Madeira sugar mill • Essex breweries • first factories • new Dorothea award
Torksey viaduct • Erasmus prize • regional news • canal publications
Safeguarding the heritage of the Hinton Sugar Mill, Madeira

Portugal has contributed to the principles of sustained development and the safeguarding of our heritage in the Council of Europe as well as the ratification of conventions regarding the archaeological heritage of Europe. In light of these common principles ARCHAIM (Associação de Arqueologia e Defesa do Património da Madeira) considers the announcement of the demolition of the Hinton Sugar Mill (formerly the Torreão Factory) to be a grave violation by the regional and local authorities of Madeira. The mill is an important vestige of Europe’s history of sugar and of the historical relationship of the Madeira archipelago with Europe. The author is President of ARCHAIM.

Élio Duarte Martins Sousa

Soon after the discovery of the Archipelago of Madeira in the fifteenth century, a perfectly unrestricted economy developed here, orientated to the export of sugar to Northern Europe, where the rise of urban settlements had resulted in the search for new opportunities. This fact represented not only a transformation from the subsistence economy and provision of food for the crown to another type of economy impelled by profit making. This also meant the archipelago, which at the time was relatively autonomous from the authority of the kingdom, became part of the new Atlantic Europe, characterised by strong commercial and cultural relations.

On the other hand, the structure of this economy, based on the production and export of sugar, was associated with the emergence of a conflict of interests: a tendency towards monoculture as opposed to the need for a more diversified type of agriculture and the regulation of the export trade by the King as opposed to the wish for a more liberalised economy by the major landlords. This would also explain the change in agriculture to other export products, namely wine, at times when sugar trading was in decline.

The nineteenth century saw the last revitalisation of sugarcane production, in conformity with the tendency seen in Mediterranean agriculture towards a proliferation of labour intensive plantations as the solution to under-employment in countries and regions with a large population growth and late industrialisation. In the archipelago of Madeira, the return to sugarcane production was correlated with the phase of decline in the wine cycle, another dominant product in the regional economy of the time.

Sugarcane was cultivated under a system of small properties and intensive mixed farming. Local industry transformed this primary product into sugar, meant for export to continental Portugal and the Azores (in the second half of the century), and into another two new products, brandy and alcohol intended for the local market.

The local industry was comprised of factories for processing sugarcane and sugar mills for the production of brandy and sugar, equipped essentially with traditional technology using animals for traction and the motive force of water, although steam had already been in use for milling by some factories. As had been the case all over the world, the technological innovations of the nineteenth century were not incorporated homogeneously by all local industry, but only the firms that had a greater investment capacity. These were Ferraz & Brother and William H. Hinton & Sons, the latter established in 1856 and proprietors of the Torreão Factory – known as the Hinton Sugar Mill by the local population.

These factories became the leaders in the absorption of technological innovations and the sugar manufacturing methods which took place in the nineteenth century. These included the Bour concentrators and centrifuging machines, invented in the 1840s and at the century’s end, and the introduction of chemical processes, which
led to a reduction in labour, great increases in productivity and huge reductions in costs. The way had been opened therefore, to large-scale production, the characteristic feature of twentieth-century industrialisation. And Hinton did not waste such an opportunity, for between 1913 and 1915 the Hinton Sugar Mill reached close to 5,000 tonnes in annual production and the capacity to mill 500 tonnes of cane in 24 hours. In a short time, the Hinton Sugar Mill became internationally renowned and is now considered by various connoisseurs as ‘one of the most perfect in the world’ and ‘one of the rare jewels of the archaeology of nineteenth-century sugar production in the world.’

Protectionism took effect on the whole of the sugar-based economy, from the farmers to the brandy, alcohol and sugar producers and it arose as a pretext to attenuate the crisis in the sector as a result of the diseases that affected sugarcane in 1881-85. According to the protectionist regime, the producers would benefit from a reduction in customs duties in the importation of molasses used in the production of brandy, if the sugarcane was acquired locally at high prices. Obviously the Hinton Sugar Mill, with its high production capacity, would benefit the most – in 1909 it used up more than half of the sugarcane sold to industry – even more so when, in 1904, the registration of factories made industrial production more restrictive.

From the start of the twentieth century, this sugar mill had actually achieved a monopoly in sugar production in Madeira, benefiting from exemptions from customs duty in exports to continental Portugal, although the capital-intensive nature of its production also contributed to this.

The factory’s employees had access to a number of social benefits which arose during the second English industrial revolution and Hinton put them into the contracts drawn up between workers and the factory. Some examples are certain widow’s pensions and two private rooms which were reserved at the Hospital in case they were required by Hinton’s workers.

The Hinton Sugar Mill complex is a sober example of nineteenth-century architecture in the neo-classical spirit. Of particular interest is the main façade facing Rua 31 de Janeiro. It is of a restrained style and has frames in grey regional ashlar masonry around the windows and doors. The eighteenth-century industrial complex includes outbuildings that were used as offices and for administrative services. The whole complex is built in stonework and wrought iron, and there are also verandas with a porch. The large brick chimney stands out impressively.

The Hinton Sugar Mill is not only fundamentally associated with the history of sugar production in Madeira, but it is also reflects the economic dynamics and policies of the nineteenth century, and in particular transformations in the process of industrialisation and the capitalist system taking place at that time. Keeping in mind the values of memory, authenticity and historical rarity, together with the representation of the sugar industry in the History and Cultural Heritage of Madeira and Europe, various personalities have pointed out the urgency to conserve the century-old factory which is probably the only vestige in Madeira of the first effects of the local Industrial Revolution.

However, the Municipal Council of Funchal has a project for a garden in the area of the factory, for which reason ARCHAINS has appealed that this project for the garden should include the relevant architectural structures and the industrial machinery still in existence. We also appeal to the Regional Government to classify the factory as national heritage. This proposal has been widely accepted by the public, also as a result of the campaign that we developed, and which includes the contribution of proposals – all in the aim of recovering the mill – and participation in surveys promoted by the media. The intention to demolish the entire built complex with the exception of the chimney is seriously worrying. Besides going against the objectives and preoccupations of the International Community in this area, it shows disregard for the European Convention for the protection of our architectural heritage, of which Portugal is a signatory, as well as for the concepts of the Council of Europe on our common heritage.

Thus, in the belief that European citizenship and co-operation reinforces the capacity to safeguard these common values, we would like to alert you to make the regional authorities aware of the need to reflect on the European concepts in the decisions regarding the Hinton Sugar Mill, namely the conservation of the architectural structure, of the façade on Rua 31 de Janeiro, the chimney and the existing machinery. Besides being of scientific, pedagogical and tourist interest, this heritage complex would fit in well within a green space in the same area.

**AIA CONSERVATION AWARD**

With a prize of £500 attached, the AIA is pleased to announce the re-launch of the Annual Dorothea Conservation Award, made possible by the sponsorship of Dorothea Restorations Ltd.

The Award is aimed at amateur and voluntary groups, and the project must be ongoing and have been in progress for at least 6 months.

Submission of application form by 31 July 2003

Successful short-listed projects will be notified by 30 September 2003, then have until 31 March 2004 to complete the final submission.

Details from the AIA web site www.industrial-archaeology.org.uk, or from the organiser, David Lyne, 10 Somerville Road, Leicester LE3 2ET.
Surveying Essex breweries

In 1994 Essex County Council began a project to identify, record, protect and manage the county's industrial heritage through extensive thematic surveys. These have been referred to in T. Crosby, & S. Gould, 'Surveying the public water supply industry in Essex', IA News 113, Summer 2000, and S. Gould, 'The Identification, Recording and Management of More Recent Archaeological and Architectural Heritage of Essex', IA Review, Vol XXIII, No 1, 2001, 11 -24. This article describes the most recent survey on breweries in Essex.

Tony Crosby

Essex has produced a total of 16 thematic reports on such industries as malting (two volumes), lime burning, iron foundries, radio electronics, textiles and road transport, as well as other recent human activity in relation to Poor Law institutions, pre-NHS hospitals and wartime airfields. There have also been intensive site surveys undertaken within the planning framework in order to inform future schemes of re-use or to make a permanent record of those elements that will be destroyed.

These have been carried out on individual sites associated with the industries mentioned above and also the leisure industry (a cinema and a seaside entertainment palace), plus a sawmill. As a result of this project 1,300 new sites have been added to the county sites and monuments record (Essex Heritage Conservation Record).

The purpose of these surveys is to establish the priorities within the industry, thereby enabling an appropriate response should significant remains become threatened, to assess existing statutory designations and to formulate a coherent management strategy. Assessing the significance of each site and recommending a statutory framework for the future management of remaining structures (principally Listed Building or Conservation Area status or the continuation of existing status) ensures that the site's significance is given proper consideration when change, either alteration or new development, is proposed. The survey also provides a baseline against which the importance of newly recognised sites can be accurately judged. The reports are available for public consultation at Essex Heritage Conservation Record and Essex Record Office in Chelmsford and at the National Monuments Record in Swindon.

