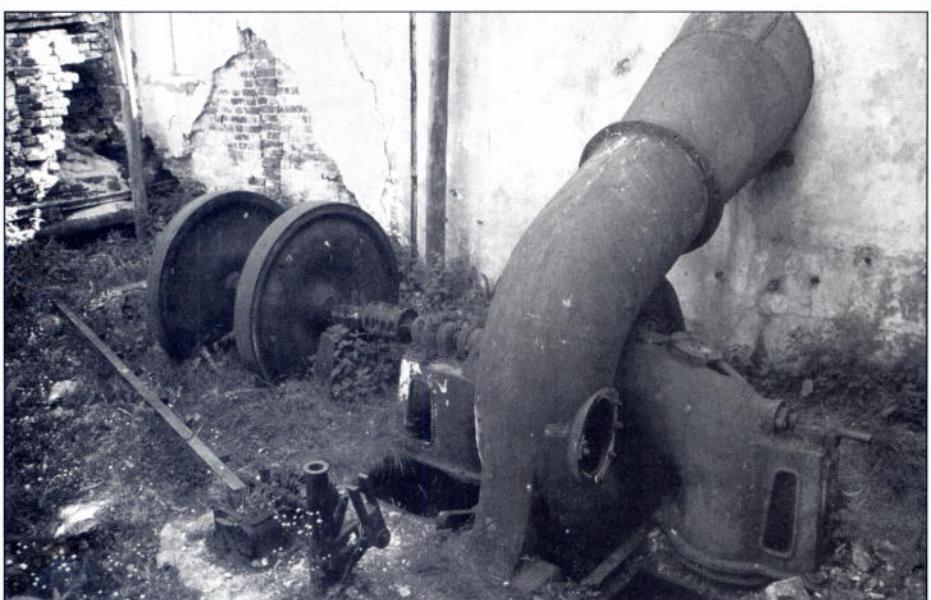
Photo: Mike Clarke

over a row of blocks and the water drained from the dock. This left the boat standing on the keel blocks, allowing it to be stored or repaired.

In 1843-46, the dry dock was reconstructed and the entrance completely rebuilt. The dock was extended, probably to accommodate steam powered boats, and the new area allowed longer vessels to use the dry dock. Further alterations were made in 1880-1 when the mitre gates were replaced, the depth of water in the wet dock increased to 1.2 metres and the total height of the dock walls increased to 6.5 metres. In 1908-13 there was further reconstruction, probably because of the construction of the hydro-electric station next to the dry dock. The gates were repaired in the 1920s, and other work was undertaken in the 1930s. Since 1947, the dock has not been filled with water for use by large boats, and it remains as a harbour for small boats. During the winter, these are pulled out by hand onto the slipway area for storage.

There are many other industrial sites on the islands, often related to forestry or fishing, though amongst other works there were a brickyard, a railway, a seaplane hangar and an early electric telegraph office. Some of the Gulag buildings also survive.

About 800 people live on the islands, and part of the monastery has reverted to its original purpose. Increasing numbers of tourists are visiting the islands, as well as many pilgrims to the Orthodox monastery and other religious sites around the islands. This is putting considerable pressure upon the island's infrastructure, particularly as the tourist season only lasts about four months. For about six months the islands are isolated when the White Sea freezes, and the only outside contact is by the twice weekly flight to Archangel, though the airfield is being extended to allow larger aircraft, capable of flying to Moscow, to reach the island. The Solovki Museum has the unenviable task of trying to control development of the islands. World Heritage status was given because of the sustainable way the monks had created a good living environment just 100 miles south of the Arctic Circle, and many of the islands' current population also live there because of its isolation. How can these demands be reconciled? Although the islands have particular problems, it is a question whose answer is still being sought by those involved with conservation of industrial sites.



Remains of the water turbine which drove the hydro-electric station

Photo: Mike Clarke



Kiln for producing turpentine, Solovki Islands

Photo: Mike Clarke

Greenfield Mills Consolidation and Repair work 2000-2001

Proposals for consolidation and repair work at Greenfield Mills, Greenfield Valley Heritage Park, Holywell, North Wales, were successful in gaining Heritage Lottery Funding and Grant-aid from Cadw, which enabled work to be undertaken on the site from July 2000 to 2001. The first mill complex can be dated to 1765, when Battery Pool and Dam, four copper and brass battery mills powered by four water wheels were constructed on the site. The conservation work will ensure the future stability of the buildings, enabling them to be displayed within the context of Greenfield Valley Heritage Park. This article describes the history and the important industrial remains on the site. The author is an archaeological consultant involved in the work.

Pat Frost

Greenfield Valley Heritage Park consists of c28 hectares of predominantly deciduous woodland, which surrounds seven Scheduled Ancient Monuments. The wooded valley, created by the last Ice Age, stretches from the town of Holywell at the head of the valley on the west side downhill eastwards for c2km to the Dee Estuary. The valley includes the track-bed of former mineral and passenger railways, together with the remains of important eighteenth and nineteenth century industries which included copper and brass manufacture, cotton and wool spinning, weaving, garment and paper manufacture, brewing, iron founding and coal and lead mining. The industries utilised a powerful water supply, which still runs through the valley today.

The Heritage Park is owned by Flintshire County Council and has been managed by Greenfield Valley Trust since 1993. In October 1996, the Trust received a grant from National Museums and Galleries in Wales which enabled them to commission TACP Consultants to develop an achievable management plan for three derelict mill sites within the valley to enable them to be conserved and have future uses in sympathy with the rest of the park. The three mills form Scheduled Areas F160a, b & c, and comprise Greenfield Mill, Meadow Mill and Lower Cotton Mill respectively.

The proposals for consolidation and repair work were successful in gaining £331,000 from the Heritage Lottery Fund, £51,000 Grant-aid from Cadw, with the balance of funds coming from Greenfield Valley Trust and Flintshire County Council. Work started at Greenfield Mill Site (centred on SJ 1900768) in July 2000 as Phase 1 of the three-phased programme of work. Archaeological monitoring of work on site was undertaken together with limited desk top study and on-site investigation between July 2000 and July 2001 by the author. The site retains a wealth of individual industrial features relating to power and processing, despite early twentieth century adaptive use and a fire in the 1950s.

The Greenfield Mill complex is located on the north side of Battery Pool, the highest of three



The gable-ended 'waterwheel building' with wheel pits on its east and west sides. The wheel pits are overhung by sluices. The features are part of the Rolling Mill, where potential buried archaeological deposits have been sealed by the concrete surface

Photo: Pat Frost

reservoirs located on the Holywell stream as it runs downhill through the wooded valley. The water that drains from the limestone hills to the west emerges at St Winefride's Well, a Catholic shrine, and runs in a constant flow at a temperature that never freezes. The relatively steep gradient of the valley ensured a reliable source of water to turn the waterwheels that would power the factories and mills that developed along the entire length of the valley in the eighteenth and nineteenth centuries. At the bottom of the valley, raw materials could be brought in and goods could be easily shipped to market from ports on the River Dee.

Activity on the site of Greenfield Mills can be traced to 1756, when the site was leased to a

brass manufacturer from Bristol, whose works were sited further up the valley. In 1765 Thomas Patten of the Warrington Company leased the site from the Mostyn family and constructed Battery Pool and four copper and brass battery mills on the site. The four battery mills were powered by four waterwheels with extended axles, presumably sited adjacent to Battery Dam wall. The extended axles had protruding teeth which would hit the end of a pivoted hammer causing the hammer to fall and a copper plate positioned on an anvil below, hitting the plate into shape to form pans and bowls etc.

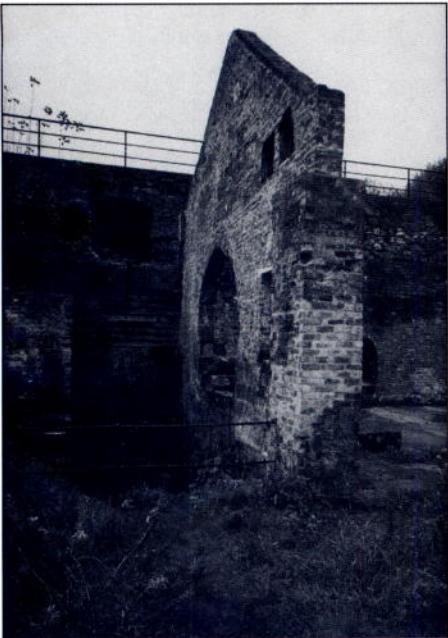
The site was re-organised in 1786 by the Greenfield Copper and Brass Company, who bought the site from the Warrington Company, extended the site and enlarged Battery Pool. The copper and brass industries expanded under the leadership of Thomas Williams, 'the Copper King', who had patented a process to produce copper bolts to hold the copper sheathing that covered ships timbers in place. A persistent problem with wooden hulls was attacks from marine molluscs. Unsuccessful attempts had been made to sheath hulls with lead and eventually in 1761, the Navy Board tried copper plates. This proved successful apart from the corrosion of the iron nails securing the plates. By the 1780s, the copper plates were being bolted by fastenings made of copper/zinc alloy. The Greenfield Mills site prospered since only Williams' company held the patent for the copper bolts. 'Copper bottomed' has become part of our language. Williams was a partner in the Parys Mine Company formed to mine copper ore on Anglesey. He later enlarged the dam, presumably introduced cast iron waterwheels, sluice gates, launders, etc, to replace wooden ones and constructed a new snuff mill on the north side of works.

