

INDUSTRIAL ARCHAEOLOGY NEWS

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Cornish buddles unearthed at a Michigan copper mine

David B. Landon

The recent excavation of two well preserved round buddles of the 1850s at the Ohio Trap Rock mine provides evidence of an 1850s' Cornish connection in the rich copper mining belt on the Michigan shores of Lake Superior, USA.

The copper mines of Michigan's Keweenaw Peninsula were America's most important source of copper for most of the nineteenth century. Copper in this region exists in its native metallic state, unalloyed with other minerals. Large-scale development of the district began in the 1840s, when a geologist's report on the prospects of the area helped spawn a mineral rush. Numerous companies bought tracts of land and sent crews to begin exploratory work. Cornish mining technology came to the region with immigrant miners and was a key factor in the district's development. The organisation of underground work and the stamping and washing practises all drew on Cornish precedents. A small number of mines, the Cliff, the Minesota [sic], and later the Quincy, and the Calumet & Hecla, were very productive and profitable. Most of the early ventures were not so successful and expended the investors' money without returning a profit.

Michigan Technological University students and faculty, Ottawa National Forest archaeologists and volunteers have been researching one of the early failures, the Ohio Trap Rock mine, for several years. Mining began at the site in 1847, and by 1858 the original company had expended its capital and closed down. Other companies continued to work the same copper veins, but appear not to have used Ohio Trap Rock's surface works. Over the last four years we have mapped the site, surface collected approximately 10 acres (primarily the domestic area of the site), test excavated three structures, and studied historic information about the site.

The most extensive excavations have taken place at the company's stamp mill, one of 35 surface buildings the company constructed. At the stamp mill, mine rock was crushed and washed to liberate small grains of copper. The mill at Ohio Trap Rock was apparently built in 1852, and was probably out of use by 1858. The mill had 24 stamp heads run off a 40 horsepower steam engine. Over the past three seasons we excavated 19 test units covering 56 m² of the structure. The

combination of archaeological and historical research has given us a very good idea about the construction, layout and organisation of this early mill.

The 1994 and 1995 excavations centred on portions of the washing and laundering system where the copper was concentrated after the rock was crushed. Most of the test units had very similar stratigraphy. The first 5-10 cm were a dark brown mat of roots and decaying twigs, leaves, pine needles and other organic matter. Beneath this organic layer was sand, the byproduct of the stamping process of the mill. The sand was olive green, and ranged in consistency from silty sand to very coarse sand. The residual copper in the stamp sand sediments acted as a biocide and contributed to excellent organic preservation. Wood, leather and other organic materials were preserved, and the buried wooden components of the structure were in virtually perfect condition.

The sill of the washing house, sections of working

floor, drainage and supply trenches, a classifying or jiggling area and sections of two circular buddles were all found in the excavations. The mill burned, and there were many charred wooden pieces of the structure that had fallen down and been buried. The most striking example was a portion of a wooden door. This was constructed of several layers of planks held together with clenched nails, and still had a fragment of a hinge attached. Only the bottom of the door remained, as the upper portion had burned away. This door remnant was lying on top of a preserved section of wooden floor, which also yielded several intact barrel bottoms.

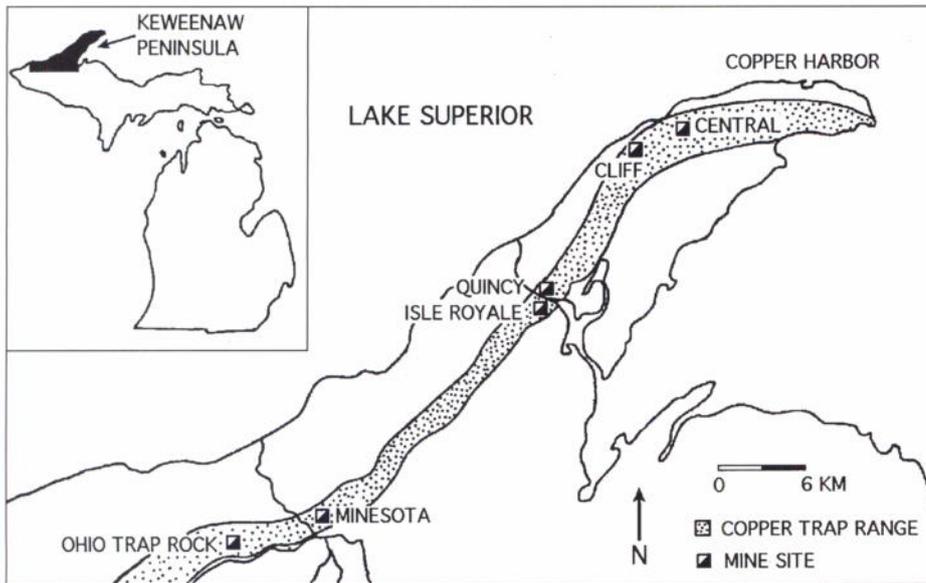
Nails, bolts, washers, spikes, window glass, pieces of lumber and other architectural artefacts were scattered throughout the stamp sand deposits. Two major artefact concentrations were also excavated. One was a mix of fill, trash and destruction rubble that contained several copper alloy brackets, barrel parts, textiles, sections of metal pipe and a host of other



Detail of circular buddle centre, Ohio Trap Rock mine, Michigan, excavated in August 1995

Photo: David B. Landon

Barrie Trinder leaves ● Michigan buddles ● Norfolk bridges ● Navy huts
Belgian beer ● AIA Forward Plan ● Current thinking ● Welsh IA



Map of the Keweenaw Peninsula, showing some early mine locations. Inset shows outline of Michigan State



Exposed section of circular wooden buddle, with wash-house sill in foreground, Ohio Trap Rock mine, August 1995
Photo: David B. Landon

artefacts. The second concentration was in the fill of one of the drainage trenches. This contained many well preserved organic artefacts including textile fragments, several pieces of leather boots or leather leggings and several sections of wooden trough. It also contained half of a metal-bound wooden crown gear. The gear was originally about a metre in diameter with projecting wooden pegs around the edge to engage another gear. This might have been part of the drive mechanism to power the sweeps on one of the buddles.

The remains of two circular convex wooden buddles are the most interesting discovery. Each of these had a vertical metal shaft in the centre, surrounded by vertical planking approximately 55 cm out from bearing. Outside the vertical planking was a horizontal wooden floor that sloped down slightly away from the centre. The floor was made of wood planks radiated out from the centre of the buddle. These were tongue-and-grooved together, and cut with a taper so

that they widened towards the edge of the buddle. The outside edge of floor was not truly round but polygonal. Vertical planking about 25 cm high was attached to the exterior edge. The floor butted up against the vertical planking on one side, and in another area a wood-lined trench was next to the edge of the buddle. The trench seems to have been designed to help drain water and fine sand out of the buddle. We excavated from the centre of one buddle across to the outside edge, and it proved to be about 9 metres in diameter.

In 1851 the Ohio Trap Rock company fired the English mine captain who was their on-site agent, and hired an experienced Cornish miner, Captain Joseph Buzzo, in his place. Buzzo tripled the workforce to more than 100 workers and directed the construction of additional surface facilities. It is likely that Buzzo and the Cornish miners he hired built the stamp and washing house. The wooden buddles at this site represent a serious investment of time and effort, yet

they were only in use for a few years before the company shut down. Circular buddles are distinctly Cornish-style technology, and were the leading edge of ore dressing technology in the 1850s. This technology was not well known in North America. The presence of these buddles at the Ohio Trap Rock mine site shows the early transfer of Cornish copper processing techniques to Michigan's Keweenaw Peninsula.

Any suggestions for interpreting these features would be greatly appreciated. I would also be happy to supply additional information. Please write to: Dr David B. Landon, Department of Social Sciences, Michigan Technological University, Houghton, Michigan 49931, USA.

AIA

ASSOCIATION FOR INDUSTRIAL ARCHAEOLOGY

ANNOUNCING THE THREE FIELDWORK AND RECORDING AWARDS FOR 1996

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

THE CLOSING DATE FOR ENTRIES IS 1ST MAY 1996

Successful Entries will be notified in August
The successful authors will be invited to attend the AIA annual conference in Bangor to collect their awards in September 1996

Entries should be sent to:
Victoria Beauchamp, c/o The Division of Adult Continuing Education
University of Sheffield, 196-198 West Street, Sheffield S1 4ET

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For further details, contact the Editor.

'De Snoek' malthouse and brewery

Robert Carr

The quality and variety of Belgian beer is beginning to be appreciated in England and is now quite widely available. At Alveringem (which as the crow flies is only about 60 miles from Dover) is an opportunity to visit a traditional small village brewery and taste its unique product on-site where it is sure to be unspoilt by travel.

