

WARWICKSHIRE

Industrial Archaeology Society

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FROM THE CHAIRMAN

For many of us, early involvement with industrial heritage was greatly stimulated by the efforts of all those connected with the creation of the Ironbridge Museums. It is, perhaps, an indicator of our times that the decision was taken to transfer these museums to the National Trust for March 2026, with the bridge itself remaining under the continuing care of English Heritage. The visiting experience of National Trust properties has changed considerably in recent years, with a real attempt to boost attendances through making their properties more accessible to all, including families. It will be interesting to see how this policy this will be applied to the Ironbridge Museums.

It seems as though many industrial museums face quite a battle to cover costs, and to attract visitors in a world of ever-increasing opportunities for alternative leisure activity.

The prevalence of screens in the daily life of so many – of every age – is a reflection of this, and many museums go to considerable lengths to make their activities accessible online, providing an initial stimulus to encourage interest that might lead to a museum visit. The annual pass also seems to be an increasing element in encouraging visitors, with possibilities of on-site expenditure each visit.

It was very encouraging, therefore, to hear the news of the opening of a new museum – The Shoemakers Museum in Street, Somerset, celebrating the history of C.J.Clark & Co. This was opened as a celebration of 200 years of the firm, and I decided to attend their opening day, culminating in ‘Sole Stories’ six 20-minute presentations on the history of the firm and the

shoemaking industry. Housed in a new building, the Museum is adjacent to Clarks Village (the retail outlet for discount designer and high street brands), itself replacing former factory buildings. The Museum is designed to attract both the casual visitor, and to those with knowledge and experience of the shoemaking industry.

There are several surprising items, such as the story of the ‘desert boot’ becoming a cultural icon in Jamaica in the 1960s! A Quaker family, the Clarks provided housing and other facilities for their workers, and part of the pleasure of visiting Street was to tour the town to view those buildings.

Speaking of visits, two recent WIAS experiences brought industrial expertise right through to the modern era. The Sherbourne Recycling Centre in Coventry operates the UK’s most advanced Materials Recycling Facility, and has a partnership with eight local authorities to make up the company structure and ownership.

Needless to say, we were all fascinated to see how the separation of materials was achieved and went home with fresh knowledge of what exactly should be put in that recycling bin! A visit is strongly recommended if you have the opportunity.

This was followed by a visit to the Vitsoe Furniture Company in Leamington Spa. This firm seeks to create long-lasting items of furniture based on the original work of German designer Dieter Rams, using tried and tested materials. An informative tour of the factory revealed the thinking behind the design of the factory itself, as well as the furniture, and this visit is also highly recommended should you have the chance to do so.



Clarks original factory buildings (top) and Shoe Museum (bottom)



Vitsoe visit

PROGRAMME

11 December (zoom): Dr Richard Marks
A British Industrial Giant That Never Was: The Story of British Rail Engineering Ltd.

8 January 2026 (zoom): Mark Temple
Britain's Last Bell Foundry.

12 February (zoom): Guy Bartlett
Concorde: the First Time Machine.

12 March (live/hybrid): James Davies
Recording Coal and Gas Fired Power Stations in the UK - Plus Surprise Items!

9 April (live/hybrid): Michael Brown
Northcot Brick: Past, Present and Future.

14 May (live/hybrid): Quintin Watt
The Rise and Demise of the Bromsgrove Guild - An Illustrated History of the Celebrated Metalworkers to HM the King.

4 June (live/hybrid): Gary Wragg
The Making of Milestones. Hampshire's Living History Museum, from Conception to Completion

NEWSLETTER

Meeting Reports

June (live/hybrid): Colin Millett

The Wonder of Worcester Porcelain: a City Heritage Success Story.

Colin Millett has had a long interest – indeed passion for – Worcester porcelain, and this was admirably demonstrated in his talk. With such a large and diverse subject, Colin's selective approach was through the work of individual painters and modellers, after first explaining the origins of the company.

A driving force for Worcester's location was clearly the experiments in the manufacture of porcelain by Dr. Wall and William Davis in Broad Street, Worcester and the logical consequence came in the establishment of a local factory. Worcester's economy was not in a strong position, and they saw it as a way of boosting employment and prosperity in the town. The River Severn was an obvious benefit in terms of transport of raw materials, for firstly soaprock and then china clay shipped from Cornwall. The other essential raw material was coal for the firing process with the ratio of coal to clay being in the order of 10:1 by weight.

The factory was established at Warmstry House on the banks of the Severn in 1751, hence a date later incorporated in the mark of the company. The Royal Warrant was first awarded in 1789 by George III. The development of Royal Worcester Porcelain involved a number of changes of ownership (and name), with several porcelain companies in the town eventually becoming part of the company.

