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GLOUCESTERSHIRE SOCIETY FOR INDUSTRIAL ARCHAEOLOGY

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Cover Illustration: Parkend by the late Patrick Lane

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Gloucestershire Society for Industrial Archaeology

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Editorial

This year's editorial is being written during the week following the London 2012 Olympic Games which were widely regarded as being a great success in all respects. The relevance of this to industrial archaeology will be apparent to GSIA members who saw the highly acclaimed opening ceremony, which was watched on television in the UK, by a peak audience of nearly 27 million viewers. The ceremony included a spectacular sequence depicting how the "Industrial Revolution" started in Britain before spreading to all the other major nations. It is to be hoped that this will act as a timely reminder of the importance of our industrial heritage to developers and planners. Certainly, for the time being, we should cite the opening ceremony when make our case for recognition of industrial heritage in development proposals. Perhaps a future issue of the Journal will be able to report a case where this argument proved helpful.

Turning to this year's issue we are, as ever, very grateful to our contributors for the time and effort they put into researching a wide range of subjects.

A significant milestone in the history of Gloucester Docks was the opening, in 1812, of Gloucester Lock (connecting the River Severn to the Main Basin of the docks). Hugh Conway-Jones has researched the history of the lock as part of the Gloucester Lock 200 Festival to mark this historic event and provides his findings here.

Steve Mills has provided the second part of his account of recent developments at Millend Mill at Eastington near Stonehouse. His present article reports on the discovery of the almost complete footprint of the engine house and most of the heavy stone footings that carried the engine's main components.

Previously, very little has been written about John James, an ironmaster in the Forest of Dean during the first half of the 19th century. However, using a number of sources Pat Morris has drawn together a detailed account of his various activities at Parkend, Lydney and Redbrook.

The restoration of the Cotswold Canals continues apace and, as usual, Theo Stening brings us up to date with progress along the full length of the two canals. He has also provided a history of the statue representing "Father Thames" from when it was first displayed at the Crystal Palace at Sydenham in 1853 to its present resting place at Saint John's Lock near Lechlade.

Malthouses at several locations in the county have been the subject of articles by Amber Patrick in previous Journals. This year, her attention has turned to subject of malt kiln tiles and her article looks at the wide range of types of tile that were used at different periods.

Frank Colls, the visits organiser, together with the various leaders, produced another very interesting and enjoyable series of Summer Visits during 2011. Coincidentally, the two books reviewed this year are both by GSIA members and both feature rivers that flow in Gloucestershire. Finally Hugh Conway-Jones, Amber Patrick and Nick Brojer must be thanked for their invaluable help with the production of the Journal.

Ray Wilson August 2012

GSIA VISIT REPORTS 2011

Once again the Society's thanks are due to Frank Colls who organised a programme of local visits and walks and a coach trip in the Autumn. The following reports have been compiled by Frank Colls.

Sunday 17th April 2011

Afternoon walk – Wilts and Berks Canal

This was our second look at the 1810 Wilts and Berks Canal. In May 2009 we visited sites on the North Wilts Canal and the main line of the Wilts and Berks in and around Swindon, finishing at Chaddington Lock. Once again Will Harris was our leader as we explored a further section to the west of Wootton Bassett, and 11 of us met up at the war memorial in that town. After a brief introduction we set off in three cars with our first stop at Vastern Wharf. Not much remains here but a bridge structure showed the line of the former canal and an adjacent house was of the wharfinger style. We then drove to Dauntsey Lock (the actual name of the small hamlet) where the main lock structure survives and has had some repair work. The section below is in water and several buildings are clearly from the working period of the canal. Next to a small roadside building, on the access to a former wharf area, was an old weighbridge of a size suitable for medium sized wagons. Nearby was a road bridge over the London to Bristol main railway line of 1842 and we were able to see the clear line of Brunel's broad gauge formation.

After a short drive we came to the tiny hamlet of Foxham where a footpath parallel to the canal line took us to 3 locks. The lower one was somewhat overtaken by a circular horse exerciser, part of Lock Farm, but the other two were in fair condition with signs of previous restoration work. Above the upper lock was a modern metal drawbridge, fixed in the down position for giving access to some fields, and the stretch beyond was in water. We returned to the cars across a grassy field by a small group of houses next to a community centre with a Free Library and, next to this, an 1855 Wesleyan Chapel. We then drove along a lane to Chalcutt, where a bridge had crossed the canal, and walked into a somewhat sunken area which had been a canal basin with a wharf. With the very dry weather we could walk into this area but little could be discerned of the former structures. It was then a drive to a spot by Stanley Bridge Farm for a walk to the final sites. First was the junction of the Calne Branch with the main line and we could make out the line of the branch through the vegetation. Across some fields we then came to the River Marden which the canal had crossed by an aqueduct. It was the collapse of Stanley Aqueduct in 1901 which severed the navigation and led to its abandonment in 1914. We could see the remains of the structure on either side of the river. Returning to the cars we thanked Will for another interesting walk before the journeys home.

