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After ten issues in which the Editor has contributed an article on a theme of general or particular interest to BIAS members, the Editorial Committee have decided on a change of policy. Pride of Place in BIAS Journal 11 is thus given to a new feature, 'BIAS Views', which incorporates the sort of news items previously reported under 'BIAS News and Notes' together with short contributions from members and items of editorial comment. It is hoped in this way to widen the scope of previous commentary and to increase the opportunity for participation by members wishing only to make a brief report or a suggestion arising out of a previous article or the activities of the Society. We trust that members will take this chance to discuss matters of concern to the Society by submitting notes and other comments for our consideration in future issues.

Some notable schemes in the conservation of industrial features have been completed during the year. One of the most praiseworthy achievements has been the long-awaited public opening of the restored Claverton pump-house, reported more fully below, but this was not the only success story on the Kennet and Avon Canal scene. In August, one of the cast-iron footbridges in the Sydney Gardens, Bath, was opened to the public after complete renovation by Stothert and Pitt Limited in conjunction with Bath City Council. Now known to have been supplied by the Coalbrookdale Company through the agency of George Stothert and dated 1800, the bridge represents an early model in the chronological series of surviving cast-iron examples. Great care was taken in choosing the most appropriate and historically accurate design to replace the battered balustrades and this work was largely completed in S & P workshops by company apprentices. The re-opening ceremony was marked by conspicuous lack of interest in the local press which should not be allowed to deter any future plans of restoration to the nearby cast-iron skew bridge, of plainer design but more technical interest.

The Black Castle at Arno's Vale is another feature which formerly was deteriorating but now, has been fully restored and opened to the public in recent months as public house and restaurant. Its industrial interest lies in the architectural use made of cast copper slag, the waste material of the eighteenth-century smelting works on the River Avon. The Black Castle was built c1765 by William Reeve who had married Mary Andrews, daughter of one of the founders of the Bristol Brass company which had smelting works at nearby Crew's Hole. The company had been criticised in 1749 for impeding navigation by throwing its waste in the river. The subsequent need for waste disposal probably gave impetus to the production of building blocks which can still be seen throughout the area. An earlier building in which the blocks are displayed as an architectural feature is the Gate House at Warmley, a relic of William Champion's industrial estate, which recently has been converted into a modern dwelling house after a long period of deterioration.

Moves are afoot for other much-needed plans of action in the sphere of conservation. Members of BIAS committee have been giving some thought recently to proposals for the future of the Logwood Mill at Keynsham (see BIAS Journal 7 and 10). Having been vacated by the chemical company, Ellis and Everard, the buildings have been subject to vandalism on several occasions and, inevitably, this will increase as time goes on, so there is strong argument for encouraging new use of the premises as soon as possible. Thoughts of Green Park station merely stress this need. A recent planning application proposed the combined use of the site, with dwelling accommodation in the main mill building and cottage, and a small factory unit processing pickles in the outbuildings. The planning of living accommodation within the mill would involve a certain amount of alteration to the fabric but would allow the display of the listed mill machinery, edgerunners, chipper and waterwheels in the vestibule of the building. Such display, of course, does imply the restoration and maintenance of this unique equipment to acceptable standards and, in addition, the whole scheme would be under the control of the planning authorities. The factory unit is in part of the site which has no intrinsic architectural or technical merit, whilst the pickle company has been established locally for some thirty years and needs new premises to take on more staff. BIAS committee decided to support this application and just before going to press we hear approval has been given, provided suitable details are submitted of the living accommodation and appropriate arrangements are made for the future care and maintenance of the machinery.

