

VOLUME 5 NUMBER 3 1978



**Another First for Ironbridge.** The Ironbridge Gorge Museum, Telford, guardian of the world's first iron bridge and the furnace where iron was first smelted with coke, can now add another first to their elegantly designed literature. On Tuesday 14 February this year, Neil Cossons visited the Palais de Rohan in Strasbourg to receive the first ever *European Museum of the Year Award* from the President of the European Community, the Rt Hon Roy Jenkins.

The event sponsored by IBM and organised by the Council of Europe in conjunction with the International Council of Museums had received 32 entries and nine were shortlisted. These were the Museum of Industrial Archaeology at Herstal in Belgium, The National Technical Museum, Helsinki, Finland; the Terra Amata Museum, Nice, France; the Municipal Museum, Swabisch Gmund, West Germany; the Amsterdam Historical Museum Holland; the Preus Photo Museum, Horten, Norway; the Joan Miro Museum, Barcelona, Spain and the International Museum of Watch and Clockmaking, La Chaux-de-Fonds, Switzerland. In second place was the Joan Miro Foundation of Contemporary art and Catalan culture and the winning entry received a cheque for £4,000 and a Henry Moore bronze maquette. This is the fourth major award to go to the Ironbridge Gorge Museum. In 1973 they won the British Tourist Authority's 'Come to Britain Trophy', in 1975 a Special Heritage Year Award in recognition of the Museum's continuing contribution to conservation and in 1977 the British 'Museum of the Year Award'.

**Oral History Seminar** The joint meeting with the Oral History Society, advance notice of which was given in Bulletin 5:2, has had to be postponed due to late delivery of recording equipment required in connection with a sound archive project on the Lancashire textile industry, the results of that project would not have been available in time for the May meeting previously announced. Arrangements have now been made for the seminar to take place at Birmingham Public Library on Saturday 11 November, commencing at 11.30 am. A small fee will be charged to help with the expenses of some speakers. Accommodation will be limited, and those wishing to take part are asked to write immediately to: Peter White, Ancient Monuments Inspectorate, Department of the Environment, Room 224, Fortress House, 23 Savile Row, London W1X 2AA.

Those wishing to illustrate their own work in this field should make particularly early application.

**Canal Stoppages** British Waterways have given notice of repairs to two major structures which will interrupt boat movements in the Birmingham area during the summer of 1978. Alvechurch Aqueduct on the Worcester and Birmingham Canal was closed as an emergency measure following recent leakage, and detailed inspection has shown that complete rebuilding will be necessary, at a cost of £60,000. Boats entering the canal from Kings Norton Junction will not be allowed to proceed beyond the winding hole at Hopwood; those moored below Alvechurch will be able to move down to Diglis Basin by prior arrangement with the Section Inspector at Bromsgrove (0527) 72572, but there may be delays in making sufficient water available. Those choosing to leave their boats between Diglis and Alvechurch will not be able to use the locks while the present works are in progress, so will be restricted to cruising on the intervening pounds. Work is not expected to be completed until the end of the summer.

Netherton Tunnel on the Birmingham Canal Navigations has the distinction of being the last canal tunnel to be built in Britain and is the most generously proportioned of all, boasting towpaths on both sides which eliminates the need for either legging or tugs. When it was opened in 1858, Netherton Tunnel had the unusual feature of being lit throughout its length by gas. This was later converted to electricity, and the tunnel played an important role in relieving the pressure of traffic on the Dudley Tunnel opened in 1792 and very narrow and poorly ventilated, with which Netherton runs parallel. An inspection by BWB engineers in 1976/7 revealed the need for repairs to some of the ventilation shafts, and a brief closure earlier this year enabled this work

to be put in hand. More serious, however, is the discovery that ground pressure had lifted the tunnel's floor along 40 yards of its 3027 yard length, and this distortion had enabled a slight inward movement of the tunnel sides to take place. Remedial works are expected to cost more than £300,000 and will last from June 5th until early 1979. Netherton Tunnel will be impassable throughout this period, but there is an alternative route onto the Stourbridge Canal and the lower end of the Staffs. and Worcs. Canal through Dudley Old Tunnel, which was reopened to traffic in 1973, following determined work by local volunteers and a series of blitzkrieg operations by restoration teams converging from all over the country from a series of 'Dudley Dig-Ins'. Dudley has restrictions on beam and headroom, and cannot be used by boats under power. Anyone considering using this route as an alternative while Netherton is closed should contact BWB's Birmingham Area Office at Reservoir House, Icknield Port Road, Birmingham B16 0AA, telephone 021 454 7091.

**Huddersfield Narrow Canal (1794 - ?).** The Huddersfield Narrow Canal is a unique waterway. It can still claim two records; its summit level at 645 feet above sea level is the highest in Great Britain and Standedge Tunnel, at 3 miles 418 yards, is the longest canal tunnel ever constructed in this country.

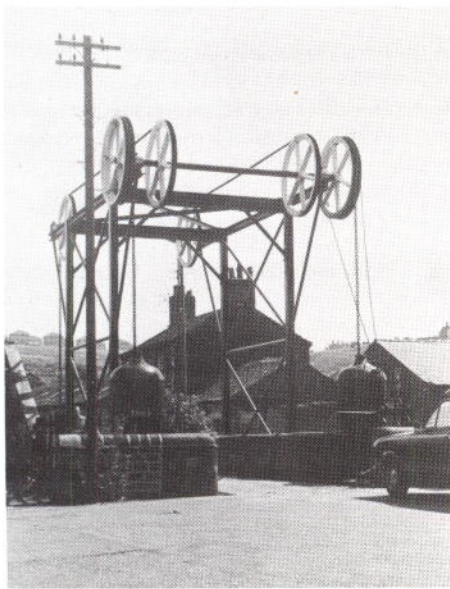
In 1794 the canal obtained its Act of Parliament, the same year as the Rochdale Canal. The Huddersfield Narrow Canal was to run from a junction with Sir John Ramsden's Canal in Huddersfield up to Colne Valley through Slaithwaite and Marsden, into the Pennines via Standedge Tunnel emerging at Diggle and thence down the Tame Valley, through Uppermill, Mossley and Stalybridge to a junction with the Ashton Canal at Dukinfield. With only a length of 19<sup>1</sup>/<sub>4</sub> miles the canal is packed with engineering features: 74 locks, 2 tunnels, 11 aqueducts and numerous bridges.