In 1787, an additional copper rolling mill was added, powered by 3ft x 20ft diameter cast iron wheels delivered from John Wilkinson. Thomas Pennant described the site as the largest rolling mill in Britain in 1796. It measured 86ft x 69ft,



The battery pool, dam and spillway at Greenfield Mills. One of the sluice arches shown on a 1792 engraving is to the left

Photo: Pat Frost



Waterwheel building gable end, sluice with timber launder above one of the wheelpits located below the dam wall

Photo: Pat Frost



The Engine House and Shearing Shop seen from the water-wheel building

Photo: Pat Frost



The Sand Grinding Mill. An irregular stone and brick slabbed floor was uncovered, which appears to have been covered by a thin layer of sand in the recent past. A millstone grit grindstone girded by an iron band is on the floor, although not in its original position

Photo: Pat Frost

floored with iron paving and the roof was covered with copper in a single span supported by two pillars. The wheels were breast shot with buckets not blades and propelled by a jet of water from an iron pipe.

By the end of the eighteenth century, copper production on Anglesey had declined. In 1824 the 'Battery Works', or 'Upper Brass Works' as it was referred to, was purchased by Newton Lyon & Co, by which time technological advances had been made and in particular casting had replaced battery works. Newton Lyons re-organised the site. Battery mills were removed and replaced by rolling mills to produce copper sheet. The Shearing Mill was constructed to cut and trim the copper sheets. Gas was introduced for refining purposes and the earlier coal-fired annealing furnaces were presumably demolished.

In 1838-9, Newton Lyons constructed a red lead mill and shot tower on the north side of the site. Under the ownership of Newton Keates, new buildings were erected following the copper boom of the 1870s. The red lead works was subsequently demolished and a new wire mill built on the site. The Newton Keates Copper Company closed down in 1898 and equipment, buildings and leases were auctioned in 1901.

The 1901 Sale Documents and accompanying map provide an excellent aid to interpreting the site as it survives today. Buildings are described and their measurements given. The fixtures and fittings of these buildings are also listed, providing valuable information about the technology at that time. The buildings on the site today that are identified in the 1901 Sale Documents include the Clock Tower, the extensive brick floor of the 1872 New Wire Mill with stone-built boiler house and circular chimney (previously the site of the 1838-9 Red Lead Mill and Lead Shot Tower), a smith's shop and 2-storey warehouse; all of which are located along an entrance track leading into the site from the

car park. The lower site includes the substantial structural remains of a brick-built Engine House, Metal Shearing Shop with its adjoining Wheel-pit, Sand Grinding Mill, Copper Foundry, and stores. The remains of a hopper, a boiler house and part of the Rolling Mill are located immediately below the dam wall, which includes five sluice arches, two of which overhang wheelpits. A third wheelpit is located on the lower site on an area that was once part of the furnace. The upper site includes the remains of the Old Wire Mill, Brass Foundry and Refinery, Gasworks including the gasometer, and stores. The chimney to the east of the dam was not included in the current work.



This sluice arch appears on a 1792 engraving. It was probably rebuilt in the nineteenth century, when the dam appears to have been raised. The photograph shows the remains of the timber launder and fixing bolts that held the sluicegate

Photo: Pat Frost

Following the 1901 sale, the site was subdivided into warehouses and smaller industries, in use by Holywell Textile Company and the Gwalia Hosiery Company. Prior to purchase by Delyn Borough Council in the 1970s, the site was used as a breakers yard and suffered from vandalism & dumping.

The importance of the industrial history and surviving monuments in the Greenfield Valley was brought to the attention of many by the work carried out under the tutorship of Ken Davies, who subsequently published *The Greenfield Valley* in 1977 in conjunction with C J Williams, former Flintshire County Archivist. Excavation work was undertaken in 1977-79 adjacent to the Dam Wall, where the 1792 engraving suggests the eighteenth century battery mill may have been located. Numerous features were uncovered including the site of two possible battery pits. The 1980-81 excavations concentrated on the interior of the Shearing Shop, when a brick working floor was recorded. Since 1981, no further archaeological excavations appear to have been undertaken.

Sample excavation of existent floor surfaces was undertaken during the current works to assess the sub-surface remains, as an aid to future management of the site. The sample areas revealed brick and cobbled floor surfaces and features relating to past use in most of the buildings.

The project will continue in 2002 on the site of Meadow Mill followed by Lower Cotton Mill. Following consolidation and repair work interpretative panels will be erected for the benefit of visitors on all sites. The Heritage Park is an open air museum and the industrial sites can be visited freely. The Park also includes the 4 acre Abbey Farm complex, where a number of historic buildings have been reconstructed.

Secretary's Note: dealing with threatened sites

As foretold in the last edition of *IA News*, arrangements have been made for co-operation between the AIA and the Council for British Archaeology to assist members dealing with Listed Building Consent applications (LBCs) affecting sites or buildings of industrial archaeological significance. Under preparation is the first AIA handbook, which will give advice and guidance on how to deal with threats to sites generally, and it is hoped to distribute this with the August mailing. However, in the interim, you should find a leaflet enclosed with this edition of *IA News* explaining the proposed system.

Can I emphasise here, however, that while both the AIA and the CBA are willing to act to protect threatened sites, it cannot be presumed that either will take up a specific case. What is certainly true is that the more information you can supply, the more likely it is that action can and will be taken.

The leaflet also gives contact details for our Endangered Sites Adviser, who is very ready to advise those with other problems, such as a site which is not protected in any way, or a protected site which is being damaged or neglected, but it is highly unlikely he will be in a

position to act himself. What he can do is give advice on the action you can take. At the end of the day, the industrial heritage of your locality is in your hands, and the trouble you are prepared to go to protect it: all the AIA or CBA can do is support you when this seems feasible and desirable.

David Alderton

New members

The AIA welcomes the following new members:

Miss M. Barge, Southampton
P.D. Beazley, Bristol
J. Brace, Warwick
P.A.C. Burt, Daventry
R. Chalk, Derby
T. Clempson, Gloucester
J.P. Crowe, Abergavenny
C. Floyd, Lochgilphead
A.L. Green, Reading
J. & Mrs G. Hallett, Telford
D. Hicks, Bristol
Miss J. Hitchon, Wolverhampton
Mrs S.F. Joyce, Middlesbrough
Ms D. Korner, Osnabrück, Germany
P.G. Lamb, Bristol
J.L. Lucas, Macclesfield
P.M. Meehan, Swindon
T. Mickleburgh, Grimsby
Prof K. Miller, Plymouth
M. Moore & Ms S. Blattner, Newport
P.J. Perkins, Kettering
K.J. Phillips, Whakatane, New Zealand

R. Pollard, Liverpool
N. Pratt, Braintree
M. Redfern, Wilmslow
B. Price, Rossendale
Mr & Mrs J. Rawlings, Leicester
A.E. Rhys, Pontypridd
J.C. Rostron, Harrogate
J.D. Walter, Hove
Miss K. Warburton, Witney
I.C. White, Cuffley
R.K. Wills, Aiea, USA
Ms F.M. Worsley, High Peak

AIA Annual Conference visits Edinburgh

This year's annual conference (6-12 September 2002) will be held at Heriot Watt University, Riccarton Campus, Edinburgh, and our hosts will be the Scottish Industrial Heritage Society and Scottish Industrial Archaeology Panel. The pre-conference seminar on Friday 6 September is entitled 'Industrial Heritage and National Identity'. The main conference includes the Rolt Memorial Lecture delivered by Prof John Hume, and lectures with a strong theme of heritage and developments in IA in Scotland. There will be members' contributions, the AGM and presentation of Recording Awards, with a choice of field visits to the new Falkirk Millennium Wheel, the shale industry and the Forth Bridge.

Following the main conference, four days of lectures and a full action-packed programme of field

excursions will visit places such as the Summerlee Ironworks, industries of Alloa and the foothills, New Lanark Mills, Glasgow and the Clyde, Carron Iron Co. at Falkirk, Borders textile industries, coal and salt on the Fife coast, a trip on the Clyde to Bute, the development of Edinburgh and its port of Leith, to name just a few.

Book now! If you have mislaid your booking form please contact the AIA Liaison Officer, Isabel Wilson, AIA Office, School of Archaeological Studies, University of Leicester, Leicester LE1 7RH ☎ 0116 252 5337, Fax: 0116 252 5005, e-mail: AIA@le.ac.uk

A successful Ironbridge Weekend

The first weekend of April saw a most successful AIA meeting on the modification of port structures saw how rapidly changes have taken place in most ports in the last two decades. A full report will appear in the next *IA News*.

E-mailing your Editor

The Editor of *IA News* can be contacted at the following e-mail address:

aianews@stanier49.freeserve.co.uk.

Short articles, news items, letters, etc can now be received in this way – I look forward to hearing from you!

LETTERS

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

Artist in search of industrial space

An artist member of the AIA is looking for industrial spaces for art events. Part of my work as an artist has always involved constructing 'site specific' events. This leads partly from my love of the aesthetics of industrial space and partly from a desire to explore and discuss our industrial heritage from an artist's perspective. I have in the past worked in spaces as diverse as the remnants of the Klockner steelworks in northern Germany to an empty tower block in Birmingham.

