WARWICKSHIRE Industrial Archaeology Society

WIAS

NEWSLETTER

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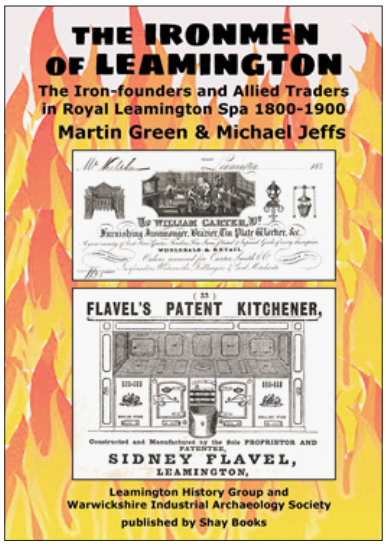
FROM THE CHAIRMAN

Going into print

Initial enthusiasm quickly dampened, a long hard slog in the middle, and an ever-advancing finishing line disappearing into the distance ... Not some sort of Orwellian nightmare but an accurate description of the challenging experience of seeking to produce a book for the very first time. Newsletters, online articles and Facebook entries hardly prepare one for the demands of publishing a 200-page book.

Of all the aspects of WIAS's efforts over the years, the one area where we have not been prolific has been in the field of publishing. This has been fully compensated by the other aspects of our work, and of course the one feature that does have a long history is the publication of this Newsletter – the main piece of evidence documenting the work of the Society over time. We continue to be enormously grateful to the editor Mike Hurn for maintaining this record.



The Society has produced several 'Occasional Papers' over the years – Arthur Astrop on 'The Rise and Fall of Coventry's Machine Tool Industry'; John Willock on 'The Rise and Fall of Coventry's Airframe Industry' as well as 'The Stone Pipe Company of Guiting Power, Gloucestershire 1805-1815'; and a number of papers and pamphlets from John Brace on a range of topics, many water-related. Peter Chater also produced a series of 'Industrial Walks' in Warwickshire, using his encyclopaedic knowledge to telling effect. Of course, WIAS members have written for other organisations and publishers, but the specifically WIAS publications have been on a modest scale.

The advent of the internet would seem to make the case for fewer hard copies of publications, with information easily deposited for viewing by the largest possible audience. So a decision - in combination with the Leamington History Group - to publish a book was a brave step. The topic was 'The Iron-founders of Leamington Spa' and followed research by myself, Michael Jeffs, Margaret Rushton and Peter Coulls. Members Richard King and Dr. Richard Williams also made significant contributions, as did the photography collection of Derek Billings.

More than this, what it did was to enable much of the research carried out by members who are sadly no longer with us –Lyndon (Toby) Cave, John Selby and Peter Chater – to be transferred into a manageable format. Boxes containing hand-written notes, bundles of old-style printer paper pushed out on some of the early computer systems, and even collections of that mainstay of research in earlier years - the record card, could be sifted, checked for accuracy, and placed into a spread-sheet that was to prove the bedrock of the material we unearthed.

So the eventual publication is a reflection of more than just the efforts of the research group and we hope members will feel that the effort has been worthwhile. What may not be evident will be some of the tribulations we had to face in the process - the breaking of the budgetary constraints, the differing approaches of authors, the choice of illustrations, the trade-off between deadline dates and the quest for perfection all reared their ugly heads on more than one occasion.

Eventually, however, the book emerged and it will soon be on sale. Needless to say, no home should be without one! An additional bonus, of course, is that WIAS will now have something to advertise the work of the Society, with book sales available at Exhibitions, Conferences etc. It also fulfils one of the basic functions of the Society – to promote the research into and publication of aspects of Warwickshire's industrial heritage.

PROGRAMME

14 March 2019: Anthony Coulls
The Legacy of the Stockton and Darlington Railway.
11 April 2019: Peter Bolton
Stanley Mills, Perthshire: Textile Milling in Good and Bad Times.
9 May 2019: Rupert Fisher
Birmingham Jewellery Quarter:Real Jewellery for the World and his Wife.
13 June 2019: Chris Barney
The Redditch Needle Industry.
12 September 2019:
AGM and Chairman's Lecture.
10 October 2019: Peter Coulls and Alan Jennings
The Warwick and Leamington Tramways.

Meeting Reports

December 2018: Roy Smart

Another Icarus: The Rise and Fall of Percy Pilcher and the Art of Flying.

