

WARWICKSHIRE

Industrial Archaeology Society

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FROM THE CHAIRMAN

There is always satisfaction in being able to publish the Society's annual programme of meetings, and the programme for 2016-2017 is no exception. Putting together the programme is never easy, so when the final piece of the jigsaw is eventually put in place your Chairman breathes a heavy sigh of relief!

We aim to provide a mix of topics, some local, others regional or national, which cover the themes of industrial history and industrial archaeology, although we are, of course, not averse to including elements of economic and social history. These meetings are the very essence of our Society and achieve levels of attendance that are the envy of other similar organisations. Long may this continue.

The first part of the November Meeting will be a presentation by Chris Barney on the work of the Association for Industrial Archaeology (AIA), to which WIAS is affiliated. Chris is one of our members, sits on the AIA Council, and is editor of IA News, the Quarterly Newsletter of the Association. Chris felt it was important that members should know what role the AIA performs, the work that it has carried out, and the importance of the continuing agenda of concerns about our industrial heritage. It may even persuade some to join the AIA to support the valuable work that it carries out.

The second part of the meeting will be a presentation by the Chairman to show that industrial heritage can appear in a range of (sometimes unexpected) locations. This follows a week after the return from a trip to the Deep South of the United States of America so what may appear is largely unknown as I write these notes. I am slightly

concerned that the locals may be more interested in the imminent Presidential Election than showing English tourists examples of the region's industrial heritage!!

The AIA has for many years held an Annual Conference at different places around the British Isles, and Telford was this year's chosen location, although the range of visits extended beyond the Shropshire border. Unfortunately, I was not able to attend, but was very grateful to John Selby for providing a copy of the Tour Notes which accompany the various visits that take place over the Conference. This reminded me that - as well as all those hours sitting at the computer, or in Libraries and Record Offices - there really is no substitute for actually going and visiting the site in question.

This matter was reinforced by a continuing desire to ensure that our database is up to date and accurate, a task which requires periodic re-visiting of sites, firstly to check that it is still there, and secondly to identify any recent changes to the state of the site. It is surprising how quickly an empty building can deteriorate, even without the assistance of vandals and graffiti artists. Checking sites may also involve a new photograph (using the latest digital technology) to record those changes. So there is always plenty to do!

To this end, the visits organised by Alain Foote have been an important added ingredient to the Society's activities, and we hope we can build more of these into our annual programme. Those attending have derived great benefit and enjoyment from the visits, and we hope to show photographs - and even the occasional video - of aspects of these trips at our monthly meetings. If you have a potential visit in mind, or would like to see a particular site, do let us know and hopefully we

can put arrangements in place.

The new membership system is in operation, and we hope that as many as possible will join the Society. These funds are largely used to cover the cost of room hire and speakers' fees, and we do not actively seek to make a surplus. However, any funds that do become available can be used for supporting projects involving care for the industrial heritage in Warwickshire, Coventry and Solihull, and we hope that potential members may take this into consideration when deciding whether to join the Society.

PROGRAMME

October 13 2016

Yvonne Jones:

An Art of Great Importance to Commerce: the Midland's Japanned Tin and Papier Mâché Industry of the 18th & 19th Centuries.

November 10 2016

Chris Barney:

The Work of The Association for Industrial Archaeology followed by a Report on the AIA Conference 2016 plus Martin Green 'Travels with my Camera.'

December 8 2016

Alain Foote:

The Kempton Great Engines.

12 January 2017

Peter Crowley:

A Working Life at Alvis and Beyond.

9 February 2017

Paul Baker:

The Lost Railway: Lapworth to Henley in Arden.

9 March 2017

John Frearson:

Nelson's and Kaye's: two Warwickshire Cement Companies.

13 April 2017

Richard Williams:

The Immense historical significance of the Cast Iron Cooking Pot.

11 May 2017

Chairman's Evening:

an Evening of Short Presentations Co-ordinated by Martin Green.

8 June 2017

David Hulse:

Thomas Newcomen and the Engine that Changed the World.

NEWSLETTER

Meeting Reports

May 2016: Anthony Coulls:

The London Water and Steam Museum.

