

'The blackened chimney which dominates the Leven Valley will soon be demolished before it becomes unsafe. Its toppling will be symbolic in an area which helped to breed the industrial revolution and whose use of child labour was investigated by Parliament in 1916'. Readers of the *Guardian* newspaper may have re-read these words trying to relate them to the lakeland village of Backbarrow which was the subject of this report. Sadly the prejudices implicit in such bigotry still persist among planning committees, as followers of local politics will know; the proposal to topple an innocuous but redundant chimney is debated, not as a step to remove a traffic hazard or a threat to nearby houses but as a corporate act of revenge on what is seen as a physical embodiment of what was evil about the factory system.

Backbarrow is a village remarkable for the way it combines evidence of many phases of lakeland industry. Iron was smelted with charcoal here until the 1920s and much evidence of this unique survival of an historic metallurgy survives. The Lakeside and Haverthwaite Railway conveys delighted visitors to the Southern shores of Windermere, where they can join motor vessels whose splendid archaism is the main feature of their owner Sealink's marketing strategy. At nearby Stott Park the DoE's Ancient Monuments Administration has restored a water powered bobbin mill as a working industrial monument. Much of the appeal of these attractions is that they represent **authentic** Lakeland activities, reminding us that there was more to 19th century life there than mailcoaches stuck in winter snowdrifts and poets dreaming of April daffodils.

It would be arrogant to suggest that every feature like Backbarrow's inoffensive chimney should be indiscriminately preserved for the delight of that minority of the population with an informed interest in industrial history. What is equally clear however, is that many of the civic leaders who shop for a few votes with declamatory phrases about sweeping aside the wretched symbols of industrial oppression are to be heard a few years later clumsily enunciating schemes to establish theme parks and similar extravagant proposals, intended to recreate at great cost to their ratepayers a series of set pieces to express the area's 'industrial heritage'.

By way of contrast Burnley's planning committee recently endorsed a report from their Chief Planning Officer that fifteen chimneys, earmarked for preservation were as important to Burnley as classical antiquities to

Greece. Such a decision in an overwhelmingly industrial area can only be made with the full appreciation of what the factory system meant for the town. It had, and still has, many features that no-one would wish to see perpetuated; aerial and rivering pollution, ugliness, boredom to name a few! Burnley however, sees its chimneys as a reminder that not long ago it was the cotton weaving capital of Britain, with a greater concentration of looms than anywhere else in the world. Burnley is proud to sustain that memory. But Backbarrow on the other hand prefer to erase the evidence of the fact that in 1830 it housed the largest ironworks and cotton mill in the North West of England, a supremacy that continued until the new sources of power and better communications coaxed its industries away to new sites elsewhere. The splendid cotton mill was subsequently re-occupied to provide a home for the manufacture and packing of the 'dolly blue' once a familiar feature of washdays, that since 1928 has provided the village with up to 140 jobs (one third of the population) and a permanent blue overcoat. With the removal of the process to Reckitt's parent works at Hull, the village lost the latest in a long sequence of

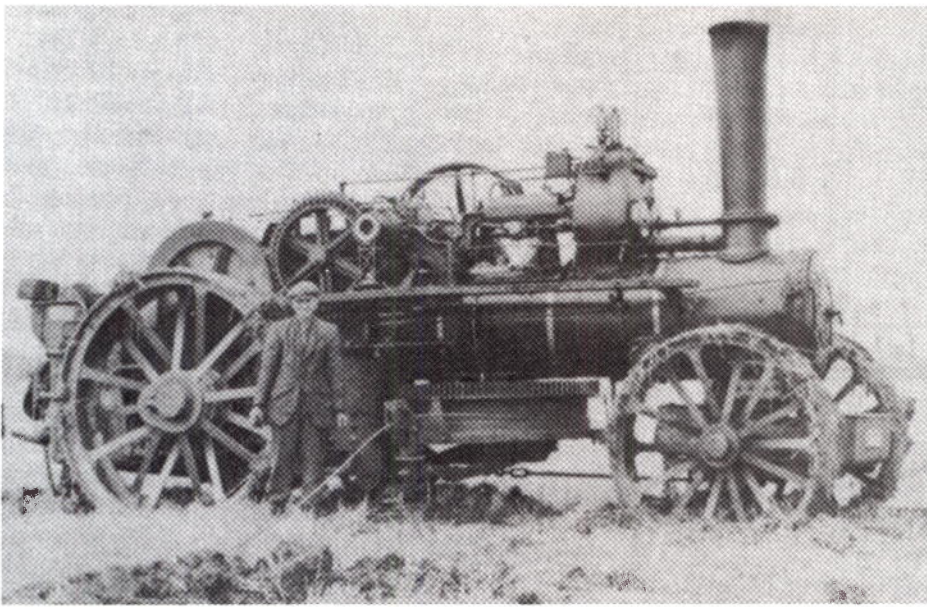
industrial activities. In its enthusiasm to attract new small industries, the South Lakeland District Council seeks a dynamic image; 'We mustn't linger in the past', said the council chairman, who was also administrative manager at the blue works.

Late in 1982 the innocuous chimney, whose visual contribution was to provide a vertical scale in a community of low-rise buildings nestling in a lakeland valley, was toppled. The mill it served has survived and is to become a leisure centre. Few residents of Backbarrow will mourn the loss of its blue overcoat now that the brightly coloured powder no longer blows over the town from the Reckitt factory. But with its chimney Backbarrow has lost a potent reminder of its origins.

Motorway Built by Steam. When Wolverhampton is linked directly to the M6 motorway shortly by a new dual carriageway to be called the Black Country Route, it will be thanks to a pair of elderly Fowler BB1 steam ploughing engines that were called in earlier this year to scoop the saturated peaty silt from an extensive area of riverside swamp on the alignment of the new



*The foundry at Backbarrow furnace which was first established in 1711. This view which appears in the Chaloner/Musson book *Industry and Technology*, is about 1730.*



road. Because of the depth of the swamp and the proximity of low slung 132 kv power cables, the West Midlands County Council opted for the obsolete technique of dragline dredging in preference to more modern diesel plant.

A pair of Fowler ploughing engines built 65 years ago and named *Tiny Tim* and *Old Jumbo* were hired from Sussex enthusiast Vic Mitchell and operated more than 600 feet apart on existing roads dragging a 4 ton scoop back and forth through the 15 ft deep swamp on a dragline rigged between the horizontal drums slung under their boilers. The soft silt was removed down to the level of the underlying glacial clay and these powerful and almost silent engines consumed only about £5 worth of coal per hour, whilst working 12 hours at a time.

Engines of this type have long been preferred where soft ground is to be tilled or drained without the requirement of compressing it by the repeated passage of a heavy towing vehicle across it. The success of the two old BB1's in getting a capacious dragline bucket across a swamp where few modern excavator drivers would have ventured is a reminder that steam ploughing engines made an important contribution to the improvement of tillage and land drainage. The advent of the Ferguson and other 'lightweight' tractors late in the 1930s reduced the incidence of soils compressed by excessively heavy plant; but even today it would be difficult to find a pair of winches that can handle a 4 ton dragline bucket and more than ¼ mile of wire cable with as little fuss as these reliable old Fowlers.