Sunday 15th May 2011

Afternoon Walk, Sharpness Docks

It was a damp and rather chilly afternoon as 31 of us met at the area by the Dockers Club for the walk led by Ray Wilson as a follow-up to his talk in the Winter lecture series. After a brief historical introduction we began by seeing the memorial sculpture, from 2003, to the seamen who had trained on the Vindicatrix and were later killed. The merchant seaman training ship had spent many years in the canal just above the lock of the Old Dock before closure in 1966

and the period of the “Vindi Boys” is a significant part of Sharpness history. We heard about the former Victorian pleasure grounds, part of the Berkeley Estate, before walking to the river and the tidal basin of the 1827 Old Dock. Ray explained the operation of this and we could all appreciate the great skill needed in the days of sail to negotiate the entrance from the Severn at the height of the tide. The Old Dock wasn’t used after 1908 but in 1940 the equipment had been refurbished to provide back-up in case of wartime damage to the entrance basin of the New Dock, opened in 1874. We saw the large cabinets housing the paddle and gate controls for the basin gates and for the 3 pairs of lock gates. The tidal basin gates were replaced with a solid dam in the 1990s, this also providing vehicle access to the area by the Dock House. This is now used by the Severn Area Rescue Association and we also saw the new SARA lifeboat house with its launching slipway. We had a good view of the river and the low tide gave a chance to see the remnants of some of the pier bases of the bridge of the Severn Bridge Railway, opened in 1879 but damaged in a tragic accident in 1960 and subsequently demolished. The story of the accident is well known and the rise and fall of the bridge, which had allowed Forest of Dean coal to be brought to Sharpness for export, is another key part of the Sharpness story. Later, near where the canal had divided to reach the new dock, we saw the site of the coal tip by which vessels were loaded. We saw the old stable block, recently renovated and now used as a facility for the many boats in the marina which occupies this end of the canal and the lock area. We walked over the locks and up to the Dockers Club, formerly the Sharpness Hotel. From this vantage point we could see the high level rail bridge and some of the older and newer buildings which occupy the area. It was time to drive to the far end of the New Dock and we arrived at the picnic site in much brighter weather although there was still a keen wind.

The 1874 New Dock is still commercially viable and Ray told us of the former grain traffic and the old style warehouses, with the North Warehouse still standing but with an uncertain future. We could also see the two modern concrete grain silos, one now used for cement imports. Incoming fertiliser and outgoing scrap metal are the other main cargoes nowadays. As well as getting a good view of the river, the low tide meant we could appreciate the structure of the piers forming the entrance to the gates of the tidal basin. We heard about the much larger vessels which could be handled compared to the Old Dock. The principle of operation was the same and the large tidal basin led into the wide lock and on to the main dock area. We walked to the lock and could see further features including a modern building over the dry dock, which is much used for ship repairs. Across the dock we could see some of the workers’ houses and heard about the ancillary shops and trades which had made up the dockside community when the port was much more active. It had been a very enjoyable and informative afternoon and we thanked Ray for his work in preparing and leading the walk.

Saturday 4th June 2011

Bicentenary event for the Gloucester and Cheltenham Tramroad

We were fortunate with the weather for this event which attracted a good attendance from kindred organisations as well as GSIA members and friends. A small crowd gathered at the replica tram wagons by the entrance to Gloucester Docks following some good advance publicity. There was local radio and press interest and the first task was to get everyone into a group by the wagons, with our guest speakers at the front, for a photographer from *The Citizen*. Alan Strickland and Ray Wilson had done an excellent job in producing the 8 page booklet *The Gloucester and Cheltenham Tramroad (1811-1861)*, and these were being handed out to those present as well as to interested passers-by. Alan welcomed everyone and gave a brief introductory talk before our guest speakers were invited to make their observations. Angus

Buchanan, former President of the Association for Industrial Archaeology, congratulated GSIA on its efforts to mark the bicentenary and spoke about the rise of interest in and concern for the subject of IA over the past decades. He recalled some of the highlights which had occurred to bring what was once a rather specialised and academic area into much more public prominence. Sir Neil Cossons, former Chairman of English Heritage, went into the historic importance of tramroads as a sign of progress in early 19th century life. He reminded us of the fascinating technical achievements of that age and the way it all helped to bring about many momentous social and economic developments. He also thanked everyone concerned in arranging the event and hoped that it would encourage further interest in heritage matters.

