**AIA2017 Conference**

**The South-East Midlands**

A very successful and enjoyable 45th Conference was based at Moulton College, just outside Northampton. Covering Northamptonshire, Bedfordshire and the northern tip of Buckinghamshire, this is an area little visited by the Association and without a reputation for major industry. However, boot and shoe manufacturing was centred on Northampton and the surrounding towns and the ironstone quarries of the eastern part of the county supplied the major steelworks at Corby. Transport was an important focus with the renowned Watford Gap accommodating road, rail and canal within 400m. Computing is now well within the orbit of IA and the Museum at Bletchley houses the National Museum. More details of the individual tours follow.

Friday's Seminar ‘The contribution of developer-funded projects to industrial archaeology’ was well attended and a report is on page 7. Nigel Crowe delivered a most interesting Rolt Lecture on Conserving the Waterways’ Heritage while the evening talks covered topics to be visited on the morrow. Particular successes were the film of the construction of the M1 in 1959/60 shown by John McGuinness and the hair-raising film of the Dannistown incline in New Zealand shown by David Perrett.

Our guest at the Conference Dinner was the Lord Lieutenant of Northamptonshire, David Laing; particularly appropriate as it was his family’s firm which was the principal contractor for the M1.

The Conference went without a visible hitch thanks to the organisation by David Ingham of CBA South Midlands, Peter Perkins of the Northants IA Group and AIA President, Marilyn Palmer. Conference Secretary John McGuinness kept it all together and Steve Miles looked after the bookings and requests – no mean task. Excellent Tour Notes were edited by David Ingham and thanks are due to John Stengelhofen for producing them to such a high standard.

The Moulton Campus is immaculately maintained and the fifteen minute walk from the accommodation to the lecture theatre was a pleasure for many while a bus was on hand for those who preferred a ride. The catering was good and the staff were really helpful.

**Membership Matters**

Many members experienced considerable problems in 2016 renewing their subscriptions. These problems cost us in excess of forty members. We have received compensation from Taylor & Francis for the financial effects of those problems, but we would all rather have kept the lost members.

I would like to update you all on the current membership position. At the end of August we had 505 members, including 31 new ones. We still have a fair way to go to meet the end of 2015 number of 537 members, but the rate of new-joiners is encouraging. Taylor & Francis are promising more marketing campaigns for the Industrial Archaeology Review which hopefully will increase our numbers further.

Taylor & Francis presented to Council in May an Executive Report on their production and distribution of Industrial Archaeology Review during 2016, their first full year and the first report of its kind we have ever had. One of the points it demonstrated is that there is more to it than just our base individual membership numbers. Additionally we have 132 institutional subscribers worldwide, up from 82 in 2015. The success of our journal is also demonstrated by the fact that there were 7268 downloads in 2016 of articles which have appeared in all the Maney and T&F produced issues over the years. The article with the most downloads (733) was, *Housing Industrial Workers During the 19th Century, Back-to-Back Housing in Textile Lancashire*, by Geoff Timmins.

Naturally we lose members in the normal course of events. So far this year we have had eight cancellations. Death and illness are inevitable; we have lost three so far this year. Not all of the others give a reason for cancelling, but one member has moved house and may re-join in future; another is cutting down on his memberships. We have lost two of our Affiliated Societies, one stated that our publications no longer had relevance to their activities, and that our Newsletter is, “so unpopular that it is not possible to give them away to our members”. They are a specialist society and that clearly demonstrates their narrowness of focus. They cannot be seeing the same vibrant Newsletter as I do.

Being a numbers man, I have done an analysis of the two years, 2010 and 2011. Over that time we had 62 joiners, 25 (40%) are still with us in 2017; the renewal problems of last year possibly cost us one member. It may sound disappointing that so many have left us, but some new joiners will try us for only a year or two before deciding we are not what they want. It appears that if we can keep a new person for three years, then they are likely to be with us long-term.

We still have problems with our publishers, mostly with their subscription handling, largely due to the inflexibility of their systems which have to handle many more customers than this Association. But those responsible for negotiations with T&F are trying their utmost to make sure that our specific problems are addressed.

There is a way that members can assist us in growing; at the moment we are short of an Affiliated Societies Officer, someone to keep in contact with our local societies, keep them informed of what the Association is doing, report back to us on their activities and how we might assist them. We also need a Publicity Manager, someone to handle matters such as, press notices, editorial pieces, and the like. Please, if anyone is interested in learning about either of the roles, then approach our Secretary, David de Haan, contact details inside the front cover of this Newsletter.