Reopening of Llangollen Canal. More than a year ago the Llangollen Canal had to be closed to all traffic when a serious breach was discovered near the village of Trevor and only 4 miles from the terminus in Llangollen. Although all commercial carrying lapsed long ago, the canal has assumed importance in recent years as perhaps the most attractive holiday waterway, and hence one of the busiest. The British Waterways Board wasted no time in starting repair work, but it was no simple matter and the eventual cost was in the region of £700,000. The town of Llangollen had reported that the closure was a severe blow to its tourist trade, and local traders were anxious for the reinstatement of their link with the holiday cruising trade. Reopening was scheduled for Easter last year but then another breach was discovered in the course of an inspection, and

the canal had to remain closed for another two months. Now the holiday boats are busily traversing the lovely stretch of Welsh canal again, giving people the opportunity to look down on the Dee from Telford's lofty Pont Cysyllte aqueduct and the corresponding stone aqueduct at Chirk.

The impact of this closure on the local economy is a reminder of how important is the regular inspection of the bank carried out from the towpath by a professional lengthsmen. One hundred years ago his vigilance would have been vital to the survival of the struggling canal companies, for a prolonged closure might well have bankrupted the canal company as a commercial concern.

Cotswold Wool. Filkins is the memorable name of a village near Lechlade, on the border of Gloucestershire and Oxfordshire, which has a remarkable village museum filled with local treasures and opened with cheerful hospitality for any traveller who calls at the caretaker's house close by. The village now has a working weaving mill as part of a lively display on Cotswold wool, housed in a magnificent 18th century barn that is another delightful surprise for explorers looking around Filkins. Visitors to the barn are encouraged to try their hand at drop-spindle spinning or at weaving on hand looms. A continuous slide show tells the story of the barn, and next door is a shop selling quality woollen goods. The weaving mill is open free of charge 10.00— 18.00 daily except Sundays. For access to the museum, which has a rich collection of agricultural and other tools, contact Mr. E P Foster, Abbeystones, Filkins (tel: 036 786 365).

Rope's End at Chatham. Until the steam engine went to sea, sound rope was probably the most important single component in a sailing ship's inventory. Merchant ships relied on it to get them out of trouble, warships relied upon it to win sea-battles. If a rudder-tackle failed or a topmast came crashing down because of a failure in the cordage, the ship might founder or be out-maneuvred and boarded by enemies as often happened. The Royal Navy operated four huge roperies at Chatham, Devonport, Portsmouth and Woolwich to keep its fighting ships supplied with the best rope available, for quality was too important to be left to the vagaries of outside contractors. Chatham's ropery, originally a timber structure, was re-

built in brick at the end of the 18th century, with a clear, internal length of 1,128 feet, long enough for spinning and laying ropes for the largest ships then being built. Their sheer size made such installations expensive to maintain, and the introduction of steam propulsion, and later, wire rigging in the 19th century led to the closure of the Woolwich and Portsmouth ropery yards. Devonport's was bombed during 1941 and the remains cleared, although some of the machinery was salvaged and transferred to Chatham.

Thus it was that for the past forty years Chatham's 190-year old ropery, which since its rebuilding in 1785-91 had been a 'double ropehouse' combining spinning and laying under one roof, has supplied most of the Royal Navy's requirement of natural fibre cordage. Recent years have seen the extensive adoption of man-made fibres for such items as berthing ropes and heavy towing ropes where the inherent stretch is useful. But there remain other applications where natural coir, manilla and sisal cordage remain unsurpassed. The heavy bow pudding fenders on berthing tugs, for instance, have to put up with regular compression and abrasion against ships' sides and the 1982 Falklands campaign saw the Chatham ropery working flat out to meet demands for specialised cordage for ships in the South Atlantic. What is truly remarkable is that much of the long cordage was still being spun on machinery some of which was originally installed before the Battle of Waterloo, at the instigation of Brigadier General Sir Samuel Bentham. Impressed by the success of Marc Isambard Brunel's block-making machinery at Portsmouth, he had sent Simon Goodrich to Chatham in April 1808 to investigate the application of steam power to rope-making. In fact the cast iron forming machines supplied by Henry Maudslay in 1811 could be worked by hand; up to 220 men were required to man the winches which pulled the forming machines the length of the building when a 24-inch cable was being laid, and a steam engine to produce that power in the early 1820s would have been uneconomically large.

Henry Maudslay's machinery, modified in some cases in the course of rebuilds later in the 19th century, remained in production until the end of February 1983. The future of the magnificent four-storey ropery, one of the largest industrial buildings in the country when completed in 1791, is now a cause for concern. The Ministry of Defence will have completely vacated Chatham Dockyard by the end of March 1984. The importance of the ropery is officially recognised; like many other buildings in the historic enclave it is a scheduled Ancient Monument. A consultant's report* commissioned by the Government's Property Services Agency and by Kent County Council suggests that continued rope-making is the only appropriate use for this splendid but highly-specialised building. But repairs to the 166,000 sq ft building are estimated to cost £1 million; dry rot and crumbling brickwork must be dealt with very soon. There may be a continuing demand for traditionally-made cordage, but insurance costs are likely to be prohibitive; floors and internal supports are all timber and during Naval occupation insurance in the usual sense was not necessary.

* **Chatham Historic Dockyard Study.** PSA Library Sales Office, Room C109, Whitgift Centre, Wellesley Road, Croydon CR9 2LY Price £11.00.

The National Maritime Museum has taken a close interest in the future of Chatham Dockyard for some years and filmed the rope-making machinery before it stopped work. But planning and conjecture will soon have to be replaced by the stark reality of looking after the world's finest collection of Georgian maritime buildings, some of them having had only rudimentary upkeep once the MoD's intention to withdraw was known. They will continue to deteriorate as resources are organised to carry out the most urgent building maintenance work. As anyone who has restored an old timber-framed building will testify, a year or two's delay can mean that rot or insect attack can get a hold and multiply the eventual cost of repair many times. We should salute Kent County Council and the PSA for at least sizing up the nettle to be grasped in saving this unique and little-known complex of industrial buildings, unrivalled anywhere in the world. We can only hope now that a consortium of interested bodies can come together to put that work in hand, for the task is too huge for any one organisation to tackle on its own.

The last batch of cordage made under Naval administration was for the re-rigging of HMS Victory completed on 25th February 1983. This was of black polypropylene, which as long as the raw material comes in cold fibre form can be worked to a high standard on the traditional natural fibre machinery as can more lightweight material spun up from plastic film.

The Ropery was then officially closed on 25th March 1983.

However contemporary with these events moves were taking place to secure the Ropery for the future. The NMM, apart from its film 'The Rope Makers of Chatham', took a full internal photographic coverage of the building in January and February, while at the same time the PSA completed its preparations for major contracts for reroofing the building and making it wind and weathertight.