Claverton Pumphouse, on the Kennet & Avon Canal, was finally opened to the public in July 1978 and attracted over 1,800 visitors before the end of the year. Restoration work on this unique industrial monument was started as long ago as January 1969 by engineering students from Bath University, who had earlier carried out a feasibility study on the project. In retrospect, it can be seen that this study seriously underestimated the work and money involved. In the early 1970s the students were joined by volunteers from the Kennet & Avon Canal Trust, and it was they who carried the project through to completion when student interest finally waned some years later. The first successful running of the pump over a period of time occurred when Widcombe Locks were officially reopened in the Summer of 1976. Since then, various legal and administrative problems have had to be overcome and the pump will now be operated by the canal trust under a licence agreement with the British Waterways Board.

During 1979 there will be 'pumping weekends' on the first Sunday in the month (plus accompanying Saturday) March to October, and the pumphouse will also be open without the machinery working on all other Sundays, April to October. Further details can be obtained from BIAS Secretary John Powell.

The future of Bristol City Docks continues to generate verbiage, with long and involved reports from the Bristol Planning Office and a good deal of public discussion. Several members of the Society attended the large public meeting in the Council House on 2 March 1978 to discuss the latest proposals. It was a good tempered meeting, because everybody present seemed to regard the plans, involving the preservation of most of the existing waterfront of the Floating Harbour, as a considerable improvement on previous suggestions. The remaining fly in the ointment was (and still is) the retention by Avon County Council of the road scheme which would bring the inner-ring road over St Augustine's Reach by a new bridge, but the longer the Harbour survives in its present form, the better the long-term prospects of its permanent preservation will become. It must be hoped, therefore, that the bridge proposal will ultimately languish as an intolerable intrusion on the priceless heritage of the ancient Bristol Water-front.

A 'rescue' dig under the direction of Mike Ponsford has been undertaken for Bristol City Museum on the site of the CWS warehouse at the head of St Augustine's Reach of the Floating Harbour. There is some slight documentary evidence, supported by fragmentary finds in an excavation of an adjacent site, for believing that the warehouse was constructed on what had once been a partially enclosed dock on the side of the River Frome, and it is even possible that the dock contained the remains of ships when it was sealed in. The site could thus prove to be one of outstanding interest to industrial and marine historians in Bristol.

At last, British Rail is showing some awareness of the significance of Brunel's Temple Meads station as an industrial monument. A feasibility study has been commissioned to investigate possible ways of using the building in the future. In the meantime, some work on weather protection has been undertaken. The study, in which BIAS member and architect John Mosse has been involved, is due to be completed early in the year when interested amenity societies will have opportunity to meet British Rail to discuss the proposals.

The saga of Green Park Station continues in Bath. The station is subject of a Public Enquiry which started on 9 January 1979, but as the City Council has withdrawn its request for listed building consent to demolish the building it is by no means clear what the Enquiry can achieve. At the beginning of 1979 there were four proposals to develop the site, three by supermarket chains and one by a hotel group, all of which undertook to preserve the station building. Whereas the supermarkets plan to use the train shed as a covered car park, however, the hotel proposal is more ambiguous about the building and will have the effect of dominating the train shed by a tower-block.

Readers may recall that BIAS Journal 9 featured an article by John Robson on 'The Clandown Passbye', describing the curious arrangement at Clandown Colliery, Radstock, where by a typical Somerset narrow shaft was adapted to take double cages (alternating up and down) by widening the central section of the shaft in order to allow the two cages to pass. Mr Robson, who was for several years Manager at Old Mills Colliery, now lives in retirement in Melrose, Scotland, but he has written to us (19 June 1978) to report

that he has recently received information that the Clandown arrangement was not unique, as a similar device had worked at the Catherine Shaft of the Emma Colliery of the Stella Coal Co, Ryton, County Durham. He is not able yet to give us any details, but enquiries are continuing.