The most recent survey undertaken in 2002 was on Essex Breweries (T. Crosby, 2002, Essex Breweries - Comparative Survey of Modern/Industrial Sites and Monuments No. 16, Essex CC internal typescript report). As an ancient activity brewing was traditionally carried out on a private domestic scale alongside other domestic production of food and drink. Thus ale and beer have been produced at home for family consumption, on farms and estates for the landowner's family and workers, and in various institutions (religious communities, colleges and hospitals) for those who lived in and visited them. Whilst there are examples of these private brewhouses in Essex, many are already known, recorded and protected in the context of the whole site or main structure, such as Waltham Abbey, Audley End House and Wareley Hospital. This survey therefore concentrated upon commercial brewing by retail publican brewers and common brewers.

Forty-five sites were assessed and, in the absence of a typology for brewhouses, three seemingly straightforward categories or types were drawn up, although inevitably there are overlaps and grey areas of uncertainty. These three categories are: Public House Brewhouses, Unattached Brewhouses and Integrated Brewery Complexes.

As across the country generally, Essex had many public houses run by retail publican brewers who, prior to the eighteenth century the other main producers of ale and beer, apart from the private brewers. However, such activity declined during the nineteenth century, hence their brewhouses have become disused and been converted to private dwellings, retaining many original identifying architectural and technological features.

T. D. Ridley & Sons Brewery at Hartford Heath. Built in 1842 it is the only remaining operational brewhouse in Essex, still managed by the founder's family.

The early nineteenth-century Little Coggeshall Brewery, listed Grade II and recently sympathetically converted to private dwellings, retaining many original identifying architectural and technological features.

Photo: Tony Crosby

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to brew in unattached brewhouses located away from the constraints of a public house brewhouse. Ten such were assessed as part of the survey. These date mainly from the nineteenth century, although the Cellar Brewery, 6 Bridge Street, Coggeshall (TL 850225) dates from the late eighteenth century and that at Market End (TL 850226) may also be earlier. Again, their locations range from the rural such as Sullin’s brewhouse at Hatfield Heath (TL 518152) to the urban such as Thomas Wright’s in High Street, Brentwood (TQ 590396).

The significance of the sites is generally low in the brewing context although some of the structures themselves are of significance to the local streetscape due to their construction and history. All are therefore at best of local significance only. The extent of statutory protection of the sites is fairly high, with 60% being either Listed Grade II and/or within the Conservation Area.

Common brewers accounted for 50% of national production in 1832 and 95% in 1900, taking advantage of the new technologies of the Industrial Revolution – steam power, mechanisation of processes and new building materials such as cast iron. Thus for the large industrial scale mass production of beer on a commercial basis, integrated brewery complexes were developed made up of a number of component parts including malthouses, bottling plant, stables and vehicle garages, and heating and power plant. Although the early breweries were designed mainly by the brewers themselves or brewery engineers in a familiar industrial classical style, the specialist brewers’ architect became established in the second half of the nineteenth century. With them came the ornamental brewhouse which was not just a functional industrial building but one which also became a significant structure within the townscape reflecting the size, influence, wealth, pride and standing of the brewer and also as an advertisement for the product. Twenty six integrated brewhouse complexes were assessed, all dating from the nineteenth century except for G. E. Cook & Sons’ brewhouse at Tidings Hill, Halstead (TL 814299) which is early twentieth century. Locations range from a number of large rural breweries such as T. D. Ridley’s Hartford Heath Brewery (TL 688175) to those within the urban areas of Chelmsford and Colchester. The number of extant component structures varies as sites have been the inevitable subjects of much demolition and alteration over the decades since brewing ceased. However, in many cases existing structures, their original function and scale are easily identifiable. The extent of statutory protection is again very high, 85% of the structures being either Listed Grade II and/or within the Conservation Area.

Amongst those sites deemed to be of importance, one is the only remaining operational brewhouse in Essex, the 160 year old T. D. Ridley’s Brewery at Hartford End which remains essentially unaltered since it was built and has been a family business since establishment. The Little Coggeshall Brewery (TL 850224) is a rare example of a small family run brewhouse which, despite other uses since brewing ceased and recent conversion to private houses, retains technology, signage and other artefacts which allow the brewing process to be recorded throughout the site. The old Wethersfield Brewery (TL 712313) has the brewhouse and brewer’s house, both now converted to private dwellings, the malthouse, now the village hall, and tap house still trading as the Brewery Tavern. These comprise a rare example of a large brewhouse complex in a rural, village setting and are of group value. The Castle Brewery, Colchester (TL 997253) and Gray’s Brewery, Chelmsford (TL 711067) retain at least two identifiable structures and are of classic industrial architecture. Those breweries at Great Baddow (TL 732046), The Eagle Brewery, Colchester (TM 003253) and Charrington, Nicholl & Co Brewery, East Hill, Colchester (TM 005254) are the only remaining Essex breweries which were built in an ornamental style, the first two being associated with nationally recognised brewers’ architects.

The other site in Essex associated with brewing, apart from the many malthouses, was the Isinglass Factory in Coggeshall. Isinglass was used in the latter stages of brewing to clear the beer and is the dried, prepared swim bladder of various species of fish. The Coggeshall Isinglass Factory (TL 824225) was a tannery from the late eighteenth century, but in 1847 was developed to include the production of gelatine and ‘patent isinglass’ for G. P. Swinborne & Co. The site is due to be re-developed and an Historic Building Appraisal was undertaken by AOC Archaeology in 1997.

Brewing activity in Essex broadly reflects the national historical context and despite the extensive loss of brewhouses and breweries from their maximum extent there is a representative mixture of sites and structures associated with the full range of brewing activity. This is no doubt due to the already high degree of statutory protection afforded to this cross-section of examples. Forty five sites were included in the survey and 80% were already Listed Grade II and/or in the Conservation Area. Hence the recommendations of the survey are principally concerned with maintaining their existing statutory status, with only Ridley’s Hartford Heath Brewery and Wethersfield Brewery needing to be considered for Grade II Listing. As the survey was mainly an external assessment of sites and structures, a number of sites are recommended for internal inspection which may result in further recommendations for statutory protection.
The first factory?

Roger Shelley's letter in IA News 124, page 10, concerning the Derby Silk Mill's (built 1717-23) claim to be the first factory raises a number of issues. Here the case is argued for early naval dockyards to be included among some of the first factories.

Ray Riley

The first point is definitional. What is a factory? If it is a building specifically dedicated to the production of a good, then domestic manufacture - the weaver's cottage for example - must be excluded, although some regard such premises as proto-factories. But clearly corn mills, fulling mills and windmills are factories; they contain power machinery which transforms material into a product, and their architecture is entirely functional, that is, related to the processes being undertaken. Moreover, they employed workers not part of the owner's family. By extension, should not blast furnaces, where the mechanism is the building itself (in any case casting sheds were usually erected), therefore be regarded as factories? That the examples quoted might have employed only a handful of workers is irrelevant, after all there are small factories just as there are large ones. The imposition of a minimum labour threshold, such as 50 or 100 workers, is not helpful since it is arbitrary, while it is the characteristics of the enterprise which is the issue. It follows therefore that the first factory has been lost in the mists of time, predating the Domesday survey of 1086. The Derby Silk Mill is well down the pecking order.

Secondly, Roger Shelley justifiably suggests that naval dockyards may be contenders for the title. In the light of my remarks above, they may not be among the first factories, but they certainly pre-date the Derby mill by some margin. Roger advances the caveat that the fortunes of the dockyards were determined by war; this is true, but in the search for the date of establishment this is unimportant. An enterprise may contract or even close, but this does not have any bearing on its opening date. Despite the copious literature on foreign policy, maritime battles, the herculean efforts of naval officers, naval strategies, warships, and to some extent on the dockyards themselves, economic historians and others seem to have focussed on textile mills to provide examples of early factories. Perhaps blinded by the enormous significance of textiles in the development of Britain during the eighteenth and nineteenth centuries, they have overlooked the dockyards as loci of production and repair of naval vessels from the sixteenth century onwards. It might be argued that a dry dock or building slip is not a factory, but both are buildings specifically dedicated to the production of a good, as I say above. Furthermore, the docks and slips were always accompanied by adjacent storehouses, smithies, sail lofts, mast houses, seasoning sheds, and sometimes rope houses, all of which are buildings in the conventional sense. May I offer some chapter and verse?

The first dry dock and associated facilities to be established in a naval dockyard was at Portsmouth in 1495. This was followed by yards at Woolwich in 1505, Deptford in 1515, Chatham in 1575, Harwich and Sheerness in 1665, and Plymouth in 1690. At some yards there was specialisation of the kind at Woolwich where gunfounding was added in 1557, gunpowder manufacturing in 1662 and gun carriage production in 1680. Arguably each of these activities itself constituted an individual factory. Ropehouses at Woolwich (1612), Chatham (1621), Portsmouth (1663 and 1695) and Plymouth (1690) were gigantic structures by the standards of the day and must have been the

AIA 2003 SOUTH EAST WALES CONFERENCE

WHERE? University of Wales Institute, Cardiff

WHEN? Pre-conference Seminar Friday 5 September
Main Conference Friday 5 September to Sunday 7 September
Post-conference programme Sunday 7 September to Thursday 11 September

This year's annual pre-conference seminar is entitled 'Industrial landscapes; research, recording and regeneration'. Lectures and visits during the main conference and accompanying programme will reveal the industrial archaeology of South East Wales and the Valleys - iron, coal, tinplate, pottery, engine works, docks, canals, railways, etc. The annual Rolt Memorial Lecture will be delivered by David de Haan on research in the Ironbridge Gorge Museum.