The museum in conjunction with the Yard Authorities and the PSA also took steps to ensure the preservation of all machinery and redundant material of display potential within the building.

Though early attempts to find a commercial concern to convert the Ropery to private production had been unavailing, the Dockyard authorities themselves partly through contacts of the Chatham Dockyard Flagloft Ltd — that is the old Yard flagloft which had previously gone private in February — found a company which was prepared to become involved on a commercial basis under agreements in principle previously worked out by MoD for such an eventuality.

Cosalt Plc of Grimsby — a concern which supplies services to the fishing, merchant shipping and offshore oil industries — thus moved into the Ropery to produce cordage and MoD licensees early in April. The operation is now in the hands of their Net and Twine division and they have retained the former dockyard staff as their employees. The spinning machines were restarted on 11th April 1983 and until new supplies of natural fibre became available the building continued to produce artificial fibre cordage.

Both the Flagloft and the Ropery will have to renegotiate their tenancy agreements in due course with the historic trust which is expected to be formed to preserve and redevelop the historic yard at Chatham but it is obviously very much in everyone's interest that both should remain going concerns. The agreement

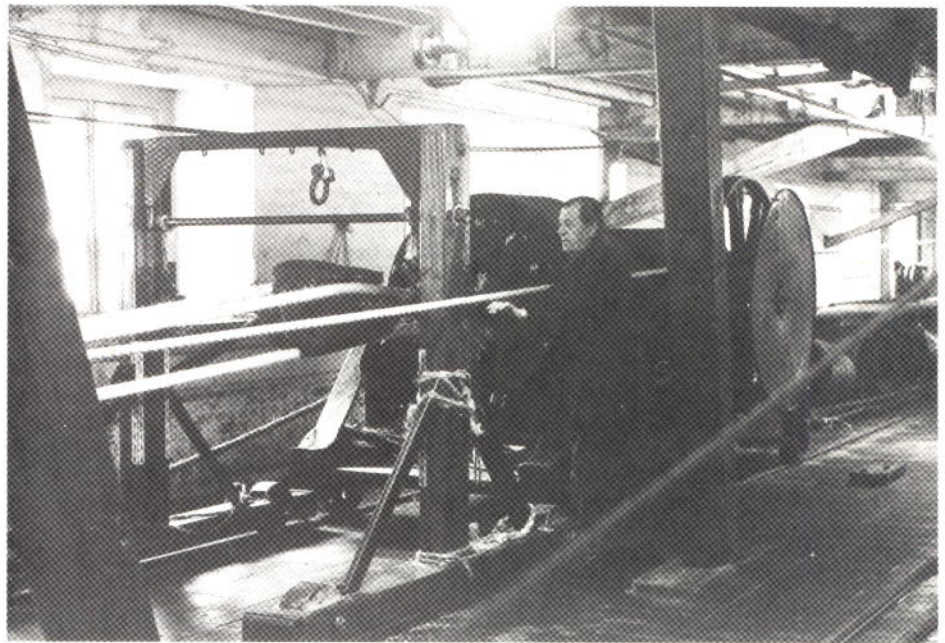
of principle approved by MoD by which the privatisation took place also stipulates that in due course arrangements should be made to open both processes to public inspection. A great deal of work has to be done before this will be practical on a large scale but in due course both concerns should be as much visitor attractions as they are successful commercial enterprises.

Since its inception in 1973, the AIA has had a Vice-President, first Michael Rix and now Douglas Hague, who apart from being notable industrial archaeologists, have also been executive members of the Association, re-elected Annually with other Council Members.

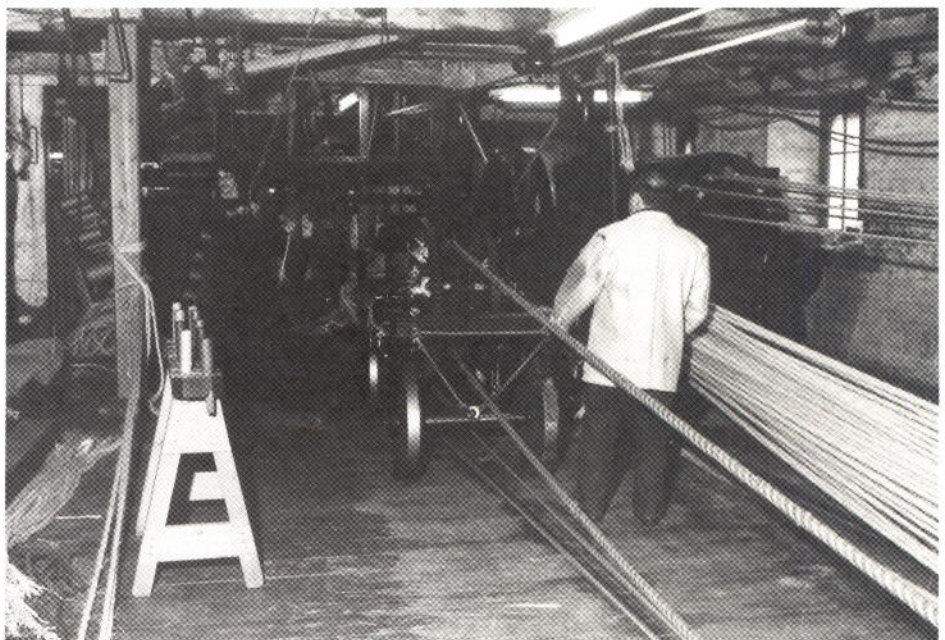
Now there is a new category of VP, or perhaps it should be VIP, one who in the unanimous view of Council has been outstanding in the study of his particular aspect of technology. A man whom Council was delighted to elect the AIA's first Honorary Vice-President: George Watkins.

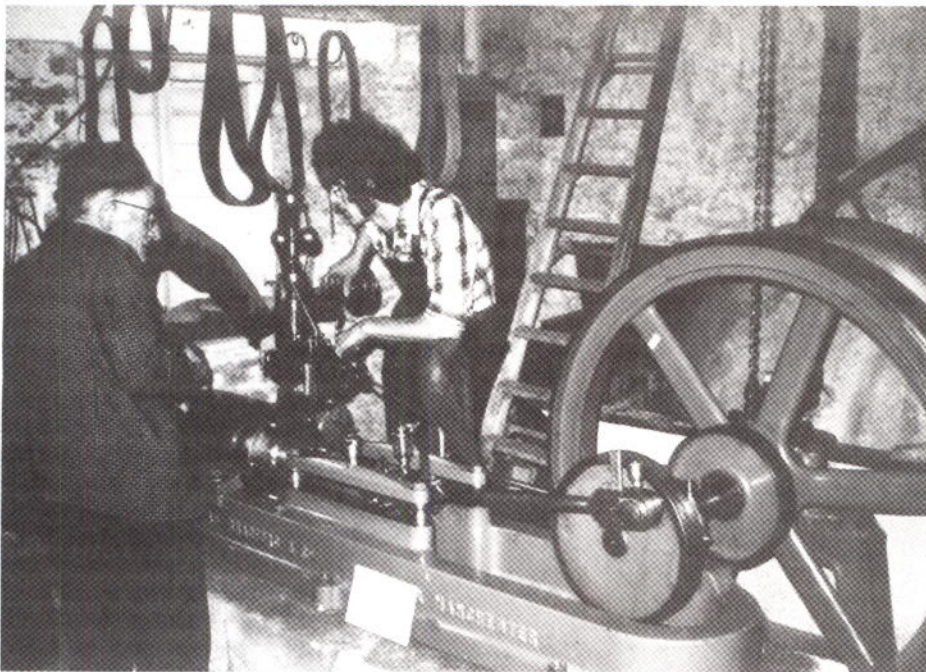
George Watkins is the archetypal industrial archaeologist who, as a schoolboy, became interested (obsessed is a better word) in technology in general and steam propulsion in particular. During the 1920s he began what was to become a lifetime study, recording and photographing stationary steam engines. For the next fifty years, until quite recently in fact, George travelled the length and breadth of the country on a small motor-cycle laden with photographic paraphernalia in search of steam engines and their associated equipment. For very many years he earned his living working with steam and once he had paid for the meagre essentials, and George was never self-indulgent, the money was spent on books, films (or for the greatest part of his photographic life, plates), petrol or train fares.