I am interested in contacting the custodians of any large industrial spaces who may be

interested in allowing them to be temporarily used for public or semi-public events. I would also be interested in access to archives and collections that may be used as source material for such works.

The form the work would take depends largely on the space itself. However, I have made extensive use of projectors, screens, arrangements of objects, sound and light. I am currently working with a large scale printer and would like to make some very large prints to fill industrial interiors.

The work is non-invasive and self-funded and can last for days, hours or be completely non-public if needed. Essentially I am trying to

find access to some awe inspiring buildings to work with.

If anyone can help, you can contact me at 103 Hythe Road, Brighton BN1 6JS, ☎ 07768 62546 or email: ivan@ivanpope.com

Ivan Pope

Valletta Convention Article 3

Paul Vigor's letter in *IA News* 119 is highly misleading. There has never been any intention to institute a licensing system as he envisages – on the contrary, there is widespread acceptance that a simple code of practice endorsed by practitioners from across the archaeological

community will suffice, and that this should be backed up by better support for amateur involvement. This is reflected in the CBA's position, which was published in the December issue of *British Archaeology* following wide consultation. Valletta contains much else of relevance to archaeology, which we also cover. Our statement can also be found along with full details of the Convention on our website at www.britarch.ac.uk/valletta.

George Lambrick
Director, Council for British Archaeology
Bowes Morrell House
111 Walngate, York YO1 9WA

INDUSTRIAL ARCHAEOLOGY AT IRONBRIDGE

As anyone working within the Industrial Archaeology sector will know, the current emphasis on regeneration of urban, and for that matter rural, environments is leading to an increasing loss of the industrial heritage. At the same time, our industrial past is increasingly perceived as being important in establishing identity and invoking a sense of place. Understanding, and managing the industrial past, is thus becoming ever more relevant to archaeologists, yet the study of industrial remains often calls for additional skills and training needs that are rarely encompassed in conventional archaeology courses.

At the Ironbridge Institute, we have been specialising for the past 20 years in providing robust, vocational courses grounded in the realities of working in Industrial

Archaeology. Our aim is to provide a thorough grounding in the impact of industrialisation in modern societies, and an understanding in the numerous skills and techniques necessary for recording, appreciating and managing industrial archaeology.

Using the complex archaeology of Ironbridge, Shropshire and numerous sites in the West Midlands, the MA or Postgraduate Diploma in Industrial Archaeology can be studied at Ironbridge in one year as four three-week modules, or part time in any combination wished.

For further details visit our web site at www.bham.ac.uk/ironbridge or contact the Administrator, Emma Bass, or the Academic Director, Dr Roger White, for further details on 01952 432751.

Roger White, Ironbridge Institute

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Tel: (0117) 9715337 Fax: (0117) 9771677

NEWS

Brooklands award

On 25 January this year the Brooklands Museum received the Conservation Award for 2001 from the Surrey Industrial History Group. The award, in the form of a decorative plaque, was presented to Lord Trefgarne PC, Chairman of the Brooklands Museum Trust, by Prof Alan Crocker FSA, President of the Surrey Archaeological Society and of SIHG. The award was presented in recognition of the work of the Brooklands Museum over many years in the conservation, restoration and display of historic cars and aircraft, and of the site itself, home of motor racing and aviation.

Survey of Thermos UK

The vacuum flask was invented by James Dewar in 1892. The process was developed in Germany, the name 'Thermos' adopted in 1904, and marketing to the general public soon followed. The British firm of Thermos Ltd was formed in 1907 and had sites at Tottenham (1908-62), Hackney (1931-55) and



Prof Alan Crocker presents the SIHG Conservation Award to Lord Trefgarne, seen seated in the 1923 Aston Martin 'Razor Blade' which raced at Brooklands in the 1920s

Photo: SIHG

Brentwood (from 1954).

Having been refused planning permission for extending its factory at Brentwood, the firm (by then American-owned) decided to transfer the production of the glass vacuum bottles to Thetford in southwest Norfolk. What was claimed to be 'the most modern and efficient

glass factory in Europe' was opened on a 13-acre site in 1965. A new silvering plant was installed in 1987, and in 1996 the production of the plastic outer containers was transferred from Brentwood.

Sales began to suffer from competition from metal vacuum flasks (less effective but much more

robust), cheap imports from Asia, and from changing work patterns – in particular, the introduction of drinks vending machines in offices and factories. The company (since 1989 Japanese-owned) decided to increase production in Britain and import the product from China. Closure of the Thetford factory was announced in September 2000.

Having heard about the closure, the Norfolk Industrial Archaeology Society Committee agreed to try to carry out a survey and make a record of the processes. They are very grateful to the management for giving them permission at a time which must have been particularly stressful. Techniques used included a layout survey (plans were made available), photographic survey, historical survey, taped interviews with employees, process flowcharting and video recording.

Industrial archaeology is not just about the distant past – history is being created today. We need to record industries before they go. This study showed the merits of having a team of people, each with special skills and interests. research is not

complete until it is published, and the results form the lead article in the 2001 NIAS journal.

Norfolk Industrial Archaeology Society

An African centenary

The centenary of the arrival of the Uganda Railway at the shore of Lake Victoria on 20 December 1901 was commemorated last October at Kellogg College, Oxford, by a lecture given by Sir John Johnson and Henry Gunston, from whom these notes are taken.

In the mid-1880s the Berlin Conference of European powers sought to regulate the scramble for territory in Africa. Uganda, an area which included the northern shore of Lake Victoria and the upper reaches of the White Nile, was a focus for competition for Christian missions and for several nations: Belgium, Britain, France and Germany. As a result of the Anglo-German Agreement of 1890 Uganda was placed within the British 'sphere of influence'. Initially, development activity was in the hands of a privately-funded Imperial British East Africa Company. However, after gaining a concession from the Sultan of Zanzibar and sending caravans from the coast to negotiate with the Kabaka of Buganda, the company failed. The British government took on a more definite colonial role during the mid-1890s. Protectorates were declared with the names 'Uganda' and 'British East Africa', the latter covering much of the land area of present day Kenya.

To support the British presence in Uganda a railway was planned from Mombasa on the Indian Ocean coast to the north-eastern shore of Lake Victoria. Steamers would then link across the Lake to the administrative centre of Uganda. A committee was set up by the Foreign Office in London to supervise the construction of what political opponents dubbed 'the Lunatic Line'. After a survey party had explored on foot some 2,700 miles of possible routes, a railway 657 miles long was recommended to the British Parliament in 1893.

George Whitehouse, the Chief Engineer, arrived at Mombasa on 11 December 1895 and work on the railway started in earnest during 1896. Technology and expertise were largely derived from British experience of building secondary

railways (of one metre track gauge) in India. During the six years of construction 31,983 workers were recruited in India. Hazards included drought, fever and frequent derailments after heavy rains. Some 2,493 India workers died during construction (mainly from diseases), and a further 6,454 were invalided. Lions killed 28 Indian workers during the construction of the Tsavo Bridge.

In May 1899, at an altitude of 5,500 feet and some 325 miles through scrub and plains inland from Mombasa, a site named 'Nyrobi' was reached. The line then had to climb steeply to the Rift Valley escarpment, so a railway yard was laid out at this point. Soon afterwards the protectorate Administration set up offices near the railway yard, and from these beginnings Kenya's capital city of Nairobi has since developed. Having climbed 2,000 feet to the eastern escarpment of the Rift Valley, the railway then had to fall 1,500 feet to the valley floor. Initially, equipment was lowered on steel ropes down steeply inclined rail track so that construction could press ahead. The final railway route down the escarpment was completed later.

After climbing to 8,322 feet altitude at Mau Summit on the western side of the Rift Valley, the route descended to the shore of Lake Victoria at around 3,800 feet. The laying of rails finally reached the site of Port Florence (Kisumu) 584 miles from Mombasa in December 1901. The 'official' date of the arrival of the first train was 20 December 1901, just over six years since George Whitehouse had first arrived at Mombasa. Port Florence was named after Whitehouse's wife. However, it was Florence Preston, wife of Ronald Preston the track laying supervisor, who was photographed 'driving the last spike' at the edge of the Lake. George Whitehouse was knighted in 1903.

Call for entries for Channel 4 Archaeological Awards

Entries are now being sought for the Channel 4 Awards, part of the British Archaeological Awards, which are made for various achievements in the field of archaeology. There are three categories for the Channel 4 Awards: broadcast programmes,

non-broadcast films or videos and ICT projects (CD-ROMs, websites or integrated multimedia packages).

Entries may deal with any aspect of archaeology, including industrial archaeology, and may have been made for broadcast, educational, promotional or site-specific purposes. To be eligible they must be British-produced and have been made or broadcast between 1 July 2000 and 30 June 2002. Winners in each of the three categories will be awarded a cash prize of £750. Entries should be submitted by 30 June 2002. The winners will be announced at a presentation ceremony in Liverpool in November 2002.