Anthony Coulls has entertained us on a number of previous occasions with accounts of preservation activities from Sierra Leone to the North of England. The tale of the London Museum of Water & Steam, where he has been a trustee for the past 2 ½ years, is a worthy addition to his repertoire.

Formerly the Kew Bridge Steam Museum, housed in the old Kew Bridge Pumping Station and now substantially refurbished with the help of Lottery grants and other funding, the new museum has made a unique collection of machinery accessible to a much wider audience.

The Grand Junction Water Works Company was formed in 1811 to extract water from the canal to meet the growing demand for public use. By 1820, increased demand meant that the canal source was inadequate, which, together with growing pollution, led to a move to Chelsea where the Thames could be used as a source. By 1838 the Thames at Chelsea had become too heavily polluted to be safe and so a move upstream to Kew was made and the pumping station was built there.

By the mid-1860s further expansion required the installation of five steam-powered beam engines and pumps and the building of a classically inspired standpipe tower. The catchment area extended to Paddington and Chelsea. The quality of clean water for London was, and remains, an on-going issue.

In 1902 the Metropolitan Water Board was formed to manage the expansion of London's water supply, including control of the Kew works. In 1934 four Allen gas engines were installed to supplement the existing power units and in 1944 a further four electric pumps were added.

At this time the steam-powered beam engines were taken out of service but were protected from being scrapped by being considered museum pieces. Given the circumstances of war-time needs this seems to have been a most far-sighted decision by someone unknown. The boilers, however, were removed. During the last twenty years of the previous century various changes were made to the pumping equipment.

After this review of the operations at Kew Anthony turned to the present day preservation activities. These are, in fact, longstanding. The Kew Bridge Steam Museum Trust was founded in 1975 and charged with the preservation of one of only two sites where steam, gas and electric power are all available for examination in their working location.

The original engine house contains the oldest engine, a Boulton & Watt machine that was moved there from Chelsea and a subsequent 'Bull' engine of a different design that was more space efficient. Also on the site is the Grand Junction Canal engine house.

An interesting technical aside was the elegant way in which one of the beams had been strengthened with steel tubes. A beam failure would have been a costly disruption to London's life.

Today, the problems of keeping museum engines in a running condition requires much work that goes on unseen. There are many safety issues that have to be taken into account as well as those of finding suitably qualified staff.

Partly as a consequence of these factors, two of the engines, a 90" and a 100", are unrestored and non-runners. However, a working model of a steam powered beam

pump allows visitors to get a clear idea of what it did and how it worked.

Much has been done to develop the land around the site. The old boiler house is used to display the collection of steam pumping engines with plenty of supportive displays. The demonstration boiler by John Thompson of Wolverhampton is not original but came from a nearby hospital.

The local rodent population is controlled by three cats named, appropriately, Boulton, Watt and Maudsley.

One engine remains in the diesel house and other ancillary buildings house various local crafts.

In 2014 the newly named London Museum of Water and Steam was officially opened with the aim of telling the story of London's water supply.

In the second boiler house displays cover the history of domestic water usage with a remarkable collection of appliances; water heaters, washing and mangling machines, sanitary ware and pipework.

Thames Water (who else) have sponsored a timeline display of London's water supply. This emphasises the social aspects of the story and the long history of testing and safety, including the ground-breaking work of John Snow and the Broad Street pump – the source of an infamous cholera outbreak in a London slum.

Also featured is the 'Water Aid' programme to bring safe drinking water to communities in the developing world.

What goes in must come out and, appropriately, attention is also given to the history of London's sewers, although this is not as fully covered as the supply side.

Even the tea room contains displays. Many parents will no doubt be floored by questions from offspring about some of the historic equipment on view. But for the industrial archaeologist it probably scores more highly than the average National Trust tea room for interest. The displays include a small pump and a Benham engine and pump in a well.

Moving outside, a demonstration beam engine, pump and standpipe tower has been installed to allow visitors to understand the technologies involved. Even a waterwheel has been included in the displays but not one from London, it was found in Dorset.