Bruce Hedge

Membership Development

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**Cover Picture**

*Empress of Britain at the Museum of Anglian Life.* The engine is being used on a Driver Training Experience days – one of the volunteers is directing two students in the basics of engine care.
Highlights of the tours at the South-East Midlands Conference 2017

Harrington Aviation Museum
A Top Secret airfield – few memorials bear the word ‘clandestine’ – Was unknown to all but six of our group. Two, ex of the Signals, were already briefed about the communications equipment displayed among related exhibits in the museum. Context seemed as interesting as content. In October 1943, when the option for invasion that year had passed, four US anti-submarine squadrons were relocated to Harrington – built as a prototype for airfields later needed to support the Allies’ advance – to form a special unit to work alongside and learn from the SOE. During 3000 sorties, the Carpetbaggers dropped or landed 556 agents and 4511 tons of supplies.

It was cool – no, chilling – on a hot day, to stand on the concrete pads where Thor missiles stood erect during Kennedy’s 1962 showdown with Khrushchev. Thanks are due to Fred, our route-finder on the two-hour flight and our agent ‘Violette’, whispered to be Dxxxd.

Northampton’s Boot and Shoe Quarter
We were guided around by Peter Perkins who has an impressive knowledge of this once extensive Northampton industry. The characteristic streetscapes were of terraced houses mixed with small and medium sized leather and shoe factories, including Hawkins boots (I’m sure I remember their walking boots back in the 1960s). This slightly run-down area has evidence of revival where factories have been converted to flats, such as the original Church’s factory in Duke Street, while a large Baptist Chapel in St Michael’s Road is now the Jen Yen Temple.

Phipps Brewery
This was not the old Phipps brewery which at one time had been among the largest in the Midlands but had been destroyed by Carlsberg. Alaric and Quentin Neville, members of the Phipps family, had bought the name back in 2006 and acquired the old Ratcliffe and Jeffrey brewery building in 2014 where they are now brewing some very acceptable beers, most welcome on a hot day. They have recently dipped their toe in the gin movement and their Kingswell blend is delicious.
The Shuttleworth Collection
Created by Richard Shuttleworth, a passionate racer and pilot who was killed in 1940, this collection has been open since 1967. So far as is possible they keep all the aircraft in a flying condition, even the 1909 Bleriot, the world's oldest airworthy aircraft. In the workshop they have nearly finished restoring a Spitfire – a very long process as they have had to replace the many thousands of rivets.

Leighton Buzzard Light Railway
Monday's journey to the Leighton Buzzard Light Railway moved from Moulton's Jurassic ironstones to Cretaceous Greensands. Deprived by WW I of much needed hitherto imported casting sand the exploitation of sands north of Leighton Buzzard became necessary. Following the resultant road damage a railway to the quarries was proposed by two major quarrying companies. The four miles long, two foot gauge line was opened in 1919 using war surplus WD equipment. On the day we enjoyed a restricted visit to the running shed before the outward journey to Stonehenge works. This was entrusted to Podamoura an inappropriately German-built Orenstein und Koppel 0-60WT of 1924. There was much to see at the works including varieties of tipper wagons, a face shovel and small internal combustion locomotives (many built in nearby Bedford). Owing to their tell-tale exhausts steam locomotives were a liability near the front-line. Still in bright sunshine the return was made behind a WW1-vintage Baldwin Locomotive Works 4-5-0T of 1917. Rapidly built in the USA for the Western Front, this seemed utterly relevant to the sand railway and its origins.

Jordan's Mill
The handsome Holmes Mill near Biggleswade has been owned by the Jordan family since 1893. Fires in 1894 and 1899 led to re-equipping with the latest roller mill technology and a Gilbert and Gilkes 25hp turbine in place of the undershot wheel. This enabled them to survive as a country mill until the 1970s when they moved into the wholefood market with their Country Crisp and Jordan's bars. Their Holmes Mill is now an extremely interesting museum of roller milling. Shown around by a very knowledgeable and enthusiastic member of the family we were nearly persuaded that this process might have advantages over the more familiar (to industrial archaeologists) traditional millstone grinding.
Stoke Bruerne and Blisworth Tunnel

A pleasantly devious route took us to Stoke Bruerne where we embarked on the Indian Chief for a trip through Blisworth Tunnel and back. Dire warnings of a drenching from the tunnel roof proved alarmist as the boat had an adequate roof, but some of us managed to collect a sample of the water to check on its potability. Nevertheless, the experience dramatized the human effort in constructing and maintaining the nearly two mile long bore which was not completed until five years after the rest of the canal and had been temporarily bypassed with a plateway. Stoke Bruerne museum attracted most members; others just enjoyed the sunshine and the canal side village was looking its best.

Weedon Royal Ordnance Depot

Chris Salaman, from the Weedon Bec History Society, gave us a tour of this impressive array of eight massive brick warehouses which line a canal arm, now disconnected as access required closing the West Coast Main Line. Built during the Napoleonic wars to store small arms but not completed until hostilities were over, the buildings had lain empty for many years but now house a variety of small businesses. Whether they will receive the conservation they deserve is uncertain but there has been an HLF grant to create a ‘visitor centre’ in the gatehouse. A bookshop and café occupy part of one building together with an array of sofas which pleased many of us with tired legs.