Further information and entry forms are available from: Cathy Grant, CBA/BUFVC AV Media Working Party, c/o British Universities Film & Video Council, 77 Wells Street, London W1T 3QJ. Tel: 020 7393 1507, Fax: 020 7393 1555, E-mail: cathy@bufvc.ac.uk, or by following the links at <http://www.bufvc.ac.uk/c4awards/>

Rubber works closes

The Leyland & Birmingham rubber works, off Golden Hill Lane in Leyland, Lancashire, has been sold for redevelopment. Some of the buildings have been derelict and deteriorating for some years and about two-thirds of the large site will be redeveloped for housing. Regeneration of this brownfield site will be a major investment for the town.

A Vision for Britain's Inland Navigation Network

The Association of Inland Navigation Authorities (AINA) has launched a new document outlining their vision of waterway developments over the next 30 years. The document identifies 'missing links' on the canal and river network, and key restoration and new build schemes that could further enhance the potential of the nation's waterways for navigation and also deliver substantial economic, environmental and social benefits to rural and urban communities.

The following trunk network enhancements are proposed which would provide broad cross-country navigable links between the estuaries of the rivers Thames, Severn, Humber and Mersey, and with the Wash and the English Channel:

1. The enhancement of the southern section of the Grand Union Canal, Leicester Arm.
2. The lengthening of the Thorne Lock on the Stainforth & Keadby Canal.
3. The full restoration of the Cotswold Canals.
4. The extension of navigation on the Upper River Avon in Warwickshire.
5. The lengthening of the locks on the Calder & Hebble Navigation.
6. The enhancement of the Northampton Arm of the Grand Union Canal.
7. A new broad waterway linking the River Witham with the River Nene.
8. A new broad waterway linking the Grand Union Canal with the River Great Ouse.
9. The full restoration of the Wey & Arun Canal.
10. The extension of the Slough Arm of the Grand Union Canal to link with the River Thames.
11. The Muskham Bypass on the River Trent at Newark.

The above list of proposed projects does not include major projects known to be already proceeding to completion. These include the following projects supported by The Waterways Trust:

- * The Anderton Boat Lift
- * The restoration of the Huddersfield Narrow Canal
- * The Ribble Link
- * The restoration of the Rochdale Canal

AINA also recognises the many waterway restoration projects and proposals around the country, including those projects assessed by the Inland Waterways Advisory Council (IWAAC) as being of national significance. These include the following projects listed by IWAAC as being of high built heritage importance: the Bude Canal; Chesterfield Canal (with Rother Link); Cromford Canal (northern section); Droitwich Canals; Foxton Inclined Plane; Grand Western Canal (tub boat section); Lancaster Canal; Montgomery Canal; Pocklington Canal; Shrewsbury & Newport

Canal; Stour Navigation; Vale of Neath and Swansea Valley Canals; and Worsley Delph and Underground Canals.

In March it was announced that £500 million could be invested in an ambitious programme for Britain's canals. At the same time, work on the famous Anderton Boat Lift in Cheshire draws to a close after a lengthy and expensive refurbishment. This nineteenth-century technology contrasts with the new twenty-first century Falkirk Wheel in Scotland, the world's first rotating boat lift.

Cruise of the steam tug *Nadbóra*

In Wrocław, the steam tug *Nadbóra* is the base for a group of industrial historians. The tug was built in Holland in 1949, and in May and June 2002 it will be returning to Rotterdam - helped by a push-tug as *Nadbóra*'s boiler is no longer serviceable. One reason for the trip is to promote European industrial heritage, particularly in Poland and that associated with European inland waterways. They will be stopping at various places en route and holding a variety of events related to the theme.

Mike Clarke

Kew Bridge celebrates the Jubilee

In jointly marking HM The Queen's Golden Jubilee year and Museums Month (4 May – 4 June), the Kew Bridge Steam Museum is mounting a special exhibition titled 'A Royal Occasion', which will celebrate royal links with London's water from the time of Richard II to Elizabeth II. Using photographs and artefacts, the exhibition focuses on the sometimes lavish royal openings of the capital's water resources, such as the inauguration of Thames Water's Ring Main by the Queen in 1984. The museum is at Green Dragon Lane, Brentford, 020 8568 4757.

A London viaduct poses a problem

Proposals for the £600 million East London Line extension and redevelopment of the 10-acre Bishopsgate goods yard near the City have run up against moves to have the 160-year-old Braithwaite

Viaduct listed. Even the Prince of Wales became concerned about the future of this railway structure, said to be one of the earliest examples of railway engineering in the world, but so far it has only been granted a Grade II listing. Less than 300 yards survives of its original mile length and that, according to Culture Secretary Tessa Jowell, is one reason for giving it the lowest grade.

Swanage reunited

The Swanage branch line in Dorset has been rejoined to the main line system exactly 30 years since British Rail closed it and ripped up 6½ miles of the track with indecent haste. Ever since, volunteers of the Swanage Railway have worked to relay the track.

Worcestershire milestones

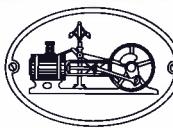
A conference has been arranged at 7.30pm on 28 May, at the Avoncroft Museum of Historic Buildings, Bromsgrove. Supported by Worcs CC Highways Partnership and other county bodies, the Milestone Society aims to raise awareness of the importance of road and highway heritage, giving examples of best practice in recording, conserving and listing of historic milestones. Fee: £5. SAE for details from Terry Keegan, The Oxleys, Tenbury Road, Clows Top, Kidderminster, Worcs DY14 9HE.

Workhouse reopens

The Workhouse at Southwell, Nottinghamshire, has been renovated and reopened by the National Trust. It was established by Rev JT Becher in 1824 and became a model followed elsewhere in the country. This brick building is the least altered workhouse of its type, and was acquired by the National Trust in 1997.

Beamish steams an Elephant

Engineers have constructed a working replica of the 'Steam Elephant', an early nineteenth century locomotive that worked at Wallsend, North Tyneside, until 1840. The discovery of a painting led to the three-year project, culminating in the steaming of a full-size replica at the Beamish Museum, Co Durham.



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Professor Sir Alec Skempton

Former AIA member Prof Sir Alec Skempton, who died last year, has been remembered in a new biography written by his daughter Judith Niechcial. One of the most eminent engineers of the twentieth century, Alec Skempton was truly an influential figure in the discipline of soil mechanics. In the late 1940s he was instrumental in developing the subject, and formed the first university department of soil mechanics at Imperial College, London. Over the years, research, papers and books flowed, as did the accolades and recognition. This book also concerns the man and how he viewed life and approached challenges. It illustrates his contribution to engineering knowledge, what influences formed him and how his ideas developed. *A Particle of Clay – The Biography of Alec Skempton, Civil Engineer*, by Judith Niechcial, is published by Whittles Publishing, Caithness. ISBN 1 870325 84 2, at c£35.

Alec Skempton was also one of the editors of the *Biographical*

dictionary of civil engineers in Great Britain and Ireland 1500-1830 (Thomas Telford Publishing, 2002). Long-standing members of the AIA will recall that he gave the first Rolt Memorial Lecture at the Durham conference in 1975. This was published as 'The Engineers of Sunderland Harbour 1718-1817' in *I/A Review*, vol.1, no.2, Spring 1977, 103-125.

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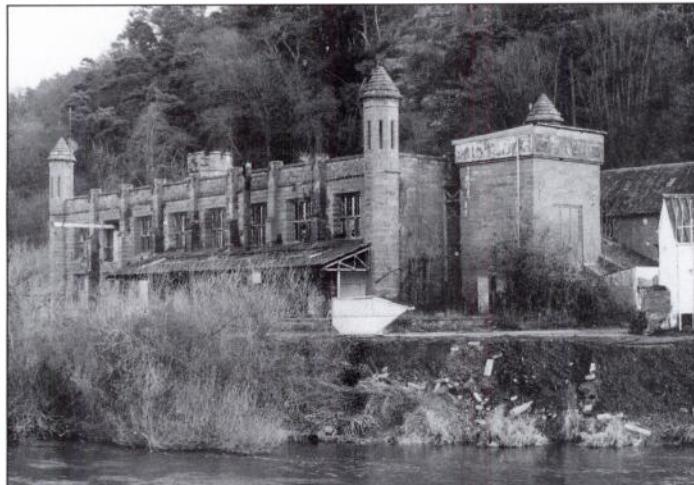
For further details, contact the Editor.

West Midlands

There is not much smoke to be seen coming from the surviving chimneys in the carpet town of Kidderminster these days. The plumes of steam which could be seen from miles around were more likely, in winter, to have been coming from the sugar factory. This winter's 'campaign', however, was the last, as the works closed in January after more than 70 years of production. A number of such factories were built in the 1920s, partly to alleviate rural unemployment. Local residents will probably not shed too many tears, as the start of each campaign means a succession of ever larger lorries trundling to and from the factory from quite a large catchment area with their loads of sugar beet. Like the surviving sugar factory at Allscott, near Wellington, Shropshire – also built in the 1920s – the works was once rail connected, though the sidings at Foley, on what is now the preserved Severn Valley railway, have not been used since 1980.