As a final part of the morning's activities, members and guests were invited to take a short walk along part of the tramroad route. This was led by Frank Colls who pointed out some of the historic points and remaining features as we progressed. We went through the gateway past the plaque which had been installed by GSIA and the Civic Trust in 1991 and crossed Southgate Street to enter the lane by the Whitesmiths pub. After a short while the tramroad line was blocked by houses in Brunswick Road, but we could appreciate the sinuous nature of the route which had been taken. We heard about some of the points further on where the modern layout is very much dictated by the former line. There was plenty of discussion on the way that the tramroad had been operated before we returned via Parliament Street to re-enter the Docks by the new Candle sculpture. We finished at the old Midland Railway crane by the Victoria Dock and heard briefly about the expansion of the docks and the railway developments of the 1840s and 1850s which resulted in the decline and closure of the tramroad in 1861. Alan Strickland concluded the proceedings by thanking all involved, especially our guest speakers.

Sunday 3rd July 2011

Social afternoon and visit to Lechlade and Inglesham

This year's social outing comprised a river trip on the Thames at Lechlade and a visit to the old lock at Inglesham, the eastern terminus of the Thames and Severn Canal. It was a chance to support the work of the Cotswold Canals Trust which runs trips with their launch *Inglesham*. Because the launch has limited capacity (12) we had arranged two hour-long cruises for the GSIA party. While the first group was on the river the other group was having a guided tour around the lock area, and then the groups swapped over. It was a fine afternoon when we all met by the CCT gazebo, set up on their trip days to publicise the Trust and its work. Ron Read and his CCT colleagues were running the river trips while, for the visit to Inglesham Lock, we were fortunate to have with us Jon Pontefract who works for Stroud District Council on the canal restoration and is also an active CCT member.

On the river trip we had the benefit of a commentary on aspects of the history of Lechlade as a port, riverside features, traffic on the river and the link to the west by the canal. We saw the point where the River Coln enters the Thames and then approached the narrow inlet adjacent to the lock area and the Roundhouse, not readily accessible from the public footpaths. We then went further up the Thames on the stretch no longer within the formal navigation but passable by canoes and small craft. We heard of the original plan to terminate the canal at Dudgrove Double Lock and link to the Thames further west, but the intervening stretch of river was shallow and difficult, hence the decision to continue the canal to Inglesham. The launch turned back downstream and, passing the CCT gazebo, went under Ha'penny Bridge where some former wharves and warehouse sites were pointed out. There was quite a lot of activity on the river and our pilot had to be alert to the whims and meanderings of some of these craft. We went

as far as St John's Lock before turning for the homeward stretch. It was a very pleasant experience on the river, with a gentle breeze and the sights and sounds of people enjoying the afternoon on the river bank or on the water, and we of course thanked the CCT volunteers for all their good work.

It was a short walk along the river bank from the gazebo to the foot bridge over the Thames from where we could enter the area by the lock. Jon explained the recent transfer of some of the land from British Waterways to the CCT which will enable the restoration work on the lock to proceed. The Roundhouse and the adjacent house (formerly a warehouse) is in private ownership and the boundary has to be strictly observed, but from our vantage point we could see much of the interesting detail of the buildings. We picked our way towards the lock itself with Jon pointing out a number of the remaining features. Brickwork repairs had been carried out in a 1960 job creation scheme but these had been to a poor standard. This, coupled with the effects of time and vegetation, had resulted in a very dilapidated structure. Jon outlined the plans for working parties, including teams from the Waterways Recovery Group, to make a start on the project. An access route for plant and equipment has also been started. The CCT land now includes a 350m stretch of the canal and the medium term intention is to restore this to enable vessels to pass through the lock and experience a brief journey on the Thames and Severn Canal. They are also planning to build a quay on the river side of the lock. We thanked Jon for a very comprehensive tour which had given us a much better appreciation of the nature and scale of the difficulties which lie ahead. We were also most impressed with the skill and enthusiasm of the CCT and their colleagues which will no doubt carry the project forward. Fund raising is an important aspect and GSIA members were happy to make extra donations to the CCT that afternoon.