Roy Smart is an ex Fleet Air Arm pilot with wide ranging interests outside of aviation. He is also a powerful speaker who had a different approach to Industrial Archaeology from some of our other visitors.

Those who were expecting to learn about early attempts at heavier than air flight, whilst ultimately well satisfied, might have wondered at the musical travelogue opening and the excursion into art history that followed. Perhaps the clue was in the sub-title of the talk; the art of flying.

The island of Crete, the labyrinth, Daedalus and Icarus's escape were followed by contemporary politicians (and their spouses) and the West's penchant for turning away from disaster elsewhere in the world.

However, we then moved to Stamford Hall, near Lutterworth and the scene of Percy Pilcher's fatal flight on a stormy September day in 1899. Pilcher's friendship with the Hon Adrian Verney-Cave, heir to Lord Braye, then owner of Stanford, had led to Pilcher using the Hall as a base for his experiments with flying machines.

Percy Sinclair Pilcher was a prolific inventor and pioneer aviator. He was born in Bath in 1866. On the death of his father his mother took her young family to live in Germany where she also died. Aged thirteen, Pilcher returned to England and a place aboard HMS Britannia, with a sea-going career ahead of him.

This career was short-lived, aged twenty he resigned from the Navy with no money or career but apparently determined to pursue his dreams of flight with which he had been obsessed from childhood.

There are plenty of examples of flight in mythology which probably spurred man to attempt emulation. From hot air balloons and man-carrying kites to Reichelt's fatal attempt to fly from the Eiffel Tower we moved, via another flight of fancy, to Sir George Caley, 'the father of aerial navigation', who explored the mathematical principles behind flight and Otto Lilienthal's experiments from his man-made hill in Germany. These pioneers established the need for control of lift and lateral stability if safe untethered flight was to be achieved.

By now, Pilcher 'a pale serious fellow with a razor-sharp brain', was an apprentice in a shipyard on the Clyde and working with the University of Glasgow testing ship's hull contours. Living with his sister Ellen, they were a popular and sociable couple.

During his naval career and on the Clyde, Pilcher would have had plenty of opportunity for studying the flight of birds, especially when soaring or gliding. Pilcher's inventiveness led to a substantial number of patented inventions. Notably in the fields of signalling, captive balloons and kites and soaring machines. He also had an extensive correspondence with Lilienthal whom he visited to see his experiments at first hand.

Ellen's sewing skills were employed in the construction of Pilcher's first machine, the 'Bat'. This machine followed Lilienthal's method of control by the pilot shifting his body weight in counter-intuitive movements. A major problem was that the pilot's legs dangled below the machine which had a landing speed of some 25 mph!

Studies of birds landing by flaring out and effectively stalling were instructive but difficult if not impossible to replicate with the control technology available. Nonetheless, Pilcher made his first flight at Cardross in June 1895. An initial crash was followed by a flight of some 50 yards, three feet off the ground and lasted for 10 seconds.

This success led Pilcher to consider powered flight although many were expressing concern for his safety as he appeared to be heedless of the risks he was running. He certainly seemed to have no sense of fear and ignored all thoughts of possible consequences from a fall. These concerns grew after Lilienthal's death in an accident.

The unsolved problem remained the inherent instability of an aircraft with no control surfaces that the pilot could use effectively. Pilcher's experiments were also much hindered by a lack of funding. Pilcher used public demonstrations to generate public interest and, hopefully, financial contributions.

In 1897, in a demonstration to scientists and the press, Pilcher attained an altitude of some 70 feet, and generated useful coverage in the influential *Pall Mall Gazette*. There was also the occasion of the first flight by a woman in a heavier than air machine by Pilcher's cousin Dorothy Rose.

Pilcher's friendship with Adrian Verney-Cave then led to the move to Stanford Hall. Pilcher had built two other gliders after the Bat and a fourth, the Hawk with which he set a new world distance record of 250 metres in the grounds of Stanford Hall.

At the same time Pilcher began collaborating with Walter Wilson, an Irish engineer with a similar naval background, on several projects. First, to produce a small light powerplant for an experimental tri-plane being developed by Pilcher in 1898, well before the Wright Brothers efforts in the USA. Another was the Wilson-Pilcher motor car. In each case the engine had a flat cylinder configuration. The car, which contained many innovative features, was not produced until after Pilcher's death but retained his name. Wilson went on to be the co-inventor of the tank in WW1 and later the self-changing gearbox that bears his name.