National Museum of Computing and Bletchley Park

Visiting this fascinating museum before walking the atmospheric sheds of the codebreakers, drew attention to some remarkable comparisons of scale. The core of a modern computer is about one hundredth of the scale of the thermionic-valve Colossus machine, so a millionth of its volume. Comparison of data-capacity is equally impressive; a cheap modern PC offers 8GB versus the 8kB of a standard Nascom 2, with which the writer was once peripherally involved, again a million-fold increase. Staff numbers grew from a score or so in 1939, working in a handful of wooden sheds, to the 30,000 plus, requiring an extensive brick-built estate, by 1945. The ‘factory organisation’ suited to handle the code-breaking needs as each successive theatre of war – Europe, Atlantic, Mediterranean and North Africa, Russia and the Arctic, the Far East and Pacific – opened, interests this production engineer. Bletchley’s contents are interesting, its context intriguing, undeniably demonstrating the UK’s world lead in early computing.
The National Lift Tower
An opportunity to visit the 'Northampton Lighthouse', the 418 feet tower built by Express Lifts in 1983 to test their products, was not to be missed. Abandoned in 1999 but acquired in 2007 by an enterprising organisation it is now called The National Lift Tower. Besides testing lift equipment and training lift engineers they have contracts with organisations to test equipment which might fall from a great height to ascertain the damage. These include items for the Mars space probe. They also allow abseiling from the top for those with such an inclination! The view from the top was impressive and had the Northampton Saints been playing at the Rugby stadium next door we would have had a truly bird’s eye view.

Church’s Shoes
Church’s moved to their present site in 1957 where they currently make over 4000 pairs each week of traditional welted construction. We saw a mix of hand and machinery working to make high-quality shoes through over 200 processes from incoming leather hides to the finished boxed product. Much of this seems to be achieved by eye on individual hand guided machinery working with extraordinarily little marking out. The positive and friendly atmosphere of the workforce was impressive.

Many thanks to Peter Stanier, Terry Evans and John Copping for the contributions.
You may be familiar with this scene. The last day of a large city centre dig and the site is throbbing with locals, young and old. But they haven’t come to see a king under a car park, or indeed a hoard of coins stashed by some long-forgotten Roman. They have come to tour the nineteenth century slums and the stone foundations of the engine house of a large adjacent mill. It could be any urban archaeology site. In early-to-twentieth century Glasgow, London, Manchester or York. In each case it is the relevance of the near past, that almost but not quite within in memory feeling and the vague sense of recognition of a past similar to our lifestyle, that has caught the popular imagination.

Industrial Archaeology (not industrial heritage, not the historic industrial environment, but Industrial ARCHAEOLOGY) often has that effect on a local community and developer-funded commercial archaeology is very good at revealing in spectacular detail, over large areas, many such sites often with above and below ground housing and industry mixed in together. Not only can you touch the near past, in some cases, literally, you can smell it, the oil from the engine beds and the whiff from the earth closets. Between 1990 and 2010 figures suggest that 60% of all developer-funded archaeology work undertaken in England involved sites from the post-1500 period, most of these including industrial sites used after 1750. Twenty seven years after the issuing of the first planning archaeology recording in the commercial sector of archaeology. Michael Shapland recounted the standing building study that provided a biography of one last surviving production building at the nineteenth century submarine cable manufacturer based at Enderby Wharf at Greenwich. Gerry Thacker explored the huge excavation of the nineteenth and early twentieth century Upper Bank copper and zinc smelting works in Swansea. Russel Coleman detailed the archaeology of the M74 Completion Project in Glasgow, which provided a cross-section of the industrial archaeology, at work and at home across the southern side of the city. Rebecca Haslam provided a case study in the detailed historic building survey of the standing buildings of the King’s Cross Goods Yard, founded in the 1840s and abandoned in the 1980s. It was supported by targeted excavation of the railways distribution and power systems (turntables and hydraulic pipes). Lucy Dawson gave an overview of dealing with the historic industrial water supply and management infrastructure of Yorkshire and Nottinghamshire, from nineteenth century sluices and weirs to water-pumping stations. To round off the day I provided an over-view of the research impact of developer-funded archaeology.

Since the introduction of the first archaeology planning guidance in 1990 developer-funded archaeology companies and trusts have increasingly taken the lead in developing new field techniques and exploring large industrial sites. Developer-funded industrial archaeology is good at detailed data recovery, resource & time management, using new technologies, single site or compact urban area studies, revealing visually stunning sites that grab the public’s attention and generating finds skills and knowledge. However, it also has to be acknowledged that developer-funded Industrial archaeology is poor at synthesis by monument type or landscape, theoretically-led discussion and retaining and passing on key industrial archaeology field skills.

As the new Chair of the AIA I believe that the Association for Industrial Archaeology needs to develop its role in promoting the study of the discipline of industrial archaeology. Indeed, the AIA has been doing this since it was founded in 1973. Thanks to generous donations, since 2008 the AIA has given grants worth £438,000 to help restore and preserve dozens of industrial buildings and machinery across Britain. Grants worth £125,000, for instance, were announced this year at Moulton College for eight further industrial machines and sites. That makes the AIA a major player in the wider heritage conservation and restoration field.