The first section of the canal, Huddersfield to Marsden, was open by 1796, and the section from the Ashton Canal to the Woolroad near Dobscook on the western side was completed by 1798. This enabled the canal to be used by local traffic. However, through traffic had to be transhipped at the temporary termini until Standedge Tunnel was opened in 1811. By this time the rival Rochdale Canal was open and the Huddersfield Narrow Canal was struggling to establish itself as a through route. The summit was at its busiest when Standedge Tunnel was being used during the construction of the nearby railway tunnels. The competition from the parallel railway was too much for the canal and traffic declined. Eventually the Narrow Canal was incorporated with the Huddersfield

Broad Canal (Sir John Ramsden's) into the Huddersfield and Manchester Railway and Canal Company in 1845, eventually forming part of LMS Railway in 1923.

All except a short stretch adjoining the Huddersfield Broad Canal was abandoned in 1944 after the passing of the LMS Railway (Canals) Act. Even this short stretch was abandoned in the Sixties. However, the Broad Canal is still navigable, and in April 1974 the Huddersfield Canal Society was formed with the object of encouraging the improvement of the Huddersfield Broad Canal, by conservation of the scenic features and promoting the restoration to navigation of the Huddersfield Narrow Canal, thereby improving the links between Yorkshire Waterways and the Cheshire Canal Ring. Since the last through journey in 1948, most of the locks have been 'landscaped', certain sections have been filled in and culverted and some bridges lowered. However in 1975 the Society published a feasibility study, which showed that restoration was possible, provided no further harm was done to the Canal. The Society has obtained assurance from the Greater Manchester Council that they will protect the line of the canal in their area and, in fact, it is an integral part of the Tame Valley Improvement Scheme. However the story on the other side of the Pennines is different, in so far as the Society is actively fighting planning applications to build across the canal in Huddersfield.

This coming year will see a great deal of activity on and off the canal by the Huddersfield Canal Society and anyone interested or who would like more information should contact the Secretary, Mr R Dewey, 3 Pump Row, High Flatts, Huddersfield.



**Editor's note.** The Society has adopted as its emblem a drawing of the remarkable 'Turnbridge' built in 1865 to carry road traffic across the Huddersfield Broad Canal at Quay Street near Aspley Basin in Huddersfield. The two bottle-shaped cast iron caissons containing the balance weights have the date of opening cast into them. The bridge is still in full working order, having been extensively overhauled in 1975. A hand winch at the side raises and lowers the deck through chains and pulleys. Boatmen wishing to pass beneath still raise the bridge for themselves, using a Leeds and Liverpool type lock key.

The HCS is actively campaigning for the re-opening of the Huddersfield Narrow Canal, which would provide a second trans-Pennine route, linking the recently-restored Ashton Canal with the Yorkshire waterways system. With the dream of re-opening the Kennet and Avon as a major cross-country route fast becoming a real possibility, HCS members are concerned that future planning should take account of the possibility of reopening what would be one of England's wildest and most spectacular holiday routes.

For details of the Society's publications, all concerned with the practical aspects of reopening the Huddersfield Narrow Canal, see 'AIA Bookshelf'.

**Westonzoyland Pumping Station, Bridgwater, Somerset.** Constructed originally in 1830, the station housed a small beam engine and scoop wheel and was the first steam land drainage station on the Somerset Levels. The original machinery proved inadequate so in 1861 the existing Easton & Amos 2 cylinder vertical engine and Appold pump were installed, the beam engine being sold. A number of other engines of similar type and by the same makers were installed in stations on the Levels over the next ten or so years, and for the following eighty years provided the pumping needs of the Somerset Levels. Following the formation of the Somerset Rivers Board, a policy of installing diesel pumps was pursued and in 1950 the Westonzoyland station had a General Motors vertical diesel and centrifugal pumps installed in a new building alongside the original engine house. Luckily, largely by the efforts of Mr E L Kelting, Engineer to the Board, the steam engine was not destroyed, it was cleaned and repainted.

After the formation of the Wessex Water Authority in 1974, the question of maintaining the engine and building arose and in early 1977 the Somerset Industrial Archaeological Society was approached and asked if it would take on the task. A small group of SIAS members worked on the engine throughout the summer and a Westonzoyland Engine Group was formed within the Society to look after the machinery, operate it after restoration and form a museum of land drainage on the site.

The intention is to form a Charitable Trust and lease the station from the WWA. The engine will then be operated on open days for the public. So far, the Group has had a number of donations of items, including boiler feed pumps, spares, pipework, smithy tools and some narrow gauge rails for demonstrating how the Rivers Board once used rail skips on its river works. A Lancashire boiler has also been offered. The Group has also received a 'Shell Restoration Award to Inland Waterways'.

**Somerset Industrial Archaeological Society** Volume 2 of the Society's annual Journal was published during 1977 and maintains the high standard of layout and content set by the first volume. Presentation is modelled on that of BIAS Journal which the Society's near neighbours in Bristol have been producing regularly for the past ten years. The new SIAS Journal includes two features on the West Somerset Mineral Railway as well as a history of Stogumber Brewery, a note on a willow boat from the Somerset levels, and a detailed description of the manufacture of Van Heusen collars by Walter Hordle who worked at the Van Heusen factory

in Taunton from 1918 to 1968. Copies are available at £1.00 plus 19p for postage from the Secretary of SIAS, David Greenfield at 33 Barrow Drive, Taunton, TA1 2UX.

**Wigan Work It Out** A proposal put forward by Wigan Civic Society two years ago that the last wooden colliery headgear in the area threatened by redevelopment on its original site at Gautley Pit, should be moved and re-erected within the Haigh Country Park is going ahead with the help of a Job Creation Programme. The 40 ft high headgear was dismantled last year under the supervision of Dorothea Restoration Engineers, after a thorough photographic and measured record had been made. The parts were moved to the new site in Haigh Park, erstwhile seat of the Earls of Crawford and Balcarres, the 'Wigan Coal Kings'. Since taking over the park as a recreational area, this Council's Departments of Leisure has set about establishing a 'geological trail' where within a small area there are visible remains of clay pits, ironstone digging, sandstone quarries and an outcrop of the Ince Seven Foot coal seam which has helped to make Wigan an important coal mining area since the sixteenth century. Thirty years ago, the Wigan area had more than 35 coalmines, there are now only four, one being still privately owned.

The steam engine which used to wind men and materials in the Gautley Pit shaft was scrapped some years ago, but there are hopes that a similar winding engine made at a Wigan foundry may be available and acquired for the new site. There are plans to reconstruct a horse gin to illustrate an earlier method of winding and timbers from a demolished industrial building in Burton on Trent will be re-used in



the restoration of the pitchpine headgear.

Prime movers in the proposal to preserve the headgear have been two members of the Wigan Civic Society, Donald Anderson, well known as the historian of the Orrell Coalfield and Robin Grayson, a geologist at the Wigan College of Technology, which used to be known as 'the pitman's university'. Financial support has come from the Greater Manchester Council and the Science Museum. With a May deadline on the Job Creation phase of the re-erection, it is hoped that the structure will be ready for visitors in the summer of 1978 (See also Bulletin 3:5).