GSIA Members at Inglesham Lock, Sunday 3 July 2011

Sunday 24th July 2011

Afternoon walk, Cheltenham's Ornamental Ironwork

It was a fine afternoon as 16 members and guests assembled by the St George's Road car park for this tour of sites and features led by Elaine and Geoff North. They referred to the 1974 Guide and History on the subject by Amina Chatwin (now GSIA President) which has been the basis for their own further local history research. This research (still continuing) covers many aspects of the development of Cheltenham in the early 19th century such as buildings and their owners and developers, the sources of the ironwork and how it has been transported, and local businesses and industries. We heard of the 3 main phases of development, 1800 to 1820, 1820 to 1840, and post 1840 during which techniques, designs and fashions had evolved. Elaine and Geoff had compiled a very useful booklet for us all which summarised these periods and included a comprehensive set of illustrations. This detailed the types and styles of ironwork in the town as well as giving some historic views of notable buildings. Some early maps were also available which helped us to understand how the town's layout had developed.



Ornamental Ironwork in Royal Crescent, Cheltenham. Sunday 24 July 2012

Our walking route took in St George's Road, Royal Well Place, Royal Crescent, The Promenade, Montpelier Walk and Bayshill Road as well as some connecting alleyways. We passed close to the site of the former St James railway station and heard about one of the prominent local ironwork manufacturers, the Marshall company, which had its works nearby as well as a showroom in Clarence Street. On the walk we heard of many other manufacturers located in more distant parts from Coalbrookdale and the West Midlands to Falkirk. There were countless examples of wrought and cast iron features throughout the walk – railings, window boxes, balustrades, gates, lamp posts, boot scrapers, balconies (some with hoods), pillars,

finials and more. It is impossible to record all the examples we saw but a few items – the Sebastopol gun plinth by the Queen’s Hotel, the 1864 Bandstand in Montpellier Gardens, the fascinating variations in the railings and balconies of Royal Crescent – were especially interesting. Most of the ironwork seen was painted black but the ironwork of the long terrace on the Promenade (now the Council offices) was white, this leading to much discussion of why this was so.

As well as showing us all the different types and styles of ironwork, Geoff and Elaine managed to include a wide range of peripheral stories and historic features which made for a very fascinating tour. A welcome stop for tea had been built into the itinerary and this gave a chance to see further material and illustrations which our guides had put together. At the final site, back in St George’s Road, we thanked them for a most enjoyable and interesting afternoon.

Wednesday 24th August 2011

Afternoon Visit to Redland Tiles at South Cerney

The manufacture of roof tiles was the subject of our modern industry visit. The Redland name is well established in this field, the original firm starting in 1919, but the company is now part of Monier Ltd. The South Cerney plant makes concrete roof tiles and seven members took the opportunity to take part on a fine afternoon. We were shown around by Malcolm Docherty the Plant Manager who outlined the two main product lines - plain tiles and fittings, the latter being the various shapes used for ridges and roof edges. The tiles are formed from a mixture of water, sand and cement with pigments added to give the required colour finish. We first saw the large sand hoppers (fed by conveyor belts) and the cement silos, from which these materials are fed into the mixing plant with the quantities and grades being carefully monitored and controlled. There are two production lines one for plain tiles and one for fittings, but both operate in a similar way.

We saw the plain tile line in operation and seeing the continuous process was full of interest. The mixture, at the right consistency and with the required pigment, is fed into a forming machine set up to the correct dimensions. This forces the material on to a series of aluminium plattens moving through on the conveyor belt. These plattens are shaped to mould the underside of the tile with two support nibs, maker’s name and type number, while the top side of the tile is smoothed off by a roller. A continuous line of tiles emerges and two cutter blades separate the plattens so that each now holds a single tile. The line of damp but now quite firm tiles continues to a deplattening machine which carefully separates the tile from the platten. The empty plattens continue back to restart their journey around the loop and the tiles move along to a section where they are taken off the conveyor in batches. This is all done mechanically with the tiles loaded into a large rack which is then repositioned to enable a fork lift truck to take the loaded racks into the drying ovens. We were told about the precisely controlled drying process which is essential to ensure that the tile structure is correct. After drying, the racks are moved by fork lift truck back to the production line where the tiles are mechanically loaded onto the next conveyor section. The tiles are separated into groups of six, alternate groups are rotated and then the two groups are merged into a pile of 12 overlapping tiles with the protruding nibs of one tile fitting neatly over the opposite end of the adjacent tile. The 12-tile batches then go to a packing section where they are first bound with nylon tape, then moved onto large wooden pallets and covered in protective polythene wrapping. The mechanical handling devices in these stages of the process were ingenious and fascinating to watch. Finally the loaded pallets are labelled and taken to the storage area.