What the Association needs to do next is to promote the next generation of industrial archaeology research, taking the lead as we did in the 1990s and 2000s. This should begin with the area generating the most data, the commercial sector; a proper assessment of the developer funded archive from 1990 to 2016 is desperately needed. This work then needs to be integrated with a revision of the industrial archaeology research strategies at a regional and national level. The AIA has a history of running training workshops and weekends and should be working with the current crop of commercial archaeologists to ensure that key industrial archaeology skills are passed on to the next generation of field archaeologists and that the experience of the voluntary sector is better used in supporting the professional sector. The AIA should be a bridge between these two worlds. Britain has world-class industrial archaeology remains, both above and below ground (as seen in our World Heritage Sites) and we have some of the leading professional practitioners both in the professional, museum and voluntary sectors. Now is the time to invest in linking these so as to secure the future of the industrial past: no other organisation is as well-positioned as the AIA to do and, I fear, no one else has the vision or ability to make such a difference.

Mike Nevell

Liverpool WHS still at risk

At the 41st session of the World Heritage Committee Meeting in Krakow, Poland, the recommendation for Liverpool Maritime Mercantile City UNESCO World Heritage Site to stay on the UNESCO World Heritage in Danger List was adopted following discussion about how the city is managing its World Heritage Site status. Helen MacIagan, Culture Director at the UK National Commission for UNESCO, who is attending the Committee said: “The UK delegation listened carefully to the points made by various members of the World Heritage Committee during the debate. We recognise the challenges facing this World Heritage Site and look forward to working with both local and national government to find a positive future for the site.”

Liverpool Mercantile City, a UNESCO World Heritage site since 2004, is an important part of the UNESCO family in the UK. It is recognised under the terms of the 1972 UNESCO World Heritage Convention as a place with Outstanding Universal Value, as an example of one of the world’s major trading centres in the eighteenth and nineteenth century, and a pioneer in modern dock technology, transport systems and port management.

The UK National Commission for UNESCO conducted research in 2015 which found that UK World Heritage Sites generated an estimated £85 million from April 2014 to March 2015 through their association with UNESCO.
This year’s conference will take a very different format from that of recent conferences.

Firstly; it will be for delegates to book accommodation of their choice. To this end a fixed number of bedrooms at the two major hotels are reserved until April. When booking please mention AIA conference:

- Norseman Hotel info@norsemanhotelwick.co.uk, tel 01955 603344
- Mackays Hotel info@mackayshotel.co.uk, tel 01955 602323
- The Queen’s Hotel, petersutherland@btconnect.com tel 01955 602992
- Netherby Guest House, http://netherbyhousewick.co.uk/ tel 01955 603443
- Seaview Guest House seaviewguesthouse14@yahoo.co.uk tel 01955 602735
- Bank Guest House info@guesthousewick.co.uk tel 01955 604001

The Norseman is about half a mile, and Mackays about a third of a mile from the Wick Baptist Church where we will be having the conference. Other accommodation is listed on the website.

Early booking is recommended. All meals will be provided as part of the conference fee other than breakfast, which will be as provided by the accommodation. Evening meal will be alternately at the Norseman and Mackays Hotel.

Second; the scheduled programme will start and finish at Inverness and include a coach tour visiting industrial heritage in each direction. Alternatively, you may join the proceedings at Wick from Friday evening through to Tuesday evening.

Third; we are pleased to announce that the Rolt lecture will be given on Monday evening by Geoffrey Stell on the topic ‘Science and Engineering at War: Scapa Flow 1939-45’. We hope he will then accompany us on the full day’s excursion to Orkney on Tuesday 26 June.

I will be happy to respond to any enquiries by email to johnmcguinness@outlook.com. An early indication, by email, of those intending to attend and whether you will join at Inverness or Wick would be helpful to the organisers.

John McGuinness

The Programme and how to get there

The Association is excited to explore the North of Scotland and hold its annual conference there in order to learn and to promote industrial heritage.

Caithness offers a spectacular coastline studded with vertiginous fishing villages, harbours for herring and flagstone exports, impressively large corn mills and improvement steadings, an interesting vernacular architecture of huge sandstone slates over layers of similar horizontally-laid stone walls, a material particularly good for making pavements. The towns Wick and Thurso are the largest north of Inverness, but are not yet experiencing the building boom of that city. A day trip to Orkney offers a chance to see the fascinating remains of the Royal Naval base, more rich landscapes, and picturesque coastal towns.