**Fowler Engines saved for Lincolnshire** Good news on the campaign to raise funds for purchasing the pair of Fowler steam ploughing engines mentioned in Bulletin 5 : 1. The local appeal mounted by the Friends of Lincoln Libraries Museum and Art Galleries had raised £2,200 of the £5,000 required by the end of January; other sources including the Science Museum had promised the remaining £9,000 required. Time was running out when a firm of agricultural merchants in Ruskington, Brown Bullin Ltd, promised an interest free loan of up to £3,000 to enable the Museum of Lincolnshire Life to complete the purchase by the agreed date, and to continue their fund-raising throughout the year to raise the rest of the money required.

Donations to the appeal would be most welcome, and should be sent to Mr J J B Wright, National Westminster Bank, 97 High Street, Lincoln.

**The Irish Railway Record Society.** This Society, as its name implies, exists to chronicle the history of Irish Railways and its Headquarters are at Drumcondra Railway Station, 30 Lr Drumcondra Road, Dublin 9. The Society maintains a Library with over 15,000 volumes on Railway and Allied Subjects and a wide range of periodicals, some of which are not to be found elsewhere in Ireland.

**Steam Engines preserved in Bath.** Stothert and Pitt are best known for their cranes, many of which are still at work throughout the world after fifty or more years of service. The Bath firm is active in a number of other fields of engineering, and as a token of this they have recently presented two historic steam engines on permanent loan to Bath University, where they are open to inspection by visitors on appointment. The engines were until recently preserved in Stothert and Pitt's Bath workshops but to make room for expansion and to enable more people to enjoy them, they were moved to the University campus late in 1977. The larger of the two is a splendid but compact beam engine built by Stothert and Pitt for the Paris Exhibition of 1867, and the other is a horizontal that worked for very many years pumping at the Royal National Hospital for Rheumatic Diseases in the city. We hope that this sort of practical cooperation between industry and the academic world may result in other items of historic machinery similarly being preserved for enjoyment by the public.

**The Chepstow Society.** The Chepstow Society publishes a range of pamphlets and guides, some of them with a bearing on industrial archaeology. Two of particular interest are 'The Part of Chepstow' by Ivor Waters (£1.25) and 'Brunel's Tubular Suspension Bridge over the River Wye' (75p) which Mr Waters has edited from a contemporary pamphlet originally published in 1856.

'Chepstow Printers and Newspapers' (75p) surveys printing in the town from the early years of the 19th century. Under his own imprint, Ivor Waters has published 'Chepstow Road Bridges' (75p) in a limited edition of 180 copies which begins with the suggestion that there may have been a Roman bridge across the Wye, and continues with an illustrated survey up to the present Chepstow Bridge, built of cast iron in 1816 and still in use today. Copies of these publications from: Ivor Waters, 41 Hardwick Avenue, Chepstow, NP6 5DS.

## **History in the Landscape** May 19-21

## **Canals and Railways** 29 May - 2 June

## **Manchester Region IA Society** 3 June

## **Railways and Canals in Wales and Borderland** 16-23 June

## **Industrial Archaeology - the Farm** 23-25 June

## **Man-made Underground Structures** 13-16 July

## **Railway History and Industrial Archaeology around Manchester** 21-28 July

## **Summer Course in History at Ripon College** 22-29 July

## **Practical Industrial Archaeology** 5-12 August

## **Industrial Archaeology Course at Peak National Park Study Centre.** 19-26 August

Weekend course at Peak National Park Study Centre. Details (SAE) from Peter Townsend, Principal, Losehill Hall, Castleton, Derbyshire. Telephone: Hope Valley 20373/20693

Course at Peak National Park Study Centre. Details from address above.

One-day conference on recording, industrial trails in Bolton and Irwell Valley.

Course with daily field trips, organised in conjunction with Birmingham University, Extra Mural Department. Fee £52. Details from The Warden, Preston Montford Field Centre, Montford Bridge, Shrewsbury SW5 1HW. Telephone 0743 71380.

Kenneth Hudson and Neil Cossons will look at the effects of mechanisation on the Farm and old machinery will be demonstrated. Details from: The Principal, Maryland College, Woburn, Bedfordshire MK17 9JD.

Their Industrial Exploitation Symposium in Cambridge jointly organised by Subterranea Britannica with Societe Francaise d'etude des Souterrains. Programme includes visits to sites in Royston, Fowlmere and Nottingham, and Bastille Day dinner. Non members may attend subject to availability; earth application advised. Write to Organising Secretary, Mrs Sylvia P Beamon BA, 16 Honeway, Royston, Herts SG8 7ES. Telephone Royston 42120.

Summer school at Manchester Polytechnic to mark the opening of Liverpool and Manchester Railway 150th anniversary celebrations. Details from: A D George, Manchester Region IA Society, 30 Kingsway, Worsley, Manchester M28 4FD. Telephone 061-790-9904.

Students have choice of 9 seminar groups including: Social control in 19th century Britain, vernacular housing in Nidderdale and 19th century local education including Mechanics Institutes and 'penny readings'. Fee £60 residential, £34 non residential, including visit to Richmond Georgian Theatre. Applications before 25 May to Department of Adult Education, University of Hull, 195 Cottingham Road, Hull HU5 2EQ.

A Residential Course in Fieldwork. Detailed survey of Croesor slate quarry (workings all underground) Basedvat Plas Tany Bwlch. Tutors Dr Michael Lewis and Richard Keen (National Museum of Wales) Fee £54. Details from: Dept of Adult Education, University of Hull, address as above.

Address as 'Man-made Underground Structures'

## Aspects of Industrial Archaeology

27–29 October

The Midland Branch of the **Newcomen Society** has organised the following visits:

June 3  
June 24

More detailed look at the subject in its local context. Details from Snowdonia National Park Study Centre.

Dee Mill engine (in steam) Shaw, Oldham  
Tour of Bristol Area by coach, led by Dr Angus Buchanan.

Details from Charles Blick, 147 Whirlowdale Road, Sheffield S7 2NG.

The **Railway and Canal Historical Society** has organised field visits during the summer, with weekends in the West Midlands (including the Society's AGM and in Newcastle and Berwick and shorter one day and half day railway visits and canal trips in Cromford, South Lincolnshire, York and elsewhere. Details from RCHS, 23 Beanfield Avenue, Green Lane, Coventry, West Midlands CV3 6NZ, telephone 0203 69485.