In 1965, after convalescing from a serious operation, George was offered a Research Assistanceship in the School of Humanities and Social Sciences at Bath University of Technology.



Chatham Ropery: Top picture, Victorian twisting machine and un-powered top cart. Bottom picture, Maudslay's forming machine at bottom (south) end of main laying floor.





George Watkins, a typical (and happy) picture taken by John Powell during a BIAS visit to Combe Mill, near Woodstock, Oxfordshire.

This appointment gave him the opportunity consolidate his undoubted position as the man who knew most about stationary steam engines, to sort and catalogue his vast store of photographs and notes and to put these in the sort of order from which we could all benefit.

In 1967, *The Stationary Steam Engine* was published to be rapidly followed by two volumes of *The Textile Mill Engine* and *The Industrial Archaeology of the Stationary Steam Engine*. In 1968 he was awarded the honorary degree of MSc by the University of Bath and from 1971 until 1973 was Emeritus Fellow of the Leverhulme Trust.

He has been a Newcomen Society member for forty years, was a founder member of the Bristol Industrial Archaeology Society and has a habit of appearing at almost every conference or gathering of industrial archaeologists, wherever it may be.

Today an interest in past industrial processes and artefacts is accepted by the vast majority as normal. Indeed, the term, Industrial Archaeology is universally recognised as part of everyday life, but all this is a relatively recent innovation. When George Watkins began to look at old machinery, at waterwheels and factory chimneys, and above all at steam engines, such an interest was, at best, viewed with amused tolerance and, more usually, thought of as 'a bit odd'.

Nevertheless George's determination overcame all prejudices. He was accepted by mill-owners, water-boards, manufacturing organisations and public utilities, who readily co-operated with this little, quiet, enthusiast. We can only be grateful that they did, for through him we know so much more about our industrial, stationary, steam-driven past.

The Brighton & Shoreham Tramway. The coastal plain between Brighton and Shoreham had been served by the railway since 1840, this section of line preceded the opening of the main line by 16 months, when in 1882, the Brighton and District Tramways Act authorised a line from the Aldrington boundary with Hove to Swiss Cottage, Shoreham, a well-known pleasure garden.

The line ran from the top of Westbourne Villas along New Church Road to Station Road,

Portslade where it turned down to the Lower Shoreham Road and ran through Southwick and Kingston before turning into Ham Road to the Burrel Arms public house opposite Shoreham Station. A very sharp right hand turn was then made into Western Road, continuing through Southdown Road to Swiss Cottage (now a much altered public house, with a boating lake remaining). The single track line 3'6" gauge with passing loops was opened on July 3rd 1884.

The decision to use steam traction was taken only two months before the opening; each locomotive was of the standard 'enclosed' type used for tramways fitted with both steam and hand brakes and equipped with condensing apparatus and a system which consumed their own smoke. Each locomotive weighed between 8-9 cwt and pulled a double-deck car 27'6" long, 6' wide and 13'6" high; seats inside and out were made of perforated wood and a roof described as a 'wooden verandah' gave some sort of protection to the passengers from the elements and fumes. (A photograph of the locomotive and car can be seen at Marlpins Museum in High Street, Shoreham.)

On opening day steam was used as far as the Burrel Arms and then three horses to the Swiss Cottage as the Act stipulated that steam could only be used on this section if the line was doubled. This difficult section of line with the very sharp right hand turn was only in use a short time. Steam traction was found to be so unsatisfactory being replaced by horses. The service connected with a horse bus service to the centre of Brighton. In 1889 the Brighton & Shoreham Tramway Co who owned the line sold out to British Electric Traction who intended to electrify the line using overhead wires. At the time of the sale the issued capital of the Company was £9,170 in £10 shares with the balance sheet showing a capital expenditure of £10,000. The route miles were 4.16 being 3.52 single and .63 double, and stock of eleven horse-drawn cars of which three were single-deck one horse and eight open top double-deck drawn by two horses. The stud consisted of forty horses.

Competition with buses which by now ran direct from Brighton to Worthing closed the line on the 23rd May, 1908, but because of Parliamentary Bills concerned with connecting

the line to proposed Worthing tramway systems, traffic resumed on June 10th, 1910 and worked spasmodically until final abandonment in October 1912.

John S F Blackwell

This item originally appeared in the *Newsletter* of the Sussex IA Society.

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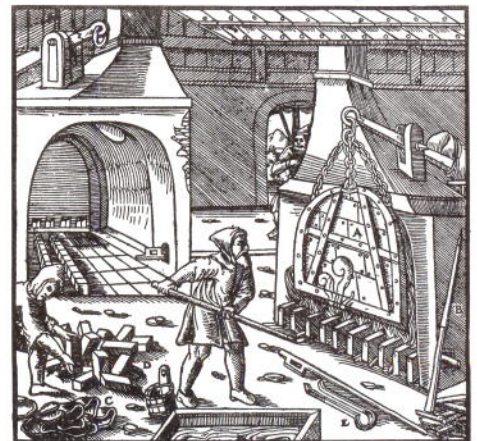
The books will be sent post-free and where the total retail order from a society comes to £20 or more, a third discount can be deducted; below that sum the discount is one quarter.

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Contact the Trade Manager at David and Charles, Brunel House, Newton Abbot, Devon, telephone: (0626) 62212.