During the Great War, the invading Germans failed to completely conquer Belgium – a small area in the north west held out, hence the phrase 'gallant little Belgium'. The Lo canal runs south eastwards from Veurne to Lo-Reninge, and by the canal at Alveringem was a small brewery and malthouse. There had been brewing here since at least 1767 but the old establishment had to be demolished to allow for the canal to be widened. The old malthouse was retained in 1871, and the brewery equipment re-used in a new building designed by the architect Medard Delanghe.

In most of occupied Belgium during the Great War, the Germans commandeered industrial plant, and brewing coppers were valuable scrap for their war effort. Being on the right side of the front line, this did not happen at Alveringem and the brewery continued brewing in the traditional way with its old equipment right up to 1952. Even then the coppers were not sold for scrap despite high prices due to the Korean War, and the complete equipment remained in situ until 1989. That year the buildings and their contents were taken

over on a long lease by the charitable trust 'Westhoek Monumenten' with the aim of restoration and opening to the public. Work started in 1991 when the malthouse was legally protected as a historical monument by the Flemish government. Work has been co-financed by the European Community, the Flemish Region, Flemish Tourist Board, the King Boudewijn Foundation, the Province of West Flanders, the Town of Alveringem and other sponsors.

On 2 July 1994, the brewery museum 'De Snoek' (The Pike) was opened to the public and it is now possible to see the old malt kiln, brewing coppers, cast iron mash tun and cooling vessel, fermenting tuns, stirring rods and a period gas engine. This splendidly restored village brewery is the only one in Flanders to retain its nineteenth-century coppers and machinery.

Flanders has one of the most important and diversified brewery traditions in the world. More than 200 different beers are still brewed there. A century ago there were more than 2,000 Flemish breweries. It is now possible to taste again the traditional Snoek beer at Alveringem. It is a high fermentation type brewed with malt, hops, water and yeast. It is not filtered and there is after-fermentation in the bottle or tun.

The Malthouse and Brewery Museum 'De Snoek' is near the Flemish-French border between Ieper (Ypres) and Veurne, not far from the sea. With transport arranged the other side of the Channel, it is possible



Malt House and Brewery 'De Snoek', Alveringem, Belgium
Photo: Adriaan Linters

to make a day visit from England, say, via Calais. The museum is open on Saturdays and Sundays and at least some of the staff speak English. For further information, contact Westhoek Monumenten vzw, Fortem 40, B-8690 Alveringem, Flanders-Belgium. ☎ 00 32 58 289674.

The Norfolk bridge survey

Derek Manning

The proposed increase in lorry weights to 40 tonnes after 1999 has implications for every county's bridges, of whatever age. The Norfolk IA Society has responded in their county by undertaking a survey in advance of bridge strengthening or replacement.

Over the last few years there has been a major effort in Norfolk to strengthen bridges to meet load requirements for the introduction of 40-tonne lorries after 1999. These requirements affected some bridges more than others and the Norfolk Industrial Archaeological Society decided to begin a survey of those bridges requiring strengthening or replacement. At first it was thought that only a few bridges would be

completely rebuilt but the programme of major work has grown steadily and survey will take several years to complete. The extent of the work can be seen in the following table:-

Bridges in Norfolk requiring assessment	864
Bridges assessed in	
1988/89	16
1989/90	20
1990/1	29
1991/2	35
1992/3	51
1993/4	112
1994/5	148

The existing bridges have been built over many years from the medieval to the modern period. The earliest were all of brick or masonry and are now usually ancient monuments or listed for protection, and have often been bypassed to remove traffic from them. No wood bridges survive. However, there are many brick-arched bridges still in use and it is interesting to note that in the main these still have adequate strength but require new parapets to withstand collision. From the nineteenth century there are few cast iron bridges left in the county, but there is a good stock of a simple girder bridge that was used for many years. This is a side girder bridge with a metal troughing deck supporting the road surface. In some cases the side girders are being replaced by a reinforced concrete beam but in others the girder is being retained and the bridge strengthened by a concrete mat over the deck. At road level there is no change to appearance.



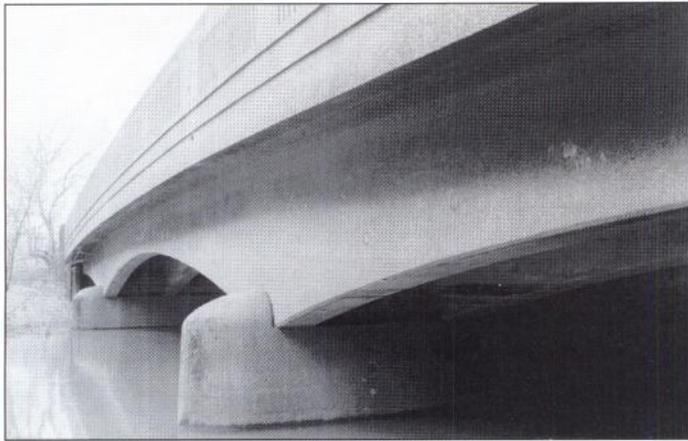
Banningham Bridge was built a year after the great 1912 flood in Norfolk. It was one of nine bridges built to a standard design. East elevation, TG231295

Photo: Derek Manning

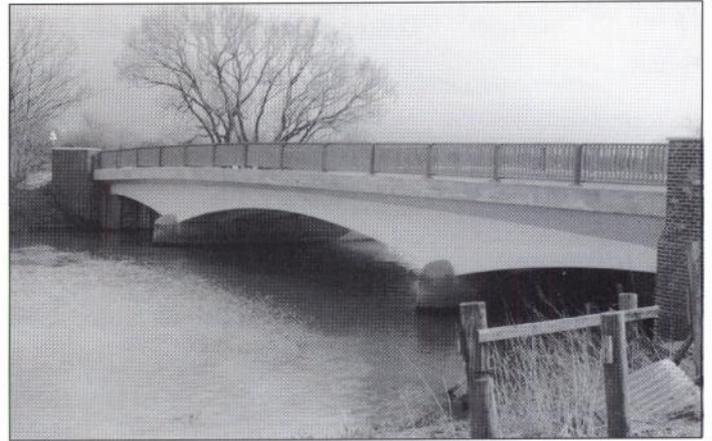


Banningham Bridge, as rebuilt in 1994-5. West elevation

Photo: Derek Manning



Delph Bridge, Welney, built in 1948-9. This was previously known as Charity Bridge because it replaced a private bridge maintained by the Trustees of the Marshalls Charity. South elevation, TF529936
Photo: Derek Manning



Delph Bridge, as repaired and strengthened, 1995. Note side beam supporting revised parapet
Photo: Derek Manning

In 1912, there was a disastrous flood in Norfolk and many bridges were washed away or badly damaged. Some were repaired but others were replaced with new designs. Because of a shortage of steel, ten bridges were rebuilt in reinforced concrete, nine to a standard design and the tenth, Coltishall, to a highly ornamental design. This latter bridge does not require strengthening but the others have deteriorated and all require major work or replacement.

It is with the introduction of reinforced concrete that the major problems are occurring and the bridges of the inter-war period over the great rivers of the Fens nearly all require replacement or a major rebuild. At Welney, in a ¾-mile stretch of road, three bridges are being replaced or rebuilt, each bridge being of three spans. Two of the bridges have already been subject to major repair and the third is to be replaced.

With the co-operation of the Norfolk Archaeology Unit and the Highways Department of the Norfolk County Council, the Society is being informed of any proposed works on bridges and the current programme. This is often being altered as budget pressures affect the highways programme and also as other bridges are tested and found to have higher priority. As a result, the Society has examined bridges and then found they have been dropped from a programme and replaced with a bridge not visited.

To aid their work the Society uses a simple form that lists the salient features of a bridge and its basic dimensions so that the scale can be given to the backup photographs and sketches. These dimensions are very approximate as they are obtained by pacing,

it being impracticable for members to measure accurately on busy highways.

The surprise has been that it is often the small insignificant bridge on a country road that has proved more interesting than the larger bridges. Instances have been found of bridges with the names of the builders, founders and local surveyors all cast into the ironwork, and it is these bridges which proved most difficult to discover any backup history for the survey. Perhaps the best way to illustrate the results of the survey is to use two of the 90 bridges so far recorded as examples of what has been done.

Banningham bridge was rebuilt in 1913 after the original bridge was washed away in the 1912 flood. Within 19 days of the flood a temporary bridge strong enough to carry a traction engine had been erected and the rebuild was discussed. Because of a national shortage of steel, it was decided that it should be rebuilt with ferro concrete using the Mouchel-Hennebique technique. A tender was let for this in April 1913 at a cost of £420. Trouble was experienced in construction with the disintegration of the reinforced concrete piles under the pile-driver. These piles had been cast on-site using defective cement. The bridge was opened for traffic in December 1913. This bridge was about 40 ft (12.2 m) long and 27 ft (8.2 m) wide. It failed a load test and was scheduled for rebuilding in 1993-4. During the 'rebuild' in 1994, the old bridge was completely demolished and replaced by one of reinforced concrete with prestressed concrete beams for the deck. The dimensions were increased to 46 ft (14 m) length and width of 28 ft (11 m). The rebuild

cost £320,000. In this case the old bridge disappeared and a modern design replaced it.