The **Northern Mill Engine Society** has arranged open days on the following Saturdays in 1978: 3 June, 5 August, 2 December. On these days the 1500 iph twin tandem engine by Scott and Hodgson at Dee Mill, Shaw, Oldham will be in steam and other local engines under the Society's protection will be open to visitors, although not working; Ferm Mill, Shaw, Oldham. 2,000 ihp twin tandem gear-drive engine by Buckley and Taylor, 1884.

Diamond Works (Sammy Scarves) Royton nr Oldham. 500 hp vertical compound by Scott and Hodgson, 1912.

Alverthorpe Mills, Wakefield, Yorks. 750 ihp cross compound by Pollitt and Wigzell, 1912.

Details from: George J Drake, NMES Yorkshire Organiser, 52 Rye Lane, Pelton, Halifax, Yorks. Telephone Halifax 57714.

The Cornish pumping engines at **Crofton**, near Great Bedwyn in Wiltshire (the oldest working beam engines in the world) will be in steam over the following weekends: 27–28 May, 1–2 July, 26–28 August, 16–17 September, 21–22 October. Because of limited space in the engine house, it is advisable to arrive early in the day. Details from Mrs Ros Cundick, 273 East Grafton, Burbage, Wilts. Telephone Burbage (067 281) 575.

The beam engine at **Dogdyke** in Lincolnshire built by Bradley and Craven in 1856 and driving a scoop wheel for draining the fens will be in steam on the first Sunday in each month from 1.30 – 5.30. Admission charge is £1 per car, or 50p per person. Access from a private road leaving the A153 Sleaford-Skegness road 1 mile west of Tattershall Castle. Details from J G Porter, Bridge Farm, Tattershall, Lincoln LN4 4JG, telephone Coningsby 42230.

The **Shuttleworth Collection**, which is acknowledged to have the finest collection of historic aircraft in flying condition in the world, celebrates its Golden Jubilee this year. Flying days take place on the last Sunday in each month, with an extra Late Summer Bank Holiday display on 28th August and a special 50th anniversary pageant on Sunday 24th September, when the Transport Trust will co-operate in demonstrating many more vehicles in addition to the flying display. Details (SAE) from Shuttleworth Collection, Old Warden Aerodrome nr Biggleswade, Beds. Telephone 076727 288.

**Ryhope Pumping Engines**, near Sunderland, will be in steam 11 am – 5 pm over the following weekends.

27–29 May, 26–28 August, 23–24 September, 28–29 October. Admission 30p, Children 10p.

The pumping station is open every Saturday and Sunday 2–5 pm when visitors may inspect the beam engines, boilers and adjoining museum. On these occasions when there is no steam admission charges are 15p (children 5p). Children must be accompanied by adults.

**Broomy Hill Pumping Station**, Hereford, will be steaming its 1895 Worth Mackenzie triple-expansion pumping engine and other smaller auxiliary engines over the following dates: 28–29 May, 5–6 August, 23–24 September. On the Saturday evenings the engines will be gaslit after dusk. Free parking nearby. Admission 40p, children 15p. Also open the first Sunday in each month 11 am – 5 pm (no steam) admission 15p, children 5p.

A criticism regularly levelled at industrial archaeology is that it places little stress on excavation and on the need for proper and systematic techniques for investigating a site. The majority of sites in which industrial archaeologists take an interest are usually above ground; but it cannot be denied that, where excavation is required local i.a. societies usually have fewer trained excavators to call upon than do local groups concerned with pre-industrial archaeology. **Keele University** provides an opportunity to rectify this with its Archaeological Excavation Summer School, a concentrated course for beginners to be held in August. Dates are 5–12 August and 12–19 August: a full fortnight is recommended for those who wish to become regular excavators. Fees are £46.50 per week or £24.50 per week for non-residents. Emphasis will be on the following aspects: excavation organisation, techniques of recording, drawing of funds, elementary surveying. Applications required before 30 May 1978; further details from Dr Francis Celoria, Lecturer in Archaeology, Department of Adult Education, The University Keele, Staffs. ST5 5BG, Telephone 0782-625116.

**International Conference on Climate and History.** Those of our readers who are interested in industrial archaeology and its relationship to climate might like to know that there is to be an international conference on climate and history between 8 – 14 July 1979 at the Climatic Research Unit, University of East Anglia, Norwich.

The purpose of this conference is to bring together climatologists, historians and archaeologists from throughout the world to discuss climate and its possible impact on past and present societies. Potential participants are asked to contact the Conference Secretary (Climate and History Conference), Climatic Research Unit, School of Environmental Sciences, University of East Anglia, Norwich NR4 7TJ.

## Events

Educational authorities are increasingly using preserved steam railways as 'resource centres', but the fact that most volunteer activity is concentrated at weekends makes organised school visits difficult. In response to this, some preserved lines set aside specific weekdays when school parties are welcomed and locomotives will be in steam. **Quinton Railway Centre** at Aylesbury as a 'schools steaming' from 26–29 June inclusive; details from R B Miller, 25 Loudham Road, Little Chalfont, Amersham Bucks.

The Great Western Society offers similar facilities, with unlimited free rides in a train of restored GWR coaches at its **Didcot Railway Centre** from 10–12 July inclusive. Details and booking forms from Events Officer, Great Western Society Ltd, Didcot, Oxon OX11 7NJ.

## More Grants from Industrial Past 'Industrial Past'

is a quarterly magazine which began publication in the Spring of 1974 with a duplicated format and has now progressed to a professionally-printed illustrated magazine selling between two and three thousand copies of each issue. Organised on a non-profit basis, it has undertaken to distribute any surplus for the benefit of industrial archaeology. A working surplus of £100 was shared at the end of 1976 between four projects (see Bulletin 4:3). Donations from well-wishers as well as profits from magazine sales have swelled the fund until at the end of 1977, £250 was available for distribution. Five grants each of £50 have been offered as follows:—

1. **Scottish Museum of Mining** Wanlockhead, Dumfriesshire. For the development of the Museum.
2. **South Yorkshire Trades** For the development of Top Forge.
3. **The North Staffordshire Railway Society** Churnet Valley, Cheddleton. Locomotive Preservation Fund.
4. **Bournemouth Municipal Museums.** For the appeal fund for the restoration of the 1882 Horse Omnibus.
5. **Tram 57 Project Group** Southampton. For the appeal fund for the restoration of the Southampton Open Top Tramcar No. 57.

The adjudicators are Stuart Feather, Keeper of the Bradford Industrial Museum and W R Mitchell, editor of the magazine 'Dalesman'. An annual subscription to **Industrial Past** costs £1.60 including postage. Further details from the Editor, John Keavey at 17 Uplands, Skipton, North Yorkshire, tel. Skipton 5005.