Saltford Brass Mill, Bristol. Plans for a second phase of repairs at Saltford Mill during 1983 were disrupted by the need of urgent attention to a sheared roof truss in the vicinity of the annealing furnace. Potential disaster was averted and dealt with successfully thanks to co-operation from DoE Secretariat of Ancient Monuments. With the necessary scaffolding in place, opportunity was taken for roof repairs to be carried out over that section of the building. Once completed and, with the furnace structure already stabilised in the first phase of repairs, it was possible, at last, to re-erect the balance-beam; the furnace-door opening mechanism which had collapsed before the start of the project. The restoration of this particular feature was something of a milestone which served to underline a great contrast in periods of technical development. Although the eighteenth-century Bristol brass-annealing furnaces incorporated the very latest innovations in the use of coal as fuel, a balance-beam mechanism similar to that employed at the mill can be seen in the furnace drawings of Agricola, the German writer Georg Baur, in his *De re Metallica* published in 1556.



A liquation furnace; Book XI of De Re Metallica

A new phase of contracted repairs is planned for 1984, and voluntary work by members of the Bristol Industrial Archaeological Society will still be continuing. The site will be open to organised groups on a limited basis, by prior arrangement during 1984. No charge is made but donations to the restoration fund will be welcome. Enquiries (preferably with suggested dates and alternatives) to Joan Day, Hunter's Hill, 3 Oakfield Road, Keynsham, Bristol BS18 1JQ. (Tel: Keynsham 02756-2216).

The Lighter Touch. The outbreak of war in 1939 found the Royal Navy under-equipped with many types of ships and in particular the smaller auxiliary vessels found to be necessary in ports and anchorages to service the fighting fleet. This shortfall frequently had to be met by requisitioning merchant ships such as Clyde puffers and steam trawlers. In many cases these proved to be so satisfactory in their new roles that when the Navy came to draw up designs for purpose-built vessels for the same roles, the new builds turned out to be close imitations of the makeshift requisitions they were to replace.

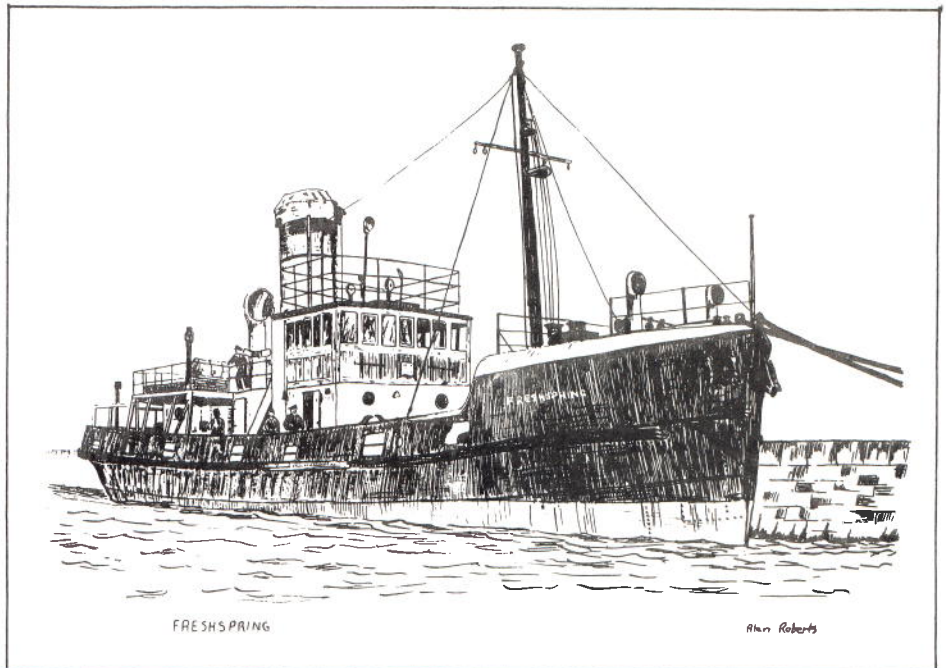
When the fighting fleets were so numerous that they could not all enter a Naval port at once and had to be stored and ammunitioned at anchor, water tenders had an important duty keeping them supplied regularly with many tons of fresh water. As late as 1947, self-propelled water lighters were still being laid down to a design almost identical with that of pre-war steam trawlers. Until recently several of these unassuming but smart little steamers survived in service in the Naval ports — now their role is carried out where necessary by dumb lighters. One of them, the *Freshspring*, passed recently to a private owner in Bristol, Oswald Burger, who is working with friends to keep it smart and seaworthy. Help from like-minded enthusiasts would be welcomed by Mr Burger and his team. So if the idea of working and eventually going to sea on a 1947 triple expansion steamer of 290 tons appeals to you, contact Oswald Burger at 21 Sandringham Avenue, Downend, Bristol BS16 6NQ, or simply make yourself known to anyone you see working on the *Freshspring* at Wapping Wharf, Bristol (near the Industrial Museum).

AIA's 1000th

AIA enrolls 1,000th member. Dr A Freedman of Church Minshull, Nantwich in Cheshire recently became the 1,000th person to send in a membership application form and it is hoped that he will be able to be present at the Local Societies Conference at Coalport on 22/24th March when a presentation will be made to him.

Industrial Archaeology from the Air. Eight intrepid aviators took off from Biggin Hill in the maiden GLIAS flight at noon on Saturday 18th June 1983. The aeroplane, a De Havilland DH89A Dragon Rapide biplane registration G-AIDL, was built in 1946 by Brush Coachworks but the design dates from the early 1930s. The first Rapide flew from Stag Lane aerodrome Edgeware on April 17, 1934. A total of 728 Rapides were built but our plane is one of the very few still airworthy. For 11 years (1950-61) it was owned by Fox's Glacier Mints who operated it from Leicestershire on executive flights.

Flying at 95-100 mph and 1,200 to 1,500 feet



one sees a great deal more than from a modern airliner. The perspex windows are large and photography is quite easy, if the wing is in the way the pilot will tip the plane to give a better view. Just after take off it seemed we were over Tower Bridge. Bromley had looked rather Dutch from our planner's eye viewpoint, with the Crystal Palace away to the West. Railway tracks are very prominent; the moribund route to Bricklayers' Arms is a great scar in the urban landscape. Over the Pool we turned towards St Katherine's Docks and Bethnal Green and headed for the Isle of Dogs. The great bend of the River with its docks is a most impressive feature from the air, really like the Daniel Alexander views. So much water — one can believe that London is sinking. On over the Royal Docks and more water with ships either side of King George V Dock — most exciting. One seemed to miss very little of the well-known features. In the rebuilding of parts of London the influence of Le Corbusier is evident and is clearly seen from the air. As one passenger said afterwards 'this puts London's IA in perspective'. The 35 minute flight seemed quite long and despite the price many wanted to go again.

If you would like to go on a similar flight send an SAE to me at 37 Ainger Road, London NW3 3AT for a booking form. Take-off will be in the early afternoon on Sundays enabling people living in a wide area to take part.

R J M Carr

Letters to the Editor

Dear Sir,

My colleagues and I much appreciate the kind references to us and our employers the RCAM. The Commissioners would, however, be grateful if you could point out to your readers that the Montgomeryshire Canal is only a side-line, and that the main objective of Commission IA works are the canal systems of **South Wales**, on which it is hoped to publish much more detailed than my book on the Montgomeryshire Canal. Thanks again for your help.