Summary of the programme

(A more detailed programme is available on the AIA website)

<table>
<thead>
<tr>
<th>Day</th>
<th>Events</th>
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<tr>
<td>Thursday</td>
<td>Gather in Inverness</td>
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<td>Friday 22</td>
<td>Coach from Inverness to Wick calling at places of interest.</td>
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<td>Dinner at Norseman</td>
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<tr>
<td>Saturday</td>
<td>Conference at Wick Baptist Church – Walking tours around Wick.</td>
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<td></td>
<td>Conference Dinner at Mackays</td>
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<td>Sunday 24</td>
<td>Alternative trips – Central Caithness Stone Industries or East coast fisheries. Dinner MacKay’s Hotel, then evening lecture: James Gunn: Dounreay Heritage Project.</td>
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<tr>
<td>Monday 25</td>
<td>Alternative tours – ‘Dunnet’ (northernmost tip) or ‘Nuclear’, both with numerous places of interest. Dinner at Norseman, then – Rolt Memorial Lecture: Geoffrey P Stell, ‘Science and Engineering at War – Scapa Flow’</td>
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<tr>
<td>Tuesday 26</td>
<td>Leave early for ferry to Orkney with alternative visits there including the Churchill Barriers the Italian Chapel and much else. Return to Wick.</td>
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<tr>
<td>Wednesday</td>
<td>Coach from Wick to Inverness calling at a different series of places. Coach arrives Inverness 3pm. In time for evening flight connections to England from Inverness airport or by rail to Aberdeen, Perth, Glasgow, Edinburgh.</td>
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Travelling to Wick

If travelling from the south and choosing to join the coach trip from Inverness please gather there on Thursday (by air, coach or rail). Accommodation options in Inverness are plentiful. Alternatively take the sleeper train arriving on Friday morning. The coach will leave Inverness at 9.30am.

Flybe leaves Birmingham at 10.40 daily, arriving Inverness at 12.00.

EasyJet: 6 daily flights into Inverness from London Luton, Gatwick and Bristol. Tickets are now on sale for June.

More details of travel options and suggestions for those wishing to stay in the area or on Orkney are on the website.

Jenny Bruce and Mark Watson
AIA 2018 Practical Weekend
7 – 8 April
Matlock Bath Derbyshire

AIA Council has decided to give Ironbridge a rest for the Practical Day in 2018 and instead organise a whole weekend devoted to the study of mining landscapes based in Matlock Bath in Derbyshire, an aspect of industrial archaeology which we have not done very much about lately. We are very fortunate to have secured the services of John Barnatt, just retired from his role as Senior Archaeologist with the Peak District National Park and former winner of Britain’s premier archaeology award, the Silver Trowel Award, for his work on the remains of the lead industry. The weekend will include a visit to the splendid Peak District Mining Museum in Matlock Bath and its adjacent Temple Mine; the surface remains of Magpie Mine, run by the Peak District Mining Society; and an exploration of other mining landscapes in the area with a possible underground visit to one of the local caverns in the area which were exploited for minerals including the famous Blue John. Delegates are asked to find their own accommodation, of which there is plenty in Matlock and Matlock Bath, but it may be possible to arrange a communal meal on the Saturday evening prior to a lecture from John in the Pavilion. Costs and further details including how to book will be available on the website early in 2018 but make a note of the dates now. The visits will require quite a lot of walking and outdoor clothing.

AIA Members’ Weekend
31 August to 2 September 2018
Nottingham

Since the Annual Conference in Caithness is much earlier in the year than usual, Council has decided to organise an event later in the year, and a more accessible area, in order to hold our annual Research Seminar, meet our prize-winners, hold a brief AGM and visit places of local interest. The venue is Hugh Stewart Hall, with its splendid Art Deco dining room, on the superbly landscaped campus of the University of Nottingham. The Research Seminar on the Friday, organised by our Chairman Mike Nevell, will be dealing with the newly revised Research Frameworks in Industrial Archaeology. Our President, Marilyn Palmer, will talk about the industrial heritage of the East Midlands, and there will be visits to a range of sites, probably including the splendid Papplewick Pumping Station, a Temple of Steam, together with Bestwood Colliery Winding Engine, Wollaton Hall Industrial Museum and Green’s Windmill, containing a small Science Museum. We will also include a visit to Nottingham’s renowned Lace Market area and other sites in the city itself. The splendid Gimson beam engines at Leicester’s Abbey Lane Pumping could be visited en route to Nottingham. Accommodation will be available from the Thursday evening to the Monday morning, depending on participants’ travel plans. There is plenty of parking on the campus, which is now also connected to Nottingham Railway Station by tram. Put the dates in your diaries and further information and booking forms will be available with the next issue of IA News and on the AIA website.

Adventure in Iron

Adventure in Iron by the late Brian Awty, which is to be published in a limited edition by the Wealden Iron Research Group in 2018, is a major contribution to our knowledge and understanding of the dissemination of the technology of iron production in the early modern period. Sub-titled ‘The blast furnace and its spread from Namur to northern France, England and North America, 1450-1640’ its scope is much wider.

