WARWICKSHIRE
Industrial Archaeology Society

WIAS

NEWSLETTER

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THIS ISSUE

EDITORIAL

Do you have a favourite piece of industrial archaeology? Mine is undoubtedly the area of slate quarrying between Talysarn and Nantlle in Gwynedd, which also happened to be my introduction to industrial archaeology in the field.

I have a vague recollection of a wrong turn taken on a family holiday sometime in the mid 1970s, which led to what I thought a desolate wasteland of slate rubble and grey villages.

Ten or more years later, acting upon information gleaned from Boyd's *Narrow Gauge Railways of North Caernarvonshire*, I went in search of the remains of the Nantlle Railway and found myself in the same place, but with a fresh eye. A sharp left turn in Nantlle village, along the old valley road, led through towering tips of slate rubble and dry stone bridge abutments, to a derelict gate. Here more abutments marked the course of the Nantlle Railway on the edge of the foul, rubbish choked, Twll Ballast pit of Pen y Bryn quarry.

This less than promising start proved to be illusory. A little exploration on foot revealed a maze of flooded pits, tramways and dereliction. To the West, along a deep cutting, lay the vast flooded excavation of Dorothea Quarry with its apparently forgotten and derelict Cornish pumping engine still *in situ*. To the East the railway could be followed, curving above the rooftops of Nantlle village, to Pen yr Orsedd Quarry. This was on the brink of closure (it closed in that winter of 1984) and was full of relics. The workshops and stores lay as they had been abandoned in the 1970s; a wooden locker contained the last newspaper brought to work by its owner and the details of his last fitting job were chalked on the door. On the upper level stood several intact Blondin cableways, their machinery and electrical control gear rusting in the winch cabins. Ladders lashed to the sides of one pit marked the route the quarrymen had taken to work. Only the tramways were missing, torn up in favour of antiquated dump trucks.

I returned numerous times to explore, until in 1994, I found Dorothea Quarry full of travellers and Pen yr Orsedd stripped of any likely firewood and altered by reworking on the upper level. I have not been back, the magic tarnished by so much vandalism. However, in my memory at least the area remains a favourite and as an illustration of quarrying ingenuity in a confined space, there are probably few better examples.

A development of this theme I would like to pursue is to compile a short list of members favourite IA sites. These need not be restricted to Warwickshire, as the intention is to publish the list in time for next summer, so that those who travel elsewhere in the UK may have some recommended IA to visit. To work, this needs contibutions from the membership, so please pass these to the editor.

Mark W. Abbott

SOCIETY NEWS

Programme

The vacant January meeting has been filled by Peter Coulls. His subject will be *Looking at Steam.*

Subscriptions

A further reminder to members that subscriptions for the 2001/2002 season are now due. The unavoidable absence of the Treasurer from the last two meetings has meant that collection of subscriptions is a little behind schedule and prompt payment would be appreciated. The amount due is £10.00 per person inclusive of partner and cheques should be made payable to Warwickshire Industrial Archaeology Society please.

Newsletter

Retained contributions for the Newsletter are now minimal. It would preferable if the contents reflected more than just the meetings and the editors personal interests, so this is a call for contributions from members. These should have an IA bias and ideally be 150-200 words long. Hand written copy is acceptable if access to a typewriter or computer is not possible.

Meeting Reports *by Arthur Astrop and Roger Cragg*

September 2001 Roger Cragg: *The History of Railway Signalling*

This talk covered the development of railway signalling and train control systems from the earliest days of railways until the present time. It was explained that most of the improvements in signalling and train control had come about because of accidents having highlighted deficiencies in the systems.

Starting in the 1830s the only method of train control in use at that time was the 'time interval' system under which a train was allowed to leave a station after the specified time had elapsed after the departure of the preceding train. Flag or lamp signals were shown to passing trains by the 'policeman' who was stationed by the side of the line. When trains were relatively slow and infrequent this was just about adequate but as trains became faster, heavier and more frequent it was the cause of many rear end collisions. The Railway Inspectorate urged the adoption of three measures which would increase rail safety – the adoption of the Absolute Block system of working; the interlocking of points and signals and the positioning of all levers in one place under the control of one man; and the fitting of continuous, automatic brakes to all passenger trains.

The Absolute Block system, in which the trains are separated in space rather than in time was dependent on two developments – a system of communication between signal boxes, provided by the introduction of the electric telegraph, and a system of communication between the signalman and the engine driver, provided by the introduction of semaphore signals. Block instruments were used together with signalling bells to indicate 'line blocked', 'line clear' or 'train on line' for each block section. The various types of semaphore signals were described including home and starter signals, distant signals to give advance warning and special signals used at junctions and for shunting. The method by which point and signal levers were interlocked was demonstrated by the use of a model locking frame, the object being to prevent conflicting signals being given.