No presentation by Anthony would be complete without reference to railways and true to form there is a narrow gauge railway system on the site which runs trips at weekends on a short stretch of track.

Pleasant gardens are enhanced, many would say, by the presence of the beam from a 'Cornish' engine which dwarfs the benches alongside.

The museum also conducts a variety of outreach activities and can call upon such things a trenching engine drawn by heavy horses to demonstrate how drainage once was laid.

As with any museum, the way out passes through a well-stocked shop preceded by a picture gallery.

Once again, Anthony gave us an eloquent, fluent and informed presentation combining a light touch and a depth of knowledge all the more impressive given that the subject was not his principle area of interest.

It was indeed fortunate that an advertisement in 'Old Glory' seeking trustees for the new museum caught his eye and sparked his involvement and the opportunity, in his words, 'to give something back to IA and conservation'.

June 2016: Members' Evening

Martin Woolston opened the evening with an engineer's view of the restoration of a 1916 Maudsley subsidy lorry, class A, 3 ton payload under the auspices of the Coventry Transport Museum.

Martin briefly traced Maudsley's development from marine steam engines via steam omnibuses in London to Coventry's Parkside to make internal combustion engines. Maudsley then joined the city's growing car industry with a reputation for high quality products with innovative features such as apertures in the crankcase to allow the removal of pistons and connecting rods/big ends without dismantling the engine, very useful when these items were not as reliable as today.

In 1911/12 the government issued a specification for the subsidy lorry to meet military transport requirements which emphasised standardisation of controls and ease of servicing and maintenance under wartime conditions.

The effective use of original drawings explained how Maudsley met these challenges and a set of contemporary photographs vividly showed the extreme conditions that were encountered on active service in France.

The restoration project lorry had started its service life with an RFC Squadron in Scotland. After the war much surplus equipment was sold off but the market for civilian trucks was depressed and the Maudsley was heavy and unpopular. Our example passed the inter and post-war years converted into a 'motor home', latterly accommodating a family of five.

Very few examples of the subsidy lorry survive and when the unique vehicle came up for auction the museum paid £10,000 for a complete chassis with the intention of recreating an omnibus. However, this would have been very expensive and beyond the museum's limited resources and in 2006 it was decided to recreate the original military vehicle.

Turning to the practicalities of restoration, Martin was able to bring his technical expertise to the project. This was soon tested. The engine had been returned from a specialist restorer (costing some £12,000, double the estimate) and it would not start. The valve timing was out and working from first principles Martin resolved the issue.

Apart from the engine, the restoration amounted to a complete strip down and rebuild that occupied the restoration team for many months.

The chassis side members (5" RSJs) needed straightening and strengthening, solid-tyred steel wheels needed new rubber, an 'auto-vac' fuel system was fitted, new gears had to be cut for the gearbox, new bodywork had to be created from photographs and a plethora of detailed parts designed and fabricated.

Budgetary constraints were always present and the costs of sub-contractors frightening. Furthermore, small, one-off jobs invariably go to the back of the queue, further delaying the work. A good example of the challenges facing the team were some badly corroded outrigger brackets on the chassis. Originally castings, producing identical parts would have been prohibitively expensive. However, by ingenious design and finishing fabricated steel replicas were created at a fraction of the cost.

Martin concluded with a couple of video clips recording significant stages in the restoration which is a tribute to the Warwickshire Industrial Archaeology Society Newsletter: Number 59

dedicated team who carried it out.

John Selby recounted the events of 23 December 1837 when The Dun Cow in Dunchurch was the scene of an all-night party to celebrate the completion of the Kilsby Tunnel on the London & Birmingham Railway.

The Tunnel was needed because Northampton 'nimby's' blocked the original route around the Kilsby ridge. It was designed and engineered by Robert Stephenson and at 4,200 feet is one of the longest in Britain. It took longer to build, and cost more than had been anticipated. Not least because the tunnel roof collapsed and the tunnel flooded when quicksand was encountered. Pumping out the water took eight months with 13 pumping engines working continuously. The length of time it took to build the tunnel delayed the opening of the London and Birmingham Railway. It took three years, and the cost overrun was 285%.