The factory was taken over by Thomas Flight in 1783, and the Flight and Barr families ran the works for the period when they joined forces with Chamberlain (who had a factory in Severn Street) in 1840. Other factories destined to be part of Royal Worcester were at Diglis (Hadley), Saint Martin's Gate (Grainger) and Shrub Hill (Locke).

Crucial to Colin's presentation was the importance of the workforce, and examples of the role of key workers were fundamental to his story. He emphasised the long apprenticeships served, the hierarchy of the workplace, loyalty and length of service, family connections, and quality control. Skills learnt and nurtured over time resulted in some of the finest pieces, now, of course, attracting high values in the market for Royal Worcester Porcelain. Many painters developed their own specialisms, concentrating on perfecting techniques for particular subjects.

Pride of place for length of service must go to Harry Davis, who (following his father and grandfather), joined the factory at the age of 13 and retired at the age of 83! During his apprenticeship, Harry quickly proved that he had tremendous natural ability as well as a capacity for versatility. He went on to paint a large range of subjects with ease including landscapes with animals (particularly sheep), fish, snow scenes, palaces and gardens, yet would accept nothing less than perfection in all that he did. His signature on a piece was highly valued.

In later years to assist with his teaching of others, he prepared a number of etchings which would create an outline image that could be subsequently coloured in by different painters. He occasionally coloured some himself but rather than suggesting they had been hand-painted by him from start to finish he signed them with his name in reverse H SIVAD!

Families over several generations worked for the company, with the Stinton dynasty probably the best example. Members of the Stinton family were involved for 167 years from the late 18th. century to mid 20th. century. Harry Stinton is perhaps the best known, with Harry's uncle

James and father John Stinton Jnr, under whom Harry worked for many years, not far behind. Harry's paintings of pastoral scenes of sheep, gamebirds and landscapes and, in particular, his famous highland cattle scenes, reveal wonderful use of colour, perspective and attention to detail.

Although the workforce was primarily male, several female painters became highly regarded employees. Having previously worked at James Hadley's factory in Diglis Road, Kitty Blake moved to the Royal Worcester factory in 1905 and stayed for 48 years until 1953. Her specialities were flowers and autumn fruits. Considered something of a live wire in her younger days, Kitty was one of the formidable 'Saucy Six', a group of young ladies ever ready to take on any male staff that upset them!

Modellers were also highly respected individuals in the workforce, and James Hadley's decorative figures from the 1870s and 1880s are regarded as some of the best ever produced.

Another development particular to Worcester was reticulated porcelain where tiny holes were pierced into the porcelain by hand creating a net-like, honeycomb effect. This art form was developed by George Owen to an extraordinary complexity and perfection, most celebrated by his Vase at the Chicago World Fair of 1893, an intricately pierced vase and cover with rich filigree gilding and approximately 5300 holes most of which were hexagonal.

The company was facing difficult times in the 1930s and, under the ownership of Charles Dyson Perrins, it was decided to bring in some new female modellers. Over subsequent decades the Doughty sisters, Dorothy and Freda, Doris Lindner, Gwendolen Parnell, and Eva Soper carried the firm's reputation forward. Freda Doughty had a long career in designing over 100 models based on children she knew. They were remarkably successful in reviving the company's fortunes.

Another major success were Doris Lindner's models of animals, especially the horse. She demonstrated remarkable skill in depicting the flow of movement and strength of her subjects, and her creations in the years after the Second World War received great acclaim. In particular, in 1948, Doris Lindner modelled Princess Elizabeth on Tommy, which was issued as the very first equestrian Limited Edition.

Pressure was on to keep pace with changes in consumer taste and Royal Worcester's Evesham Pattern was introduced in 1961 as the beginning of a new trend for more informal dining, and this was expanded from tableware to cookware including casseroles and flan dishes. This brought some success but the intensity of competition both at home and from abroad, combined with ever-changing consumer tastes, contributed to the demise of the company, and the Severn Street factory was closed in 2009.

Colin, ably assisted by his wife Frances, had several pieces of Worcester Porcelain on display, and utilised these to good effect through his talk. Questions after the presentation revealed a considerable depth of knowledge amongst members of the audience – a familiar experience in WIAS meetings.

Given the time available and the size of the topic Colin freely admitted that he was only providing an introduction to the subject through the work of individual painters and modellers, and suggested a visit to the Museum of Royal Worcester in Severn Street as an essential next step. This was fully endorsed by the Chairman.

September (live/hybrid): AGM

Followed by Short Contributions from Members.

For the first of the three short talks under the umbrella of '20s Plenty' Martin introduced **Jeff Burgess** whose talk was entitled: *It's All in the Notebook*, and indeed it was.