**The Triangle, Merthyr Tydfil; an Obituary** The Triangle and nearby Long Row, at Pentrebach, Merthyr Tydfil, were demolished on Monday, December 12th, 1977. This demolition brought to an end more than four years of controversy over one of the most significant preservation issues that has arisen in South Wales. It left unresolved many questions relative both to the preservation of industrial housing, and to the attitude of the Welsh Office towards the care of listed buildings.

Triangle was the largest surviving fragment of the Plymouth Iron Works, (whose main furnace site at Dyffryn was obliterated by a Welsh Office derelict land reclamation scheme in 1974–5). In Triangle itself there were 48 substantial four-room houses, good examples of the type of housing favoured by leading South Wales ironmasters during the Chartist years from 1836. Behind Triangle, at the foot of the hillside, stood Long Row. This row was started about 1807 with nine houses of an English four-room type. A few years later, certainly before 1814, a range of 10 four-room 'catslide outshot' houses was added to the south, followed by another range of similar dwellings to the north. These four-room catslide houses were a type built only by the Plymouth Works, during the years 1810 to 1825. Long Row, therefore, was made up of two early types of house both unique in South Wales; its demolition leaves us without any example of these two designs. The houses of Triangle, however, were not unique; similar dwellings still stand in relatively good condition at Tai-bach, half-a-mile to the south-east. The value of Triangle was concentrated almost entirely in its layout, both unprecedented and instantly recognisable. It was (and indeed to some extent still is) the icon of industrial housing, undoubtedly the best known symbol in South Wales of the early nineteenth century working-class way of life. As a symbol, it was the focus (like the Euston Arch) of attitudes, ranging from pride to hatred, which were closely linked to local and national politics.

This is not really the place to discuss political issues. It is enough to note that until 1973 the demolition of Triangle had been accepted as part of the total clearance policy of the Labour dominated Merthyr Tydfil council. In simple words, much used locally, the objective was to remove "the architecture of oppression". Such a policy is quite

understandable when we consider the appalling state of housing conditions in the town both before 1850 and throughout the century following, when every attempt at improvement was curtailed by economic depression and stagnation. But total clearance proved also to be an attack on the close-knit relationships of the community; the loss of the old town was increasingly resented by its people. Linked with the development of a specifically Welsh consciousness, this resentment brought Plaid Cymru to control of the council in 1976. The nationalist outlook saw the surviving parts of 'old' Merthyr Tydfil as part of a Welsh heritage in which Triangle, as an unique monument, had a special representative value.

The listing of Triangle was first suggested in 1972 and finally agreed in 1974. By then many of the houses had been compulsorily purchased for clearance by the council and their inhabitants were being moved out. Vandalism of the empty houses had already started. When the Labour controlled council applied for listed building consent, in continuation of its long-standing policy, the objectors at the resulting public enquiry were headed by the leader of the Plaid Cymru opposition. Before the inspector's report was finished, Plaid Cymru had won control of the council. By then Triangle was empty and much damaged, but the new council set about finding ways of rehabilitating it. When the inspector recommended the refusal of listed building consent, Triangle's future seemed almost assured. Unhappily the Secretary of State for Wales, while accepting the recommendation of his inspector, made it clear that Government funds would not be available for the repairs. Accordingly, every attempt by the council, or by independent housing associations, to put together a package of housing improvement and historic building grants, was ruled inadmissible by the Welsh Office. Before the end on December 12th it had become clear that, as far as Triangle was concerned, the Welsh Office policy, like that of the former Labour council, was for total clearance. The parallel with the history of the Euston Arch does not seem too fanciful.

The effects of the Triangle controversy have already been widespread, and seem likely to continue. Clearly the fact that houses of this type have been listed by the Department of the

Environment gives them no protection from the policy of demolition which is still dear to the Welsh Office. In Merthyr Tydfil itself, the Triangle affair has provided a smokescreen for extensive demolition in other parts of the town. Within the last year, the historic core of Dowlais has been obliterated; only the derelict Stables, the Guest Memorial Library and the Engine House survive. The Central Schools, designed for Lady Charlotte Guest by Sir Charles Barry and the setting of a famous early photograph, were demolished unrecorded last summer. If buildings of that importance can vanish without warning, what chance is there for the remains of historic housing in Merthyr Tydfil, whether listed or not? For the Triangle was by no means the last case that ought to be fought. Penydarren has gone, Dowlais has gone, Georgetown is going, but there still remain the two historic rows at Gellideg, Poplar Cottages (the oldest houses in Georgetown), and the distinctive Crawshay catslide houses at Old Ynysfach, Rhydygar and Upper Colliers Row. The two Cyfarthfa Rows (dated 1840) are said to be in line for rehabilitation, for which decision the council is to be applauded, but will their character survive? And what will happen to the early Victorian streets of Morgan Town, or to the last courtyard houses in Baili-Glas Court?

So much of the historic potential of Merthyr Tydfil has been lost; will all these other houses go the way of Triangle, fortunate if a note on their final destruction is printed in this Bulletin? Or can effective support be given to those councillors and officials in Merthyr Tydfil who are trying to retain some authentic record in buildings of the first great industrial town of Wales?

**Editor's note** The author of this report, Jeremy Lowe, has made a special study of industrial housing in Wales. The rapid disappearance of representative examples, of which the destruction of the Triangle is only one instance, has added urgency to the need to record and evaluate what remains. As an example to all of us that it is not enough to wring our hands in remorse after such buildings have gone, he has compiled a book of photographs, measured drawings and descriptive text recording a wide variety of the industrial houses built in Wales during the first century of the Industrial Revolution. The 64 page book 'Welsh Industrial Workers' Housing 1775–1875' is available at



85 pence including postage from the National Museum of Wales, Cathays Park, Cardiff CF1 3NP. Jeremy Lowe is Senior Lecturer at the Welsh School of Architecture, UMIST in Cardiff.

**Going for a Burton . . . ?** There is still a chance to save the last surviving nineteenth century floor-malting in Burton-on-Trent, the home of the British brewing industry. This is no. 7, Shobnall Maltings, which was once a part of a large complex of brewery buildings, the most impressive complex of maltings in Burton and possibly in the country as a whole. Shobnall Maltings belong to Bass Charrington who want to redevelop the site. They demolished a large part of the complex last summer, namely maltings nos. 3 – 6 inclusive. However, East Staffordshire District Council, realizing the unique quality and importance of these maltings to Burton's industrial heritage, have served a Building Preservation Notice. This halts further demolition until the DoE confirm whether they will uphold the Notice or not. If the Notice is upheld, demolition is prevented.