At the northern end of the aforementioned railway lies Bridgnorth, itself once a satellite town for Kidderminster with a couple of carpet factories of its own. There are not many industrial remains to be found here, though the interesting and long-derelict Pendlestone Mill, more usually known as Fort Pendlestone, does survive just below the high cliffs beside the A442 north of the town centre, where the River Wye joins the Severn. Town mills on the site are recorded as having been given to the corporation by Henry III as long ago as 1227, and there was an iron forge operating here from 1760 to c1795. The current structure, in Gothic style, dates from 1845 and had a waterwheel at the north end, later replaced by a turbine, and a steam engine at the southern end. Current plans to convert the building to housing have been rejected but, hopefully, whatever becomes of the site, its redevelopment will allow a thorough archaeological investigation to take place.

Further upstream the town of Shrewsbury had a nasty shock just before Christmas, with the announcement that the Perkins factory is to close, with the loss of a substantial number of jobs. Prior to Perkins, the factory had been part of Rolls Royce from the 1950s, though it was established during the First



Fort Pendlestone, Bridgnorth – a Gothic mill complex dating from the 1840s which may be converted into housing

Photo: John Powell

World War and from 1917 became the Sentinel Wagonworks Co Ltd. Many distinctive looking railway shunting locomotives – both steam and diesel – were produced here, a number of which survive, though it is for its magnificent steam lorries that the works is best remembered. They were a familiar sight when out on test runs in the Shropshire Hills and surrounding areas in the 1920s and 1930s, and the later models with pneumatic tyres and modern-looking cabs had a remarkable turn of speed. Fortunately, many are lovingly restored and will survive in preservation as a fitting tribute to the skills of the Shrewsbury men who made them. The works, with its impressive entrance, seems likely to survive and be converted for other industrial purposes.

John Powell

East Midlands

Clay Cross was a cluster of houses on the Derby to Sheffield turnpike road in 1837, when George Stephenson discovered coal and iron ore during the construction of a tunnel on the North Midland Railway. He founded the Clay Cross Company, which became an extensive coal mining, quarrying and iron making business, and led to the growth of a sizeable town. Coal mining and ironmaking finished a long time ago, but the extensive site above the north end of the railway tunnel continued until 2000 as Biwater Industries, producing spun iron water pipes and castings for associated valves and fittings. The end came suddenly and unexpectedly, when the company

was sold to the French multinational Saint-Gobain, who already own another historic former ironmaking site at Stanton in Derbyshire. The take-over was simply to eliminate a competitor, and the closure of Clay Cross was announced 15 minutes later.

Members of Derbyshire Archaeological Society visited the site a year after closure, where a skeleton staff remain dismantling and scrapping the plant. Several nineteenth-century buildings survive, though in the main the brick walls are hidden by modern external cladding. None of these are of any particular architectural or historical value, but it is a reminder to industrial archaeologists to look behind the façade before coming to conclusions about date. A couple of short stretches of 2-foot gauge railway are a reminder that the Clay Cross Company ran the Ashover Light Railway, which linked the

works to quarries on the fringe of the Peak District. The base of a gasholder used as a cooling water reservoir is evidence of the coal mines, coke ovens and blast furnaces which once shared the site with the surviving foundry buildings.

The town of Long Eaton was also a tiny village in the first half of the nineteenth century. Here the trigger for growth came from the lace industry which expanded out of Nottingham with the advent of the Leavers machine which made mass production of lace in a factory possible. There are still a number of lace manufacturers in the town, but by 2001 only J. R. Granger & Sons were using the original Leavers machines. They have now closed down, marking the end of an era for so-called Nottingham lace (made in Derbyshire).

Back in 1986 the Peak District Mines Historical Society bought the 'White Hillocks' fluorspar treatment plant at Gregory Mine in Ashover. This dates from the early 1940s and represents an excellent example of the type of small-scale mineral plant which used to be dotted all around Derbyshire. The site is not suitable for public access and so the society has investigated a number of options for moving and re-erecting the plant as a working exhibit. None of these have come to fruition, so it has become necessary to put the plant into storage. A full archaeological record of the plant has been made including photographs, video recording, scale drawings and sketches. Solid and liquid flow diagrams and electrical layouts were drawn out. Every item was catalogued and labelled before anything was dismantled. During



Work in progress: rebuilding the Grand Union Canal bridge at Canal Street, Aylestone, Leicester

Photo: David Lyne

1999 and 2000 the plant was dismantled and smaller components put into crates and onto pallets. A secure and weatherproof storage site was finally found – underground at Middleton Limestone Mine – an appropriate home for the kit of parts which will hopefully re-emerge into the light of day for public display at a future date.

Dick Thomson, President and founder member of the L.I.H.S., has for some years been a member of the Volunteers that meet on a regular basis at the Leicester Museum of Technology to assist with the repair, rebuild and renovation of a selection of the Museum assets. The team is led by a full time Museum Officer, and by passing on their lifelong skills and providing a source of free labour and expertise they ensure that objects which might otherwise languish in the museum store are brought back to life for the benefit of visitors, and overall costs are reduced.

Over the past years, Dick has been a stalwart member of this band, responsible, amongst other things, for the cladding of the main cylinders of the first Gimson beam engines to be re-steamed, much of the repairs and rebuild of the wood framed bodywork of a 1930s coal-fired Fish & Chip van and the complete rebuild of a flanged wheel small gauge wagon which may have begun its life in a northern coal field.

The 1930s Bedford Van bears a Leicester registration plate, CBC 707, because it was supplied by Leicester-based dealer Batchelor Bowles, with bodywork by Goddards

of Leicester is finished in the livery of the last owner, Carroll Bros. of Worksop. It is complete with coal-fired frying range and all the equipment required to serve up fresh fried fish and chips. An interesting 'safety' feature was that the brake servo system was disconnected, so that the vehicle could not be brought to a sudden halt, as this would have allowed the hot fat to swish out of the pan, engulfing the driver and the person with whom it collided! The wood framed and bodied wagon was recreated by Dick from the dimensions of the remains, but unfortunately had to be replaced with softwood, although some of the original oak frame was retained.

British Waterways, in association with Leicester City Council and contractors Galliford, are rebuilding one of the original bridges in the City, over the Grand Union Canal, at Canal Street, Aylestone, using modern construction techniques but retaining interesting features such as the original bricks with rope marks etc. The bridge provides access to a well-used sports ground and a long detour was necessary with the bridge out of commission. It was thought to be in a dangerous state, but during dismantling operations it was found that at some time the structure had been reinforced with old tramway rails, so it was probably stronger than it appeared, although considerable cracks had appeared in the abutments.

Ian Mitchell & David Lyne

South East England

It is almost two years since we have carried a report from South East England, though reports of happenings have been few and far between. Because of this, some of the information here may seem rather dated.

The Surrey Industrial History Group (SIHG) have been continuing their Second World War defences survey with results going to the Defence of Britain archive. Help was also given to the makers of the BBC 2 television series 'Invasion'. The programme makers particularly focussed on the area around the ruins of Waverley Abbey just outside Farnham. Here the defences are particularly well preserved and present an almost complete picture of part of the GHQ line. This fact has been recognised by English Heritage who plan to make it one of the first WW2 defence sites to receive statutory protection. The presentation of SIHG's annual conservation award for 2001 to Brooklands Museum is reported elsewhere in this issue of IA News.

In Kent, thanks to a report from Jim Passton, we learn that a number of sites have been lost to redevelopment. In the Medway Towns, the factory buildings of Short Bros. Seaplane works on Rochester Esplanade have been completely demolished to make way for housing. The canal basin at the Strood end of the Thames & Medway Canal has been filled and is now also covered with housing, while the lock gates are derelict. The site originally occupied by Aveling & Porter, the steam roller manufacturers, and latterly occupied by Wingets, has, apart from the office block, been cleared and used by Medway Council, largely as a car park. Rochester airfield has had a temporary reprieve, largely due to pressure from the local populace. The airfield dates from 1934, and is where Short Bros. assembled the Stirling bomber. Medway Council had plans for redevelopment. Part of Hayle Mill, Tovil, a paper mill site dating from the early nineteenth century, appears destined for redevelopment. St. Mildred's Tannery at Canterbury closed in December 2000 to become a prime development site located so near the city centre.

On a more positive note, it is confirmed that some of the aircraft sheds put up by the Aero Club at

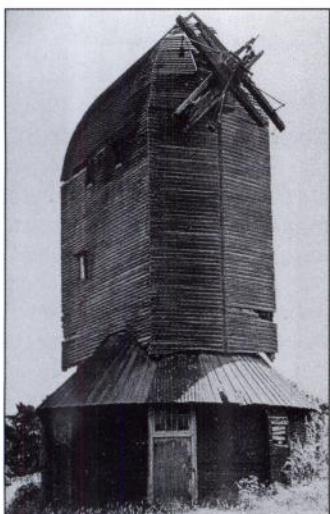
Eastchurch in 1910 still survive. There is at present no public access as they are in the grounds of Eastchurch Prison. In May 1999 a group led by the Medway Branch of the Royal Aeronautical Society placed a stone adjacent to Muswell Manor, Leysdown, to commemorate the first recorded flight by a Briton, Moore-Brabazon in May 1909 from the nearby Shellness flying field of the Aero Club. Some re-use of industrial buildings is also occurring. At Canterbury, the St Dunstan's Maltings have been converted to living accommodation, while Pickford's late nineteenth century warehouse opposite Canterbury West railway station has also been converted. At Faversham, Riddell's malthouses are now a Tesco store, while the brewery has been redeveloped with the integrity of the buildings maintained. The Abbey Brewery at West Malling has also been converted to housing. This makes a change from demolition which has been the fate of all of Maidstone's brewery buildings.