On the other hand, the bridge over the Delph at Welney, which was built much later, was extensively repaired and strengthened. This was taken over by the County Council in 1945 after a public inquiry had determined who was responsible for the old bridge, which was in danger of collapse. As part of the inquiry findings, an Order was made requiring the County Council to build a new bridge with a minimum width of 36 ft (11 m) between parapets and to improve the approaches and remove the temporary bridge that had been erected to keep the road open. The bridge was built in 1948-9, with reinforced concrete, at a cost of £15,100. When tested as part of the strengthening programme, it was originally scheduled for complete replacement at an estimated cost of £1.1 million. In the event, it was extensively repaired and strengthened. New side beams were installed, piers and abutments replaced or repaired and the deck strengthened. The biggest change in the appearance of the bridge is the installation of steel rails replacing the decorative concrete parapet that was part of the original bridge. This work cost about £345,000.

The study has revealed to members of the Society an unexpected wealth of interesting structures hidden beneath roads which are traversed every day. It is not until one gets out of the car and views a bridge from the side that its true character can be seen. It is important that the small insignificant bridge as seen from the road is recorded as well as the famous bridge which forms a significant feature in the landscape.

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In search of navy settlements

Michael Morris

Field research into the remains of remote navy settlements won the author the AIA's Fieldwork Initiative Award, presented at the Sheffield Conference. The following summarises 'Towards an archaeology of navy huts and settlements of the industrial revolution', published in Antiquity, 68, 1994, 573-84.

Many of us will remember history lessons which told of the hard-living, lawless and drunken navy. But navvies were not mythical folk devils – they were the specialised labour force which provided the muscle power for the great infrastructure projects of the time. With a special style of dress and language they were often independent of mainstream society, moving from contract to contract and living in temporary communities. Whilst there are various contemporary documentary sources for their sub-culture, little attention has been paid to the archaeology of their huts and settlements which still survive, often in remote places.

We can identify four main periods of navy life: the formative period in the canal age; the railway age, which was the 'classic' period of navy life and culture; the period of municipal projects; and the road-transport period.

The canal age, from the 1760s to 1830, can be described as the prehistory of navy settlements. By the 1790s, specialist contractors probably used established labour gangs for canal-digging, employing up to about 25,000 navvies in the heyday of canal building. We know little about navy living arrangements during this period – they were probably a combination of local lodgings, self-built huts and purpose-built dormitories. In Gloucestershire, huts are recorded on the Stroudwater Canal in the 1770s and on the Gloucester and Berkeley Canal in the 1790s. Some canal projects, especially tunnel construction, approached the scale of later railway contracts. Sometimes the contractor provided purpose-built, barrack-type, accommodation. In the 1780s, at the Sapperton Tunnel on the Thames and Severn Canal, 200-300 men were employed, many of whom were lodged in a specially built three-storey building.

The railway age (1830s to c.1880) saw the flowering of navy culture, with about 40,000-100,000 men. The major tunnel, embankment, cutting and viaduct projects demanded large numbers of resident workers. Where existing accommodation was lacking, large shanty settlements grew up. A wide variety of

accommodation was used, including wheeled vans and site outbuildings. However, hut accommodation was the norm, comprising two main types, the 'shant' and the 'sod hut'. The shant was a speculative development built by the contractor or a foreman, each housing about a dozen tenants. The sod hut was a more makeshift arrangement, often a lean-to structure, built by individual navvies. Being ephemeral structures, both shants and sod huts had only a short lifespan, but their archaeological traces should still exist in many cases.

A classic site of this period is the Woodhead tunnel, constructed as part of the Sheffield to Manchester railway in 1839-45. This was 3 miles 22 yards long and employed up to 1,000 men. The living and working conditions on this project were notorious. Although the contractor supplied a number of 'comfortable cottage houses of good lime and stone, and slated', these proved entirely inadequate for the numbers employed, and self-built huts abounded. An eyewitness described the scene:

'At certain distances along the line of tunnel the moor is pierced by five shafts, averaging in depth about six hundred feet; and it is around these five shafts, and at each termination of the tunnel, that the huts of the workmen cluster. The huts are a curiosity. They are mostly of stones without mortar, the roof of thatch or of flags, erected by the men for their own temporary use, one workman building a hut in which he lives with his family, and lodges also a number of his fellow-workmen. In some instances as many as fourteen or fifteen men, we were told, lodged in the same hut; and this at best containing two apartments, an outer and an inner, the former alone having a fire-place.'

Recent survey work at this bleak and desolate area has revealed evidence for construction debris, trackways and building foundations around four airshafts. At one, foundations of several probable dry-stone dwellings have been recorded, and a lot which could be learned from further investigation on this site.

The municipal projects between the 1880s and 1930s led to a great change in navy society. Public authorities undertook more than 300 reservoir schemes during, to supply clean water for industry and the growing urban population. These projects kept about 100,000-130,000 men in employment. Instead of the laissez faire approach of the railway companies, local authorities took a paternalistic attitude. This resulted in purpose-built communities with proper services and educational and welfare facilities which tended to have

a 'civilising' effect on the navy community.

A significant landmark during this period was the construction of the Manchester Ship Canal (1887 – 1894). It was one of the biggest construction projects in the world, employing up to 16,000 men. On more isolated sections, large settlements were established with shants for single men and plentiful accommodation for married couples and families. Equally importantly, communal facilities were provided. This is illustrated by a contemporary account of the settlement on Frodsham marshes, of which no trace now remains:

'Where was once a marsh, with not a single building upon it, are now neatly laid-out pastures, with a village containing a population of some hundred persons. In connection with it there is a church with a resident missionary, a school with a certified teacher, and a daily postal communication with the neighbouring township of Frodsham.'

Another site was at Birchinlee, serving the Upper Derwent Valley dam projects in Derbyshire, occupied from 1903 to 1915. The buildings were timber-framed with corrugated-iron walls and included a school, hospital and shops. Roadways and building platforms are still visible. The village at Ewden, adjacent to Broomhead, still survives over several acres. It retains its street pattern, house-plots and a handful of the original weather-boarded buildings, one of which is still occupied by the son of a navy who worked on the reservoir.

The final period of navy society began in the 1930s and brings us up to the present day. From this time road building and associated projects has been the main occupation. Small encampments of caravans and portakabins have been the norm, and it is at such locations that vestiges of the independent life-style of the navy survive. More formal settlements have been required on massive construction projects such as the Channel Tunnel in Kent, and the Sizewell nuclear power station in Suffolk where the barrack-like huts still survive.

Future fieldwork and excavation of early sites promises to be particularly fruitful due to the sparsity of archive material. However, later sites may survive in better condition and can be enhanced by the rich documentary and photographic sources. Some research themes include evidence for supply, consumption, diet and refuse disposal. Also the layout and social usage of individual huts and whole settlements. I would be most interested to hear from anyone who has information about possible sites, or even surviving buildings, from all periods of navy history from the canal age to the present day. I can be contacted at Chester Archaeological Service, Grosvenor Museum, 27 Grosvenor Street, Chester CH1 2DD.



Remains of a probable navy hut at Woodhead

Photo: M. Morris



Navy settlement at Acton Grange on the Manchester Ship Canal, 1889

Photo: Greater Manchester County Record Office ref. 721204/199

AIA Forward Plan

A year ago the Association launched its second annual Forward Plan; including a mission statement, definitions of industrial archaeology and the AIA, aims, objectives and priorities for the year – twelve months on, how have we done?

That year has passed all too quickly and it seems a very short time ago that Council was involved in deep discussion about objectives and priorities. Many favourable comments on the document have been received, particularly from other organisations, but there is no point devising a forward plan if progress is not subsequently reviewed and the plan itself updated.

It was with some trepidation, therefore, that Council reviewed the priorities at the November meeting. We need not have worried; certainly not everything on the list had been achieved (perhaps if they had it would have suggested we had set our sights too low) but the number of tasks and activities we had worked on was impressive and a tribute to the hard work of Council and other members of the Association.

I do not want to report in detail on these as many have already been the subject of notes and articles in *IA News* but I think it worth listing the main achievements:

1. IRIS Initiative: during 1995 this has continued to receive grant-aid from the Department of National Heritage and is well on the way to achieving its targets. A further application for continuation of the project has been made to DNH.
2. Working with the Royal Commissions on Ancient and Historical Monuments and others: the Association has continued to co-operate as appropriate with the Royal Commissions, although projects planned jointly with RCHME have been delayed pending completion of their strategic view.
3. TICCIH (The International Committee for the Conservation of Industrial Heritage): a working party to plan and co-ordinate the TICCIH 2000 Conference in Britain has been established and is chaired by former AIA President, John Crompton, with representatives from English Heritage, the Science Museum and the Royal Commissions. The working party has met twice during the year and discussions on venues and arrangements are now well advanced.
4. Conferences and other activities: all the proposed activities of the Association have been achieved successfully. These included the Annual Conference (Sheffield), the field study week (Holland), the Ironbridge weekend

and planning the 1996 Leicester Seminar (to be held in December).