The Bass Shobnall Maltings were built between 1873–77 by William Canning, the Company Engineer, at a cost of £100,000. Each of the seven maltings were four storeys high, 240 ft long and 90 ft wide. They were separated by 30 ft alleyways. This complex of seven parallel maltings was said in 1887 to be the largest in the world belonging to any one brewery. For their date they incorporated the most modern innovations in brewing technology. Originally all the maltings were of the traditional floor-malting type in which the sprouting barley was spread and turned by hand on the germination floors before being roasted in the kilns. This very intensive method of malting has now been superseded by machinery and the malthouses nos. 1 and 2 have been extensively altered to accommodate the new equipment.

Until last summer malthouses nos. 3–7, which had been used as barley stores, remained wholly unaltered and were undoubtedly the best preserved examples of floor-maltings to survive in Burton, a town which has witnessed the almost total destruction of its nineteenth century brewery heritage in the last 20 years. Indeed, since last summer, not only have nos. 3–6 Shobnall Maltings been demolished but two other maltings elsewhere in Burton have been lost – one, dating from 1899 and still in use, burned down only two months ago.

It is the brewery buildings in Burton that form the major part of the town's industrial heritage, yet very few are at present listed and

hardly any have been included on the new draft list of buildings of architectural and historic interest for the town. The architectural quality as well as the industrial archaeological interest of the Shobnall Maltings should merit their being listed and it is greatly to be hoped that the DoE will uphold the District Council's Building Preservation Notice. Malthouse No.7 is in good structural condition and very soundly built and as the last remaining unaltered malting Bass Charrington should be encouraged to undertake its renovation to serve as a compliment to their admirable museum in Horninglow Street. The museum, which was opened last year, is situated in a former brewery building and is the first major museum in this country to concentrate on the history of the brewing industry.

**There is better news from Frome in Somerset,** where research by the Campaign for Rescue Archaeology in Avon, Gloucestershire and Somerset (CRAAGS) has recently reported that the town has the earliest large area of industrial workers' housing remaining in Britain. Visitors to present day Frome could be forgiven for not knowing that in the late seventeenth century, the town's flourishing woollen industry made it one of the foremost textile manufacturing towns in the land.

The Trinity area was the site of planned building of terraced workers' housing from 1670 onwards. But many of these stone-built houses became dilapidated as the town's prosperity declined during the 19th and early 20th centuries. In 1960 the Frome UDC obtained a Compulsory Purchase Order and proceeded to redevelop much of the Trinity area as the first phase of a comprehensive modernisation plan. A second phase followed in 1968, but by this time the merits of some of the original buildings were recognised and one side of Trinity Street was retained for conversion into elderly people's dwellings. Approval by the Secretary of State for the Environment of further CPOs in the early 1970s cleared the way for the Local Authority to flatten the last remains of the old Trinity neighbourhood and replace it with new building stock. But this coincided with a general wave of discontent and disillusion with the massive schemes of clearance and rebuilding that had characterised the 1950s and 1960s.

Public consultation on the future of 'Trinity 3' resulted in a strong recommendation from the Frome and District Civic Society that the remaining housing stock should be rehabilitated. The people of Frome had to wait some months for the Secretary of State's

decision on whether the CPO would be ratified; prolonged silence aroused the worst fears of the Civic Society, and in May 1974 they produced their own plan for the rehabilitation of Trinity 3. When it was announced that the CPO would go ahead, there was a closing of ranks against the demolition of what was becoming recognised as an historic neighbourhood. The Ancient Monuments Society and the CPRE both protested that the buildings were of national significance, and too important to knock down, and the 'Save Trinity' campaign was born. There is no doubt that this strong local feeling affected the new Mendip District Council's decision to make all of the older part of Frome into a Conservation Area, subsequently ratified when the DoE agreed Outstanding status.

It is fortunate that the housing stock already demolished in the Trinity Area, before the new District Council reversed the policy of this predecessor Frome UDC, was of much more recent date than that remaining in Trinity 3. The houses lost were almost all 19th century, and in some respects less amenable to up-grading than their 17th century counterparts, examples in Belper and Cromford of 18th century industrial housing underline the fact that the standard of housing provided by 19th century industrialists was in most respects inferior to those which had gone before.

Confirmation of Outstanding Conservation Area status for Frome has encouraged Mendip District Council to make the most of the opportunity offered by Trinity 3. In May 1977 they commissioned a preliminary report on how rehabilitation might proceed, from Bristol architects and planning consultants Moxley, Jenner and Partners. The report was produced in October of the same year and recommends unequivocally, that 116 of the 143 surviving properties should be rehabilitated rather than demolished. The report admits that some of the houses fall short of current Parker-Morris and other housing standards as regards height of ceiling beams but the consultants suggest that there is a case for some of these to be relaxed; the wooden staircases, for instance, may be narrow by the standards of new houses, but if they have been used without trouble by families for three hundred years, should they now be arbitrarily dismissed as inadequate? A case is also made on the same basis for the retention of coal fires where these have served the houses well throughout their lives and are part of the elusive character of the interiors that would be lost if all the original features were gutted in the interests of uniformity and modernity.



If the preliminary plan is implemented, through motor traffic will be re-routed to avoid the centre of Trinity 3, and some existing thoroughfares will be pedestrianised. A strong plea is made to retain old lamp posts, cast iron street nameplates and other items of street furniture without which much of the area's character will be lost. The consultants see the District Council's role as primarily one of restoring confidence in what is ostensibly a run-down slum. It is unrealistic, in Moxley Jenner's view, to expect a private entrepreneur to undertake the comprehensive redevelopment of the 118 houses dealt with in the report; nor are they likely, when modernised and upgraded, to fit into the accepted categories of Local Authority rented accommodation. Mendip District Council should, in the consultants' view, restore dignity and self-respect to the area by a comprehensive rehabilitation scheme through the whole area. The Council should then offer the majority of the houses to private buyers, possibly through the agency of a Housing Association. A proportion should be retained in Council ownership, for elderly or single tenants or couples without young children. In this way a properly balanced social mix of residents could be achieved. Owner-occupation would help to ensure the particularly sympathetic upkeep that these old houses will require if the benefits of such a far-sighted and imaginative conservation scheme are not to be lost.

Response to date from the Council to the consultants' recommendations has been favourable. The outstanding CPO has been formally withdrawn, removing the most immediate threat on the properties, and Moxley Jenner and Partners have been asked to prepare a more detailed report. If the scheme goes ahead, Frome may become a place of pilgrimage for students of industrial housing from all over Europe, as Belper, Cromford, New Lanark and Styal already are.

**Broxstowe District Council in Nottinghamshire** have won one of the EEC's European Habitat Awards for its successful preservation of 200 19th century miners' cottages in their original state. One of these is the birthplace of D H Lawrence. The sum expended on rehabilitation totalled £1,200,000.