The tri-plane concept arose from the need to generate more lift to cope with the extra weight of the engine and ancillaries. The vicious circle of more weight needing a larger wing leading to yet more weight was broken by an American pioneer Octave Chanute who proposed stacking two or three wings one atop of the other to generate greater lift without a weight penalty.

With the triplane and engine complete, Pilcher planned a demonstration at Stanford Hall on 30 September 1899. However, a broken crankshaft prevented a powered flight, which would have been the world's first. Not wanting to disappoint, and on a wet day, Pilcher eventually took off in the Hawk. The launch used horse traction with a Dutchman's purchase giving a 5:1 advantage. During the launch the Hawk's tail collapsed, plunging Pilcher 60 feet to the ground. His legs were broken but he was alive. Sadly, he died two days later at the age of 32. The inquest returned a verdict of accidental death and the comment that 'he lost his life perfecting what might have been of some use to the world'. However, Pilcher's pioneering achievements were soon overshadowed by the Wrights and he slipped into obscurity.

In 2003, the BBC Horizon programme commissioned research work at Cranfield University into Pilcher's design which showed that it was more or less workable and had he been able to develop an engine he would probably have been the first to fly a heavier-than-air machine with some degree of control. A Cranfield-built replica incorporated wing warping controls as a safety measure and flew successfully in a sustained flight of 1 minute and 25 seconds compared with the Wright's 59 seconds. Surely vindication of Pilcher as a great pioneer of aviation.

Memorials to Pilcher are to be found at Eynsford in Kent, where he made many of his early flights, and at Stanford Hall.

January 2019: Members' Evening

Twenty's Plenty.

Chris Barney, who usually reports on the AIA Conferences, opened an informative and thought-provoking evening with a review of the restoration projects that the AIA has sponsored. Starting in 2009, this work was initially made possible by an anonymous donation of £30,000 with the possibility of future contributions to follow.

In the first year four projects were sanctioned, and the subsequent publicity led to further requests. Usually, a contribution of up to £20,000 can be made if this is a major part of the project cost.

The original benefactor has, to date, donated £80,000, which also benefits from Gift Aid relief, and a total of over £500,000 has been raised for a wide variety of projects including boats, mills, buildings and machinery.

In 2018 there were 27 applications of which 8 were chosen. These were:

A 1951 Morrison's electric coal lorry at the Ipswich Transport Museum (£7,000).

The unique roof structure at Sudbury Gasworks (£15,500).

Murgatroyd's Brine Pumps for the Middlewich Heritage Trust (£17,000).

The 1877 Horse Tram Cabmans' Shelter at the National Tramway Museum, Crich (£20,000).

The Gas House, Economiser House and Barn at Coldharbour Mill, Devon (£20,000).

The Gothick Pumphouse and Waterwheel at Croft Castle, Herefordshire (£20,000).

A 1947 Leyland Bus at the South Yorks Transport Museum (£10,000).

A 1910 Clark Chapman vertical steam winch at the Hollycombe Working Steam Museum, Liphook (£19,600).

These and the earlier projects greatly enhance our industrial heritage.

George Sayell took us away from Warwickshire to the Norfolk village of Dersingham near to Sandringham and the arcane subject of the duck decoy, elaborate structures around a pond used for many years to trap migrating birds for food and commercial exploitation.

George used a 16th century illustration supplemented a local magazine *'Village Voice'* and an 1886 book by Payne-Gallwey on *'the construction, management and history of Duck Decoys'* to generally describe the Dersingham 5-Pipe decoy, built in 1820, and its operation. Tame ducks were trained to lead their wild brethren into the pipes and subsequent capture. Simple and efficient with no damage to the prey. The Decoy remained in operation until 1870.

Being in the neighbourhood, a site visit was needed after Google Earth clearly showed some evidence of the Decoy's existence. There were the usual site difficulties of fences, notices and gates but undeterred George pressed on and found a surprising amount of 'industrial archaeology'. Not only the clear evidence for the existence of the 'pipes' but notably the remains of the iron hoops in reducing sizes that had supported the netting above them. Now all recorded and an example of how a primitive food gathering activity developed into an efficient and profitable cottage industry coincidental with the Industrial Revolution.

If not, strictly speaking, industrial archaeology, **John Berkeley's** contribution, liberally illustrated with contemporary photographs, both entertained and educated in equal measure.