5. Publications: an Editorial Board for *Industrial Archaeology Review* has been established and a special issue of *IA Review* marked the centenary of the National Trust. The proceedings of the 1994 Leicester Seminar have also been published.

6. Award for the conservation of industrial sites and artefacts: a strategy has now been agreed for establishing this new award to replace the original Dorothea Award for Conservation.

7. Promoting membership of the Association to young people and, in particular, university and college students: among several achievements made in this area are the establishment of a student category in the Association's Fieldwork and Recording Awards and the creation of a student bursary fund in memory of the late Douglas Hague.

8. Listed Building Consent applications: the Association has continued to examine and comment on LBC applications specifically affecting industrial structures, either notified by AIA members or forwarded by the Council for British Archaeology.

We now need to consider priorities for the 1996 Forward Plan, and Council will have agreed these at the January meeting. Copies of the Plan may be obtained by sending an SAE (at least 9in x 6in) to Amber Patrick, AIA Secretary, 4 Gratton Road, Cheltenham GL50 2BS. It will also be available at the Ironbridge Weekend. Comments are, as always, welcome and can be made direct to any member of Council!

Hilary Malaws

Leicester seminars

Alongside the seminars, which are becoming a feature of annual conferences, the AIA organised a two-day conference at Leicester in 1994, the results of which have just been published as *Managing the Industrial Heritage*. Copies of this 150 page A4 publication can be obtained for £14.00 inclusive from Dr Alan McWhirr, School of Archaeological Studies, University of Leicester, Leicester LE1 7RH. Cheques should be made payable to the University of Leicester.

The Leicester series of seminars is proceeding in December 1996 with a conference on urban industrial archaeology. This is being organised by Victoria Beauchamp to whom offers of papers should be sent (see separate advertisement in this issue).

Ironbridge Weekend

A final reminder that the annual AIA Ironbridge weekend, for affiliated society representatives and other members of the Association, will be held on 22-24 March 1996, on the subject of '20th Century Industry, Obsolescence and Change'. If you haven't been before, give it a try – you won't be disappointed! Final bookings by 23 February to Gordon Knowles (see Diary for address).

AIA goes to Bangor

The 1996 Annual Conference will be held on 6-8 September 1996 in Bangor, North Wales, to be followed by a supplementary programme of four days of field visits and lectures. The venue should provide a good contrast to the last time the AIA visited Wales, which was the Swansea conference in 1988. Details are circulated with this mailing.

IRIS working parties

The IRIS Initiative is aiming to establish a number of IRIS working parties in order to provide training and guidance in the areas of England that have made little response to the project to date. Such areas often have no county industrial archaeology society, so the role of the working party will involve the organisation of IRIS recording days, the initial co-ordination of the project within the area, and the contact with potential volunteers. Particular emphasis is being placed on the northern Home Counties, the North East and the East Midlands regions. If you are interested in helping the IRIS working party or are able to assist in the co-ordination of a local recording day, please contact Jane Robson at Lancaster University Archaeological Unit, Storey Institute, Meeting House Lane, Lancaster LA1 1TH.

IRIS targets achieved

The IRIS Initiative has been successful in attaining targets detailed in the Department of National Heritage grant application for the financial year of April 1995-1996, and should have no trouble in securing a similar grant for the year 1996-1997. The DNH representative, who attended a meeting with John Crompton and myself last November, was highly impressed with the achievements and aims of the IRIS Initiative, regarding it as a thoroughly worth-while project. To date, all the SMR Officers in England have received information about IRIS with additional updates when necessary, and 35 of the 46 SMR Officers have attended meetings to talk specifically about the

project. In some areas the National Park bodies, RCHME and the National Trust are also involved in aspects of IRIS.

Meetings with societies and individuals are on-going and a series of regional recording days will be held around the country in 1996. Most importantly, the DNH target of adding 1,000 new sites to the SMRs was met easily, and I am pleased to say that since the onset of the IRIS Initiative nearly 3,000 new industrial period sites have been identified. Well done and thank you to all the compilers. Keep up the good work.

Jane Robson

Pre-conference seminars

AIA annual conferences are so full of good things like visits and lectures concerned with the locality of the conference, not to mention lengthy discussions round the bar in the evening, that there has been little time to consider the latest developments in industrial archaeology. AIA Council has therefore planned a series of seminars specifically devoted to this topic. The first was held in conjunction with the conference at Cirencester.

Last year, a full day of 11 papers held at Sheffield before the main 1995 conference began was judged by all participants to be a great success, and Peter Wakelin reports on this in detail elsewhere in this issue. The success of the day has encouraged AIA Council to plan a further day on current developments in IA in the remoter fastness of Bangor in North Wales on Friday 6 September, the day the 1996 Annual Conference begins. It is also anticipated that the heritage bodies in Britain will present their reports on this occasion rather than cramming them into an already overcrowded main conference. The Bangor day promises to be as good as that at Sheffield, so do try to come to North Wales a day early – accommodation can be arranged for the Thursday night. Offers of papers can be made, by 30 April, to the Editors of *Industrial Archaeology Review*, Department of History, University of Leicester, Leicester LE1 7RH.

AIA members welcome in California!

The Annual Conference of the Society for Industrial Archeology is being held on 30 May – 2 June 1996 at Sacramento, California, and hosted by the historic Knight Foundry and the California State Railroad Museum. Paper sessions will focus on railroads, foundries, industrial aspects of agriculture and mining, with day trips to selected sites in the gold-mining country.

COMMENT

1996: the Association enters an active year in which we look forward to the Ironbridge Weekend, a study tour of Poland, the Annual Conference and two seminars, at Bangor in September and Leicester in December.

We shall also see some changes. To give time to finalise accounts and present them properly to the AGM, Council has decided to change the financial year to run from 1st January 1997. Full details will be provided in the next *IA News*. For reasons of economy and style, *Industrial Archaeology Review* will combine the two parts in a single annual volume. Don't worry – this will have the same, if not more, content as before.

Meanwhile, to compensate for a less-frequent journal, *IA News* is to be enlarged to 16 pages, starting in two issues' time, with the August mailing. This will allow greater space for feature articles, news items and illustrations, but of

course depends on contributions from you, the membership.

Which brings me to Copy Dates and Deadlines. The copy dates for each of the four issues are given on the back of *IA News* – but my experience as editor over the last 12 months is that contributors seem to read 'copy date' literally as the date on which take material down to the post office rather than the very latest deadline. Much of the Newsletter is planned out well before the copy date, so if you wish to guarantee the inclusion of an article please send it well in advance, or at least notify me that it is coming. This is not aimed at anyone personally, because contributions are always most welcome – there just seems to be a general malaise. So please note:

I AM VERY STRICT ABOUT DEADLINES!

Editor

Dr Patrick Martin, who attended our own annual conference at Sheffield last September, writes that AIA members are especially invited. His contact address can be found on the Diary page.

A society near you...

Members may be interested to know the range of societies affiliated to the AIA. These include county IA groups or societies, county archaeological societies with an IA section, specialist local societies, or others with a more national appeal. There may be one near you that you were unaware of! We regret we are unable to supply a complete address list, but if any AIA member wishes to obtain the address of a particular local society, please contact (enclosing SAE) the Affiliated Societies Liaison Officer, Gordon Knowles, 7 Squirrels Green, Great Bookham, Leatherhead, Surrey KT23 3LE.

Arkwright Society, Derbyshire
Berkshire IA Group
Black Country Society
Bristol IA Society
Combe Mill Society, Oxon
Cumbria Industrial History Society
Derbyshire Arch Society
Dorset IA Society
East Kent Mills Group
Gloucestershire IA Society

Greater London IA Society
Leicestershire Industrial History Society
Manchester Region IA Society
Merseyside Industrial History Society
Mills Research Group, Surrey
National Association of Mining History Organisations (NAMHO), Derbyshire
Norfolk IA Society
Northamptonshire IA Society
Northern Mill Engine Society, Lancashire
Northern Mine Research Society, West Yorkshire
Nottinghamshire IA Society
Peak District Mines Hist Society
Society for Lincolnshire Hist & Arch
Somerset IA Society
South Wiltshire IA Society
Staffordshire IA Society
Suffolk IA Society
Southampton University IA Group
Surrey Archaeological Society
Surrey Industrial History Group
Sussex IA Society
SW Wales IA Society, West Glamorgan
South Yorkshire Industrial History Society
Trevithick Society, Cornwall
Vale of the White Horse IA Group, Oxon
Warwickshire IA Society
Wiltshire Arch & Nat Hist Society
Worcestershire Arch Society
Worcestershire IA & Local History Society
Yorkshire Archaeological Society

Call for Papers

Problems of Identification and Protection of Industrial Sites in Urban Areas

A Conference to be held at the University of Leicester December 15th–17th 1996

Organised by the Association for Industrial Archaeology

Papers are called for relating to the problems of identification and protection of industrial sites in urban landscapes. Sessions will look at new legislation relating to industrial monuments and archaeology in towns; urban landscapes; the problems an urban landscape poses for the archaeologist; the interaction between the developer and the industrial archaeologist.