Mat Southway writes

My word, how the Underfall Yard Workshops article brought back my apprenticeship days, 60 years rolled away like 60 days as I read of the Planer, Shaper, Slotter, and Lathe of types on which I learned my trade of general mechanical engineering at A J Jackson of Kingswood. The planer on which I worked was an even earlier type than the Whitworth, it was a 6 ft Cunliffe & Croom, and during my time the table was extended to 7 ft 6 ins by bolting on a carefully aligned casting at one end in order to accommodate the 7 ft 6 ins long Selson Sundale 7½ ins lathe beds which we were machining at that time. Later the firm installed a new Stirk 10 ft planer for machining even longer lathe beds, this was c1920, but the Stirk machine was very much like the illustrations of the 1884 Whitworth machine at Underfall Yard. Such is progress! I would suggest that there are a couple of errors in naming the machine parts, the horizontal cross slide which carried the tool boxes was always called the Bridge, and the Cross-heads were the two saddles or carriages traversing the Bridge and carrying the Tool-boxes proper. This distinguished them from the Side-heads which could be attached to the vertical 'A' frame member at right angles for machining the vertical sides of the work pieces. In addition to the Cunliffe & Croom machine, Jackson had a 4 ft Loudon Brothers of Glasgow planer which was rack driven, the rack being inverted beneath the table. Hence if too great a cut was applied and the tool 'dug-in', stalling the table, the teeth of the driving pinion would, because of their contour, lift the table and workpiece bodily, which would then crash down again on the vee slides until lifted by the next gear-tooth. Quite frightening when it ran amok like this. It also had a nasty habit of slipping one of the reversing stops, and I saw one operator lose three fingers which he was idly dangling in an oil-well at the end of the slideways on the bed, when the table overran. The Cunliffe & Croom machine was also rack driven, but the rack was constructed with the teeth inside a channel section, so that the driving pinion pressure was always downwards.

The lathes we operated were similar to the machine at Underfall, except that they were mostly of the fixed headstock type. I cannot remember the makers' names, but the addresses were Sowerby Bridge, Keighley, Halifax, and so forth. One of these lathes was fitted with a jig and boring bar for boring out the Headstocks and Tailstocks for the 7½ ins Sundale lathes previously mentioned. It was also later used for boring out the cylinders of small hopper-cooled oil engines which were very popular with farmers of those days. One of the shaping machines which I worked was similar to the Hulse machine illustrated in the article, but fitted with a vertically mounted slotted disc to give stroke variation, coupled by a connecting rod to another variable slot on the side of the ram, for positioning. Probably an even earlier machine than the Hulse. I also operated an even older and more decrepit shaper in which the ram was driven from a horizontal disc similarly slotted to vary the stroke, the connecting rod was attached to a slot on top of the ram.

The machine was stamped with the makers serial no. 1620, which everybody quoted as the date of manufacture! I was working this machine on night-shift in 1917, at the age of 14, until stopped by the Factory Inspector as being under the minimum age of 16 for night-shift work. The job I was carrying out was the rough machining of crossheads for guncarriages. (1914/18 War). These were about 3 ins dia x 9 ins long, and had a large central boss at right angles to the centre line. The body of the forging was bored out and turned at each end, leaving about ¼ ins of rough metal to be machined off around the 270° or so not occupied by the boss. This was done by mounting the component on a rotatable mandrel as mentioned in the description of the Hulse machine. Finish machining was carried out on a similar mandrel on the Hulse type machine.

I also worked a Slotter similar to the Whitworth machine, but again of rather more primitive type and probably older. By the way, the practise of fitting crossed belts to both the mainshaft/countershaft, and the countershaft/machine drive, was to obtain extra drive to take heavier cuts without the belts slipping. The crossed belt embraced about 210° or more of the pulley circumference compared with open-belt's less-than 180° due to slackness or flapping of the belt. Oh yes, the Slotter was used almost as a vertical shaper in machining the 'ears' of gunbarrel strengthening bands, and the hinge-boss faces of track-links for 'tanks'. What memories! I wish I could remember last year, or even last week, as well! I do hope that it will be possible to arrange for these machines at Underfall Yard to continue to be employed for the purpose for which they were designed, jobbing and maintenance work. Possibly with occasional access for the public to see them in action.