While researching Leamington's water supply in the County Record Office Jeff had found a large leather bound indexed notebook which had belonged to William de Normanville, the Borough Engineer from 1882 to 1917. It contained everything you needed to know in order to run the engineering side of a municipality: water supply, street lighting, road maintenance, bridge building, refuse collection. It's all there, clearly written and indexed.

For instance, pages 40 and 41 are devoted to the areas of the tar-paved footways included in the Asphatic Limestone Company's maintenance account, the areas shown to the nearest square foot!

Page 84 notes the purchase of an eight ton Fowler steam roller no 15851 at a total cost of £759-4-0. Pages 80 and 81 list the costs of repairs to the previous steam roller bought in 1891. In its life it had needed three pairs of driving wheels.

Many pages list the exact position of all the street lights in the borough, over 700. Many have Incan written beside them in red – had they been converted to take the recently available gas mantles?

Page 104 lists the responsibilities, the hours, and the pay of the three classes of workers, the cleaners, the lamplighters and the extinguishers. The lighters were expected to light about 90 lamps each evening.

The Destructor Works was a refuse incinerator manned 24 hours a day in two shifts. Page 247 dated 1909 notes 'agreed to pay the men time and a half for Sunday, Christmas Day & Good Friday.'

On page 402 the capacity of Campion Hills Reservoir is listed for each foot of depth to an accuracy of a gallon - the total capacity is shown as 500,634 gallons.

Two pages are devoted to horses' rations and the hours allowed for cleaning out the stables – in winter each horse was allowed 20 lbs of oats, 8 lbs of bran, 10 lbs of chaff, 10 lbs of clover and 2 lbs of carrots.

The last few pages that Jeff showed were headed 'Pensions'. Only a few men are noted eg Clark started drawing pension Nov 18th, 1898, Will receive last payment Jan 17th 1901. Will have received 6/- per week for 104 wks = £31-4-0. Started a further six month's pension Jan 24/01.

So, there we have, as Jeff said, everything you need to run a town.

Martin then introduced **John Willock** who described the process of *Ceramic Transfer Printing in the 18th Century*.

That was a time when there was a craze for anything Chinese - furniture fabrics and particularly ceramics. Great quantities were shipped from China. John showed a couple of slides with examples and another which showed the Chinese Room at Claydon House in Buckinghamshire with everything Chinese.

It wasn't long before the English potteries began to emulate the designs using printed transfers. Two pots were shown with designs engraved by Robert Hancock and made by the Worcester and Caughley potteries.

The ingredients needed were

1. The ceramic piece in the unglazed white 'biscuit' state
2. The engraved copper plate for a specific design
3. The cobalt blue colorant
4. The transfer tissue

The process was as follows:

1. The copper plate, and a container of cobalt blue which would be heated on a stove
2. At the required temperature, the colourant would be 'stippled' into the engraved plate to ensure full coverage
3. Surplus colourant would be removed from the plate
4. A piece of tissue would be placed on the plate, followed by some form of pressure plate
5. The 'sandwich' would then be placed in a press or mangle to ensure a good transfer impression onto the tissue
6. The pressure plate would be removed and the tissue 'pull' would be carefully removed from the copper plate
7. Using scissors, the printed pull would be cut to separate various elements of the design e.g. secondary patterns, borders, and factory marks
8. The pull would be transferred to the biscuit piece of porcelain and carefully positioned
9. The tissue transfer pull would be left in place for approximately 24 hours
10. The pull would be removed from the piece leaving the desired impression in place
11. The image on the piece would appear as a greyish/black colour – not, as yet, blue
12. The piece would be dipped in glaze, and then fired in a bottle kiln at approx. 1200°C

John then showed us pictures of a number of transfer decorated pieces illustrating the variety of design and the skill required.

Our third and last speaker was **John Berkeley** OBE whose talk was entitled: *'On Home-made Wings'*.

His first slide showed a map of Warwickshire which made his point that Warwickshire has always been an 'aeronautical county'. There are no less than 11 airfields shown beside numerous private landing grounds and flying fields.

John's main subject, however, was describing versions of the 'Flying Flea' and other home made mini aircraft. Most of the pictures showed contraptions to which no sane person would entrust themselves; although apparently some did fly, at least sometimes.

Aviation displays were popular and John mentioned one at Sywell (near Northampton) which had a special category for 'home built aircraft.'

In 1920 The Daily Mail sponsored a trial to see how an aircraft could fly on just one gallon of petrol. Eighteen aircraft took part.

In due course wind tunnels became to be available for testing complete aircraft and magazines such as Practical Mechanics published articles and plans. Nevertheless, accidents were so common that in 1936 aircraft such as The Flying Flea were banned.



Perhaps the last word should go to the unfortunate pilot who declared: "I didn't crash I just landed upside down."

October (live/hybrid): Roger Cragg

Great Little Trains - the Welsh Narrow Gauge.