Book now! If you have mislaid your booking form please contact the AIA Liaison Officer, Simon Thomas, 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
largest factories ever built in Britain. The scale of operations in the yards may be judged from criteria such as the number of ships launched: 18 vessels left the slips at Portsmouth between 1660 and 1674, and by the volume of repairs: no less than 98 warships were worked on at Portsmouth in 1702 alone. At Chatham 259 shipwrights and tradesmen were employed in 1611, a figure which had risen to 1,000 by 1697, when 1,271 were on the payroll at Portsmouth. At the latter yard some 2,100 were employed in 1711. The sophisticated division of labour, the organisation of flow-line production, and, often forgotten, of material supplies, and the management of these huge numbers of workers all on one site (apart from material supplies the dockyards were self-sufficient), lend great weight to the proposition that the industrial revolution began not on the rivers and coalfields, but in naval dockyards. Even setting aside corn mills, fulling mills, windmills and blast furnaces, to name but a few early factories, a myriad of individual factories in the naval dockyards has a prior claim over the Derby silk mill.

My third point concerns location or anglocentricism. because Britain was the first industrial nation, there is a powerful tendency to assume supremacy over other nations, certainly when early factories are concerned. Yet naval dockyards were established in Spain, the Netherlands and France concomitant with those in Britain, providing the ships with which we engaged. Even a port such as Dunkirk, not now associated with the navy, in 1692 had two nontidal basins, a dry dock, three building slips, storehouses and a ropehouse. But there is more. The Venetians created a maritime trading empire long before that of Spain or ours; a map of 1391 shows some 80 sheds for the building, repair and storage of galleys, while even today one can view fourteenth-century slips, a ropehouse of 1450 some 320 metres long, and covered slips dating from 1544 and 1568.

In conclusion, the Derby mill must come well down the list of early factories.

The beautifully maintained masonry roof of a slipway at Venice dockyard (Arsenale) Photo: Ray Riley

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SOUTH EAST WALES CONFERENCE UPDATE
Conference Bargain overlooked
(save up to £50!)
In drawing members' attention to the next AIA Conference an important decision of Council was overlooked. As an incentive to members who have not had the pleasure of attending our annual Conference before a special discount is offered. If you have never attended an AIA Conference as a paying attendee you may deduct £25 from the cost of being at the weekend or £50 from the whole package. Either way, this is a substantial saving and we hope that it will encourage new faces to come along to see just how enjoyable, as well as informative and constructive, our conference is.

Flat Holm visit
We fear that there may have been a lack of clarity on the conference booking form regarding the visit to Flat Holm. This is an optional extension to Visit G and is an extra £13, whatever package you have booked. Transport to the island is in a 40-seater boat with limited cover. The tides during conference week have dictated the programming of this visit. The island's attractions include a lighthouse, foghorn, limekiln, cholera hospital (disused), Palmerston fortifications and Second World War remains, and a substantial number of seagulls.

More Conference details
Some extra detail on some of the visits is now available so the list is repeated here. Variations may be forced on us by circumstances.

A. Rhondda Heritage Centre; Hetty Pit; preserved steam winder, should be working by air
B. Newport Transporter Bridge will be fully open for us to travel on and walk over
C. Merthyr Tydfil; a walk around the key sites in the Cyфathfa area
D. Blaenavon; time will only permit a visit to Big Pit or the Ironworks this day
E. Melingriffith Waterwheel and pump (1807); Nantgarw Pottery, three conserved kilns;
Treforest Tin Plate Works, conserved buildings
F. The Vale of Glamorgan Railway will be in steam for us and our visit should coincide with a Festival of Transport.
G. Cefn Cribwr, conserved ironworks site; Tondu Ironworks, substantial buildings and bee-hive coke ovens (Highly Commended for the BAA AIA Award 2002); Barry Docks
Ga. Flat Holm: see above
H. Blaenavon; a full guided tour of the World Heritage Site attractions
J. Cardiff; Docks and Bargeage, historic remains amongst the new Cardiff Bay developments, concluding with a visit to Brains Brewery
K. Coastal Gwent; the Zodiac galvanising plant (working) at Llanwern steel works, Sudbrook industrial village at the west end of the Severn Tunnel and a look at Chepstow's industrial remains
L. Taff Valley; Abercanaid (settlement), Dowlais ironworking town, leats and quarries, returning via GE Aircraft Engine Services (where Boeing 747 engines are maintained) with an alternative of the National Museum of Wales store.
M. Eastern Valleys; Glyn Pits, 1845 beam engine and a winding engine; British ironworks site and engine house; B&A Canal.
N. Ebbw & Rhymney; Bassaleg, Crumlin, Ebbw Vale, Rhymney, Butetown
P. Dare & Rhondda; Aberdare walk-about, tramway remains at Robertstown and Hirwaun, Tower Colliery surface

(hopefully), Rhigos viewpoint and Rhondda Valley settlements
If any member who has already booked wishes to change his or her preferences contact Michael Messenger as soon as possible.
If you have not booked yet, be warned that we may not have as much en-suite accommodation as we wish.

New members
The AIA welcomes the following new members:
Mr M. J. Anderton, Swavesey
Mr S. Barber, London
Mr J. Barnett, Stoke-on-Trent
Mr M. Cox, Romsey
Mr J. K. Gillham, Carshalton
Mr S. Gilmore, Belfast
Miss J. Gott, Derby
Mr J. E. Grayson, Oldham
Mr M. E. Hardy, Tunbridge Wells
Mr E. Marshall, London
Mrs G. Mathieson, Cottingham
Mr S. Nisbet, Glasgow
Mr D. G. Rodwell, Melrose

News from Upper Cwmtwswg
Dear Mr Editor
Just a note to keep you up to date and let you know that things are going along swimmingly for the conference at Upper Cwmtwswg.

The rugby club have insisted on providing bouncers, although I told them I don't think it will be necessary. Most of them are wider than Chris Irwin but half the height. They have a problem about Dai Sponge running the bar. They say he is not a suitable person to run an intellectual event and think that they are more suitable, but there cannot be much in it.

On the subject of beer, Maiachi the Mashtun, who works down the brewery, reckons he can tweek things so we get a special conference brew of Allbright at double the strength. We could get it up to 2%, he hopes.

We did have a problem with Sweaty Betty who insisted she would not deliver. But we could not have the whole conference going in queueing for pies and blocking the road, and anyway once they see the lights of Ponty we'll never get them back. So we threatened to report her to Food Hygiene and that solved the problem; she didn't want to go through all that, yet again.

So there we are, and looking forward to seeing you all. Keep in touch.

Yours fraternally

Jonas the brush

Editor's note: We should make it clear that the views expressed by the Twsg Valley Literary, Philosophical and Bog Snorkelling Club are not necessarily those of the AIA Council.
AIA NEWS

AIA AND DOROTHEA CONSERVATION AWARD 2003-4

The Award is being re-launched in time for making an award in 2004. It was originally launched in 1984, the tenth Anniversary of the founding of Dorothea Restorations Ltd, to commemorate the first decade of service to museums throughout the country. Its purpose is to support and encourage voluntary conservation work on sites and artefacts of industrial, agricultural, and domestic importance.

The Award is made by and through the generosity of Dorothea Restorations Ltd, and judged by a panel of judges nominated by the Council of the Association for Industrial Archaeology. The Award is administered by the AIA Council and is presented in conjunction with a suitable Conference or function organised by the Association.

There will be one Award, consisting of a plaque together with a cheque for £500. In addition, entries which are commended by the judges will receive a Certificate of Commendation. The Award will be made annually, subject to receipt of a satisfactory application.