Firstly it traces the development of the two-stage process of iron-making in the Meuse valley through to its introduction into Normandy after the end of the Hundred Years’ War. The construction of blast furnaces and forges in the Pays de Bray was key to later developments in Britain, and the author presents the evidence in detail, integrating what is known about the sites in the region with that of the personnel involved. Many of those same individuals and families were to migrate across the English Channel from the end of the fifteenth century to help establish the iron industry in the Weald, and it is their stories that bind this account together. Once in England their naturalisation, under the requirements of denization introduced in the 1540s, provided the link with the landowners on whose estates the new centres of iron production were being built. Many of the same families whose involvement in iron in late-fifteenth century northern France led to their migration across to England have been traced subsequently to other parts of the British Isles and in due course to the American colonies.

In essence there are two inter-linked strands to Brian Awty’s work: a detailed biographical approach to the migration of ironmasters and workers from the Continent to South East England in this period, which, to quote Philip Riden, “greatly advances knowledge beyond the usual generalisations about men ‘coming over’ from ‘Flanders’ and ‘northern France’ to ‘Sussex’”; and how iron-making in early modern Britain was part of the diffusion of a Europe-wide revolution in ferrous technology.

The author has made extensive use of continental archival sources down to a local level as well as published accounts in journals largely unfamiliar to Anglophone researchers. This use of primary evidence on both sides of the Channel is probably unequalled and is a major strength of this work. It reaches out beyond the usually Anglo-centric scope of such studies and emphasises the European context into which British technological development is embedded.

Brian Awty (1925-2013) was a librarian at the London School of Economics before taking early retirement, after which he devoted his time to the research of which Adventure in Iron is the culmination. He contributed nearly 40 papers to learned journals, including two in French.

Adventure in Iron is to be published by the Wealden Iron Research Group, a small voluntary society. It will be printed in two parts totalling about 900 pages, and is expected to retail at £60. It will be case-bound with 14 illustrations in black and white, 21 maps of ironworking sites, comprehensive general and surname indexes. The publishers are seeking expressions of interest, with no commitment to purchase at this stage. Please contact the editors at books@hodgers.com. For further details, including a list of the families described and full contents pages, go to www.wealdeniron.org.uk/adv-in-iron/
Woolwich Arsenal

On the south side of the Thames, The Royal Arsenal, which at its peak in WWI employed around 80,000 workers was sited just to the north-east of Woolwich, roughly ten miles east of central London. Buildings in the historic western area of the Arsenal have been converted for apartments. On the more extensive eastern part of the site there are remains still to be explored, but access is difficult and at times even hazardous. Only very determined industrial archaeologists have been venturing there.

Robert Carr

For industrial archaeologists the Royal Arsenal has long been something of a mystery. The historic western part which contains a number of listed buildings is now accessible to the public although by the time industrial archaeologists were admitted following the withdrawal of the military a great deal of fascinating industry had already disappeared. Since the Arsenal played such an important part in the defence of Britain much of what went on there was quite rightly top secret and the cloak of secrecy was maintained to the end.

Old Arsenal employees have not been forthcoming in conversation with outsiders, let alone industrial archaeologists, nor are they easily identifiable, having not lived in communities like dockworkers or miners. Arsenal employees might have lived in Plumstead or Shooters Hill, and perhaps talked among themselves, but so accustomed were they to the secrecy that ruled their working lives, that even though the work they did is no longer classified, old attitudes seem to persist.

It seems to be only recently, 30 years following the end of all secret work, that more has emerged at a popular level. At the western end of the Arsenal site the now polite historic section is getting quite well-known – largely inhabited by those sufficiently well-heeled to afford the fine apartments fashioned from historic Arsenal buildings. Now also the great tracks of boggy country stretching for three miles or more to the east are beginning to seem more familiar.

One basic reason for the lack of information regarding the eastern part of the Arsenal is that there never was very much there. The greater part of it is essentially just fen. Before the range of guns became too great, they were fired eastwards from the old part of the Arsenal to test them. The ground to the east was essentially a firing range and is an area of low lying marshland, about three miles long and a mile wide, drained by numerous channels and essentially very similar to the polders of the Netherlands. Apart from the historic western area, the Arsenal consisted of, isolated autonomous factories, well separated for safety and no doubt for security as well.

There were a total of 1100 buildings; many of the later ones have been demolished including the remarkable Roundhouse, built 1891-2, and demolished 1969 – 71. It was reminiscent of the railway roundhouse at Camden Town. Generally speaking no cameras were allowed near the Arsenal but, especially during the First World War, some official posed photographs were released – and these are now becoming available. Taken indoors, some of them might have been shot anywhere but they do illustrate the kind of work which took place behind the Arsenal walls.

In 1961 – 62 a large portion of the eastern area was transferred to London County Council. There had been a grand plan to construct a new town in Hampshire. Local opposition, however, was so implacable that the Government eventually gave up the idea. Not wanting to waste good work, the plans were transferred to the eastern part of the Arsenal site and this became – Thamesmead.