Roger started by mentioning that he had spent 30 happy years as a volunteer on the Welshpool & Llanfair Light Railway and so this line would feature often in his talk.

He would only include in his review those railways which were originally laid down as narrow-gauge lines and which were created to serve a specific purpose, thus excluding several lines which have been created in recent years as purely tourist lines, usually on abandoned standard gauge track beds, - for example the Brecon Mountain Railway.

Having excluded these there remain eight lines that are still operational. One of the features of the Welsh railway scene is the sheer number of narrow gauge railways which were built in the principality, with a profusion of different gauges varying from 15 inches to 2ft 6in, notably in central and north Wales where the coverage of standard gauge lines was not as extensive as in the heavily industrialised south and where the terrain often lent itself to the construction of narrow gauge lines with their less demanding standards of curvature and gradient.

Of the narrow gauge lines only the West Highland Railway at 22 miles was longer than 14 miles. Many of them are very old. The oldest, the Ffestiniog, was incorporated by an Act of 1832, even before the London to Birmingham.

Except for the Snowden Mountain Railway the primary purpose of all the lines was to carry minerals, mostly slate, from the quarries down either to a port or to where it connected with a main line. A consequence of this was that in many cases the loaded trucks could run downhill under gravity and then horses could draw the empty wagons uphill. The horses travelled back downhill in special trucks attached to the loaded trains.

Quarry owners were often closely involved in the promotion of the railway in the first place, to replace less economic transport systems for their products.

So we see a definite pattern in which the primary traffic of the railway is a single commodity in one direction and this was the ultimate cause of the demise of most of these lines. When the primary traffic dried up, the railway was hard put to survive.

All the railways carried passengers, either from the beginning or later. The Ffestiniog was the first to be authorised to do so in 1865 and others followed suit very quickly. The later railways were normally intended to carry passengers from the beginning.

The gauges chosen for the railways show a surprising variety but their geographical separation was such that no thought as to a common gauge was necessary. All the lines were built along routes where the standard gauge would have been impossible to build or extremely expensive.

The early horse drawn lines were usually laid with light weight bridge rails but when locomotive working was introduced these had to be changed to a heavier section, usually flat-bottomed track spiked onto timber sleepers, for example 44lb/yd on the Talyllyn. The rack rails on the Snowdon Mountain Railway are unique in the U.K.

Steam working started on the Ffestiniog in 1863 and by 1891 the last horse drawn survivor, the Glyn Valley Tramway, was converted to mechanical power.

Roger illustrated his talk throughout with illustrations of the fascinating variety of locomotives employed. The most widely used were 0-4-0 or 0-4-2 tank locomotives, a very short wheelbase being necessary to deal with the sharp curves. The famous Fairlie double ended locomotives were only used on the Ffestiniog line.

Unique for Britain are the Swiss built 0-4-2 Rack Tanks of the Snowdon Mountain Railway, running on the Abt system with its double rack. Only recently has diesel traction made its appearance on the mountainside.

With the sole exception of the Snowdon Mountain Railway, none of the railways we have looked at, survived commercially in their original form. The competition of road-based transport, both passenger and freight, was a major factor. The Ffestiniog and the Corris managed to survive the war years, finally closing in 1946 and 1948 respectively, followed by the Welshpool & Llanfair in 1956. The Vale of Rheidol, by then the only one in the ownership of the new British Railways, survived on its tourist traffic.

There is no doubt that without the significant events of 1951, most of these railways would now be only a memory. That year saw the formation of the Talyllyn Railway Preservation Society and, following the death of Sir Henry Haydn Jones, its owner, the taking over of the running of the line by a band of enthusiasts, headed by L.T.C.Rolt. After a difficult start, the undoubted success of this venture spurred others to follow with the resurrection of some of the already closed lines. The Ffestiniog was the next to be rescued, a Society being started in 1951. The Welshpool & Llanfair was also brought back into operation; the first public services being run along half the line in 1963. These first preservation schemes have all been successful; the Talyllyn, Ffestiniog and Welshpool and Llanfair have now all reached their final objectives and are running successfully as wholly tourist lines. The old joke that three of the Great Little Trains did not reach the places named in their titles is no longer valid for two of them, the exception being the Talyllyn which never did run there! For those lines which closed before the 1939-45 war there is less success to report since on all of them the track was lifted. One notable success story is the re-opening of the entire length of the Welsh Highland Railway, starting at the western end at a new station in Caernarvon, then via Dinas Junction to Porthmadog.

Where does all the money come from for these restorations? Apart from income from fares, sales revenue and membership subscriptions, much is donated by supporters and the general public. A significant source of income comes from legacies and several of our railways have benefitted from Lottery grants.

The Welsh narrow gauge railways or 'The Great Little Trains' was clearly a subject close to Roger's heart and to have an overall picture illustrated so comprehensively was very much appreciated.