The last cement works on the Medway, the former Rugby Portland works at Halling have closed. Most of the cement works sites have been almost completely obliterated over the years, only Swanscombe, Northfleet and Halling remained standing at the beginning of the twenty-first century. Aspin's kiln still exists at Northfleet, but since the closure of Blue Circle's Cement Heritage Centre there is no public access. There are, however, substantial remains of Francis & Co's kiln base at Cliffe. The remains of Peters works at Wouldham were also set to disappear in 2001 if plans to redevelop the area for housing went ahead. These works had closed many years previously, in 1934.

Over the border in Sussex, following dressing of some of the stones, Jill Windmill was producing flour in May 2000 in order to train some new recruits to the craft from the newly restored Lowfield Heath Mill. An observation platform has been set up consisting of a millstone and plates with drawings by Ron Martin showing the seven windmills and other points of interest visible from Jill's lofty site. Interestingly, the Lowfield mill started off at Lowfield Heath in Surrey, which became Sussex when the boundaries around Gatwick Airport changed. The mill was in a poor state and the trust formed to restore it was not allowed



Coal and chips: Leicester Museum of Technology's restored 1930s coal-fired Fish and Chip van
Photo: David Lyne



Lowfield Heath windmill in a sorry state before being dismantled and restored at a new site at Charlwood in Surrey

to do so on the original site. So the mill was dismantled moved and re-erected at Charlwood back in Surrey.

During 2001, major work was undertaken at Nutley windmill to repair and strengthen the breast beam. It had been noted for some time, that the breast timbers tilted forward under the weight of the windshaft, brakewheel and sweeps. This work is still ongoing.

Members of the Sussex Industrial Archaeology Society celebrated the twenty-first anniversary of the restoration of Coultershaw Beam Pump during July 2001. However, the group are now involved in work on a number of other pumps. The county archaeologist called in Sussex Mills Group members to assist in excavation and research at a previously unknown water wheel driven pump site at Dunford House just south of Midhurst. This was driven by a breast shot water wheel with cast iron sides rendered with cement. At Swanbourne another pumphouse was declared worthy of restoration by the Society back in 1973 when members inspected the remains. This building was officially opened by Lord Arundel on 21 June 2001, marking the completion of a 28-year restoration programme.

Plans are now well in hand for the proposed Historic Ironworking Centre at Horam Manor. This will consist of a full sized replica of a typical sixteenth-century Wealden blast furnace and associated buildings and equipment. Supporting this will be an exhibition of coppicing and charcoal burning, ore mining and a primitive bloomery

furnace. Other rural industries, including brick making and lime burning, may be added later. Funding is being sought from a variety of sources including the Landfill Tax Credit scheme, though an initial approach to the Heritage Lottery Fund has been unsuccessful.

Chris Shephard

Scotland

Without doubt, the most important event of the last year has been the inscription of New Lanark onto the World Heritage list, which occurred at the meeting of UNESCO's World Heritage Committee in Helsinki on 14 December 2001. It must now be hoped that the Forth Bridge will be the next Scottish candidate to be proposed for World Heritage status, and it is something of relief to be able to report that the painting and maintenance of the bridge is to resume shortly as part of a long-term £70 million project.

Elsewhere in Scotland, industrial heritage has fared less well in the last twelve months. In Aberdeen, Richards plc (makers of synthetic yarns) has called in the receivers, citing the failure to gain planning permission to demolish and redevelop their city-centre site at Broadford Works as the main reason for the company's financial difficulties. The site includes some fine mill buildings, the earliest of which dates from 1808 (see cover photograph). The future of this and the other buildings that make up the works remain in doubt. Meanwhile, Aberdeen City Council has declared the Wellington Suspension Bridge (built in 1831) to be unsafe for pedestrian traffic, and has closed it in the hope of obtaining funding for its refurbishment. As was the case some years ago with the Carron Bridge (on Speyside), it seems that the local authority's engineers have little experience of traditional forms of iron, and greatly mistrust the load-bearing properties of the bridge.

Further down the coast in Montrose, it appears that plans to demolish Lochside Distillery (formerly Deuchar's Brewery) at the north end of the town will go ahead, whilst much of Paton's huge Chapel Works will also disappear in a redevelopment project. In addition, it is probable that Owen William's striking road bridge over the South Esk will have to be replaced in the

coming years. Meanwhile, in Alloa, attempts to save McLay's Thistle Brewery seem likely to be unsuccessful, and Clackmannanshire has suffered yet another loss with the impending closure of Kilbagie Paper Mills. Not far away, the last deep coal mine at Longannet has closed and filled Scotland's only surviving vertical shaft at Castlebridge.

In the west of Scotland, major redevelopment projects along the banks of the Clyde will soon result in the demolition of the huge Meadowside Granaries at Whiteinch in Glasgow, whilst the much-lauded Templeton's Business Centre is to be closed and much of the complex converted into flatted dwellings. Not far away, the recent closure of the Great Eastern Hotel may result in the destruction of the building, if conversion proposals fall through. Built in 1848 as Alexander's Cotton Mill with an iron frame and wrought-iron roof, its upper floors are a very early example of the use of mass concrete and corrugated-iron shuttering. The mill was converted into a hotel for working men in 1907, and subsequently became a hostel for the homeless, retaining many of its original wooden cubicles.

On a more positive note, following the completion of its work at Stanley Mills, the Phoenix Trust has turned its attention to the Domestic Finishing Mill at Anchor Mills in Paisley. However, perhaps the most exciting longer-term large-scale project in Scotland has been the refurbishment and reinstatement of the Forth & Clyde and the Union Canals, and the construction of the Millennium Link's Falkirk Wheel, which is due to be opened in April 2002.

In the museums world, the National Museums of Scotland director, Mark Jones, has moved south to take over at the V&A in London, and has been replaced by Gordon Rintoul. Amongst many developments at the National Museums, perhaps the most important has been the opening of the Museum of Country Life at Kittochside near East Kilbride, in partnership with the National Trust for Scotland. Another important project will be the opening of a telecommunications gallery, with sponsorship from BT.

As for the industrial museums, the battle continues to save the

Carrick/City of Adelaide at the Scottish Maritime Museum in Irvine. East Lothian Council are investigating ways of injecting new life into the Prestongrange Industrial Museum, and after all the uncertainties of last year, the Scottish Mining Museum at Newtongrange appears to be thriving.

Readers of this column last year will recall that the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS) was included within a review of public bodies in Scotland which was ominously referred to by the press as the 'Bonfire of the Quangos'. The resulting findings concluded that RCAHMS should be retained as an independent body, but that some changes were desirable, including the ending of its royal warrant and a change of name. The search for a new name continues. Industrial survey, meanwhile, continued throughout the year, and in addition to the impending book on the Scottish coal industry, broadsheets will be published this year on the Forth & Clyde and the Union Canals, and on the Mallaig extension of the West Highland Railway.

Historic Scotland has also had a busy year, important highlights being New Lanark's World Heritage application, and the production of a technical advice note on 'Scottish iron structures'. The Ancient Monuments division is actively scheduling industrial sites and recent recipients of grants have included Charlestown Limekilns in Fife. Historic Scotland is also reviewing its strategy for the scheduling of industrial monuments.

Finally, AIA members will be aware that the 2002 annual conference will be in Scotland, and we therefore very much look forward to seeing you in Edinburgh. This year's conference differs slightly because the pre-conference seminar on Friday 6 September is being sponsored by Historic Scotland, and has a theme of 'Industrial Heritage and National Identity'. So far, we have attracted a wide range of speakers from home and abroad, and we hope to see as many of you as possible on the day.

Miles Oglethorpe



SCOTTISH CONSERVATION BUREAU 2002 INTERNSHIP PROGRAMME

ANNUAL STIPEND of £11,000 with £1,500 study/travel allowance

Historic Scotland, through the Scottish Conservation Bureau, is inviting applications for 6 twelve-month internships, including the one detailed below. The Bureau's internship programme has been developed over 16 years, with the aim of increasing the fund of conservation skills in Scotland, and provides recent conservation graduates with a broad base of experience.

INTERNSHIP IN CONSERVATION OF INDUSTRIAL ENGINEERING (Ref 02/F)

A one-year internship is offered with Heritage Engineering, a Glasgow-based company providing a broad spectrum of engineering conservation and restoration; recent projects include the conservation/rebuild of the world's oldest working steam engine, architectural metalwork, a light mechanism, a steamship, a windmill and a waterwheel in Norway. The internship will be supervised by Jim Mitchell, Director of Engineering, and there will also be opportunities for external placements including working in one of the UK's last green-sand iron foundries.

Applicants should recently have completed a relevant recognised conservation training course, but alternative training and experience may be considered; a further key factor in the selection process is the applicant's commitment to working in Scotland. Interviews for short-listed applicants will be held between 24 June and 2 July; it is anticipated that the internship will start at the end of October.

Applicants must apply by letter to the address below, quoting reference 02/F, and enclosing a Curriculum Vitæ with the names and addresses of two professional referees; applicants must also provide a separate 200-300 word statement of their interest in an Historic Scotland internship.