Rules
1. To be eligible for entry, projects must be concerned primarily with the conservation of a site or object of industrial, agricultural, or domestic archaeological interest. Projects concerned primarily with the recording or interpretation of sites, or with the collection of items, will not be eligible.
2. Projects are restricted to work on sites or objects in the United Kingdom.
3. Projects must have been undertaken by amateur and voluntary groups or individuals. Individuals or groups which are attached to a professional organisation (e.g. a friends of the museum group) will be eligible. Members of the group should not have received remuneration, other than the receipt of agreed expenses, for any work or services contributing to the project. It is accepted that it may be necessary to obtain paid professional advice to meet legal or statutory requirements, and funding from sponsors or lottery grants, etc must be declared.
4. Projects must be ongoing, and have been in progress for a period of not less than six months at the time of initial application.
5. The following criteria, where appropriate, will be taken into account when judging entries, and should therefore form the basis for your application:-
   - the scope and nature of the project;
   - the significance of the project in national, regional, or local terms, and its added value to the community.
   - the nature, size and previous experience of the group undertaking the project.
   - the progress made in the project, in relation to the available resources of finance and manpower.
   - the quality of record keeping in relation to the project.
   - the use which could be made of the Award.
   - the generation by the conservation process of any new insight into our industrial past.
   - the protection of the environment offered by the project.
   - proposals for maintenance and future care on completion of the project.
   - whilst every effort will be taken to safeguard the information submitted, the organisers cannot accept responsibility for any subsequent loss or damage. The submitted copy, which can be on CD, will be retained in the association archive.
   - the decision of the Judges is final.
7. Entry for an Award is to be made by completing a Form of Application, to be received by 31 July 2003, together with a brief description of the project, outline of proposed final entry, and illustrations, all of which can be on CD. From this a short list of applicants will be selected. Finalists will be notified, and a list will be publicised at the AIA conference in Cardiff, in September 2003.
8. The AIA should have permission to publish any entry, or part thereof, in IA News or Industrial Archaeology Review without fee, but copyright would remain with the author(s), and it would be their responsibility to obtain copyright clearance for any third party material used.

It is anticipated that the short-listed projects will involve a visit from one, at least, of the judges. The finalist will be notified by 31 July 2004, in time to arrange for representation at the AIA Conference in September 2004. Two places, one of which is complementary, will be reserved for the presentation.

STOP PRESS: Ironbridge Weekend a great success
The annual AIA Affiliated Societies Weekend, held at the Ironbridge Institute, Coalbrookdale, over 12-13 April was one of the best attended for many years. The theme of 'Power in Corn and Textile Mills' was a popular one and as well as a variety of speakers and topics delegates were treated to a visit to the picturesque Daniel's Mill near Bridgnorth and the usual Saturday night dinner and impossible quiz in the New Inn at the Blits Hill museum site.

A full report will be published in the next issue of IA News.

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A full report will be published in the next issue of IA News.
The Pattens and the Greenfield valley

I have been reading the article in IA News 121 about the Greenfield Valley industries in North Wales and in particular the copper mills established by the Warrington Co., c1753. I have a note also of a William Patten who was a shareholder in Mines Royal at Keswick c1565. William Patten is mentioned in connection with 'farming' the Keswick industry to Sir Thomas Smith in 1580 but I have no record of him as a shareholder after this. Perhaps the author Pat Frost or an AIA member has some information on Patten activity in the copper/brass trade between the Keswick date and the establishment of mills at Bank Quay Warrington in 1719.

In return I can supply details of John and William Keates who began their careers with the Pattens at Oakamoor in the nineteenth century, then a copper/brass mill of the Cheddle Co. (Stafs).

As Pat Frost may know the Pattens operated at various sites in the UK but were bought out at Oakamoor by the Thos. Bolton Co. in 1852. The Boltons also acquired the Newton Keates mills near St Helens in Lancashire in 1894.

I have seen nothing published about the Patten industry in the period late-sixteenth to early-eighteenth century but perhaps someone is able to enlighten me?

T.E. Evans
32 Muster Court, Haywards Heath
West Sussex RH16 4AW

Benguela Railway

At the risk of sounding like 'Disgusted of Benguela Wells', I offer the following comment on the paragraph on the Benguela Railway on page 10 of IA News 122. In the report on the Benguela Railway (Camino de Ferro de Benguela) in Angola, it was implied that this railway itself crossed Africa from west to east coasts. This was not so. The 3ft 6in Benguela Railway ran for 838 miles (1,348 km) from the Angolan port of Lobito to Luau and Dilolo, settlements on the border between Angola and the Congo Free State (now the Democratic Republic of Congo). Here it connected to the Belgian financed Chemin der Fer du Bas-Congo au Katanga (BCK). The Benguela line was officially opened in June 1929 (the first rails having been laid in 1903), and the connecting section of the BCK system was opened in 1931. The BCK in turn linked with the railways in Northern Rhodesia (Zambia), then onwards to Southern Rhodesia (Zimbabwe) and Mozambique, so a continuous 3ft 6in gauge rail link was then established from Lobito in Angola on the west coast to Beira in Mozambique on the east coast.

However, through coast-to-coast traffic was most unlikely as the rail routes to Lobito and Beira were both competing for mineral and mining equipment traffic linked to the Northern Rhodesian Copper Belt and the Katanga deposits in the Congo. The driving force behind the Benguela Railway was Robert Williams, an engineer from Aberdeen who was a major figure in the discovery and development of copper deposits in Katanga and Northern Rhodesia. Civil war in Angola resulted in the effective closure of the Benguela Railway as a through route in the mid-1970s but, as reported in IA News 122, rehabilitation of the railway has now commenced. A later contribution to the railways of the region was the Chinese-built Tanzania-Zambia (Tazara) Railway, opened in 1975, which provided a direct 3ft 6in gauge link from Zambia to the port of Dar-es-Salaam in Tanzania. This did not, however, connect with the existing railway system in Tanzania which - like those in Kenya and Uganda - is of metre gauge. (Background information from The Lomuto Route - A History of the Benguela Railway by John Scott-Morgan and Sampson Low's World Railways, 1954-55 edition.)

Henry Gunston
6 Clement Close
Wantage OX12 7ED

No vandals at Festiniog

I note in the review of The Festiniog Railway since 1950 (page 15, IA News 123) that the FR 'ly neglected and vandalised until 1950.' This surprises me a little. Neglected, I would agree. But one of the things I particularly noted during the closure was the lack of vandalism, which wasn't fashionable then. The windows remained intact, and apart from people (like me) who got in through windows and then shut them afterwards, the place was little damaged. When we re-opened, comparatively little had been stolen. After the re-opening, I think we lost more than during the closure. Souvenir hunters were a real pest. Things we salvaged and put (we thought) in safety would disappear. Nowadays we are jolly cautious about leaving things around. Even so, touch wood, we rarely get any serious problems. We are very fortunate on the whole.

Despite the undoubted success of restoration over the last 50 years, some aspects have been controversial. The worst vandalism has been done more or less officially. The demolition of the gate over the line, the gate posts at the works entrance, the destruction of the gunpowder sheds (all at Boston Lodge), the stripping of the booking office at Minffordd, the replacement of the Museum in the Goods Shed at Porthmadog by the restaurant and consequent withdrawal of our museum registration, oh dear, I could go on.

There is some excuse for the gateposts and the arch, as they were too close to the line for safety. And I suppose we could have a discussion about what is a museum? In France a locomotive can be a monument historique, so have we in Wales the old idea that a museum has to be a building with bits of grotty pot or bronze axeheads in it?

It is still the best little railway I know.

Dr Peter Janvis
42 Church Green Road, Bletchley
Milton Keynes MK3 6BL

Brighton's West Pier

AIA members will have read in IA News 124 about the partial collapse of Brighton's West Pier. However, the outlook for Birch's Victorian masterpiece - one of only two piers that has Grade I listed status - now seems much brighter. On 26 February the council's planning committee voted by nine votes to two in favour of a shoreward development scheme that should release £14.2 million of Lottery funding and allow work to recommence. It is hoped that the pier could re-open by October 2005. Some local conservationists are still threatening a public enquiry over the proposals, that need government approval. But as pier supporters point out, the alternative to this scheme could 'consign the West Pier to oblivion.'

The very latest tragedy to hit the pier was a suspected arson attack on 28 March, in a large blaze tackled by 60 firefighters. Sussex Fire Brigade described the fire as 'definitely of doubtful origin.'

Tim Mickleburgh
Chairman, National Piers Society
33 Littlefield Lane, Grimbsy
Lincolnshire DN31 2AZ

Sir Joseph Whitworth bicentenary and a search for artefacts

This year is the bicentenary of the birth of Sir Joseph Whitworth. The Whitworth Society is in the process of compiling a database of Whitworth artefacts and I would be extremely grateful of any leads which members could give me. For example, a planer is still at the Underfall Yard in Bristol, although a lathe in the workshop of the Penyorsred Quarry, Nantlle, has been sadly removed for scrap! There are some cannons in France but there ought to be others as well.

As part of the celebrations the Institution of Mechanical Engineers is planning to combine the presentation of Whitworth Awards and Whitworth Scholarships at the North West Region's Annual Dinner at Manchester Town Hall on 21 November 2003 - if you would like more information on this event please contact me.

Geoff Ward
Chairman
IMEChE Whitworth Awards Panel
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Turnpike weighing engines

I have recently been researching toll houses in Wiltshire and have come across a number of references to weighing machines being erected near toll gates or tollhouses. We know their use because many turnpike trusts based their charges partly on the weight of the carriage or cart passing through the gate. But I can find hardly any reference to these in the literature on turnpikes and I am wondering exactly what they looked like and what mechanism they employed. I imaging they must have been something like present-day
weighbridges although the mechanism might have been quite different. Two references in trust minutes give us only vague clues:

1804 Beckampton. ‘Agree to erect a new weighing engine at the Beckampton turnpike gate and the old one to be repaired and removed to the Kennet turnpike gate. To agree a contract with George Taylor of Bath, an engineer, for this.’