Following Hitler's invasion of the Sudetenland/ Czechoslovakia substantial numbers of the Czech army fled the country; some West to join the French Foreign Legion, others East via Bulgaria, the Black Sea and Palestine to the South of France where some 5,000 joined the French Army. The latter marched North but by the time they reached Paris all was over. Retreating again this group was eventually evacuated by the British and came to Warwickshire.

In Leamington Spa Harrington House, now the Spa Centre, became their HQ. Detachments were located in many surrounding villages and country mansions. Winston and Clementine Churchill visited the contingent at Walton Hall and a government official commented elsewhere that it was not possible to tell the differences in rank amongst the Czechs.

However, they soon made themselves at home. Within a month a concert was held in the Regent Cinema and there was a weekly dance at the Parthenon in Bath Street. Any aircraft that crashed locally was usually guarded by a detachment of Czech soldiers.

The Czech soldiers who came to Warwickshire are not forgotten. There are several memorials, most notably the 1968 fountain in Jephson Gardens, now restored, where a wreath is laid annually.

Alain Foote's runs ashore in Tallinn and Riga whilst on a Baltic cruise produced two unexpected examples of industrial archaeology. The Tallinn Energy Discovery Centre is housed in the former Tallinn power station, which curiously retains a gas holder very reminiscent of our one in Warwick.

The power station, opened in 1924, was the first plant in the world to run on shale oil. Blown up in 1941 by retreating Russian troops but rebuilt in 1949, today it is used as a science centre, primarily for children, with many interactive displays using elements of the old machinery and other installations. Well sectioned machinery and a 'hot bulb' engine are highlights.

In Riga, an indoor market is housed in a structure created from two old German Zeppelin hangars. 787 feet long, the market covers some 778,000 Ft^2 and is home to more than 3,000 stalls. All the elements of the structure are exposed to view although most eyes will be on the huge variety of merchandise on sale below.

Martin Green visited Ironbridge to see the newly restored bridge celebrate its 240th anniversary. We have become used to Martin's superb photo essays recording so much of our industrial heritage, but this was a masterclass. Sunshine was a bonus but his patience in waiting for the right shot without intrusive people was remarkable. So too was the blend of long shot with detailed closeup. The Ironbridge is an icon for the industrial archaeologist and its restoration has now been worthily recorded.

Peter Coulls concluded the evening with a selection of serendipitous discoveries made at National Trust properties.

Wicken Fen has a relocated windmill, formerly used for drainage to allow turf digging, and the remains of a brick kiln and the brickmaker's cottage.

Anglesey Abbey has an unusual mill. The Lode Mill was originally a corn mill which was converted to grind cement from clinker produced in on-site bottle kilns. After lying unused for many years, it has been converted back to grinding corn.

At Acorn Bank can be found the remains of a black powder explosive store connected with a gypsum mine and a watermill having an unusual, if not unique, triple-wheel configuration.

Aberdulais boasts the largest (27 ft dia.) waterwheel producing hydro-electric power. The well-preserved site also includes evidence of copper working, fulling and corn milling and a tin-plate works.

February 2019: David Fry
Forgotten Foleshill

David Fry has an infectious enthusiasm for Coventry's past which he conveys through deeply researched material illustrated from a remarkable collection of old postcards. Indeed, it seems curious to us today that so much of ordinary, everyday life was recorded during the early days of photography and preserved as a postcard – unlike today's ephemeral digital images. David last spoke to the Society in January 2014. See Newsletter No. 51 for further comments on this early use of photography.

Forgotten Foleshill traced the development of Coventry's largest parish. It lies to the North of the city with the Foleshill Road, which starts South of its boundary, running up the spine and Stoney Stanton Road to the East providing the main arteries, later supplemented with a canal and railway. Early maps overlaid with information were very helpful to understanding the pattern of growth.

The parish measures some 4 miles by 3, it is open with no centre but comprises many hamlets; two Heaths, five Greens, two Fords a 'Bury and a Paradise. Pre-1700 agriculture with a little mining was the principle activity. From 1700 to 1890 ribbon weaving dominated to be superseded by factories for a variety of industries up to the present day.

Lower Foleshill lies South of the parish but the early industrial development was in Bishopsgate Green, the area between the Foleshill Road and the canal South of Cash's works. Memorable names included: The Standard, Daimler and Riley Motor Cos., O'Brien's Cycles and Coventry Eagle, together with other smaller works (many cycle makers) and a run of old ribbon weaver's cottages. On the west bank of the canal was Coventry Power Station.