The Conservation Bureau Manager

Scottish Conservation Bureau, Historic Scotland, Longmore House, Salisbury Place, Edinburgh EH9 1SH
Telephone +44 (0)131 668 8668 • Fax +44 (0)131 668 8669 • Email: ewen.walker@scotland.gov.uk

CLOSING DATE FOR APPLICATIONS – WEDNESDAY 5 JUNE 2002

For further information you may contact Ewen Walker at the Scottish Conservation Bureau.

ERIC DE MARÉ 1910 – 2002

Industrial archaeologists may have missed the news and the obituaries which followed the death of Eric de Maré in January this year. He died at his home in Gloucestershire aged 91.

It would be wrong for adherents of 'Industrial Archaeology' in all its forms not to mark the passing of this great photographer. At a very early moment after the last war his photographs of structures and the landscapes relating to our industrial past began to penetrate and change the way these things were regarded. He was an architect, so it could be said these images expressed the aesthetic of the Functional Tradition, indeed Eric invented the pictorial expression of this almost single-handed.

To me as a working woman on narrow canals and passing through these many changing shapes and

textures of his photographs came as a revelation of what I already knew and felt, but had not yet received the visual statement he gave to them. Many must have felt as I did about his work.

I had already met Eric by about 1946 through involvement with the Inland Waterways Association in London, which engaged his enthusiasm and support, but shortly after this he and Vanessa, his first wife, provided an unusual encounter. He had got hold of a small wartime pontoon with side paddlewheels, *Pyrrha*, and on this they journeyed for many months. The fruits of this journey came with an entire volume of the *Architectural Review* which in 1950 was published as a book. In 1957 came the *Functional Tradition* with J.M. Richards' text and Eric's pictures. This achieved wide notice

and set the seal on the message.

Eric had many talents and interests and as editor of the *Architects Journal* and with his writings and journalism he had considerable influence on the direction of architectural thinking. He published many books. His parents were Swedish and he travelled on and knew the Götaland Canal. Rather surprisingly he knew and loved the work of the Victorian illustrators and wrote on this. Perhaps most remarkably his instructional volumes with Penguin Books, *Photography* and *Colour Photography*, remained standard works for decades.

An enormous benefit to us remains, other than his published books and articles. Eric had negotiated with what was then the Royal Commission on Historical Monuments to ensure that a fully

identified collection of his many fine prints went to their collection. These are now all there, fully catalogued and accessible – a huge collection of inestimable benefit to historians and aesthetes alike.

He leaves a marvellous legacy. Influential we pray not least to the new Waterway Trust at work with British Waterways, to restore and reinvigorate the canals. They should remember his relevation of their beauty and fitness for use.

His first wife Vanessa Burrage died in 1972. He later married Edith Verity with whom he shared family and friends and creative life in Gloucestershire, while Edith made wonderful gardens for their two homes. We shall miss Eric's gentle dreamy and unpredictable but steely self.

Sonia Rolt

PUBLICATIONS

Local Society and other periodicals received

Abstracts will appear in *Industrial Archaeology Review*.

- BW Monthly**, October, November & December 2001, January, February & March 2002
- BIAGscope**, 50-53, Summer 2001 – Spring 2002
- BIAS Bulletin**, 104, August 2001
- Brewery History Society Newsletter**, 105 & 106, Autumn 2001 & Winter 2002
- British & Irish Archaeological Bibliography**, 5/2 October 2001.
- Conservation Bulletin**, 41, September 2001
- Cumbria Industrial History Society Bulletin**, 50, August 2001
- Dorset Industrial Archaeology Society Newsletter**, 1, September 2001
- GLIAS Newsletter**, 195-197, August, October & December 2001, 198, February 2002
- Greenwich Industrial History**, 4/4 - 6, July - November 2001, 5/1 January 2002
- ICOMOS News**, 11/1 & 2, March & October 2001
- Industrial Heritage**, 27/2 - 27/4, Summer, Autumn & Winter 2001
- Journal of the Norfolk Industrial Archaeology Society**, 7/1, 2001
- Lancashire History Quarterly**, 5/3 & 4, September & December 2001
- Manchester Region Industrial Archaeology Society Newsletter**, 97, November 2001
- Modern Records Centre Report**, 2000-2001
- The Mundling Stick**, 7/3 & 4, Autumn & Winter 2001
- National Trust Annual Archaeological Review**, 9, 2000-2001
- Nottinghamshire Industrial Archaeology Society Journal**, 26/2 & 27/1, October 2001 & March 2002
- PHEW Newsletter**, 92, December 2001
- Patrimoine de l'industrie**, 6, 2001
- Post-Medieval Archaeology**, 15, 2001
- SAVE Britain's Heritage Newsletter**, April 2001
- Scottish Industrial Heritage Society Bulletin**, 17 - 21, July 2001 - March 2002
- Society for Industrial Archeology Journal (IA) (USA)**, 27/1, 2001
- Somerset Industrial Archaeological Society Bulletin**, 88, December 2001
- Surrey Industrial History Group Newsletter**, 122 - 5, July 2001 - January 2002
- Sussex Industrial History**, 31, 2001
- TICCIH Bulletin**, 13 & 14, Summer & Autumn 2001, 15, 2002
- Trevithick Trust Newsletter**, 21, January 2002
- Triple News (Kempton Great Engines Trust)**, 19, Winter 2001-2
- Warwickshire Industrial Archaeology Society Newsletter**, 1 - 5, December 2000 - 2001
- WaterWords**, (news from Hereford Waterworks Museum), Spring & Summer 2001, Winter 2001/2002
- Yorkshire Archaeological Society, Industrial History Section Newsletter**, 54, Autumn 2001
- Yorkshire History Quarterly**, 7/1, 2, 3, August & November 2001, February 2002

Short Notices

1906: Every Man For Himself! ed by Maisie Robson, Eynsford Hill Press, 2002. 64 pp. ISBN 0 9542318 0 5. £3.99 + £1.00 p&p from Eynsford Hill Press, 14 New Street, Wombwell, South Yorkshire S73 0AE.

Between 1906 and 1907 Arthur Mee edited The Harmsworth Self-Educator, a fortnightly magazine which covered everything under the sun, from teach yourself Latin, to the origins of the universe, to more practical matters such as how to start a shop on £50 capital and whether ladies should work outside the home. The lower middle class and 'respectable' working class of Edwardian England had an unquenchable desire to improve their lot in life. This edited selection is a fascinating insight into Edwardian life and struggles. In the authentic words of the original, it describes working conditions, wages and apprenticeships. This is where to learn how to keep a horse and van, use a telephone or become a sanitary inspector, servant, or bedstead maker. This is a must for anyone with a butcher's boy, barge-builder or butler in their family tree!

Salisbury's Water Supply 1853-2000, by John Illston, South Wiltshire IA Society Historical Monograph 16, 2002. 16 pp, 17 illus. ISBN 0 906195 16 0. £2.50 + 40p p&p, available from Doug Jackson, 2 Byways Road, Salisbury, Wiltshire SP1 2QS.

This is the sixteenth historical monograph to be published since 1977 by the South Wiltshire IA Society. Salisbury's water supply was the responsibility of the City Council from 1853 until 1967 when the South Wiltshire Water Board took over, followed in 1974 by the Wessex Water Authority (privatised in 1989). All Salisbury's water has come from boreholes and wells in the natural chalk and pumped to hilltop service reservoirs. The first main well was pumped by a pair of beam engines but later wells used gas and diesel engines. From the 1930s to the 1970s there was an increasing demand for water as Salisbury's housing expanded, so new sources were found and larger reservoirs built. A sequence of eight photographs records the building of a large covered reservoir for 1m gallons at Camp Hill in 1933-4. A map locates the water sources and reservoirs with their connecting mains. The well-produced monograph concludes with brief notes on the distribution system and water quality.

Books Received

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

Images of Cornish Tin, by Alan Stoyel & Peter Williams, Landmark Publishing & English Heritage, 2001. 192 pp, 262 illus, most in colour. ISBN 1 84306 020 5. £29.50.

This is the best book on tin mining to appear for a long time, fully illustrated in colour to a very high standard. A large part records the late-twentieth century mining industry, which has now ceased. There are striking photographs above and below ground at South Crofty, recorded by RCHME just before this last tin mine closed in 1998. Tin processing is covered, ranging in size from large modern plant down to the water-powered works at Tolgus Tin or the King Edward Mine, recently opened as a museum near Camborne, and both managed by the Trevithick Trust. Tin mining is more than just engine houses and the authors' personal choice widens to take in chapels, housing, tombstones and various miscellaneous artefacts. Recent photographs are interspersed with reproductions of nineteenth and twentieth-century paintings and engravings. Essential for the bookshelf of anyone with an interest in mining and the unique Cornish landscape.

Industrial Heritage as Force in the Democratic Society, Stockholm: National Heritage Board, 2001. 108 pp, illus. ISBN 91 7209 222 X.

This book is a collection of papers delivered at a conference held in May 2001 at Bergslagen in Sweden. The conference was arranged during the period of the Swedish presidency of the EU and presenters of papers came from many European nations. The book gives a broad exposé of different attitudes and concerns, problems and successes, regarding the possible role of cultural heritage in future society.