1830 Bradford-on-Avon. ‘Agree to sinking a pit for the new (weighing) engine opposite the weighing engine and provide additional time for consideration of the whole matter. The line over Beckampton was closed in 1877, and the Wiltshire Tramway Company agreed to provide compensation for the tramway line and other goods.’

I would very much appreciate any information which readers might be able to provide on this subject.

Ivor Slocombe
11 Belcombe Place
Bradford-on-Avon
Wiltshire BA15 1NA

**Nineteenth-century Wantage Crane**

I have been researching the Wantage Tramway for over eight years and have uncovered quite a lot of ‘new’ information. However, I have had only limited success with a nineteenth-century, hand-operated crane, bought by the Tramway from the Wantage Brewery Co. The crane was originally on the wharf of the Wilts & Berks Canal in Wantage but was moved to the Tramway’s Upper Yard in 1904. Some of its design characteristics suggest a Stothert & Pitt Ltd, Bath, origin but this is not confirmed. I have a number of photos with the crane in the background but, regrettably, nobody thought to fully record it prior to scrapping in 1945. Is there anyone in the AIA who has an interest in nineteenth-century cranes and with whom I might correspond?

**J. Meatcher**

E-mail: jack.meatcher@btinternet.com

**Looking for Brown & May**

I am trying to find out about Brown & May water-raising equipment. Only one example on the downs in North Wiltshire has been found at present, but if any reader has any knowledge or information about this Wiltshire firm I would be pleased to hear.

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E-mail: Goodhugh@btinternet.com

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**NEWS**

**Torksey Viaduct, a bridge with a history**

The Torksey Viaduct, crossing the upper tidal reaches of the Trent, was commissioned by John Fowler, engineer of the Manchester, Sheffield & Lincolnshire Railway east of Sheffield, and built by William Fairbairn of Manchester, based on his box-girder patent of 1846. It provided a cut-off between Retford and Lincoln, avoiding a detour through Gainsborough, and was used initially by the Great Northern Railway pending completion of their pioneering Warren girder bridge higher up the Trent at Newark.

As originally built the bridge had two 130-foot double track box girder spans, and was approached on the east bank by a timber viaduct of 19 spans. These were replaced in 1877 by wrought-iron girders on cast-iron screw piles. The main spans were widened and strengthened by the Great Central railway in 1897 by adding central steel Pratt trusses but the greater part of the bridge remains substantially in its original form.

At the end of 1849 the viaduct was inspected by Capt Simmons RE, a railway inspector instructed by the Railway Commissioners. His report condemned the main spans as being of inadequate strength. This created a furore at the Institute of Civil Engineers who spent four meetings discussing the matter. The two main spans had been built in one continuous length on the west bank, and rolled out across the river. Whereas Simmons had done his calculations treating the two spans as independent simple beams, Fowler and others pointed out that they formed a continuous beam, and therefore possessed substantially greater strength than Simmons had given them credit for.

Practical demonstrations were given by J.K. Brunel and C.H. Wold showing the behaviour of an experimental beam continuous over three supports. The services of the polymath William Pole were called on, and he produced an elegant mathematical analysis confirming the experiments, and claiming that the continuous beam was one third stronger than two simple beams. Simmons was hard to satisfy, considering this to be a clever ploy to overrule his decision. The engineers en masse deprecated the interference by a civil servant in engineering matters. The MS&LR and the GNR lobbied the Board of Trade, and permission was given for the company to use the bridge at its own risk. Simmons retreated, head bloodied but unbowed.

The line over Torksey was closed in 1959, and was acquired in recent years by Sustrans with a view to restoring it and providing a cycle and walkway. Prior to this English Heritage had supported a relisting...
to Grade II* on the basis of its importance in the history of bridge development, and it has often been cited as a text book example of the benefits of continuity. A suspicion must remain that Fowler had never contemplated continuity, of which little was known at the time, and certainly not Fairbairn who remained sceptical, but it had proved a useful stick with which to beat the redoubtable Inspector. It did Simmons no harm, for after a distinguished army career he was appointed a Field Marshal.

Sustrans is shortly to apply for grant aid to restore the Torksey Viaduct for it to perform a useful function while preserving it for posterity. Any reader interested in historical bridges is invited to write to Sustrans in support of these approaches to grant-giving bodies. Please write to Simon Ballantine, Bridge Engineer, Sustrans, 35 King Street, Bristol BS1 4DZ.

It may be mentioned that the objective of Sustrans in developing a national network of walk and cycleways is a worthy cause in its own right, but in the course of their activities many historical bridges have already been saved. The recent restoration of Meldon Viaduct in Devon, the last of the tall iron trestle bridges, is a case in point.

John Rapley

Historic bridge and infrastructure awards for 2002

Seventeen projects were nominated for the fifth annual Awards. The scheme was extended this year to include the repair, strengthening and conservation projects completed during the previous two years, and which involved a transport-related structure over 30-years old, in England and Wales.

The three projects receiving Awards were the Anderton Boat Lift restoration, the Standedge Tunnel restoration and the strengthening and widening of the Tamar road bridge. Six commendations were made for: the refurbishment of the A6 Cavendish bridge in Derbyshire; Breamore Great Bridge restoration in Hampshire; the refurbishment of the Buttington bridge, Welshpool; the rebuilding of the Caergwrle Packhorse Bridge in Flintshire; the widening and strengthening of the Kingston bridge at Kingston-upon-Thames and the restoration of the Vivian V2 incline at Llanberis slate quarries. The Awards were presented on 21 November at the ICE in London and reported in PHEW Newsletter, 96, December 2002.

Erasmus recognises industrial recording as culture

The German photographers Bernd and Hilla Becher were awarded the prestigious Erasmus Prize for European Culture on 23 October 2002. The financial value of the prize is 150,000 euros, a well-deserved award for a lifetime’s dedication and for a couple who have spent their lives in relative poverty. They are not young, Bernd Becher was born in 1931, Hilla in 1934. They married in 1961 and have now retired from teaching, although they are still active photographers. Hilla Becher made the superb prints for which they are famous. The Bechers have founded a new school of documentary photography, training a series of younger photographers in Düsseldorf.

They have (perhaps unwittingly) collected their work together for publication so as almost to construct typologies (in the industrial archaeological sense) and have been recording the industrial scene since 1959. Selected titles of their books give an idea of the scope of their lifelong Odyssey: Framework Houses from the Siegen Industrial Region 1977, Mineheads 1985, Water Towers 1988, Blast Furnaces 1990, Typologies 1990, Pennsylvania Coal Mine Tipples 1991, Gas Tanks (gasholders) 1993, Grundformen 1993, Industrial Façades 1995, and Basic Forms 1999.

Their work is probably better known in graphic and architectural circles than by industrial archaeologists. This is an example of an activity parallel with industrial archaeology but not part of it. The engineers’ aesthetic illustrated in their work has had a considerable effect on the architectural profession and probably more widely. We often see this nowadays in the way that machinery is displayed, sometimes in public places, for its sculptural quality rather than for any technical understanding.

Most books by Bernd and Hilla Becher are relatively expensive which is one reason the average industrial archaeologist is not familiar with them but a modestly priced volume is Grundformen (ISBN 3-88814-704-2), number 40 in the Schirmer’s Visuelle Bibliothek series. This contains an introductory
selection of their work - 64 images. The majority of these were created at foreign locations but you will see wooden cooling towers at Ebbw Vale Steelworks and Penalta Colliery, Caerphilly, South Wales, both photographed in 1966, a familiar British water-sealed spiral gasholder at Tonyrefail, South Wales, photographed in 1973 and pithead gear at Rhymney Colliery near Sunderland, 1968.

The citation read at the award presentation ceremony by Dr A.H.G. Rinnooy Kan pointed out that through the work of the Bechers a great number of building complexes had been documented which are now long since demolished. Dr Rinnooy Kan mentioned that at the end of the 1950s architectural historians did not dare show an interest in 'engineers' architecture' and industrial archaeologists were mainly investigating technical processes. The last phrase will strike the British reader as odd. In West Germany was industrial archaeology different then?

Anyway how many industrial archaeologists or historians of technology (or science) have been awarded the Erasmus prize?

Robert Carr

**Crux Easton wind engine restored**

The restored wind engine at Crux Easton near Highclere in Hampshire was 'launched' in September 2002, although there are still a few minor points to complete. This 20-ft diameter 'Simplex' wind engine was a transition between the earlier annular sailed windmills and the twentieth-century fixed blade galvanised wind engines (the 'prairie type' wind pumps). It is a self-regulating geared wind engine with 48 annular sails on a 32-foot hexagonal steel tower, to drive a pump and a pair of mill stones in an adjacent building. John Wallis Titt of Warminster in Wiltshire designed this type of wind engine during the 1880s and this one dates from 1891-2.