Why did Foleshill become Coventry's main industrial suburb? Another useful map showed how the old city centre was largely surrounded by Lammas lands and commons leaving only a corridor to the North open. Fortunately, the turnpiked Foleshill and Stoney Stanton roads and then the Coventry canal and railway provided the necessary transport links to support industrial development. And in the case of stretches of the canal, additional allotments for the residents.

As well as the larger businesses that were established, there were considerable opportunities for supporting services. These ranged through wharfs, warehousing and boat-building to retail outlets and especially pubs. Some of these activities remain to this day.

Turning to the railways, Foleshill once boasted two lines. In 1851 the Coventry to Nuneaton line opened joined in 1914 by the Coventry/Gosford loop. There were also a number of industrial lines serving individual factories including; Webster Brick & Tile, Courtaulds, The Ordnance works, Longford gas works and Longford power station. Pictures from the *Coventry Graphic* showed what a useful additional source of information was this publication.

As might be expected, the population grew substantially. From 3,000 in 1801 (600 houses, up from 150 in 1700) to 7,000 in 1831 (1,500 houses). The population remained at this level until 18881 and then grew slowly to 8,700 in 1891. In 2011 it totalled some 20,000.

During the 18th and early 19th centuries the main industrial activity was silk ribbon weaving in the home using a single hand loom. An example of such a loom can be seen in the Herbert Museum and a contemporary photograph showed a weaver at work in (probably, because a wooden floor is shown) an upstairs room in a cottage.

Another evocative illustration was of a complete workshop where a handloom was complemented by spinning wheels and other machinery used for sorting the skeins of silk onto the quills. The floor of the workshop was tiled and so a ground floor, not a top shop as shown above.

The 1851 Board of Health map (another useful tool for the industrial archaeologist) shows development just off the new Stoney Stanton road. Again, postcards show a larger type of topshop on Harnall Lane West suitable for engine or Dutch engine looms. Expansion of the industry came from 'engine factories' where one engine powered several units.

Another most useful source of information has been photographs taken by the Coventry City Architects Department prior to the demolition of properties in the Parting of the Heaths area. These show the rear elevations that would have been inaccessible to the general public.

Coventry has seen many industries develop, thrive and then die. In the 1860s a decline in the demand for ribbons led to diversification exemplified by Cash's move into 'frillings' for children's dresses and name tapes and the development in Middle Foleshill of the Courtaulds operations with the advent of synthetic fibres. Views of Foleshill Road/Lockhurst Lane in were interesting for the trams needed by an expanding workforce. And, of course, for the mighty chimney that dominated the skyline for many years.

The *Coventry Evening Telegraph of 21 August 1947* is worth quoting at length:

"The present generation will scarcely believe that it was a real old country road with meadows on either side bordered with high hedges and tall trees from Cash's Lane to Little Heath.

What a picture in May and June, the hedges covered with hawthorn blossom with the wild rose and honeysuckle and crab apple blossom all along the highway.

One could stand at the General Wolfe and look north and south for a straight mile, the entire view being pleasant country".

Returning to Middle Foleshill, the development of the Great Heath Estate allowed David to show aspects of domestic and manufacturing enterprise. Frisby's Bakery used a Morrison Electric delivery van and the nascent motor industry was represented by Van Raden (electric ignition manufacturers) and Payne & Bates Motor Engineers.

Moving North to Little Heath and Longford we saw views of the large gas holders at the Longford Gas Works, Alfred Herbert's Edgwick Works (the largest machine tool factory in the UK and illustrated with the late Arthur Astrop's sketched layout) and Courtauld's Little Heath works (the largest rayon manufacturing operation in the UK). A political note was struck with a visit in 1948 by Hugh Gaitskell, then Minister of Fuel and Power, accompanied by City dignitaries.

Finally, David followed the developments along the Stoney Stanton Road. Two tram depots were located in Foleshill, at Priestley's Bridge and at the junction with Lythall's Lane. The Ordnance factory in Red Lane was important and pictorially well recorded. Aviation fans were intrigued by the unsuccessful Ordnance Aeroplane and 'boy's toys' were provided by the large naval guns being transported by rail. Ironically, a substantial extension to the factory was built by a German contractor just prior to WW1.

Postcards are not simply utilitarian, in David's hands they bring forgotten Coventry to life.