Papers will be 25 minutes in length.

Please send titles and 100 word outline of papers to:
Mrs. V. A. Beauchamp, Division of Adult Continuing Education, 196–198 West Street, Sheffield S1 4ET

All outlines to be received by 1st June 1996

NOTICEBOARD

Tebbutt Research Fund

This fund was established as a tribute to the life and work of the late C.F. Tebbutt, OBE, FSA, and applications are invited from individuals or groups, for grants towards research, including associated expenses, into any aspect of the Wealden Iron Industry.

It is anticipated that approximately £200 will be available from the fund and any interested person should write a letter of application giving details of themselves together with any relevant information concerning the research envisaged. Applications



should be sent not later than 31st March 1996 to Mrs Shiela Broomfield, Hon. Sec. Wealden Iron Research Group, 8 Woodview Crescent, Hildenborough, Tonbridge, Kent, TN11 9HD.

BIAS Brunel Prize

This new prize has been established by the Bristol Industrial Archaeological Society, using money passed from the former Brunel Society, to encourage archaeological and other research into, and the publication of work on, the industrial archaeology of the Bristol region.

The prize of £150 will be awarded every two years, starting in 1997. Competition is open to BIAS members

and other persons or groups with an interest in the IA of the Bristol region. Potential prize-winners could be younger researchers, active volunteers on archaeological digs who have something new to write about, older students following part-time or evening courses, or seasoned industrial archaeologists who have always meant to write something up.

Entries should consist of a written report or record reflecting original research, and should be submitted by 31 August in the year the prize is offered (ie. August 1996 for the first time). They will be considered for publication in *BIAS Journal*. To obtain details and guidance notes, contact: Graham Vincent, Hon. Secretary, BIAS, 52 Langdon Road, Bath BA2 1LS.

Thinking currently

The seminar attached to the beginning of the AIA Sheffield Conference was one of the most stimulating events held by the AIA for several years. Entitled 'Current Research and Thinking in Industrial Archaeology', it resulted from an open call for papers co-ordinated by Marilyn Palmer. The contributions did give much to think about.

Probably none of the papers pleased everyone who heard it; and several alienated and annoyed. But all stimulated thoughts, even if sometimes tangentially to their intentions. For such a seminar to be continuously interesting is a rare triumph indeed.

The eleven short, sharp, contributions were given in no particular order, but in approach fell into three groups. Three were principally about methods of study. Four were based upon particular historical or archaeological subjects. And four concerned themselves, in one way or another, with a word seldom uttered in the industrial archaeological world – ideology.

John Crompton opened the ideological debate with his introduction – about the development of industrial archaeology through phases of collection, illustration, and aesthetic appreciation, before finally coming to terms with truly archaeological study. He hoped the papers would represent continuing development – which was exactly what they proved to do. David Cranstone explored ideological diversity within industrial archaeology further, emphasising that the varied backgrounds and personal psychologies of practitioners were among the subject's greatest strengths. He

defined his own desired outcomes from its study – understanding the implications of technological change, informing technology of the future, gathering together people of diverse backgrounds, and personal development. Two contributors from Scotland talked about the ways in which regional ideologies have restricted study and preservation. John Atkinson discussed the cultural symbolism of industry in Glasgow. He contrasted the wealth of research opportunities the city was seen to offer in the 1960s with the small amount of work actually carried out since John Hume's mammoth contribution; and drew attention to devastating losses. He suggested that interest in Glasgow's historic industries had focussed for ideological reasons on their social consequences, much celebrated in contemporary culture, whilst economic and technological success was seen as tarnished by its high social costs. He identified the need for more attention to industrial archaeology from the arts as well as its introduction into university archaeology departments. Joanne Orr diagnosed similar problems elsewhere in Scotland, but noted that as memories of recent industries faded, communities were beginning to find interest and pride in their past. Discussion drew out parallels throughout Britain.

The opening paper in the seminar as a whole, by Brian Malaws, was one which addressed methodology. He put his arguments quietly but persuasively to illustrate the value of process recording. Recording of working sites often focusses on their most clearly

visible remains, but following processes in detail can set a more objective recording agenda. This may, for example, ensure that the piece of baller twine vital to the operation of machinery and the essential place in the process of a busy dumper truck are not overlooked. Some sound advice for those undertaking process recording projects was given, including to begin while the process is in operation and to beware of existing engineering drawings which show how the process 'ought' to be, not how it is. Gary Campion talked about the use of access diagrams to show the relations and functions of rooms in stocking frame workshops, and Shane Gould outlined methods for adding industrial sites rapidly to the Sites and Monuments Record of Essex, in particular by utilising existing and First Edition Ordnance Survey maps.

Lynn Pearson gave one of the most interesting subject-based papers, on brewery architecture 1860-1914. About 400 breweries were built during this period, many by specialist architect-engineers. The dominant Gothic styles of the time were little favoured in brewery architecture; simple Italianate and Queen Anne styles more associated with pleasure than religion being much more common. David Tew talked about free mining customs, suggesting that similar customs permitting miners to dig freely in exchange for payment of a royalty were so widespread as to imply continuity since the Roman occupation. Mary Mills explained work to study the chemical industry of the East End of London, revealing the symbiotic relationships between many trades,

such as lime supply, gas production, soap making, colour making and the manufacture of rubber. Study of any one producer shed light on many more. James Douet, a consultant to English Heritage, talked about the evaluation of water industry sites for listing and scheduling. Although firmly discussing this one subject, he instigated a keen debate (which lasted several days) on how selections should be made and what should be preserved.

The diversity of approaches illustrated by the papers was one of the principal values of this seminar. Another was the presence of many people not usually seen at AIA events – some of whom stayed for the main conference too. It demonstrated that there is a wide range of thinking on the subject – much wider than AIA events usually reflect. It gave real hope for dynamic and diverse developments in industrial archaeology in the future. There will be another seminar at the start of the 1996 annual conference in Bangor. Let's hope it will repeat this year's success.

Peter Wakelin

AIA

ARCHIVE

ISSN 1352-7991

The Quarterly Journal for those interested in Industrial History. Each 64 page issue packed with quality photographs – many unpublished – together with informative text.

Archive covers the entire spectrum of industrial and transport history the length and breadth of the British Isles. Articles so far include East Greenwich Gasworks; the Glamorganshire Canal; Mostyn Ironworks; The Grand Surrey Canal; the Sheffield & South Yorkshire Navigation; Brodsworth Colliery; Hartley Main Collieries; Swanscombe Cement Works Locomotives; Combe Martin; Kearsley Power Station & Railway; the Woolmer Industrial Railway and Holman's Ironworks. The latest issue, No. 8, published on the 1st December 1995 contains articles on Hayle Colliers; Taff Merthy Colliery; Woodlands Village, Brodsworth; Arun Barges; Cromhall Lime Kilns, Gloucestershire; and the Aire & Calder Canal. Issue 9, on sale 1 March 1996 will include the Aire & Calder; Mitcheldean Cement Works; Gatwick Airport & more.

Available at £5 per issue from selected outlets only but why not make sure of your copy by ordering direct from the address on the right at £6.50 per issue including P&P, or save £2 and subscribe for four issues at £24 including P&P. Back issues are still available.

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Report from the Royal Commission on the Ancient and Historical Monuments of Wales

In their Annual Report 1993-1994, the Commission describe work in their industrial archaeology branch which now operates through three distinct sections, dealing with threatened sites and documents, publications and databases respectively.

The recording and archive collecting necessitated by the rundown of the South Wales coal industry continued with the detailed recording of the Taff Merthyr colliery during its demolition, the collecting and indexing of the 2,400 original drawings from the Britannia and Penallta collieries. Other recording work included Ammanford, Cwmbyrgwm, Lewis Merthyr, Llantrisant, Point of Ayr and Talywaun Collieries. Twentieth-century defence structures recorded included naval mines storage tunnels and depots in Pembrokeshire (Dyfed). A start was made on assembling records of the decommissioned Magnox reactor nuclear power station at Trawsfynydd in Gwynedd. Other recording projects of canal or railway features included the Twrch aqueduct, Penwyllt limestone quarries and canal-side lime kilns at Llangatock.

Joint initiatives with educational institutions have included the recording at Cwmystwyth lead mine of the valley floor dressing mill and the hushing features on the plateau above. The former British Ironworks at Abersychan with its associated colliery and railway features were recorded before opencast mining and land reclamation work.

Data from the collieries in Glamorgan and the Brecon Forest tramroads has been entered into the new Extended National Database for



Count the bricks: a ventilation stack, dating from the 1880s, at Cwmbyrgwm Colliery, Gwent. The colliery expanded after the opening of the British Ironworks at Abersychan in 1827

Photo: © Crown copyright, RCAHMW

Wales. A landscape study of the East Merthyr Colliery revealed the extensive leat and reservoir systems that once fed the Dowlais ironworks. The recording of features of the threatened industrial landscapes in the Heads of the Valleys will provide the next data input for the database.