Yours sincerely

Stephen Hughes, Royal Commission on Ancient

and Historical Monuments in Wales, Edleston

AIA Conference in Lincoln 1983. Countless cabbages, infinities of stubble, some bright yellow, some burned and blackened and at times linked to the dominant heavens by a thin plume of smoke; a total contrast to the man-made clutter of the metropolis, the scene of last year's conference. A contrast too with the mountains of Wales, but I for one found the Lincolnshire landscape dramatic and exciting with the vast distant horizons broken by tall church towers, and most superbly by the majesty of Lincoln with its Cathedral rising from the misty plane; the fens were to provide the obvious theme for the conference.

This well organized conference was organized by Neil Wright, who on this occasion devised the extra days in Boston as an hors-d'oeuvre. The meeting began on Monday 5th September with an introductory talk by Neil and there were organized outings on the following three days; I was particularly grieved to miss the Spalding Gentlemen's Museum. The evening lectures were given in the Blackfriars Arts Centre, a splendid example of the imaginative restoration and re-use of a puzzling medieval building. The visits and talks made clear some of the complicated problems faced by drainage engineers, such as the disposal of water from different levels coupled with sea defences. The difficulties of land communications were explained and we heard the story of the famous firm of agricultural engineers, Hornsby of Grantham.

The Main Conference was based in Lincoln and began with another introductory talk by Neil Wright on the Industrial Archaeology of the County. On Saturday, Professor Alex Skempton gave a detailed talk on John Grundy Junior and his works, filling in a considerable gap in my knowledge. This was followed by Richard Hill's talk covering the history of fenland drainage. There were three Saturday afternoon visits, to Dogdyke, the Humber Bridge and the City of Lincoln — all enjoyed in somewhat inclement weather. As I had anticipated the highlight of the conference was the Rolt Lecture, which was given by Dr Michael Lewis on the subject '*Our Debt to Roman Engineering — the Water Supply of Lincoln to the Present Day*'. This took place after breakfast, consequently the audience was alert and attentive; in contrast the lethargic

and comotose congregations spread before any post-prandial lecturer. It would have been nice to know how to pronounce Grosseteste, but it was a first rate conference and we are all indebted to Neil, his wife and other helpers.

Douglas B Hague

Snowdonia National Park. A number of IA projects have recently been carried out by the Snowdonia National Park Authority. As part of the Snowdon Management Scheme work has begun on the consolidation of the **Britannia Copper Mill**, on the shore of Llyn Llydaw. This was occasioned by a re-routing of the Miners' Track to pass immediately in front of the mill. The works being carried out are to consolidate the building to prevent further deterioration. Following the capping of the walls this spring, a small interpretive display will be erected

In 1981 the well-known slate mill at **Ynysypanyd** in Cwm Ystradllyn was threatened with demolition. The site was purchased by the National Park and a comprehensive programme of consolidation and access improvement is now under way, funded by the National Park and the Welsh Office.

For a number of years IA courses have been organised from Plas Tan y Bwlch, the National Park Study Centre, by Merfyn Williams and Peter Crew. These have included annual survey projects at a wide variety of sites. During the past two years a dedicated group of regular course members have excavated the substantial remains of the Darby/Kelsall blast furnace at **Dolgun**, near Dolgellau. A substantial contribution from the National Park's conservation budget has made it possible to consolidate the remains, which are well worth a visit. Negotiations for access will soon be completed and a pamphlet is available. A full report on the excavations is in preparation.

The next project from Plas Tan y Bwlch (details in the Calendar) will be the excavation of the iron working site at **Dol y Clochdydd**, on the bank of the Afon Mawddach, north of Dolgellau. For many years this has been thought to be a medieval bloomery, linked to the Cistercian Abbey at Cymmer, but recent recognition of glassy slags from the site indicates that it may be a late 16th century blast furnace known from historical records.

It may be of interest to AIA members to know that the facilities of Plas Tan y Bwlch are available to both organised groups and individuals wishing to visit sites or work on projects within Snowdonia National Park.

Peter Crew

New IA Review

The Association has now purchased from Oxford University Press the title, subscription list and back issues of the **Industrial Archaeology Review**. As members will be aware new subscriptions for membership of the Association which are due from July 1st will include two copies per year of the Review now to be published by the Association.

If you are continuing your membership, the AIA are able to offer you immediately, a complete set of the back issues of the **Industrial Archaeology Review** Vols 1 to 6. In total this is 18 single issues and the special discount price is £18. Postage and packing for British members will amount to £3.

Alternatively you may wish to collect your reviews from the Secretarial Offices in Ironbridge or collect them from one of the AIA Conferences. For those who are missing individual volumes, these will be available at £5 with single issues at £2. The availability of individual volumes and single issues will be dependant on surplus sets being available. Please send your order as quickly as possible as stocks are severely limited to the Assistant Secretary at Ironbridge Gorge Museum Trust, The Wharfage, Ironbridge, Telford, TF8 7AW.



The change of **Liaison Officer** was accomplished during Christmas, when Marilyn handed over the extensive files relating to the Affiliated Societies scheme; but though the personnel has changed we intend to maintain continuity in other ways. My thanks therefore to the local secretaries who have sent material to me, and I hope to continue the hitherto efficient service.

I shall shortly be circulating Society secretaries in detail about the Local Societies' Conference in March. This conference will concentrate on field recording and on publications; we would be grateful if society representatives attending the conference could bring examples of their publications and be prepared to describe briefly how they are compiled and produced. The exchange of information, it was felt at the last conference, could be of considerable mutual assistance to societies.

Two county, and a university group make up this issue's profile of member groups.

Janet Spavold

Derbyshire Archaeological Society IA Section.

The Derbyshire Archaeological Society was founded over 100 years ago and is now the principal body within the county concerned with the study of its history and archaeology. The IA section was set up in 1968 as one of a number of specialist groups within the Society. Its objectives are the study and publication of industrial history in Derbyshire, and encouragement of the preservation of significant sites.

A programme of talks is arranged for winter evenings at Derby Industrial Museum and summer visits are made to local and national sites of interest, with the emphasis on those which would not be normally accessible to individuals. The Section keeps a watch for planning proposals affecting sites in the County, and receives information from Local Authorities and the CBA. Over the years the Section has had considerable influence on the preservation or recording of threatened buildings and sites. Examples of this are the industrial housing at Golden Valley and the Derby railway cottages, both now restored by the Derbyshire Historic Buildings Trust and Morley Park blast furnaces. Records of survey work carried out by members are published in the **Derbyshire Archaeological Journal** and are deposited at the Derbyshire County Record Office at Matlock.

The Section's publications are a varied selection of interest to local and industrial historians; details may be obtained from Mr D V Fowkes, 7 Ashleigh Drive, Uttoxeter, Staffs.

A major project under way at present is the compilation of a comprehensive IA gazetteer of Derbyshire. The first volume, covering the **High Peak Borough area**, will be published in the near future.

Information on the Section can be obtained from Mr I Mitchell, 159 Draycott Road, Sawley, Long Eaton, NG10 3BX.