The fittings line was not in operation but we were shown the main features. The plattens are more complex and there are several forming machines, one for each type of product. The forming machines are interchangeable so they can be inserted into the production line for a run of one type of fitting and then removed. The conveyor system also has interchangeable sections so that different sub-processes can be run or bypassed depending on the actual pattern of tile being made. Because of the more complicated shapes, the final handling and packing of batches of fittings is less automated, and relies on some manual handling. We had a quick look at an area where a variety of other components and fixtures were stored, these coming from other manufacturers but supplied by Redland as part of their overall roofing service. This included some large photovoltaic panels, also from a specialist manufacturer, but now being introduced as part of the Redland service. We had had an excellent visit and everyone was impressed with what had been seen and with the very informative commentary. There had been plenty of questions and we had all learnt a great deal. We thanked Malcolm and his colleagues for a really splendid afternoon.

Sunday 11th September 2011

Afternoon Walk Lydney Docks and Railway Links

A group of 22 members and guests met at Lydney Station for a walk led by Frank Colls who began by outlining the 17th and 18th century developments of iron working sites up the Lyd valley to the north. A narrow canal had been built around 1800 to move materials and to give an outlet to Lydney Pill and the main river. The Severn and Wye company were soon involved with building a new tramroad as well as a broad canal link to a new dock on the Severn. They gradually expanded their facilities and activities and the area where we had assembled was the site of the S&W original passenger station from 1875. This had linked with the main line GWR station of 1851, of which nothing remains, although the route is very much alive. We followed the road past the new S&W junction station which had replaced the first one in 1879 and connected with the Severn Bridge Railway. This is now the southern terminus of the Dean Forest Railway and opposite, on some old sidings, was an area used by the DFR to store and work on diesel locomotives and other stock.

We continued to the Lydney bypass and saw the new road bridge which had been necessary over the Lyd (1997) before turning up a path by the railway level crossing to reach St Mary's Halt, the new station built by the DFR in 1991. An interesting lattice footbridge (c.1890) remains but is in poor condition and out of use. Nearby we saw a narrow stream entering a skewed culvert underneath the railway line, this being Pidcock's Canal. Built in 1800 to carry small tub boats, it linked the ironworking sites at Upper Forge & Middle Forge (both near Norchard) and Lower Forge about half a mile to the south of St Mary's. We retraced our steps and crossed the bypass to see the narrow canal flowing south, it still being in use as a water supply to a paper works near the Lower Forge site. This was our next stop but as we walked along Station Road we passed some sites formerly used for a saw mill, then a colour works and then a wagon works, with a surviving building now an engineering concern making pumps. Little remains of the railway-related buildings but the 1903 OS map showed how the railway routes and features had dominated the area. The Lower Forge site was shown as the Lydney Tin Works on the 1880 map and the layout indicated water wheels fed from nearby streams as well as Pidcock's Canal. Later named the Lydney Tinplate Works this was a major factory which went through different ownerships and finally closed in 1957. Some buildings relate to the later tin plate era and the site is still in industrial/transport use.

A sharp shower delayed us briefly as we continued back to Lydney Junction and over the main line level crossing where we turned along the track of the former dock railway line. To our right we could see where the former water course from the tinplate works had entered the Lyd near the start of the widened river, the S&W's new canal. The 1903 OS map showed several sidings leading to two coal tips at this upper end of the canal. We diverted from the track into a wooded area to get to the edge of the canal to see the remains of one of the tips. The surviving stone structure and some timbers and ironwork were visible and, with the aid of an old photograph and some drawings, Frank outlined the way the tip had been operated. He referred to the work being done by Ian Pope in preparation for a new book on the Docks Railway and some old engineering drawings which Ian had acquired had helped to interpret the site. Two types of tip had been built, the earlier square framed structure being replaced by a triangular structure which was easier to operate. The one we saw (No. 3) was of the later type. Nine tip sites had been built along the canal and at the harbour over the period of coal traffic, the major trade of Lydney Docks, which ended in 1960.

Along the next stretch of the track we had good views of the Severn estuary and the sights beyond before we got to the main harbour, with major improvements to the lock facilities and the whole area now developed into a visitor attraction with some useful interpretation panels. Members explored the area as they chose before we took the road back towards Lydney. We saw the former Pine End works, a factory from WW2 making plywood for use in aircraft and gliders, which had made other products up to the 1970s. At the canalside was an area where a large gantry crane had stood for offloading timber. Further on, in the new business park, was a very tall, thin mast which we had seen previously and assumed was for radio use. Closer inspection revealed that it had a series of wind gauges mounted at different heights and was clearly a temporary structure. Our conclusion was that it was part of a test project to assess the site for a possible wind turbine. We continued on, passing the fine housing blocks of Cookson Terrace, built by the S&W company in 1859, before arriving back at the station where Frank was thanked for a very comprehensive tour of a fascinating area.



Cookson Terrace, Lydney (central section). GSIA walk Sunday 11 September 2011