Barrie Trinder leaves Ironbridge

A long and distinguished association with the Ironbridge Gorge Museum and Institute drew to a close when Dr Barrie Trinder left at the end of last year, to take up the post of Senior Lecturer in Industrial Archaeology at Nene College, Northampton. He had served in various capacities, from working party volunteer to Board Member, and his dedicated involvement will be sorely missed.

Barrie clearly recalls his first-ever glimpse of the Ironbridge: he was sitting in a single-car diesel unit as it pulled into Ironbridge and Broseley Station in 1963, shortly before the railway line closed. He was working in West Bromwich at the time, and was travelling to Shrewsbury. Little did he suspect at that time just how well he was to get to know the area. Two years later, Barrie took a job with Shropshire County Council and began running adult education classes, as he has continued to do ever since. Within a year or two, the first meetings were taking place which would eventually lead to the setting up of the Ironbridge Gorge Museum, and Barrie was invited to attend those which were held under the auspices of the County Council in Shrewsbury, a strand of the Museum's early history which is now sometimes overlooked. By 1968, Barrie had joined what was the forerunner of the Friends' General Advisory Group, and in 1969 acted as a guide for the hugely successful open days, when hundreds of visitors were bussed around the Gorge looking at sites later incorporated into the Museum.

The 1970s were an amazingly productive decade. In 1973, Barrie produced *The Industrial Revolution in Shropshire*, followed soon after by *The Darbys of Coalbrookdale*. By 1977, *The Most Extraordinary District in the World* had been written, and the decade was rounded off with *The Iron Bridge: Symbol of the Industrial Revolution* which was written jointly with the Museum's then Director, Neil Cossons. All these books, which remain in everyday use, confirmed Barrie's position as the leading scholar on the history of the Ironbridge Gorge. During this hectic time, Barrie continued to lecture, both by day and during the evening; he led numerous field trips, the pace and intensity of which have become legendary; he found time to serve on the Board, acting as the Museum's Honorary Historian; last but

not least, he developed his interest in the history of Methodism in Shropshire, another subject on which he is an acknowledged expert.

During 1980, plans were well advanced for the setting up of the Institute of Industrial Archaeology (later re-named the Ironbridge Institute) and Barrie, with his wide knowledge of the subject not just locally, but nationally and internationally, was a natural choice as a member of staff. Over the next few years, he combined teaching of the growing numbers of post-graduate students at Ironbridge with his adult education work for the County, and his prodigious output of publications continued unabated. Not content with completing new editions of his earlier books, he also wrote a history of Shropshire for the Phillimore series and the pioneering *The Making of the Industrial Landscape*, which has paved the way for similar works by other authors in various parts of the country. Increasingly, international contacts were strengthened also, as Barrie became much in demand to give papers at conferences and seminars overseas, notably those on open air museums and the biennial Conference on the Conservation of the Industrial Heritage.

The 1990s, although barely half over, have already seen achievements to match those of the previous two decades. Numerous learned papers and reports have been produced by Barrie, several in conjunction with Michael Stratton, on a whole variety of topics,

most notably on Ditherington Mill, Shrewsbury, and Stanley Mill, Gloucestershire. The publication of *The Blackwell Encyclopaedia of Industrial Archaeology* in 1993 undoubtedly marks the high point of his writing career to date, but he has not finished yet! Books on the history of the factory and on the industrial archaeology of Shropshire are both due to be published during 1996.

The deep and detailed knowledge of the Ironbridge Gorge which Barrie has acquired since he first saw it 30 years ago will be greatly missed when he departs. It has been his ability to pass on this knowledge with such authority and enthusiasm, both orally and in writing, which has done more than anything else to establish the academic status of the Ironbridge Gorge Museum and Institute both in this country and abroad.

John Powell

Newport transporter bridge re-opens

After a major £3m refurbishment, the famous Newport Transporter Bridge was re-opened on 15 December 1995. The bridge, built in 1906, has a span of 645 feet (196 metres) across the River Usk.

Candles snuffed

Price's candle manufactory by the river in Wandsworth in London is likely to cease production shortly. This Christmas was probably the last when night lights and candles were produced at this long-established site. It is likely that the

Lambley viaduct



This magnificent Northumberland structure, consisting of 18 arches carrying the Haltwhistle to Alston line, has been granted £600,000 towards its restoration. Dating from 1852, it spans the River South Tyne and is listed Grade II. The line closed in 1972, since when the viaduct has deteriorated. The restoration work is being done by John Laing Construction Ltd, with the bulk of the funding coming from British Rail Property Board, English Heritage and the Railway Heritage Trust. When the work is completed the deeds will be handed to the North Pennines Heritage Trust, and the viaduct will be part of the South Tyne Trail footpath.

Fred Brook

Photo: Hexham Courant

riverside here will be redeveloped for up-market housing and any manufacturing residue moved out of London. Some head office staff may remain at least for a time. If new riverside houses or flats are built, the very low council tax in Wandsworth will be an added attraction for would-be buyers.

Price's Patent Candle Manufactory started production at Wandsworth in about 1835 and for a time occupied all the land up to Battersea railway bridge. By the late 1980s the works were much smaller in extent and only about 100 people were employed. There had been plans to move to a smaller site inland in Wandsworth.

The Company is unusual in being chartered with a Governor, incorporated by Act of Parliament like the Hudson's Bay, East India and Gas-Light and Coke Companies. At one time there were numerous ramifications involving soap, motor oil and other lubricants. There had been close ties with Shell UK. Some local families have had members working at Price's through four generations. Work was quite labour intensive with a good deal of packing by hand.

Robert Carr

Secret exchange

One hundred feet (30.5 metres) below ground level beneath the Central Line under High Holborn lies the so called Kingsway Telephone Exchange which was used as an emergency Atom bomb-proof national trunk telephone exchange in case of an attack on Britain. At the time it was the largest long-distance telephone exchange in Britain, switching two million calls a week, and remained a secret until about 1959. It consists mainly of standard 16 feet 6 inches (5 metres) diameter tunnels constructed mostly from concrete segments, with some smaller diameter linking tunnels. The staff of 150 was expected to survive from six weeks to six months. They had an artesian well, food supplies and

dormitories. However, the advent of the Hydrogen bomb meant that the use of the Exchange for its prime purpose did not last very long, as a one megaton bomb exploded at ground level in London would make a crater 250 feet (76 metres) deep.

Deep shelters in London date back to the Second World War. In 1938 it was estimated using data from the bombing of Barcelona and Guernica in the Spanish Civil War that if London suffered an all out air attack 11,000 dead a day might be expected. Cardboard coffins and the dumping of bargeloads of bodies in the North Sea were discussed. As a safeguard from the Blitz, eight deep level shelters were constructed between 1940 and 1942, but they had little use apart from the period of V-weapon attacks.

Interest in the deep shelters revived with the Cold War and the prospect of Atom bomb attacks. That beneath High Holborn was occupied by the GPO in 1949 and enlarged to become the trunk telephone exchange outlined above. Now entirely obsolete, British Telecom is seeking fresh uses for this subterranean relic.

A joint Subterranea Britannica/GLIAS Recording Group visit took place in October 1995. Very little telephone equipment remains save for some distributor frames in one of the side corridors. By contrast, much of the equipment relating to the underground environment, and to survival, is still in place. Four Ruston and Hornsby marine diesels, to drive 245 kW generators (Lancashire Dynamo and Crypto Co.), two Westinghouse dust precipitators, a Paxman diesel to drive an alternator and generators for the battery pack appear to be still operational.

One of the treasures is the restaurant. The designers partially sought to counter the cave-like feeling of the tunnel. Mirrors lined one wall surmounted by a superimposed wavy frieze, and 'doubled' the width of the

tunnel. Suspended ceilings hid the characteristic shape, and into one wall landscape views of an idyllic England peeped out from mock, but entirely 1950s, windows. At the time of visiting, we were continually surprised to find how much it felt like being in a large submarine.

Robert Carr and Charles Norrie

White Mill highly commended

A project to improve access for people with disabilities has been highly commended by the judging panel for the BT Countryside for All award for the Southern Home Counties. At their White Mill in Dorset, described in the last issue of *IA News*, the National Trust has installed ramps, levelled and widened access routes to the mill and created a special parking area for people with disabilities. In addition, a taped audio guide is available to enable visually impaired people to explore the mill. The BT Countryside for All Project is part of the BT Community Programme to which the company devotes one half per cent of UK generated pre-tax profits.

Quarry Bank award

Quarry Bank Mill, described as Europe's largest working textile museum, has won the North West Tourist Board's 'Visitor Attraction of the Year, 1994' award for the Best Medium Attraction. Staff at the National Trust site at Styal, Cheshire, are particularly pleased that it was the public themselves who voted for this award, through a series of local newspaper competitions.