All train working messages and other significant events were recorded in the Train Register which was kept by the Signalman in his signalbox, and this would always be consulted in the case of accident or working irregularity to ascertain the possible cause.

Single line working presented a particular problem and Roger outlined several methods of train control which could be used in this situation. Nearly all the methods involved the use of some form of 'staff' or 'token', the possession of which by the engine driver authorised him to take his train into the single line section to which it referred. The use of 'tickets' to enable trains to follow one another through a single line section was also explained.

Modern developments that were briefly considered included the use of multiple aspect colour light signals, track circuits and automatic warning systems which give an indication to the train driver of the state of the signals.

A Second Look

Burton Dassett Ironstone Workings

Unlike neighbouring Northamptonshire and Oxfordshire, little iron ore has been quarried in Warwickshire. There are proven reserves of ironstone on Edge Hill, which led to the abortive Edge Hill Light Railway, but only the ironstone outcrop on the Burton Dassett Hills was commercially exploited for iron ore and here quarrying was a small intermittent operation.

Eric Tonks in his history of the site[1] suggests that the quarries were working by the early 1870s. Thereafter, a reopening took place in November 1898, for which Wm. Glover & Sons Ltd of Warwick, installed a steam powered aerial ropeway to Burton Dassett Platform on the Stratford and Midland Junction Railway. Tonks states the quarry tramways were operated by pony and gravity but also gives anecdotal evidence of a steam locomotive being used for a short while. Closure came again in 1901, with a brief working interlude in 1907/1908, until the increased demand for iron ore in World War One caused a final reopening in 1918 by T. & I. Bradley & Sons Ltd. Equipment from the previous periods of working was reused. Production during this phase of operation was small; Tonks quotes 100 tons per day, largely by hand labour. Final closure probably came in 1921 and all the equipment was removed sometime after 1929.

Today of course, the site is part of the popular Burton Dassett Hills Country Park. This has ensured the survival of many of the quarrying features and it is easy to trace both the various tramway routes radiating from the site of the former ropeway terminal and some quarry faces.

References:
1. Tonks E. *The Ironstone Quarries of the Midlands History, Operation and Railways Part II The Oxfordshire Field*, Runpast Publishing, Cheltenham, 1988

Coventry City Planning

October 2001 Brian Redknap:
Thoughts on the Planning of Coventry from a Historical Point of View

Brian Redknap, former City Engineer of Coventry, painted a very broad canvas in his talk to our October meeting and, in fact, gave members a panoramic view of the development of the City from mediaeval times to virtually the present day. He tackled three main aspects of its civil engineering history, namely sewerage, drainage and highways. All three were set against the background of a City which grew from a population of a mere 16,000 in 1800 to a peak of over 330,000 in the 1970s, and which in the late 1940s was destined to play a pioneering role in urban redevelopment, following its devastation by bombing in the second world war.

The topography of Coventry played a crucial part in attempts to provide the city with effective sewerage and drainage systems. The rivers Sherbourne and Sowe, also Canley Brook, were the main natural arteries for these systems but for a long time the city tried, for financial reasons, to utilise only gravity for liquid flow. There was also a reluctance, again for financial reasons, to provide proper sewage treatment, and for a very long time sewage and effluent were simply 'passed on' by way of the water courses to towns outside the city boundary. In the mid-19th century, however, Government legislation forced change and major work on disposal systems for both sewage and drainage was started. Treatment of sewage, however, was not provided for and it was not until 1874 that settling tanks were built by the Coventry Manure Co Ltd, which hoped thereby to have a 'saleable' product! These hopes were not fulfilled and the company failed.

In 1901, the City finally accepted that 'gravity was not enough' and conceded that a proper pumping system was imperative. Massive pumps capable of handling over 11 million gallons/day were installed, but still no treatment system was provided. Indeed, the city did not have that amenity until the construction of the Finham Sewage Works, in 1929.

Brian's account of the planning of the new city centre post-1945 was a fascinating story of contrasting ideas, not least those of the long-serving City Engineer Ernest Ford and the relatively newly appointed City Architect Donald (later Sir Donald) Gibson. To an extent it was a conflict between the visions of a younger and an older man, one seeing the opportunity for a fresh start with a 'brave New World' of concrete and traffic-free precincts, and one who took a more conservative (and perhaps conservational) view. Both schemes eventually had to be put before Lord Reith, as an arbiter. He drily commented that whereas one scheme seemed rather to lack imagination the other appeared to have a surfeit of it! Shrewdly Reith suggested that perhaps the best aspects of both schemes should be implemented.