No wonder that the engineering team celebrated the satisfactory conclusion of the work. As well as Robert Stephenson, participants included his father George, who had been consulted over the problems, and Tom Gooch. It was recorded that Robert retired at 2 am, George at 4 am but the rest continued until 8 am! Engineers have stamina.

The evocative drawings by J C Bourne of work in the tunnel and a ventilation shaft shown by John were available for detailed examination after the presentation.

In March 1982, a group representing the IMechE, some in Victorian costume, celebrated the 175th anniversary of the historic dinner at the Dun Cow and presented a plaque, which can still be seen outside the building.

Peter Chater stretched the definition of IA but greatly entertained with a collection of photographs sent him by a friend. Starting with a group of Russian soldiers, presumably in WW1 we saw a kaleidoscope of life in Europe and the USA over the first half of the 20th century. A random selection includes: a machine gun used as a seesaw, a gas station in the deep south of the US, a four-stack liner, a 2-seat cycle outside the White House, an Avro Box Kite (probably) and a Fairy Swordfish, the Hindenburg on fire, US troops on a huge railway gun at the end of WW2, skyscraper workers, a beached boat and a swing boat, an accordion player and a Paris street view.

Richard Williams explored the history of a cast iron cooking pot from the perspective of a metallurgist. Possibly some 300 years old the pot passed from a private collection to the Ironbridge Gorge Museum in 1956. It is now the subject of a research project and will be the theme of a presentation next year (13 April 2017). An analysis of the iron, white or grey and a review of patents for moulding thin-walled vessels enabled the pot to be attributed to Abraham Darby whose use of coke to smelt the iron in his ground-breaking furnace at Coalbrookdale provided further evidence.

Martin Green concluded a most interesting evening with some thoughts on the possible effects of Brexit on museums. The Museum's Association seem concerned at the possible effect it may have on research and project funding and cultural regeneration. More positively, The Banbury Steam Buildings have been saved from the proposed redevelopment and there is evidence of the imaginative reuse of old structures in Europe with the conversion in Amsterdam of a dockside crane into a boutique hotel.

September 2016: AGM followed by Tim Clark:

The Parkes, Brookhouse and Crompton Mill at Warwick

After the business of the Society's AGM had been despatched with commendable swiftness, Tim Clark explored a Warwick business of which few members were aware.

In 1797 a worsted (wool) spinning mill was established in Warwick by four entrepreneurs, William and John Parkes, Joseph Brookhouse and Woodhouse Crompton, at Saltisford where Sainsburys is now.

The political and industrial background to the venture was challenging to say the least, as the 1790s saw war, bank failures, credit crises, and food shortages. However, industry offered good financial returns compared to the alternatives. Consols were safe but low yielding, land was better yielding but in short supply, and the canal boom enticed investment with prospects of great returns if successful, but was risky and only open to the smaller investor. Benjamin Smart started a cotton spinning mill at Rock Mills in 1792, and Joseph and John Parker a cotton weaving factory in the town in 1797, but Tim concentrated on the Parkes Brookhouse and Crompton worsted mill.

A number of questions arise. Why worsted? Why Warwick? Who were Parkes, Brookhouse and Crompton? And, not least, why so large?

Most English towns had a domestic worsted market but it was cottage-based, usually coordinated by a local draper. The work was widely distributed, capital intensive, subject to interruptions for other tasks such as harvests and with a long timescale, up to twelve months from shearing to finished cloth.

Who were our four protagonists? The Parkes were a family of wealthy nailers from Netherton in the Black Country, but John Parkes senior moved to Warwick and set up a drapery business. His eldest son William inherited this business when his father died in 1783, quickly taking his brother John into partnership. He acquired further land, including the future factory site and Marble House where he lived.