**Building Conservation Trust formed for Sussex** The rescue of old buildings and other features of the environment is the principal aim of the Sussex Heritage Trust which was set up recently. So far as buildings are concerned, the Trust will operate mainly by buying or leasing historic buildings in need of repair. After restoration work has been carried out, the Trust will offer the buildings for sale, subject to conditions as to their future maintenance. The new Trust has been formed because of the concern which is felt about the loss of ancient buildings and features of historic or natural interest such as groups of trees, millponds, ancient tracks, etc, throughout East and West Sussex. It will work by direct action and not as a pressure group.

Some of Sussex's leading public figures make up the Board of Trustees, such as the Earl of March and Kinrara, Lord Gibson, Sir Peter Mursell and Mr Geoffrey Johnson Smith MP. For some months a steering group of conservationists and architects, led by Andrew Thorburn, have been busily preparing for the Trust's formation. A public meeting was held in Brighton on 1 October last year with the

aim of forming a society of those interested in the work of the newly-formed Trust. The Chairman of the Trust, the Earl of March and Kinrara, said at the time of launching the Trust: "We already have information on several dozen interesting old buildings which are in a poor condition and we want to do something before it is too late. We owe it to future generations to pass on in good repair the best buildings from the past. In Sussex many such buildings have been neglected or have been spoilt by alteration, and there has long been a need for some action". The new Trust is a wholly independent organisation, although some administrative support is being given by East Sussex County Council.

#### Exchange and Mart

**A Hathorn Davey vertical triple expansion steam engine** connected to ram and bucket pumps from its Ilford Works and offered by the Essex Water Company. The machinery is now redundant, as the building would require the expenditure of large sums if the engines were to be preserved on site. Having already scheduled for preservation a Lilleshall Company steam engine at its Langford Waterworks, the Company cannot justify this heavy expenditure to secure the retention of the triple expansion engine on its present site. The machinery was installed in 1904-5. Ram pumps beneath the engine are driven direct from the piston rod cross-heads, and well bucket pumps are operated by A frames and wooden pump rods through an intermediary crankshaft which is driven through heavy herringbone reduction gears from the main crankshaft. The engines are likely to be scrapped later this year when the building is demolished, but the Company is willing to donate the steam engine to any museum or preservation organisation that can take it away at their own expense. The cost of removal and re-erection could well exceed £10,000. Any serious enquiry should be addressed to D F Moye BSc CEng MICE MIWE, Chief Engineer (Distribution), Essex Water Company, 342 South Street, Romford, Essex RM1 2AL.

**Modernisation of the lock pumping station within the Naval Base at Chatham** has led to the retirement of an unusual steam engine thought to be about 70 years old and made by J and G Rennie of London. Two cylinders are arranged horizontally at 90° to each other and drive onto a common crankpin. The compound non-condensing steam engine was formerly coupled to an impellor at the level of the lock bottom which would pump up to 3250 tons of water per hour. Towards the end of its life the engine was disconnected from the dockyard's steam supply and operated instead by compressed air at about 100 psi. At present it is dismantled; when assembled it would occupy a space about 20 ft square. Any museum seeking to acquire the pump should contact Mr K Hart, Yard Service Manager's Department, H M Dockyard, Chatham, Kent ME4 4TN. Telephone 0634 44422 extension 2510.

**Government Surplus** Items of possible interest to steam preservation groups are sometimes offered for sale by tender under the disposal procedures of various Government departments. Redundant naval stores, are offered at regular intervals by the Ministry of Defence contracts department at Bath. A recent disposal list included several dozen Worthington Simpson steam pumps of various sizes, 8" Drysdale steam pumps, Merryweather boilers, boiler tubes

and metallic flexible steam hose. Prospective purchasers are advised to inspect the goods before tendering, since in many cases they will have lain outside for some time, and buyers cannot pick and choose particular items from a given lot. Removal must be completed, at the buyer's expense, within 28 days of the acceptance of a tender. Details of the tendering procedure for marine stores can be obtained from:— Directorate General of Defence Contracts, Ministry of Defence, Block A, Room 89a, Enleigh, Bath BA1 5AD. Other Government departments will have similar tendering procedures, details of which are frequently advertised in specialist engineering periodicals.

**The telegraph equipment at RAF Cosford** was, until recently powered by three motor generator sets with two control panels. Each of the 3 AC electric motors has a generator at each end producing 80 volts DC. The motors were manufactured in Wolverhampton about 40 years ago by ECC. The control panels by STC are also believed to be of unusual interest and elegance. The Post Office is willing to donate these to any organisation prepared to preserve them. If anyone is interested please contact John Whiteman, West Midland Telephone Area, Granville House, 230/231 Broad Street, Birmingham B15 1BA, Telephone Walsall (0922) 34480.

**A 40 hp gas engine dating from about 1914** and built by Tangye of Birmingham is offered for sale by Mr W F Ward of Hill Park House, Lapworth Street, Lapworth, Solihull, West Midlands B94 5QS. Enquiries should be addressed to Mr Ward's secretary Mrs J Turnbull at the above address, telephone Lapworth 3251.

**The man-powered aeroplane *Jupiter***, which in June 1972 flew for a distance of 1,171 yards and established a world record which stood until 1976, is available to a museum which could accommodate it. *Jupiter* was built in a bid to win the Kremer Prize for man-powered flight and still holds the UK record. It is at present stored in Lincolnshire. The machine weighs 140 lbs; the wing span is no less than 80 ft, and the length 30 ft. Any museum interested should write to: Chris Roper, 4 Stukeley Street, Drury Lane, London WC2.

**Preservation of Birmingham (U.S.A.) Blast Furnaces.** The magazine 'American Preservation' carries in its Spring 1978 issue an article by Gary B Kulik on the proposals for the preservation of Sloss Company's city furnaces — precisely the sort of problem which has really not yet been tackled in this country. Although the present Works was reconstructed in the late 1920s (and continued in production until 1970) the Company was established in the early 1880s. The Works is still complete and shows the entire process for production of pig iron for the foundry market. Perhaps even more important than the technological content of the project (and where else one might ask is such a preservation project even contemplated?), is the proposal of the City of Birmingham to float a 3m dollar bond issue to cover the costs of preservation as an industrial museum. And perhaps this is the difference, for what English equivalent city can one name that has committed even a fraction of such a sum to the preservation of what might, to the eyes of many English city fathers, be a jungle of rusting ironwork?