Having lost its sails and fallen into a poor condition, the Crux Easton Wind Engine Conservation Trust was formed to rescue it in 1994 and five years later received a Lottery grant of £150,000 in 2000. The Engineerium was given the contract and an additional £40,000 had to be obtained to complete the restoration of the engine and well building.

The well was found to be brick lined for a short distance and then it was dug through chalk and flint, with the water at 300 feet (91 metres). Several problems delayed completion of the work including the firm restoring the building going into receivership and the outbreak of foot-and-mouth in 2001 which put the field out of bounds.

Sir George Young, the local MP, cut the ribbon at the launching ceremony. As he was comparing the wind of Crux Easton to the wind he listens to in the House of Commons, down came a latter-day heavenly body blasting currents of air onto all below and setting the wind wheel turning, all 48 sails glinting in the sunshine.

**Hampshire Mills Group**

**Conservation in action – can you help?**

The Council for British Archaeology is notified of over 4500 applications for listed building consent in England each year, and asked to advise from the perspective as one of the National Amenity Societies. The impact of demolition is fairly easy to see (!) but unsympathetic alterations can also destroy the character of a building or site and this can be hard to assess without local knowledge or the opportunity for a site visit. Unfortunately there are many areas where the CBA does not have 'eyes and ears'. Could you help with their work? To indicate the scale of the problem, there are vacancies for correspondents in many local authorities in the following counties: Berkshire, Cambridgeshire, Cheshire, Devon, Hampshire, Hertfordshire, Humberside, Lancashire, Manchester, Merseyside, Norfolk, Northamptonshire, Northumberland, Staffordshire, Suffolk, Sussex, Warwickshire and Yorkshire. You can make a difference. If you feel you would like to know more about being a voluntary CBA historic building correspondent please contact Lynne Walker, Historic Buildings Officer, CBA, Bowes Morrell House, 111 Walmgate, York Y01 9WA. E-mail: buildings@britarch.ac.uk.

**Hereford gets go-ahead**

The Waterworks Museum at Hereford houses a collection of working engines, water pumps and machinery of national importance. Now it has received a Heritage Lottery Fund grant giving it the go-ahead for a major project to restore the Victorian buildings and create new facilities including maintenance workshops, an extra engine gallery, an education room, visitor facilities.
Underground progress
Delayed by a court challenge, London Underground has received permission to demolish the north part of the Bishopsgate Goods Yard (1839), but not the arched Braithwaite Viaduct which is Grade II listed. The project will allow the go-ahead for the £600 million East London Extension.

Norberg-Nora 700 years of iron production
This year is the 700th anniversary of the first written accounts of iron ore working in Sweden, where the interests of royalty and nobility were centred on Norberg and Nora. The first document was a letter of exchange where the Lord High Constable Torgils Knutsson handed over large areas of land, some including mines, to the king, Birger Magnusson. Knutsson was one of the country’s leading noblemen and the letter may be an indication of how the fourteenth-century royalty was trying to take control of iron ore working in Sweden. In addition, the noble classes at that time seem to have had a greater influence on ore working than during the sixteenth century and later when local peasant miners dominated the mining regions of Norberg and Nora.

The anniversary is being celebrated in August 2003 with an international conference on industrial history, with lectures (in English) and excursions to foundries, mining villages, blast furnaces and ironworks. Norberg and Nora are two mining towns where two large EU-financed projects are underway, focussing on regional developments based on the inheritance of industrial history. Contact details are on the Diary page.

Wind tunnels saved
Two giant wind tunnels in the centre of a proposed business park on the site of the Royal Aircraft Establishment, Farnborough, have been Grade I listed. The 400-foot long concrete tunnel of 1935 has a 30-foot diameter propeller with mahogany blades, and the Transonic tunnel of 1942 developed 600mph wind speeds. Listed as Grade II is a third tunnel of 1916, rebuilt in 1944. These structures are considered of high technical importance.

Silkstone Waggonway Project
Although there were many such waggonways in South Yorkshire, few were as early as the Silkstone Waggonway (it was built in 1809), and none have so many of the original features still extant. They have mostly disappeared beneath housing, industrial estates and motorways. The Silkstone Waggonway is not well understood, even locally: it has suffered damage by contractors, locals have taken away stone sleeper blocks, and its bridges are not well maintained.

Londonderry mill vanishes
Heritage legislation, B+ listing status (Grade II* equivalent), protests from councillors and politicians who have failed to save the Tille & Henderson shirt factory, a huge landmark in Londonderry. Dating from 1856, the brick-walled factory had a pioneering cast-iron interior structure and was claimed as the world’s first clothing factory to use steam power. After the roof was destroyed by fires last December, demolition was begun at the beginning of January, without listed building consent. This sudden act is considered to have gone too far to save the building. A hotel is intended for the site.

OBITUARY
Michael Robbins (1915-2002)

We are very sorry to have to report the death of Michael Robbins who died on 21 December 2002. Michael was the first President of the Greater London Industrial Archaeology Society to which he brought inspiration and encouragement following the inaugural meeting at the Science Museum in 1968. He was a member of the initial Steering Committee and his advice greatly helped to shape the structure of the Society and to refine its objectives.

Michael’s distinguished career began when he gained a King’s Scholarship to Westminster School in 1929 and then went to Christ Church, Oxford where he read Greats. An early interest in railways shaped his subsequent career and he joined London Transport in 1939, becoming Managing Director (Railways) in 1971.

In addition, Michael made a notable contribution not only to the serious study and writing of transport history but also to the management of museums. He established the Oakwood Press with Jack Simmons and Roger Kidner. Michael and Jack Simmons created The Journal of Transport History and their last publishing project was the Oxford Companion to Railway History published in 1997. Earlier, Michael collaborated with Professor Theo Barker in producing the classic two-volume History of London Transport.

In 1962 Michael was instrumental in establishing the Museum of British Transport in Clapham which, in 1980, became the nucleus of the London Transport Museum in Covent Garden. He became a Governor of the new Museum of London when it opened in 1968 and was Chairman of the Governors from 1979 to 1990.

This brief notice can only give some idea of the wealth of knowledge and experience that Michael gave so freely to the embryonic GLIAS in the 1960s and continued to do so even after ill-health brought his Presidency to an end a few years ago. Michael was not just a figurehead President and we feel that we have lost a valued friend and mentor. We shall always be grateful for his special contribution to the Society.
Scotland

Despite the hugely successful opening of the Falkirk Wheel, this has been mixed year for Scotland's industrial heritage. The carnage has continued, and as was reported last year, has perhaps been most keenly felt in Clackmannanshire where the largest woollen mill, Paton & Baldwin's Kilncraigs Mill in Alloa, has now been transformed into yet another Tesco. Attempts to save the adjacent Thistle Brewery (formerly McLay's) appear to have failed, Weir's Foundry has been demolished, and Tullibody Tannery has completely disappeared.

This leaves the Alloa Glass Works as the town's only large industrial employer, but if a private member's bill currently passing through the Scottish Parliament is successful, the railway may soon be restored and local citizens may at least be able to seek employment elsewhere with greater ease. Further south, a similar initiative involving the re-opening of some of the Waverley Line into the Scottish Borders has been re-ignited, but the major problems currently afflicting the national railway network may delay this project.

Although the propensity for supermarkets to gobble up industrial heritage is depressing, the outcome is not always a foregone conclusion, especially where the planning process is properly applied, and the local authority fulfils its responsibilities. Readers will recall the case of Broadford Works in Aberdeen, whose owners had originally opted for a supermarket redevelopment. All has changed since the intervention of Aberdeen City Council, the compilation of a conservation plan, and a management buy-out. The company now plans to move from the premises in May 2003, after which the mills will be converted into an 'Urban Village'.

Meanwhile, much further south in Johnstone (the west edge of Paisley in Renfrewshire), William Paton Ltd have finally decided to move shoe-lace production to a purpose-built modern unit at Linwood (previously the home of the Hillman Imp). Their current premises, Johnstone Mill, have operated continuously since 1782, and the surviving multi-storeyed mill is therefore one of the oldest operating cotton mills in the world. A conservation plan has been produced, and it is hoped that the important buildings can be sympathetically incorporated into a new housing development.

Whilst sights of relief were heard throughout the UK at the news that BAE had been awarded the big aircraft carrier contract, this is not necessarily good news for some of Scotland's finest industrial heritage. In order to accommodate large prefabricated sections of ship, the company wishes to expand its fabrication facilities, and has therefore submitted an application to demolish the adjacent A-listed Fairfield Engine Works at its Govan Shipyard in Glasgow. There are also plans to demolish small parts of its sister yard at Yarrow.

Further downstream at Clydebank, demolition of John Brown's shipyard commenced in January 2003. In the context of the disappearance of the Beardmore and Singer complexes in the town, very little now survives of its rich industrial heritage. Fortunately, a substantial body of records was rescued by Clydebank Museum, and earlier salvage operations have ensured that a lot of valuable material was deposited with Glasgow University Archives.

Despite mounting difficulties, Scotland's industrial museums have survived another year. East Lothian Council continues to investigate ways of developing and invigorating the Prestonongrange Industrial Museum, and Glasgow City Council are considering moving the Museum of Transport from the Kelvin Hall to a new site.