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PUBLICATIONS

The Landscape Trilogy: the autobiography of L.T.C. Rolt, by L.T.C. Rolt. Sutton, 2002. 230 + 176 + 246 pp, illus. ISBN 0 7509 2478 0. £25.00.

Here for the first time in this special one-volume facsimile edition of the three originals, is the complete life story of L.T.C. Rolt, one of the pioneers of canal and railway preservation and the first to give literary shape to the subjects of the industrial revolution. Rolt reveals an English countryside populated not only by men but also by the machines with which he was fascinated. He was a founder and first president of the Association for Industrial Archaeology. His wife Sonia contributes an introduction to this volume.

Portland Basin and the archaeology of the canal warehouse, by Michael Nevell & John Walker, Tameside MBC, 2001. 86 pp, 66 illus. ISBN 1 871 324 254.

This book is the first volume of a series on the archaeology of Tameside. The Portland Basin warehouse was built beside the Ashton Canal in Ashton-under-Lyne in 1834. The warehouse had a number of unusual design features which are described in this guide. The building, which has recently been partly reconstructed, is now a museum of social and industrial history. The warehouse is set in its regional context by comparison with other canal warehouses in the area which are listed in a gazetteer.

Old Cinemas, by Allen Eyles, Shire Publications, 2001. 32 pp, 59 illus. ISBN 0 7478 0488 5. £3.50.

No archaeology of the twentieth century is complete without cinemas, of which around 160 are listed buildings. Public filming in England began in 1896 and was soon followed by the development of 'electric palaces'. The 1920s saw a growth of cinema building, and their popularity grew further with the introduction of talkies. Architecture of the 1930s was in the very distinctive Modern Style. The book is well illustrated with numerous photographs depicting exteriors and luxurious decorated interiors of all periods. Examples of open or former cinemas to visit are listed by counties.

100 years of business in Stafford, 1900 - 2000, compiled by Staffordshire Industrial Archaeology Society. 2001. 112 pp, illus. No ISBN.

This survey was carried out by members of the Staffordshire IA Society to mark the Millennium. It aimed to include all businesses in Stafford which had been trading under the same name, or at the same site since 1900. The survey also includes public services and amenities, including hotels, pubs, prisons etc. The entries are listed and supported by illustrations, plans or map extracts.

South Wales Collieries, Volume One, by David Owen, Tempus Publishing, 2001. 128 pp, 206 illus. ISBN 0 7524 2364 9. £10.99.

The South Wales Coalfield was at one time the largest and most productive in Britain, and the book's three sections cover the Cynon, Rhondda and Ely valleys. This account traces the history of the past two centuries with illustrations of the collieries, housing and the miners at work and in rescue teams at times of disaster. There are detailed captions to the many photographs covering the period from the nineteenth century to 1990s views of Tower Colliery.

South Yorkshire Collieries, by John Goodchild, Tempus Publishing, 2001. 128 pp, 198 illus. ISBN 0 7524 2148 4. £10.99.

A volume in the 'Images of England' series, the South Yorkshire Coalfield is shown mostly in illustrations of collieries, miners and their housing. Underground scenes, old engravings and contemporary reports of accidents all give the flavour of harsh working conditions. There are three sections: Before the Railway, when water transport was important; the Railway Age, when output increased as markets were opened up as far as London and the south of England; and a final section Around Doncaster. The illustrations are significant because little has survived the decline of the coalfield in recent years. This is a companion volume to the author's West Yorkshire Coalfield.

The South Yorkshire Coalfield: a history and development, by Alan Hill, Tempus Publishing, 2001. 256 pp, illus. ISBN 0 7524 1747 9. £17.99.

This coalfield covered a huge area from Barnsley to Sheffield and beyond and held some of the richest seams in England. The development of the coalfield is traced in phases, the depth of seams worked becoming greater as technology developed. A large part of the coalfield has been closed leaving few remains, opencast sites and an array of villages and small towns that once relied upon the mines for their very existence. Chapters cover the geology, the mining companies and their operations before and after Nationalisation and a further seven chapters cover various periods of mining from pre-1850 to date, wherein individual collieries are described in order of their original shaft sinking dates. A bibliography and glossary of terms are provided.

The Victorian Hospital, by Lavinia Mitton, Shire Publications, 2001. 32 pp, 61 illus. ISBN 0 7478 0487 7. £3.50.

Hospitals are significant monuments of the industrial period, just as factories, workers' houses or chapels. Hospitals in the early nineteenth century were 'gateways to death' where the chances of infection almost guaranteed. Something had to change and the book describes the massive expansion of hospitals in the Victorian period, with changes in surgery and nursing reflected in their design. Sections are given to voluntary hospitals, specialist and cottage hospitals, poor law infirmaries and hospitals for infectious diseases. There are illustrations of hospital types around the country. A final note comments on their fate today: some survive, others have been demolished or converted to housing.

The Yorkshire Ouse Navigation, by Mike Taylor, Tempus Publishing, 2002. 128 pp, 206 illus. ISBN 0 7524 2369 X. £12.00.

A collection of fascinating photographs with informative captions which traces the Ouse Navigation from Hull Docks to Goole, Selby, York and above. The historic waterway was the responsibility of York City from 1462 until it was passed to British Waterways in 1989, although the lower ten miles from Hook had been taken over by the influential Aire & Calder Navigation in 1884. Barges, inland and sea-going vessels, tugs and shipbuilding along the banks are all covered. The Hook railway swing bridge suffered damage on several occasions, one striking picture shows a motor coaster jammed underneath after missing the opened section!

West Shropshire Mining Fields, by Ivor J. Brown, Tempus Publishing, 2001. 128 pp, 228 illus. ISBN 0 7524 2363 0. £10.99.

Mining in the district has a long history dating back to the Romans, although this book mainly covers the relics of nineteenth and twentieth century workings. Mines for lead, copper, barytes and coal, some quarries and even peat workings are all described. A wealth of information is used in combination with a mixture of period and more recent photographs. Good coverage is given to the famous Snailbeach Mine, once the richest lead producer in Shropshire with its own narrow gauge railway, where in later years the dumps were reworked for spar and barytes. There are photographs of engine houses, either derelict, converted to other uses or conserved. An index lists the mines and their grid references, and there is a bibliography.

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11 MAY 2002**MILESTONE SOCIETY
SUMMER MEETING AND
AGM**

at the Black Country Museum, Dudley. Details from Terry Keegan, Hon Sec, The Oxleys, Tenbury Road, Clows Top, Kidderminster, Worcs DY14 9HE, **01299 832358**.

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.

21 MAY 2002**SAVE BRITAIN'S HERITAGE
BOOK FAIR**

at The Gallery, 77 Cowcross Street, Farringdon, London EC1, a book fair with many conservation organisations, including AIA, Ancient Monuments Society, Garden History Society, Victorian Society, SPAB etc. from noon until 7pm. Hosted by SAVE Britain's Heritage. Details or to reserve a place, contact Meriel O'Dowd, **020 7253 3500**.

8 JUNE 2002**ERIAC 12**

at the Norfolk Rural Life Museum, Gressenhall, near East Dereham. The

theme 'Industrial Archaeology from the Air' includes lectures and a tour of the museum. Details and booking form (SAE please) from Mrs Brenda Taylor, Crown House, Horsham St Faiths, Norwich, NR10 3JD.

**23-26 JUNE 2002
INDUSTRIES IN A RURAL
LANDSCAPE**

at Dillington House, Ilminster, a residential course exploring industrial archaeology in west Dorset and south Somerset, with lectures and two field visits. For details please contact Dillington House, Ilminster, Somerset TA19 9DT, **01460 52427**, Fax: 01460 52427.

**4-7 JULY 2002
MRIAS SUMMER STUDY
WEEKEND**

at Van Mildert College, University of Durham, a Manchester Region IA Society Summer Study Weekend. Details and booking from Jill Champness, 108 Woburn Drive, Hale, Altrincham, Cheshire WA15 8NF. **0161 980 7612**, e-mail: bernard.jill.champness@tinyworld.co.uk

**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 Grotto, 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 Claughton, Rosebush, Clynderwen, Pembrokeshire SA66 7RE, e-mail: P.F.Claughton@exeter.ac.uk

**3-17 SEPTEMBER 2002
STUDY TOUR OF SWEDEN**

a study tour organised by the Society for Industrial Archeology (USA). Booking with Don Durfee, SIA Headquarters, Michigan Technological University, Department of Social Sciences, 1400 Townsend Drive, Houghton, MI 49931-1295, USA, or enquire Christopher Marston, e-mail: chmarston@toad.net or Robert Vogel, e-mail: toolduller@att.net

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

at Heriot Watt University, Riccarton Campus, Edinburgh. Begins with the Friday seminar, 'Industrial Heritage and National Identity', followed by the main conference and then four days of lectures and field visits. Hosted by Scottish Industrial Heritage Society and Scottish Industrial Archaeology Panel. More details on page 8. Contact Liaison

Officer, Isabel Wilson, AIA Office, School of Archaeological Studies, University of Leicester, Leicester LE1 7RH **0116 252 5337**, Fax: 0116 252 5005, e-mail: AIA@le.ac.uk

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

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- 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. **0116 252 5337** Fax: 0116 252 5005.*

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



Solovki Islands – the entrance to the dry dock (see page 2)

Photo: Mike Clarke