Tour et Taxi in danger

TICCIH reports the threat to one of the most important industrial monuments in Brussels, the Tour et Taxi freight interchange, built between 1902 and 1910 by the architects C. Bosmans &

H. Vand de Veld and by E. Van Humbeek. Current proposals for the development of a 'Music City' on the site involve demolition of one of the most important warehouses and unsympathetic adaptation of another. The depot is included in the list of potential UNESCO World Heritage Sites, prepared by TICCIH, and is described and illustrated in *The Blackwell Encyclopaedia of Industrial Archaeology*. Documents are available from Guido Vanderhulst at La Fonderie, rue Ransfort 27, B-1080 Brussels, Belgium.

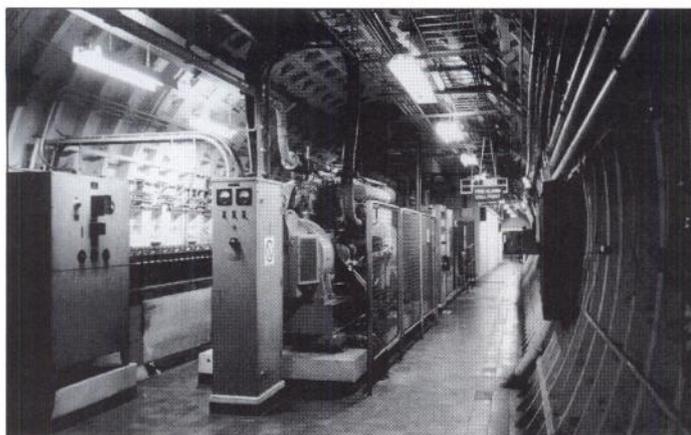
Thames Tunnel

The saga over the fate of the Thames Tunnel is on-going and, at the time of writing, unresolved. An article on the tunnel will appear in the next *IA News*.

MOVE IT!

The Scottish Mining Museum's new exhibition 'Operation MOVE IT!' was Highly Commended in the Most Imaginative Education Work category of the Gulbenkian Awards for Museums and Galleries, announced on 22 November 1995. The project uses five working models of mining machinery to illustrate how science and technology plays an essential role in coal mines past and present. The colourful, large-scale models, located in the restored Power House at Lady Victoria Colliery, Newtongrange, Midlothian, simulate the movement of men, coal and materials up and down and around a mine, and are designed to encourage learning in an entertaining way, through experimentation and problem-solving activities. They have proved immensely popular with thousands of school-children and other visitors. The Museum plans to build on this success by developing a series of Operations, each exploring a further aspect of science and technology in the coal mine.

Roger Linton



Atom shelter: diesel generating sets provide electric power for emergency life support services, Kingsway Telephone Exchange

Photo: R.J.M. Carr

OBITUARY

F.G. Emmison (1907-95)

Researchers in county record offices may be unaware of the debt they owe to F.G. Emmison, who died in November. It was the enthusiasm of this eminent archivist that did so much to make local archives more 'accessible' to the public. His many publications include *Introduction to Archives* and *Archives and Local History* (Phillimore), which introduced local historians to local archives and probably inspired a number of industrial archaeologists as well. Appointed the first County Archivist for Essex in 1938, Emmison set his record office at the forefront in a number of fields, including publication of archive guides and Essex local history, as well as encouraging the educational use of archives. He was a founder member of the British Records Society and the Society of Local Archivists, and received an honorary Doctorate from Essex University in 1970, a year after his retirement, although he continued his researches down to the end.

Wales

The last 12 months has seen considerable activity throughout the Principality. The Welsh Trusts have continued to undertake Cadw-funded thematic surveys of the industrial resource with the aim of filling holes both in the regional Sites & Monuments Records and in the Schedule of Ancient Monuments. Notably many of these initial rapid assessment surveys are now being taken a step further with detailed follow-up ground surveys of selected sites. The Clwyd Powys Archaeological Trust, for example, are now following up their excellent rapid survey of metal mines in Clwyd with detailed surveys of the Belgrave, Eisteddfod, Lower Park and Pool Park mines, whilst the Gwynedd Archaeological Trust have

colliery established by the Cyfarthfa ironworks in 1849. Structures examined include a steam powered incline with its haulage engine house, a winding engine house possibly dating to the early 1860s and a compressor house. The Trust have also undertaken a desk-based assessment of important early limestone quarries at Trevil, near Tredegar, Gwent. The quarries were worked from the late eighteenth century and the results to date indicate that much of the early workings still survive despite extensive subsequent working. In South West Wales, the Dyfed Archaeological Trust have been carrying out a survey of former industrial activity in the Amman and Gwendraeth valleys, an area increasingly threatened by present day open cast coal mining activity.



Last in the UK: the 1938 peat processing works at Fenn's and Whixall Mosses

Photo: Clwyd Archaeological Service

continued their survey of slate quarries in North West Wales.

Also in Clwyd, extensive excavations by Wrexham Maelor Borough Council have continued at the Minera lead mines, near Wrexham, with work on the New Minera Mine (1888-1914). This mine is interesting in that it spans the transitional period from hand to mechanised dressing. Features excavated include ore bins; crusher foundations; automatic jiggers; four centre-head buddles; shaking tables; and interestingly, a rare vanner table.

Elsewhere in Wales, the Royal Commission have published the excellent *Collieries of Wales – Engineering and Architecture*. The Commission have carried out an architectural and process survey of Cooke's Explosive Works at Penrhyndeudreath, Gwynedd, prior to closure. Recording work has also continued on the early mining landscapes of the 'Heads of the Valleys' area of South Wales.

Also in South Wales, the Glamorgan Gwent Archaeological Trust have undertaken significant work associated with a new dual carriageway between Cefn Coed and Pentrebach, Merthyr Tydfil, including detailed recording at the former Gethin No.2 pit in Abercanaid, a

Finally, Clwyd County Council now own the last surviving peat processing works in the UK (dating from 1938) at Fenn's and Whixall Mosses, straddling the Clwyd/Shropshire border near Whitchurch. The Mosses themselves, the third largest lowland raised mire in Britain, were purchased jointly by English Nature and the Countryside Council for Wales in 1991. In order to place the surviving works in their landscape context, and aware of industrial and military utilisation of the Mosses over the last 150 years, Clwyd Archaeological Service has undertaken a detailed historic landscape study of the mire supported by an extensive oral history project. This research, which has concentrated on medieval and post-medieval use of the mire, will inform proposals for restoration of the surviving machinery and will be the subject of a new CAS publication to be available from early spring 1996.

Stephen Greuter

Yorkshire and Humberside

1995 has seen a lot of progress on the region's waterways. The new 27ft (8.2m) deep lock and new tunnel on the Rochdale Canal at Sowerby Bridge will be opened at a Festival on 3-6 May,

linking the canal again with the Calder & Hebble Navigation and the rest of the network. The Millennium Commission has promised almost £12m for restoration and new works on the Lancashire part of the canal.

In Sheffield, the restoration of the Canal Basin (now Victoria Quays) was celebrated by a Festival in May 1995. Regrettably, a proposed hotel will encroach on the listed railway arches west of the basin, and the listed classical Sheaf Works offices of 1822-26 are to become a pub with a large and incongruous modern extension. A Trust based in Sheffield is raising funds to restore the only remaining timber-built Humber keel, the *Dorothy Pax*, built at Mexborough in 1913, which will form a centrepiece for the Victoria Quays. Work has begun to restore a further 5½ miles of Brindley's Chesterfield Canal, from Worksop to the blocked Norwood Tunnel. Spinkwell Lock, the last major relic of the Bradford Canal (closed 1922) was dismantled in March. As a contrast, a new section of the Aire and Calder was opened so the flooded St Aidans opencast coal site could be drained and extended (see *IA News* 94).

In Leeds, the 280-year old Granary Buildings at Canal Wharf have been converted into an HQ for Baird Menswear Brands, which include Centaur, one of the city's oldest clothing manufacturers. Rose Wharf, part of Bank Mills on the Aire, is to be refurbished as offices with a £1.5m grant from Leeds Development Corporation. The mills were built for flax spinning in 1833 for Hives & Atkinson. The RICS Urban Renewal Award for 1995 went to the Calls area of Leeds where canalside warehouses have been refurbished, while in Sheffield, the Old West Gun Works, restored for Gripple Ltd (and visited during the 1995 AIA Conference), was joint-winner of the RICS 1995 Building Conservation Award – Commercial.

Buildings causing concern include the Cornish Place silver plate works of James Dixon (1822 onwards) in Sheffield, upgraded to II* listing but derelict and damaged by fire, where the City Council is threatening enforcement action; the empty listed offices (1872) and baths (1938) which are all that remains of Kiveton Park Colliery; and Garden Street Mill, Halifax, deteriorating after permission to demolish has been refused twice.