Nottinghamshire Industrial Archaeology Society.

The Society was formed in 1976 by a group of enthusiasts who felt that a society would further the aims of IA and encourage interest within the County.

The Society aims to cater for a wide range of interests, with lectures, excursions and field-work, and to encourage and to coordinate local study. One of the main objectives is a comprehensive survey of all IA remains in Nottinghamshire. The general survey is almost complete and work is continuing on detailed surveying and documentary research of important sites.

An important aim is to liaise with Local Authorities and other interested organisations and to provide expertise. The society acts as a pressure group when necessary to ensure preservation of important sites and to record any endangered zones.

At present all fieldwork is published in the bi-annual **Journal**. It is hoped eventually to produce booklets on specific topics including local trails and thus further the interest and awareness of IA in the County.

Information on the Society can be obtained from Mrs J Hodges, 44 Wadham Road, Woodthorpe, Nottingham NG5 4JB.

Southampton University IA Group.

The Group's activities are diverse — lectures, field visits, publishing, projects involving excavation and/or restoration. Meetings are held on the first Monday of the month, in the University, and usually have a visiting lecturer, although certain meetings are set aside for members' slides, or a quiz. Field visits, organised in conjunction with the University, usually number two a year — a weekend in the Spring, and a week in the summer. The Group has published a number of books, and details of these are obtainable from the Secretary; work is in progress on a new edition of a **Guide to IA in Hants and the Isle of Wight**. On the practical side, the Group recently completed the excavation of the wheel pit which formerly housed a waterwheel driving farm machinery at a local farm; currently, some members are involved in the restoration of a Victorian brewhouse.

The Group publishes a newsletter **Focus**, covering a wide area, and has recently started the **Wessex IA Newsletter**. Archive material is held by Southampton University Library, as part of their local collection.

Information on the Group can be obtained from Mrs P Moore, 'High Trees', 52 Park Lane, Fareham, Hants PO16 7LB.

Industrial archaeology in Yorkshire is represented not by a county society specifically devoted to industrial archaeology but by a lively and well-supported **Industrial History Section** of the old-established and prestigious **Yorkshire Archaeological Society**, a body which enjoys charitable status and has its own premises in Leeds. Members of the Section can thus meet and share visits with like-minded students of industrial history from elsewhere in the largest of all English counties, while at the same time enjoying

the wider facilities of the parent Society such as its Library and its regular *Transactions*.

1 The Industrial History Section publishes a duplicated *Newsletter* from the Society's office in Leeds. Features in the Autumn 1983 issue were an account of the previous AIA Working Weekend at Ironbridge and an article on the important contribution to steam engine development by **William and Edward Joy** and their descendants who from 1807 onwards produced lubricating oils at Thwaite Mills, Leeds, without which the first steam locomotive could not have run. Happily both the company they founded, now known as **Filtrate Oils** and Thwaite Mills where they carried out their early work, both survive to this day. Among other items in the *Newsletter* are a report of the 1983 biennial conference at Leeds of the **National Association of Mining History Organisations**, a feature by David George about Peter Black's remarkable collection of motor cars in Keighley, and accounts of the Section's field excursions and meetings. Membership of the Section costs £3.50 p.a. or £1.50 for those who are already members of the parent YAS. Details from the Section's honorary secretary, N M Cooper at 'Claremont', Clarendon Road, Leeds LS2 9NZ.

GLIAS. The Newsletter of GLIAS will convince you that if you live near to London you should contact the Secretary, Brenda Innes of 9A Upper Park Road, Bromley, BR1 3HN to ensure that you keep in contact with the wide variety of events which they organise. Enclosed with their October Newsletter is the first London Industrial Archaeology Miscellany which contains abstracts from previous Newsletters. These are of a wide variety of interests and congratulations must be extended to the London Society for their initiative in this matter.

Sussex Industrial Archaeology Society. Newsletter No 39 of this active Society contains details of the Centenary of the Volks Electric Railway and an article on Ashburnham Blast Furnace. There are also details of the reconstruction of the Kingston Wharf at Shoreham Harbour and brief news and notes on Bishopston Tide Mills and the roof appeal for St Georges Church, Everton. Further details of the activities of this Society can be obtained from the secretary, Mr R G Martin, 42 Falmer Avenue, Salt Dean, Brighton

The East Grinstead Society — New Town Trail. To mark its fifteenth anniversary in 1983, the East Grinstead Society has brought out a town trail covering the area built up between the coming of the railway in 1855 and the outbreak of the Second World War in 1939.

Printed to A3 size (folded to A5) this guide gives an excellent short description of the architecture of note in this built up area of the town, vantage points are noted and an easy to follow map is included. Of special interest to IA Members is the brick railway viaduct built in 1882 of ten spans and some 300 feet long. A show piece for students of brickwork and railway architecture — its future is uncertain. Bow Bells milestone No 22 is also noted.

Copies are available from M J Leppard, 20 St George's Court, East Grinstead, 35p post free.

North West Civic Trust. The North West Civic Trust is celebrating its 21st Anniversary and has produced a special anniversary edition of *Contact*, lavishly illustrated and with a whole

series of keynote articles. There is also a useful list of all the Civic and Amenity Societies in the North West and the whole publication has been made possible by generous advertisers. Copies of the publication can be obtained at the price of £1.00 from Mrs P Roscoe, Deputy Director, North West Civic Trust Environmental Institute, Greaves School, Bolton Road, Swinton, Manchester M27 2UX.

Guide to the Coalfields 1981. Published by the Colliery Guardian, this booklet which has now been in publication for almost 100 years gives a complete breakdown of every mine whether coal or other mineral in Great Britain with many hundreds of details about mining, the National Coalboard and mining organisations. Priced at £13.50 it is obtainable from the Colliery Guardian, Queensway House, 2 Queensway, Redhill, Surrey, RH1 1QS and members may wish to suggest that their local library obtains a copy. Old copies of this publication are, of course, essential reading for mining historians.

Swap Shop. The Survey into the best way of operating this has been completed. Most respondents believed that the Swap Shop was an important activity especially for the individual member and the small IA groups. The most frequently voiced criticism concerned the lengthy delay between submission of a Swap

Shop item, its publication and eventual disposal. In a number of instances the equipment has been transferred or otherwise disposed of long before the write-up had appeared.

To overcome this, a consensus of opinion favours a selective approach, whereby individuals or groups with particular interests are quickly informed of any items relevant to their needs. Those who wish to participate will complete and return the enclosed pro-forma, on receipt of this the information will be collated and request forms sent out. When an item is sought, for disposal or exchange the relevant details should be entered and the form returned. Photo-copies will then be despatched to all those interested. A list of the equipment will be included in the Bulletin for the benefit of those who are not in the scheme or may see a particular item they require, which is not normally within their interests.

Naturally, all of this cannot be done without incurring some cost, the AIA Council believes that the Swap Shop concept is important and are prepared initially to underwrite the scheme. As the scheme develops it may be necessary to make a small charge to cover postage etc, but that is in the future. The Council has indicated its commitment to the idea, success will only be achieved by participation of members.