The original scheme was extensive, with a continuous crescent of buildings eight stories high and one and a quarter miles long. Hardly any of this great work was ever completed. Tower blocks were restricted to a height of about 16 storeys. Any taller and the upper flats would have been in the smoke from Belvedere power station.

Over much of the eastern area of the Arsenal there were numerous filling sheds, ammunition stores and various other sensitive installations surrounded by earth mounds which served as blast walls to mitigate the effects of explosion. These mounds remain, and are known as tumps. Some of them have become wild and overgrown and are now nature reserves. There was a recent BBC television programme, ‘Tump 53’, which dealt entirely with one of these reserves.

Access to deep water was an essential reason for the Arsenal to be established where it was. Many of the heavy materials came in by water and large gun barrels manufactured in the Arsenal were exported in this way. The riverside was rather more developed than the land to the south; here there were piers for ships to come alongside. One pier had a 250 ton capacity giant cantilever crane similar to the ones in Glasgow, Greenock and Nagasaki.

There was a nearer way to handle large gun barrels. A gridiron was used on which a barge could rest at low tide. A gun would be brought up on a specially constructed large railway wagon. The barge had doors something like that of a landing craft and the gun would be loaded into the barge on its railway wagon. The barge doors were closed and as the tide came in the barge floated off the gridiron and could be towed down river to its destination.

Special mention should also be made of the railway system of Woolwich Arsenal which were of enormous extent and had rails laid to three different gauges. Many of the outlying buildings were never served by road; access was totally by rail. This is a large subject in itself but suffice it to say that in 1918 there were 120 miles of mixed or standard gauge track, including sidings, and during the First World War at its maximum extent, the Arsenal covered 1300 acres and had a river frontage of four miles.

Over the years the Arsenal had a grand total of more than 90 small standard-gauge locomotives, with about 80 for the narrow gauge. The 18-inch gauge system was the most extensive locomotive-worked narrow gauge railway in Britain. If we include the separate narrow gauge lines there were 147 miles of railway track and overall, at its peak, this was probably the most complex and dense railway network in British history.
Two women munition workers operate a shell case forming machine during WWI at the New Gun Factory.

Moving boxes of cartridge cases on the light railway system.

S Moore and Co electric crane to handle the massive naval guns at the Royal Gun Foundry.

Interior of the roundhouse at Woolwich arsenal.

Workers leave the Fuse Danger Building, May 1918.
Beneath Edge Hill in Liverpool lies an early nineteenth century labyrinth of subterranean passages and caverns, some connected, some isolated, of several forms: cut-and-cover work where brick arches span rock-cut chasms, brick vaults, stone arches, rock-cut passages. Why Joseph Williamson master-minded their construction is not known – he left no explanatory documents. Theories range from pure philanthropy in creating work for the poor, to religious extremism as a haven from predicted Armageddon. Over a period of more than thirty years, he employed bricklayers, joiners, masons, quarrymen, barrowmen, hodcarriers and all manner of workers and their womenfolk too.

Claire Moorhead, Treasurer of the Friends of Williamson’s Tunnels

We know that Williamson was a successful man, working up from apprenticeship with Liverpool tobacco and snuff manufacturer Richard Tate. Later, with his friend and business partner Joseph Leigh, he traded Irish produce across the Atlantic and tobacco into the Baltic. Leigh bought a country estate in Cheshire with his share; Joseph bought houses and land. Both partners were born and died in the same years, 1769 and 1840. After Joseph’s marriage to Richard Tate’s daughter Elizabeth in 1802, the couple went to live in Edge Hill on Mason Street, first at what became No.32-38 and finally, next door at No.40-44. In the 1860s, these and nearby Williamson properties were taken over by a volunteer artillery regiment, the Lancashire 12th, who built a barracks on No.32-38.

Since 1996, a wholly voluntary charitable organisation, the Friends of Williamson’s Tunnels (FoWT) has been dedicated to preserving as much as possible of Joseph Williamson’s work. The FoWT has permission from the Council to make extensive investigations at No.40-44 where, above ground, only two storeys of the three-storey front façade of Williamson’s large house remain, propped up by steel-work and brick buttresses. A 1920s photograph shows a second large three-storey brick-built house beside it. The lie of the land between Mason Street and Smithdown Lane to the west means the gardens were many feet lower than the houses and backed by a low cliff or quarried rock wall. Williamson’s men built brick arches in front of this low cliff, and upon those arches the terraced gardens were brought up level with the houses, gaining spectacular views across the city. Williamson then began digging back into the hillside behind the arches, and did not stop until the day he died.

Many visitors to the FoWT at Mason Street have donned safety harness and hard-hat and descended by a fifteen foot ladder to the Gash – a sloping passage leading down to the ‘Banqueting Hall’. This vast chamber, over twenty feet tall has one half filled almost to the roof with ash from the boilers in a cellar above it. Visitors also have access to the ‘Wine Bins Area’ immediately below ground beside the boiler room.