In contrast, there had been disturbing news from Verdant Works in Dundee, which, despite receiving museum awards and considerable praise, was faced with closure because of revenue funding problems. To their credit, both the Scottish Executive and Dundee City Council have now intervened, the former with a one-off grant and the latter an increase in annual funding. This has provided the necessary breathing space to allow Dundee Heritage Trust to keep the museum open and, if it is to be hoped, for a long-term solution to be found. In a similar move, the Scottish Executive has since promised short-term assistance to stave off the closure of the lead-mining museum at Wanlockhead.

In the public sector, Historic Scotland is in the process of reviewing the range of Scheduled industrial monuments currently under its protection. The process involves ironing out inconsistencies in the existing list and selecting worthy new industrial candidates for protection under the Ancient Monuments legislation. The initial findings are both interesting and very encouraging.

Attendees of the AIA Scottish conference last September will recall that The Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS) was about to be de-royaled and re-branded. Those readers who follow politics will know that Scotland is now under the care of its third First Minister, the first two having succumbed to fatal illness and political scandal. The second of these First Ministers came to power amid a blaze of publicity centred on his stated intention of starting a 'Bonfire of the Quangos'.

This has had significant repercussions both in the heritage sector and beyond. Under the Public Appointments and Public Bodies etc (Scotland) Bill, both the Historic Buildings Council and the Ancient Monuments Board were to be abolished, but after widespread concern was expressed, they will instead be merged to form a new body, the 'Historic Environment Advisory Council for Scotland'.

Johnstone Mill, Renfrewshire. Dating from 1782, production at this cotton mill is about to be transferred to a modern factory unit at Linwood

Photo: RCAHMS: Crown Copyright, SC771562, Jim Mackie, March 2003

Verdant Works, Dundee, a highly-praised industrial museum operated by Dundee Heritage Trust. The museum has suffered from a shortfall in revenue funding, but is to be assisted by a one-off grant from the Scottish Executive, and increased funding from Dundee City Council

Photo: RCAHMS: Crown Copyright, SC757665, Jim Mackie, June 1992
Regional News

RCAHMS, meanwhile, was also considered within this review, and proved to be less combustible than many had feared. However, its royal status was considered to be 'anachronistic', and a re-branding exercise was planned. In the final stages of the Bill, complications arose and RCAHMS was removed from the legislation. The RCAHMS lion therefore lives on until the next parliament, and the aftermath of the May elections.

Finally, three early casualties of the quango bonfire were the Scottish water authorities (East, West and North of Scotland Water). These were merged into one body, 'Scottish Water', and some concern remains at the fate of records relating to some of Scotland's most historic water supply schemes, many of which may have suffered during the many recent administrative changes. Meanwhile, EU requirements have necessitated the installation of a water treatment plant for the Katrine scheme (Glasgow's water supply) at Milngavie, and this has provided the opportunity for a project to record and document what is undoubtedly one of the world's most historic water-supply systems.

Miles Ogletorpe

South East England

Much of the region's news this time comes from the Sussex Industrial Archaeological Society's newsletters and much of that concerns windmills. However, the first to be mentioned is Outwood Mill in Surrey. Built in 1665, it has always been thought to be the oldest working windmill in the country. Among his journals, the first miller recorded seeing the glow from the Great Fire of London in 1666 as he worked on the mill. Restored with assistance from the Society for the Protection of Ancient Buildings many years ago, it has been for sale for a while. It has now been sold and whether it will remain open to the public is uncertain; however, the accompanying country life collection is to be dispersed.

Not only is Outwood Mill's future now uncertain, but so is its claim to be the oldest working mill. During recent work on Nutley Mill, over the Sussex border, a dendrochronology survey has revealed that the oak post was most likely felled between 1533 and 1565. Work at Nutley was severely hampered last year by the need to lift the windshaft. This necessitated a windless dry period of three days for the task to be safely completed and the restoration team had to wait for eight months until June for the conditions they needed.

SIAS members have also been at work conserving pieces of Stewart Bridge at Barnham. This originally crossed the Portsmouth and Arundel Navigation and among the items found are several pieces of metalwork related to the cast iron swing bridge plus the brick walls and coping stones. While working on this site, the landowner discovered several substantial cast iron parts of a side member engraved 'Hollinsworth Bridge 1820'. These relate to a bridge located several hundred yards to the east, although the parts have now been displayed at the Stewart Bridge site.

The Society is also actively involved in investigating the substantial visible remains of three coal yards at Pevensey Bay. Each has a retaining wall built into the shingle bank, and the coal was unloaded from colliers on the beach, hauled up the bank and tipped over the top of the back wall. There is also the possibility that lime kilns were established here and serviced with chalk by sea in the same way from about 1790.

The coal yards supplied an area extending well inland and even survived the local railway opening in 1836. Later cross-links through and around London meant that coal could arrive by rail direct from the Midlands fields. This was during the 1860s, the same time that the beach was attracting the attention of property developers for seaside residences.

One of the earliest railways in the country, however, was to be found in Surrey. The Surrey Iron Railway this year celebrates its 200th anniversary and it is just a pity that there is so little remaining to see. It is claimed to be the world's first 'public' railway in that it was not just for use by its developers and it was the subject of an Act of Parliament. Built outwards from Wandsworth, it reached its southern terminus in Croydon on 26 July 1830 and its arrival arguably was the catalyst for the development of the modern borough. Later it was extended by the building of the Croydon, Merstham & Godstone Iron Railway. There is no evidence of planned passenger carriage and the railways were mainly used for cargoes such as coal and limestone. Today much of the railways' trackbeds are hidden beneath modern development including later railways, but some of the route can be followed on footpaths and there is a small display of sleepers and rails in Quality Street, Merstham.

English Heritage have been carrying out an extensive survey of the early gunpowder works at Chilworth, near Guildford. This has been under the leadership of Wayne Crocft (author of the EH book Dangerous Energy) over the last two winters and the final report is awaited with interest. Meanwhile some small-scale conservation work has taken place, both by the local authority and site owner, Guildford Borough Council, and volunteers of the Surrey Industrial History Group.

SIHG members Keith Sorrill and Christopher Mann have been involved in a long-term project to document the surviving remains of the large Canadian-built military Tweedsmuir Camp at Thursley between Farnham and Godalming. This camp has been demolished for many years but the building bases and parade ground remain along with the camp water tower. It is reputed to have received every Canadian serviceman arriving in Britain during the Second World War on their way to their longer term billets. It was one of a number of such camps on the common land here but Tweedsmuir's use continued after the war when it was used as a camp for displaced persons until 1957. The latter use has now been documented by two Polish brothers, Wies and Zen Rogaiski, and adds considerably to the knowledge gained from the field survey.

Next to the camp is Hankley Common, used as a military training area since at least the 1920s. Here there is what was thought to be a unique structure in England – an exact 100-yard long copy of part of Hitler's Atlantic Wall used in the testing of breaching weapons prior to D-Day. There is also a similar (but smaller) version on the Sherriffmuir battlefield in Scotland. However, through the Tank Museum at Bovington, it has now been discovered that at least two other similar structures were constructed for weapons testing during the war. The only problem is that their locations do not seem to have been recorded so if anyone reading this knows of their locations the author would be pleased to hear from them.

Military establishments provide the only news from Hampshire too. The former naval air station, HMS Daedalus, at Lee-on-Solent is being considered as the site for a large holding centre for asylum seekers (and is meeting much opposition from the local community). At nearby Gosport, the latest military depot to undergo 'civilianisation' is the massive victualling base of the

Outwood windmill in Surrey has an uncertain future
Royal Clarence Yard. The handsome, solid warehouse blocks are ideal for conversion to their new use as up-market flats and apartments.

Chris Shephard

East Midlands

The Leicestershire Industrial History Society has been active in the region. Member Nigel Moon has taken the major steps in converting his Mill at Whissendine, near Melton Mowbray in Leicestershire back to wind power. The first of two pairs of sails have been set, a new gallery mounted, grain store rebuilt and production of Stone ground flour continues with the aid of a temporary electric drive. The mainsail shaft was recovered from a local house, where it was used as a gatepost. Frustrated by, but with financial assistance from English Heritage, Nigel hopes to see the metamorphosis complete sometime later this year. Meanwhile, if you are in the area call at the site, in the middle of the village, or on Sunday afternoons, aim for an open time in the afternoon. Phone him on 01664 474172 for confirmation.

The LIHS working group is assisting the Daniel Hayes conservation group to restore a nineteenth-century ram pump at a farm on the Leicester/Derbyshire border, formerly part of the Calke /Harper-Crewe estate. The ram chamber was built on the site of a much earlier defunct fish pond, which is also being restored, so the height of the ram chamber will have to be raised to bring the top above pond water level. Made by Blakes of Accrington, the ram pump is being repaired by the successors to the original makers, at their Accrington works, prior to being reinstalled to pump water up to the farm buildings. The original gravity feed pipes are intact, but several hundred metres of new delivery pipe are being moled in.