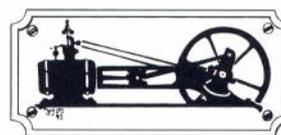
Caphouse Colliery near Wakefield, previously the Yorkshire Mining Museum, has acquired the former British Coal collection from Chatterley Whitfield and is the only former colliery in England where visitors can go underground. It is now the National Coal Mining Museum, and for this reason, in June, the House of Lords made the Government restore its annual grant.

The Transperience transport theme park near Bradford, with working trams and trolleybuses, opened on 1 July. The Eureka interactive science exhibition at Halifax plans to extend into the disused classical station buildings and the Great Northern railway goods warehouse. Abbeydale Industrial Hamlet, Sheffield, is the setting for a new children's novel, *The Cellar Lad*, by Theresa Tomlinson.

An 1886 Pollitt & Wigzell horizontal tandem compound steam engine at Nortonthorpe Mills, Scissett, near Huddersfield, has been restored and is steamed on occasional weekends. Also open to visitors is a 1961 deep sea trawler, the *Hatherleigh*, at the Lighthouse Pier, Scarborough.

On the Settle & Carlisle Railway, stabilisation has begun at the Hoffman limekiln at Langcliffe, north of Settle. Archaeologists are investigating the shanty town at Batty Hill near Ribbleshead Viaduct, where some 2,000 navvies lived during construction in 1869-75.

Derek Bayliss and David Cant



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22-24 March 1996 AIA IRONBRIDGE WEEKEND

at the Long Warehouse, Coalbrookdale, on the subject of '20th Century Industry, Obsolescence and Change'. Details from Gordon Knowles, 7 Squirrels Green, Great Bookham, Leatherhead, Surrey KT23 3LE.

29-31 March 1996 MOVING THE GOODS

weekend conference on freight transport, at Bristol University. Organised by the Railway & Canal Historical Society. For details and booking form, contact Alan Richardson, R&CHS, 25 Boscombe Crescent, Downend, Bristol BS16 6QR.

12-14 April 1996 THE ARCHAEOLOGY OF MINING IN SOUTH-WEST ENGLAND

weekend conference on past extractive industries at Seale-Hayne College, Newton Abbot, Devon, sponsored by the Historical Metallurgy Society and the Peak District Mines Historical Society. For details, contact Phil Newman, c/o RCHME, Rose Duryard, Lower Argyll Road, Exeter EX4 4PB ☎ 01392 213338.

13 April 1996 SERIAC

South East Regional IA Conference on 'Down to Earth', extractive industries and underground engineering, at Dover Town Hall. Details from Karl Martin, 4 Castle Road, Chatham, Kent, ME4 5LN.

20 April 1996 SWIAC

South Wales and West of England

IA Conference, at Southampton University. For details, send SAE to Dr Edwin Course, 20 Stourvale Gardens, Chandlers Ford, Hampshire SO5 3NE.

11 May 1996 EMIAAC 51

East Midlands IA Conference, on 'Weedon and transport through the Watford Gap', at Weedon Village Hall, West Street, Weedon, Northamptonshire. For booking form and details, send SAE to Ray Grimes, 27 Winchester Road, Delapre, Northampton NN4 8AZ.

30 May - 2 June 1996 SOCIETY FOR INDUSTRIAL ARCHEOLOGY ANNUAL CONFERENCE

at Sacramento, California, hosted by the historic Knight Foundry and the California State Railroad Museum. For information, contact Dr Patrick Martin, SIA HQ, Social Sciences, Michigan Technological University, Houghton, MI 49931, USA ☎ (906) 487-2070, Fax (906) 487-2468. email pem-194@mtu.edu

15 June 1996 EERIAAC

the 6th East of England Regional IA Conference, at Great Yarmouth. Lectures and visits on maritime and tourist industries. Send SAE for full details and booking form to Mrs B. Taylor, Crown House, Horsham St Faiths, Norwich NR10 3JJ.

5-7 July 1996 24TH HISTORY OF ELECTRICAL ENGINEERING WEEKEND

at York University. Contact: Elizabeth Hartree, Science, Education

& Technology Division, IEE, Savoy Place, London WC2R 0BL ☎ 0171 344 5439, Fax 0171 497 3633.

13-20 July 1996 ROAD RIVER AND RAIL - SLATE TRANSPORT IN SNOWDONIA

a course exploring simpler and earlier forms of transport, at Plas Tan y Bwlch Snowdonia National Park Study Centre. Details from The Director, Plas Tan y Bwlch, Maentwrog, Blaenau Ffestiniog, Gwynedd LL41 3YU.

14-26 July 1996 AIA VISIT TO POLAND

Some spaces still available. For details, send SAE immediately to David Alderton, 48 Quay Street, Halesworth, Suffolk IP19 8EY.

10-17 August 1996 PRACTICAL INDUSTRIAL ARCHEOLOGY

a week in the field, for old hands and novices alike, recording a slate quarry in Snowdonia. Details from The Director, Plas Tan y Bwlch, Maentwrog, Blaenau Ffestiniog, Gwynedd LL41 3YU.

16-18 August 1996 RUSSIA AND WEST EUROPE: INTERACTION OF INDUSTRIAL CULTURES, 1700-1950

International Scientific Conference at Nizhny Tagil in the Urals, with pre- and post-conference tours. For details contact Dr Eugene V. Logunov, Institute of History of Material Culture, PO Box 65, Ekaterinburg B-109, Russia 620109, ☎ (3432) 297874, Fax (3432) 297731.

6-12 September 1996 AIA ANNUAL CONFERENCE 1996

in Bangor. Details are circulated with this mailing.

13-15 September 1996 PURBECK MARBLE SYMPOSIUM

at Bournemouth University. Department of Conservation Sciences in collaboration with the Church Monuments Society, to give renewed impetus to the study of this fascinating material. Details from Mrs Moira Gittos, 4 Linden Road, Yeovil, Somerset BA20 2BH ☎ 01935 20112.

18-20 September 1996 HERITAGE DEVELOPMENT OPPORTUNITIES IN INDUSTRIAL REGIONS

at Walbrzych in Poland. For details, contact Piotr Gerber, ☎ 0048 71 728134, Fax 0048 71 685917.

29 September - 2 October 1996

ENGINEERING HERITAGE SHAPING OUR FUTURE

the First International and Eighth Australian Engineering Heritage Conference, at Newcastle, NSW, with papers and visits to local engineering heritage sites. Further information from Prof Raymond L. Whitmore, 297 Indooroopilly Road, Brisbane, Q4068, Australia.

Information for the diary should be sent directly to the Editor as soon as it is available. Dates of mailing and last dates for receipt of copy are given below. Items will normally appear in successive issues up to the date of the event. Please ensure details are sent in if you wish your event to be advised.

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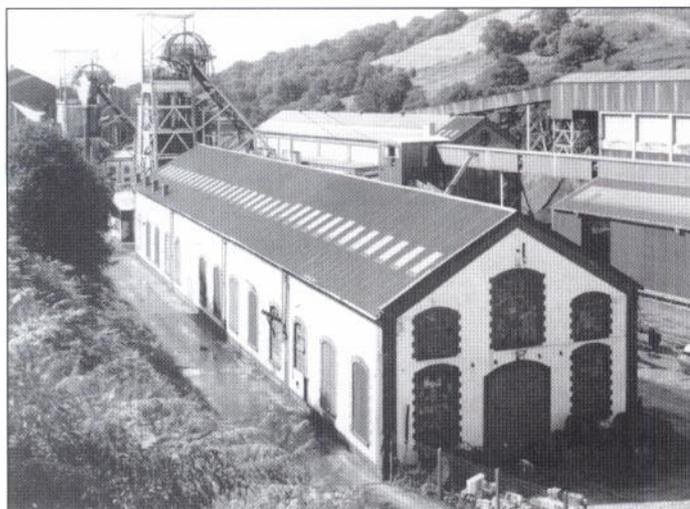
Published by the Association for Industrial Archaeology. Contributions should be sent to the Editor, Dr Peter Stanier, 49 Breach Lane, Shaftesbury, Dorset SP7 8LF. News and press releases may be sent to the Editor or the appropriate AIA Regional Correspondents, names and addresses of whom are published regularly. The Editor may be telephoned on 01747 854707.

Final copy dates are as follows:

30 March for May mailing
30 June for August mailing
30 September for November mailing
30 December for February mailing

The AIA was established in 1973 to promote the study of Industrial Archaeology and encourage improved standards of recording, research, conservation and publication. It aims to assist and support regional and specialist survey groups and bodies involved in the preservation of industrial monuments, to represent the interests of Industrial Archaeology at national level, to hold conferences and seminars and to publish the results of research. Further details may be obtained from the Membership Secretary, Association for Industrial Archaeology, The Wharfage, Ironbridge, Telford, Shropshire TF8 7AW, England. ☎ 01952 433522.

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



Taff Merthyr Colliery, Glamorgan. This recently demolished colliery is one of several recorded by the Royal Commission on the Ancient and Historical Monuments of Wales. See inside for their Report

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