Joseph Brookhouse was born in Leicester. An apprentice wool comber, he tried to adapt Richard Arkwright's cotton spinning machine to wool. At first he failed, and ended up in prison for debt, but two local businessmen saw the potential and paid no less than £2,500 to obtain his release. Brookhouse eventually succeeded in making a working wool spinning machine, and the three of them established a worsted spinning business in Market Harborough, to avoid the Leicester machine breakers. However, the machinery was destroyed and Brookhouse's effigy burnt by the mob. Brookhouse fled first to Birmingham, then to Bromsgrove, and then moved to Warwick to help found the worsted spinning business there. It is uncertain how Parkes and Brookhouse met but both were Dissenters and may have been introduced through John Parkes' wife's family, the Twamleys.

Woodhouse Crompton (no connection with Samuel Crompton of Bolton of spinning mule fame) came from a wealthy landed family with estates in Lincolnshire and Yorkshire but also in Wolverton (near Warwick) and Rowley Regis, which neighbours Netherton where the Parkes family came from. It is likely that Crompton was a supplier of fleeces to the Parkes drapery business, and, like the Parkes and Brookhouse, the family were Dissenters.

Crompton's role was as investor, but significant finance was also obtained from Robert Ladbroke, the son of a former Lord Mayor of London, a banker, and who had been MP for Warwick. The Ladbroke family were the firm's major bankers throughout its life.

The project was not lacking in ambition. The mill built in

Warwick extended to six storeys with ten bays and was 93 feet long. It employed at least 500 people, which was large even by the standards of the Manchester cotton mills at the time. Power was initially provided by a 20 HP Boulton & Watt steam engine. Adjacent buildings housed combing, dyeing, drying and warehouse operations to give vertically integrated manufacturing. It opened in 1797.

Where were the customers for such an enterprise? Two major outlets were the Leicester hosiery industry (it has been suggested that most of the woollen yarn used in it came from Warwick) and the Kidderminster carpet industry.

A letter from PBC found in the Boulton and Watt Archives requested '*sight of your laws for the regulation of the Sick Club of the Soho Manufactory – it is our wish to establish a similar institution.*'. If they did, it meant that they operated a scheme whereby male employees could agree to having part of their wages paid into a fund, in return for which they would obtain benefits if ill, injured, or if they died in service. The business quickly prospered; in 1800 warehouses were established in Hinckley and Leicester and shortly afterwards the engine had its power boosted to 26 HP.

In 1809 Humphrey Davy was asked by John Parkes to assist him in finding a way to bleach woollen yarn to make it '*perfectly white, like cotton*'. He was offered a share of the profits if successful and urged to keep it a secret. The results of the experiment are unknown but seems to have been unsuccessful at least initially.

William Parkes died in 1806, to be succeeded as a partner by his son William. Crompton died in 1807; Brookhouse retired in 1816; and William Parkes junior left the partnership in 1817. From then on, the business was run by John Parkes and two of his sons, John and Josiah. Relations between William junior and his uncle and cousins were clearly not good, and in 1822 he sued them for misuse of partnership funds, alleging that as a result he was being called upon to meet guarantees that otherwise would have been met by the partners.

In 1820 MPs on a House of Commons committee investigating the effects of smoke from steam engines on health visited the Warwick mill, presumably due to lobbying by Josiah Parkes who had developed a patented process to reduce emissions by secondary combustion. This led to the first legislation in the UK to deal with pollution, the Steam Engine Furnaces Act of 1821. Implicitly, the way to comply with the legislation was to install Parkes' Patent Smoke Consumer!

But the business was in financial difficulties. It closed in 1821, the partners were declared bankrupt in May 1822, and the factory auctioned in September that year. What went wrong? A reduction in demand from the military after the Napoleonic Wars would not have helped, but the main factors were the high level of debt and the loss of the Leicester market after their agents set up in competition. The bank sold the site in 1826 to a builder, resulting on a loss to it of some £25,000. The outbuildings were sold off, and the factory itself became the Warwick and Leamington Brewery.

Members might care to compare this history with that of the Stone Pipe Company of Guiting Power (see John Willock's paper in 2013). Both were innovative, highly technical, activities that flourished at times of great international disruption but failed due to fundamental flaws. Stone pipes through the choice of faulty raw materials and the worsted mill through trusting the bulk of its business to a single agent and market. The past still has lessons for today.