LIHS member Tom Lawson has produced a fine hardback history of the Charles Horner of Halifax, art nouveau, art deco, hat pin, jewellery and 'Dorcas' thimble manufacturer (1860 to 1984). Beautifully and fully illustrated, Charles Horner of Halifax costs to AIA members is £37.00. Details from GML publishing, PO Box 6722, Leicester LE2 2YH, or e-mail: GMLP@clara.co.uk, or visit www.charleshorner.co.uk.

At the time of writing a very full LIHS May Weekend is being planned for 3-5 May, based at Pickering and featuring visits to Rosedale East and West Mines, the Tom Leonard Mining Museum at Skinningrove, the North York Moors Railway, Whinstone mines in Goathland and Esk Valley and other sites at Griston and Beckhole, with the Monday set aside for the alum works at Ravenscar visitor centre.

David Lyne

Local Society and other periodicals received

Abstracts will appear in Industrial Archaeology Review.

BIAscope, 56 & 57, Winter 2002 & Spring 2003
Brewery History, 109, Autumn 2002
British & Irish Archaeological Bibliography, 6/2, October 2002
BW Monthly, December 2002, January & February 2003
Context, 77, November 2002
Cumbria Industrial History Society Bulletin, 54, December 2002
GLIAS Newsletter, 203, December 2002
Greenwich Industrial History, 6/1, January 2003
Industrial Heritage, 28/3, Winter 2002
Lancashire History Quarterly, 6/3, Winter 2002
Manchester Region Industrial Archaeology Society Newsletter, 102, February 2003
The Milestone Society Newsletter, 3 & 4, July 2002 & January 2003
PHW Newsletter, 96, December 2002
Post-Medieval Archaeology, 36, 2002
Scottish Industrial Heritage Society Bulletin, 25, March 2003
Suffolk Industrial Archaeology Society Newsletter, 80, February 2003
Surrey Industrial History Group Newsletter, 131 & 132, January & March 2003
TICCII Bulletin, 19, Winter 2002
WaterWords, (news from Hereford Waterworks Museum), Winter 2002/3
Worcestershire Industrial Archaeology & Local History Society Newsletter, 23, Winter 2002
Yorkshire History Quarterly, 8/3, February 2003

Books Received

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


In the early nineteenth century, the development of communications to the port of Holyhead was impeded by the Menai Strait. The solution was to build a railway bridge that would later be described as one of Britain's greatest engineering landmarks. The Britannia Bridge was the result of the union of the talents of two remarkable engineers. Based on an original concept by Robert Stephenson, this great tubular bridge was modified, developed and designed by his partner and technical consultant William Fairbairn. New an innovative procedures were used in both design and construction - the use of wrought iron; the structural continuity of the tubes; building in sections which were lifted into position by hydraulics - all of which made it a ground-breaking piece of engineering. At 460 feet, the Britannia Bridge had the longest span of any girder bridge in Britain and will long be remembered as belonging to a heroic age of railway engineering. This book is also the story of other tubular bridges and the men who built them.


This A4 paperback is the first in a series of Arcus Studies in Historical Archaeology published from the Graduate School of Archaeology in Sheffield. Following an introduction to Sheffield and the organisation of the industry by the Editor, the two main sections are formed by the work of Joan Unwin into the manufacture of cutlery and that of Victoria Beauchamp on the workshops, large and small, of the industry in and around the town.
Heritage Dreadnoughts. This around suggest of the Admiralty controlled much shipbuilding one great contraction of the Clement, himself, designers Maudslay (1771-1831) started an engineering works Henry Maudslay. This became a firm Maudslay Son & Field, Richard, David Napier, Joseph Clement, Joseph Whitworth, James Nasmyth and William Muir. This book contains previously unpublished documentary research, and original analysis helps clarify many issues surrounding this period of innovation.


Portsmouth was known as a Dockyard town for a long time until the last great contraction of the yard took place in the 1980s. Portsmouth's fortunes were closely linked to war and peace, rather than to the market considerations which governed most towns' growth. By the early twentieth century the Dockyard was one of the world's largest shipbuilding centres and the Admiralty controlled much of the shoreline, to the detriment of the commercial sector. Oddly enough for a port, the clothing industry was particularly well developed. In spite of the expansion of the Dockyard, in 1911, there were more than 10,000 people employed in the manufacture of clothing, yet contemporary accounts of the town suggest that everything revolved around the building of the Dreadnoughts. This book contains over 200 images, mostly of the Dockyard and its defences, but also of the commercial Camber Dock, Portsmouth's power station, gas works, breweries, pubs, railways and other industries.


This book is a collection of new colour photographs of the World Heritage Site. It depicts the scarred and relic-strewn landscapes, as well as Big Pit and the Ironworks. Blaenavon town itself is also included as well as some fine images of the countryside, and of canal and tramroad remains.


The author has made use of primary and secondary sources to trace the conception, building and subsequent operation of the Minehead Turnpike Trust which remained in operation for 113 years. Financial problems were rife during the latter half of its existence due to inadequate income from traffic on its considerable mileage of road through a remote and sparsely populated area. The assets of the Trust, 29 lots comprising tollhouses and gates, were sold by auction in 1877.


Once one of the most productive areas in the United Kingdom, the extraction of limestone by quarrying has left a huge impact on the Dales. There have also been a number of important and innovative local entrepreneurs in the industry. The author has surveyed the quarries and field kilns in this area of Yorkshire and has undertaken the renovation of a Hoffman-type kiln for interpretation to the public. The book provides a valuable introduction to the industry and specific studies on several large quarries as well as a review of the smaller ones and their associated kilns. It is well-illustrated with kiln drawings, site plans, black and white and colour photographs.


In 1811 Joel Lean began to publish a monthly record of the performances achieved by Cornish mine engines. His descendants continued his work for more than a century and other people also imitated their work in other metalliferous mining areas. The result was a fiercely competitive industry where engineers and their supporters strove against each other to produce the best results. The author follows the activities of the Reporters, the Leans, John Taylor, Arthur Woolf, William West and William Browne.


This A4 paperback is a collection of nine chapters from eight authors with a glossary. The chapters include an introduction to the industry, a historical overview and an account of the manufacture of alum from shale. Three look at specific sites, Peak, Carlton and Boulby; two examine shipping and local anchorages; and the editor in the concluding chapter collates the evidence and suggests a future agenda for research. Five appendices include notes on the relevant chemistry of the process and a gazetteer of sixteen coastal sites. A well-illustrated and useful publication on an early chemical industry.


This new Shire Album, written by an author professionally involved with the restoration of steam engines, is a welcome addition. It is copiously illustrated with drawings and photographs and provides an excellent introduction to the subject at a reasonable cost. The book outlines the development of the beam engine and gives some explanation of why it was so successful. It includes a list of running and preserved engines to visit.

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A second book about the Kennet & Avon, tracing the long battle to restore this superb waterway. The happy culmination of many years of rejuvenation was entirely due to the volunteers of the K&A Canal Trust, set up after the canal's abandonment and dereliction. The Trust had the unprecedented task of restoring over 70 miles of primarily rural canal with the added difficulties of massive engineering challenges to overcome. Although the canal re-opened in 1990, it took another ten years and £30 million to ensure its survival. This story of the work and dedication of thousands of volunteers over five decades is illustrated with scenes of dereliction, restoration work and the finished canal.


Stratford upon Avon owes its existence to the necessity of transport. The Avon became a navigable waterway and the Stratford Canal was built to link it to the Industrial Black Country. The author has produced a history of the canal from its conception and construction (it opened in 1816), to its reincarnation in the twentieth century. The detailed text is combined with a large selection of archive photographs and documents. Also included is the story of how pioneering enthusiasts sympathetically restored the canal, a project which started in the 1960s and came to involve the National Trust. The canal survives today, with its characteristic lock-keepers' cottages, split-bridges and three iron aqueducts, the one at Edstone being the longest in England.


This new History and Guide has been prepared from 30 years' personal knowledge of the canal. It opened in 1789 and was then the fulfilment of the earliest of many proposals to link the Severn to the Thames. Abandonment for traffic began in 1927 and was completed in 1933, but new interest was taken in 1972 with the formation of the Stroudwater Canal Society and its efforts to restore the link are now being progressed by British Waterways. The canal archives are of exceptional range and quality and provide a rare insight into engineering and construction details, the carrying trade, and the management and operation of the canal. This book shows where to access the canal, lists important surviving buildings and provides a detailed historical account of a waterway which, as it slowly re-awakens, still remains one of the most attractive routes in Britain.

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national industrial heritage.
Details from Congress Secretariat,
Mrs Natalia Krasnogor, IHMC, PO
Box 65, Ekaterinburg, B-109, Russia
620109. Details and on-line
registration form on website

11-13 JULY 2003
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Summer Event, with the theme of
Electronics and Electrical
Engineering, with papers on railway
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Details from The IEE, Michael
Faraday House, Six Hills Way,
Stevenage SG1 2AY, or
www.iee.org/tn/history.

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www.fast.mi.it/aim/archeo.htm or
at Associazione Italiana di
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