**The Northern Mine Research Society.** This Society active in the publication of papers regarding British mining have recently produced



two new publications. Number 6 in their series of monographs on British mining is entitled 'The Mines of Merioneth' by J R Foster-Smith and is published at £1.35. It contains 40 pages with maps and includes details of 130 mines including those famous workings to be found in the Dolgellau Gold-Belt. The Society's memoirs for 1977 entitled 'British Mining No. 5' contains over 50 pages of brief articles on mining companies and mining enterprises. Those specifically mentioned are works on Dartmoor, Weardale, the Nenthead and Tynedale Lead and Zinc Company and the Phoenix United Mines of East Cornwall. Both these publications are available together with other back copies from R G Guthrie Esq, 186 Station Road, Billingham, County Cleveland, TS23 2RT.

#### 'The Progress of Industrial Archaeology'

Members who attended the Annual Conference in Manchester last September will remember that the outgoing President, Dr Angus Buchanan, presented a personal statement under this title, summarising his views on where i.a. is going. It has provoked the following response from Dr Edwin Course:—

In his report on 'The Progress of Industrial Archaeology', Angus Buchanan states that in the study of the subject "there is one substantial and very significant omission. Industrial Archaeology has not as yet, succeeded in making its case, in anything more than a peripheral manner, as a university discipline as far as intra-mural undergraduate courses are concerned." I think this is a little hard on the Department of Archaeology in the University of Southampton.

Industrial Archaeology was introduced into the syllabus for intra-mural archaeology undergraduates, both single and combined honours, in 1971. Professor Barry Cunliffe, at that time Head of the Department, was convinced of the value of industrial archaeology, a view which has been taken by his successor Professor Colin Renfrew. Students are introduced to the subject in their first year, and IA questions are included in the sessional examination. This is followed by a longer course, before they take their Finals. In addition to being examined, students may choose to write their dissertation on an industrial archaeology subject, and in most years, two or three students take this option. Recent subjects have included 'Cornish Engine Houses', 'The Hayling Island Railway' and 'Water Mills in East Kent'. (The latter will be published shortly).

Partly because it is taught and examined in the same way as other archaeological subjects, the students most certainly do not regard the industrial archaeology part of their courses as peripheral. Needless to say, it has to compete for a limited amount of time available, and as in much the same way, this letter will be competing for limited space. I will confine myself to an expression of willingness to send more information about the Southampton course to anybody who would like it. It may be of interest that I recently received a request for details from some students at the Institute of Archaeology in the University of London who would like to have industrial archaeology included in their course. It may well be that we have not done enough to persuade other universities and polytechnics to emulate us.

Edwin Course

Senior Tutor in Transport Studies & Industrial Archaeology, Dept of Adult Education, University of Southampton.

## AIA Bookshelf

### Huddersfield Narrow Canal 65p A New Canal for Huddersfield 35p Through Stalybridge by boat 35p The Huddersfield Canal Society

These small booklets, each dealing with the problems facing the HCS over restoration of the waterway and containing maps and diagrams, can be obtained from Robert Dewey, 3 Pump Row, High Flatts, Huddersfield, Yorkshire. All prices include postage and packing.

### Ethel and Angela Jane. Peter L Smith. no price quoted.

A booklet giving details of the Calder and Hebble Navigation, 21½ miles from Wakefield to Sowerby Bridge, its early history and that of the West Country Yorkshire Keel. The *Ethel* and *Angela Jane* were the last two commercial vessels to work the Navigation and the *Ethel* is now at Ellesmere Port Canal Museum.

### The Oxford Canal Hugh Compton. David and Charles. 1976. £3.95

A history of the Oxford Canal with diagrams and illustrations.

### Environmental Handbook Kent County Council Planning Department 1976 £3.30

A ring bound folder produced as the Kent County Council's contribution to European Architectural Heritage Year, it contains articles on conservation, recreation, amenity societies and a gazetteer of towns and villages of Kent. Obtainable from County Hall, Maidstone, Kent, ME14 1XD. The price quoted includes postage and packing.

### Windmills in Warwickshire. Wilfred Seaby and Arthur Smith. Warwickshire Museum, Market Place, Warwick. 1977. No price quoted.

A contemporary survey of what remains to be seen of the windmills in Warwickshire. Photographs, maps and a small amount of historical background.

### Leicestershire Watermills. Norman Ashton. Sycamore Press, Melton Mowbray. 1977 £3.70

After a general introduction to watermills this new publication deals with Leicestershire sites, surviving mills and those which have disappeared. Well illustrated and pleasantly produced.

### Maltings in Nottinghamshire Nottinghamshire County Council, Bridgford, Nottingham NG2 6BJ, 1977

Produced as part of the archaeological work of the Department of Planning and Transportation of the County Council, this excellent booklet describes the malting process, the malting industry in Nottinghamshire, surviving malthouses and a useful map showing malthouses in the area in the mid 19th Century.

### The Clog Maker, An Illustrated Account of Clog Making in Yorkshire and Lancashire around 1900, The Colne Valley Museum, Golcar, Huddersfield, Yorkshire. 30p

A well illustrated and clear description of the manufacture of clogs together with a question and answer session on various aspects of their manufacture.

**Obituary** TORSTEN BERG, died suddenly on 10 February Aged 74, he was born in Ohio of Swedish parents and brought up in Sweden, studying metallurgy at the Royal Technological Institute in Stockholm. After a year's service in the Swedish Navy's engineering department he spent 10 years in managerial posts with different steel companies. In 1938 he came to Britain as director of a London subsidiary of the Swedish Axel Johnson group, makers of pig iron and steel, including stainless steel, and in consequence of the war Johnson & Co. (London) Ltd took on fabricating stainless steel for war work. Mr Berg developed a department for making sintered tungsten carbide for bullet cores and cutting tools. After the war the company concentrated on food and chemical equipment as well as sintered carbide. Heart trouble led Mr Berg into semi-retirement, and in 1969, at pensionable age, he was able to devote himself to the study—begun in his early teens—of the history of iron and steel. For sixty years he had read and collected books and papers on the subject, especially those pertaining to the small Swedish ironworks, and his collection of 10,000 sheets and 25 notebooks on the latter subject was being prepared for publication at the time of his death. In retirement Mr Berg set about the task of translating the diaries of Angerstein, the Swedish metallurgist who from 1753 to 1755 travelled around England and Wales studying British manufacturing industries, particularly the making of iron and steel. The monumental translation is to be published by the Royal Historical Society. Mr Berg's dedication to these interests led to extensive correspondence with experts in the field, and into many byways, such as in his search for relics of Swedish bar iron imported into this country, identifiable by the makers' stamps and still to be found in church clocks and in ecclesiastical ironwork. He was a member of the committee of the Historical Metallurgy Society and of the AIA and had many close contacts with Anglo-Swedish organisations, including the Society of Swedish Engineers in Great Britain. In his contact with everyone he inspired respect and affection.

John Butler

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