Harry Smith

AIA Calendar

Affiliated Societies' Conference
March 23-24 1984

At Coalport; details to be circulated, but book the date. The conference will concentrate on field recording and society publications.

Early Iron Industry in North Wales
March 23-26 1984

Current excavations will provide the material for this course of lectures and field trips. Residential fee (3 days) £43.20. Contact — Principal, Snowdonia National Park Study Centre, Plas Tan y Bwlch, Maentwrog, Gwynedd, LL41 3YU.

An IA Weekend in the Forest of Dean
March 30 - April 1 1984

Friday evening to Sunday lunch with all meals and accommodation and guided tours to traditional Forest free-mines, stone quarrying, iron mines and iron smelting remains and glorious scenery. Cost £45.00 inclusive. Details from Littledean House Hotel, Cinderford, Gloucestershire. Tel: 0594-22106.

South East Regional IA Conference
April 7 1984

A conference on the theme of the development of transport, covering roads and turnpikes, coastal trading, the canal and railway systems, the return to the roads and air transport and Croydon airport. Details from the Administrative Officer, Centre for Continuing Education, Education Development Building, University of Sussex, Falmer, Brighton BN1 9RG. Tel: Brighton 606755 ext 866/865.

Working Farm Engines in the Cotswolds
April 22-23 1984

A working weekend (Easter) at the Cotswold Countryside Collection, Northleach, Gloucestershire, junction A40 and A429. Details by telephone on 045-16715.

15th Western IA Societies' Regional Conference
April 28 1984

This conference will be held at The National Museum of Wales. Contact Ray Bowen, 8 Castle Drive, Dinas Powis, South Glamorgan. Telephone: 0222-513058 for further details.

The Thames and Severn Canal
April 28 and October 27 1984

Two one-day schools based at Tunnel House Inn, Coates, near Cirencester and covering history, restoration and guided tow-path walks. Cost about £5.00 and details from Dr Joe Bettey, Department of Extra-Mural Studies, University of Bristol, 32 Tyndall's Park Road, Bristol BS8 1HR. Tel: 0272-24161, ext 686.

Mills and Markets
May 5 1984

Held in conjunction with the Shropshire Festival of Architecture, this one day conference will discuss the structural forms and architectural styles of two of the most characteristic buildings of the industrial revolution. Details from IGMT ref: Michael Stratton.

An Historical Metallurgical Day Out at the Tower of London
May 5 1984

Organised by the Historical Metallurgy Society their customary May meeting will take place at Her Majesty's Tower and concentrate on metallurgical aspects of armour and ancient weapons. Details from Roger Ward, 12 Dryden Mansions, Queens Club Gardens, London W14 9RG.

An IA Expedition to South Wales
May 12 1984

Starting from Ironbridge and Kidderminster the visit will take in the 18th/19th C iron industry, workers housing, tramways and coal mines. Details from IGMT ref Barrie Trinder.

Buildings and Building Materials in Stamford
May 12 1984

EMIAC 28. The Society for Lincolnshire History and Archaeology is hosting this conference, to be held at the Stamford Arts Centre, 9.30am to 5.30pm. Speakers on terracotta and Collyweston slate; walks around Stamford. Cost £5.00. Booking forms from A L C Wall, 109 Bunkers Hill, Lincoln.

Industrial Archaeology Excavation
May 12-19 and 19-24 1984

Join for any part or all of the two weeks. Typical cost (3 days) £45.36. This will be first season excavation of a late sixteenth century blast furnace at Dol y Clochydd near Dolgellau. Contact - Principal, Plas Tan y Bwlch, Maentwrog, Gwynedd, LL41 3YU.

Canals around the Peak District
May 28 - June 1 1984

A residential course for canal enthusiasts in the environs of the Peak District National Park. Lectures, boat trips, museum visits and tow-path walks. All accommodation and meals etc. Cost £89.00 for everything. Contact Peter Townsend, Losehill Hall, Castleton, Derbyshire. S30 2WB. Tel: 0433-20373.

Railways of the Peak
May 28 - June 1 1984

A similar residential course for the railway buff. Cost also £89.00 fully inclusive. Details as above.

The Geology & IA of West Cumbria
May 29 - June 2 1984

A residential course based at the Hundith Hill Hotel, Lorton Vale, Cockermouth, featuring visits to a wide range of sites plus evening talks on the area. Cost: £60 for B&B, packed lunch and evening meal. Details from Derek Brumhead, 3 Falcon Close, New Mills, via Stockport, SK12 4JQ. Tel: 0633-44863.

Revitalising Docklands
June 5 1984

Held in conjunction with the Museum of London, this conference is slanted towards museum curators, planners, architects and historians. To be held in London. Details from Max Hebditch, Museum of London, London Wall, London EC2V 5HN.

Conservation and Adaptive Use of Iron Monuments etc
October 23-26 1984

ICCROM Technical Conference at Ironbridge Gorge Museum (preliminary notice) sponsored by ICCROM, the IGMT and TICCIH. Cost (without accommodation) but including pre-prints, visits and excursions etc £30.00. Details from Stuart Smith, reservations to ICCROM, c/c n 1574489/02/93, Banca Commercial Italiana, Sede di Roma, Via del Corso, 226, 00186 Rome RM, Italy.

AIA Cashbox

1984/85 Annual Subscriptions. As members will be aware, the Association is moving rapidly towards publishing a journal of its own and it is intended that all members shall receive the first issue by September of this year. In the normal course of events an increase in subscriptions from 1 July next would not be necessary but the new journal has to be financed. Your Council is very mindful of the need to keep any increase to a minimum and the new rates are set out below. All being well, it would be our hope to maintain subscriptions at this level for as long as possible.

The new 'IA Review' is an exciting new departure for the AIA and will deserve your support. A great deal of work has gone into it already and we hope that you will find the modest increase (in monetary terms) well worth while. It is our intention that the new journal shall give good value for your subscription.

Subscription Rates from 1 July 1984:

Ordinary membership	£12.00 (formerly £ 8.00)
Joint membership	£16.00 (see below)
Student membership	£ 8.00 (formerly £ 5.00)
Affiliated societies	£16.00 (formerly £12.00)

Direct Debits. Members who have signed direct debit mandates in favour of the Association need take no further action regarding this increase; the correct subscription will be collected automatically.

For those uncertain of how this scheme works, it is akin to a bankers order save that Lloyds Bank, on behalf of the AIA, claims the subscription from the member's Bank. The built-in safeguards are such that **only** the amount of the subscription can be collected and **only** on or shortly after 1 July each year. The scheme saves a tremendous amount of work for your honorary officers each year. Forms are available from the Treasurer, address below.

Members who are retaining bankers orders will be sent amending forms individually shortly. Arrangements are being made to minimise the administrative burden this method of payment causes in an organisation of our size.

Michael Messenger, 7 Cefn Carnau Road, Heath, Cardiff CF4 4LZ.

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