Georgina Russell writes:

Readers may remember a note in the last issue of BIAS Journal concerning Camden Works Museum in Bath. Last September the Duke of Gloucester kindly performed the Opening, Ceremony after he had been given a preview tour by the Trustees and Curator. (This included by special request a visit to the floor of the heavy machine shop not normally open to visitors). Camden Works Museum, though distinctly urban in character and domestic in scale, is closer to Ironbridge Gorge Museum (for instance) than to the classic kind of museum like the Science Museum in London or Birmingham. It represents the entire stock-in-trade, fixtures and fittings of a single firm. J B Bowler & Sons, Ltd, down to the homely things like gas-light brackets and children's toys rather than items of intrinsic technological interest. drawn together from different sources. The importance of individual machines is comparatively small but the ensemble tells us much of Victorian life and work that is otherwise overlooked. Indeed the entire 19th century tends to be overlooked in Bath, since it is overshadowed by Beau Nash, Jane Austen and the building projects of the Woods.

Bowler's in Corn Street must have been a typical Victorian firm setup by a patriarchal man with shrewdness and vision. Admittedly, J B Bowler the founder (c1834-1911) was perhaps shrewder than his competitors; but there were other brass foundries and engineers in Bath, and indeed many other mineral water manufacturers, as we know from the Bath Post Office Directories. What makes it unique today is

the accident of survival which happened largely because the firm only once had to move its premises and because no-one ever threw anything away or bought things brand new. J B Bowler had set up on his own at Christmas 1872 in Southgate Street; on his tradecard he advertised himself as an 'engineer, p,lumber's and general brassfounder, gas-fitter, locksmith, and bell-hanger' and as a 'maker of all kinds of soda water machinery'. In 1876 he went into partnership with an established Mineral Water Manufacturer, W E Annely and they bought a small manufactory in Corn Street. (The site is now part of the Avon Street car park). The partnership must have been a stormy one for by 1877 it had been dissolved and Bowler was left in sole command. Some nine years afterwards he moved the brass foundry into premises next door to the aerated water factory in Corn Street and there things remained till 1969 when the firm finally closed.

The Real Tennis Court (built in 1777) which houses the Collection was given two floors c.1825. There are still many traces of the various uses over the last 200 years, It has proved the ideal place to exhibit the Bowler Collection. The interiors have been arranged as they would have looked during the heyday of the firm around 1890/1900 with help from photographs taken of the original premises. Visitors can see a unique collection of hand tools, lathes (in working order), bottles, paperwork and numerous other items relating to every aspect of the firm's activity. It is hoped that visitors will experience something of what it was like to work for the firm in the closing years of the last century and to gain a sense of the remarkable service it provided to the community. Camden Works Museum is in Morford Street Bath (North of Julian Road). It is open 2-5pm every day except Mondays, Christmas and Boxing Day and Easter Sunday. Parties are welcome also at other times by prior arrangement at reduced prices. Admission: Adults 40p, Children, OAPs and Students (with card) 25p.

Evidence of the growing international status of industrial archaeology appeared in 1978 in the great success of TICCIM, the Third international Conference on the Conservation of Industrial Monuments. This was held in Sweden in June 1978; and was well attended by a group of delegates representing most European countries, and also America and Japan. The Conference conducted an impressive amount of business in a highly professional manner, and the field trips encompassed some of the magnificently preserved early iron-working communities or 'bruks', of which that at Engelsberg was outstanding. There was also a visit to the spectacular copper mine at Falun. The Conference ended by forming a new organization - ICCIH - the International Committee for, Conservation of the Industrial Heritage. The first Chairman of the Executive Board is Ted Sande of the United States, and Professor John Harris of Birmingham University was elected the British representative.

The Regional Conference of western industrial archaeological societies will be organised by BIAS on Saturday 24 March 1979 at Keynsham Leisure Centre. The first of this series of conferences was initiated by BIAS members at Bath just ten years ago and it is appropriate, therefore, that the organisation should return to this area on the occasion of the tenth anniversary.