Brian showed two excellent photographs of the Upper and Lower Precincts shortly after they were officially opened. Each picture touchingly recalled the high hopes of the period, illustrated both by the freshness of the architecture and the self-confidence of the people strolling about in the sunshine. The original vision was of a 'People's City' but, as Brian observed, architectural fashions were to change with time, as also perhaps were the people of Coventry.

Finally, Brian turned to the equally interesting story of the design and construction of the Coventry Inner Ring Road. This bold venture, designed specifically for traffic only and deliberately without 'frontages', is especially successful in catering for those who make daily journeys from one side of the city to the other for work, allowing them to avoid the centre itself. Brian's talk was a *tour de force* not least because it gave WIAS members a uniquely personal and firsthand account of the many problems involved in the major redevelopment of an industrial city in the second half of the 20th century.

Book Review

Balchin N. and Filby P. *A Guide to the Industrial Archaeology of Cambridgeshire and Peterborough*, Association for Industrial Archaeology 2001, ISBN: 0 9528930 4 5. Price not known.

Cambridgeshire is probably not a county that might be considered to have a rich industrial heritage. However, the reality is quite different as this latest of the guides from the Association for Industrial Archaeology demonstrates. Published to tie in with the location of the annual conference, the guide follows the established and successful format of previous years. The area of study is divided into smaller geographical regions and significant sites therein are described by a short written piece together with a grid reference and access details. Good, although sometimes rather small, monochrome photographs illustrate some of the chosen sites. Also, for the first time, criteria are given for the choice of sites. Although not exhaustive, the contents will prove of interest to the enthusiast and if taken with previous AIA regional guides, form part of a useful and growing resource.

Industrial Archaeology and British Waterways

November 2001 Nigel Crowe:
Recent Archaeological Work at British Waterways

With a staff of only six, and the entire country to cover, Nigel Crowe's remit as Heritage Manager for British Waterways is daunting by any standards. Just how daunting was illustrated by the range of different projects, in widely scattered locations, which he chose to cover in his talk to our November meeting.

Nigel has been with BW for 15 years during which time, he said, the organisation had changed beyond all recognition. Its dedication to the heritage of our waterway system is unquestionable but, as Nigel pointed out, BW must 'pay its way', and time and money spent on heritage work must always be consistent with, and proportionate to, that requirement. Nevertheless, the examples he gave of heritage projects already accomplished, and others in hand, were impressive.

Work on the Anderton Boat Lift, which connects the River Wear Navigation with the Trent & Mersey Canal, has included excavation of the original engine house, first used when the lift was powered by steam. It had been possible to trace significant stages in the history of the engine house from its opening in 1875 through to its final electrification, just before the first world war. On the Kennet & Avon canal, a pair of stop gates has been discovered which were designed to close automatically if there was a sudden unintentional loss of water. Adjacent to Lock 10 on the same canal, but not connected with it, a large water tank had been found which appears to have been a cistern or reservoir once supplying water to a nearby 'grand house'.

At Clarence Lock, Leeds, Nigel's team was called in to investigate and record the remains of a very large derelict boat. Measuring over 20 m long, and unusually broad of beam, it was sadly in a completely unrecoverable condition. In design, however, this boat appears to have been not unlike one of the famous Forth & Clyde 'steam puffers' and its presence on an inland waterway was both surprising and difficult to explain. Also in Leeds, Nigel referred to excavations on the site of a BW property alongside the Aire & Calder Canal. Here was found a 1940s air raid shelter with accommodation for 165 persons.

Coming nearer to home, work on repairing leaks in the Engine Arm Aqueduct of the Birmingham Canal has uncovered some unusual 'Gothic' decoration in the ironwork, which has been carefully recorded. A project of an entirely different nature, namely maintenance work on the 3-mile long narrow Standridge Tunnel, Huddersfield, required recording the facing stones in the portals individually before work could begin. A 'lost' spillway at Lock 24 on the Lichfield Canal needed recording before work on the lock itself started, and to conclude Nigel described a particularly successful educational project which BW has started at Welford Wharf on the Grand Union Canal.

This project had its origins in the excavation of a canalside lime kiln but has since been extended to provide a centre where training in the methods and disciplines of industrial archaeology is provided. Indeed, the site is now a community project, with the enthusiastic involvement of local schools and villages, and is significantly raising awareness of the importance of industrial archaeology. As a postscript to his talk, Nigel drew attention to an interesting aspect of BW in the 21st century. More of its income is today derived from the fibre optics cables laid in its towpaths than from any activity connected with boats or boating!

Errata

The September edition of the Newsletter unfortunately contained a couple of minor errors. First, the speaker for October was Brian Redknap; not Brian Rednap as printed. Apologies to Brian for this proofreading oversight. Second, the subscription rates quoted were of course for 2001/2002 and not for 2000/2001 as indicated.

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