Clearing rubble from beneath the concrete garage floor has revealed complex structures and re-workings: passages and arches blocked off, some with the original distinctive brick, a place for a cooking range, a fire-place immediately behind it, a water store formed of a passage blocked by a huge stone lintel, several urinals (from the military occupation?), two stone staircases – one with spiralling steps making a right-angle turn and a second wider one of only a few steps which ends in a small hallway out of keeping with the grandeur of the stairs.

Local historians James Stonehouse (c1845) and Charles Hand (c1920), stated that Williamson never sold any of the sandstone he dug out, but gave much of it away, for example to St Jude’s Church, just down the hill but now gone. Land records show he had no quarrying rights beneath his leasehold land, so was unable to sell stone unless he paid the landowner a high fee, though this might have been circumvented by direct exchange of stone for bricks.

Edge Hill presents a steep face towards the city, underlain by Triassic sandstone beds which dip gently to the east. Near the top of Edge Hill,
these sandstones can be seen from the inside at the 'Paddington Tunnels'. In the late 1830s Williamson built three 4-storey buildings over deep cellars, intended for commercial use.

After many years of negotiation, FoWT obtained a lease from Liverpool City Council with permission to clear the caverns. All the FoWT's work is manual, with pick, shovel, pots, ropes and hoists and, most important, sieves.

The work was completed in November 2016. The base of Level 4 is 59 ft below street level. Half the structure of tall arches locked into rock footings, had been deliberately back-filled in the late nineteenth century – first with a deep layer of clean river sand and stones, then industrial waste of gritty black clinker with hand-sized lumps of coal. This waste contained a large number of discarded household items: pottery fittings for a doll's house, a translucent bone china cup with a lithophane image in its base of King Edward VII, a gold sovereign. The upper Levels 1 and 2 contained rubble, and Level 3 held a 15ft pile of broken glass. And a mystery – scattered at random in the fill were giant irregular blocks of sandstone needing more than two or three men to move them – how, and why?

It is the scale and complexity of the Edge Hill workings that enhance their interest and make them a most special part of Liverpool's history, and a fitting memorial to Joseph Williamson. Tours of the non-public tunnels, under the care of the Friends of Williamson's Tunnels can be arranged and are welcomed. info@williamsontunnels.com

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**C20 Society celebrates the listing of John Outram’s Pumping Station Grade II**

Twentieth Century Society Director, Catherine Croft said, "This is not the first postmodern building to be listed, but it is the first of its genre to be listed purely on its own merits without the presence of a threat. In a way it represents the advent of the postmodern style into the architectural canon which is an exciting and important moment."

Outram was one of Britain’s most exciting and influential exponents of British post-modern architecture. He praised the movement for unlocking ‘the vulgar dimension of Classicism: [...] the bright colours, the garbled and chaotic iconography, the esotericism and eroticism’.

The Pumping Station was built as part of the 1980s Docklands regeneration into a postmodern landscape. This is a small part of the area but it makes a big statement: a 'Temple of Storms’ as Outram nicknamed it, full of mystical symbolism. The Victorians built beautifully decorative pumping stations, and here the tradition is taken up again a century later. Even the Prince of Wales called it ‘witty and amusing’!

Historic England has been carrying out a thematic assessment of Britain’s best post modernism buildings and this decision to list the Pumping Station is one of the first outcomes.

Sadly this long-awaited thematic review of postmodernism is too late for Outram’s wonderful Harp Heating HQ in Swanley. In autumn 2016, on hearing that the building was in peril of demolition, the Society moved to secure listing at Grade II. Unfortunately the Society was tipped off too late and the building was demolished before Historic England could assess it.

We remain concerned that buildings under 30 years old can generally only be considered for listing if they are both ‘outstanding’ and ‘at risk’ and that threat is often seen to mean demolition when less drastic alterations can be extremely damaging.
The Jolly Miller

Once ubiquitous, the humble corn mill is now a rare sight with only a few still in operation. They are now often viewed with nostalgia, which acts as camouflage for the reality of life in those mills. There are several versions of the folk song the Jolly Miller, all of which portray the carefree lifestyle of an eighteenth-century miller in an idyllic rural setting. However, both medical and industrial history describe a very different picture.

Dr Ian Hill

French Buhrstones on display at the Heron Corn Mill, Beetham

From the late eighteenth century the flour processing industry underwent a dramatic change in the technology deployed. There were two strands to this. First, a move from waterpower to steam power led to the establishment of bigger mills for large scale processing. A famous example of a steam operated flour mill is the Albion Mill on the banks of the Thames at Blackfriars. Secondly, from about 1840 there was a gradual adoption of the Budapest system of grinding cereals using power driven steel rollers. Many of the traditional corn mills did soldier on into the twentieth century, although some had to change their product from flour to animal feed stuff. The adoption of new technology created an opportunity for historians to compare the working environment of an industry at two stages of development; two very different technologies producing essentially the same product, but the later leading to a significant improvement in the health of those employed.

The main cause of death was pulmonary consumption and other chest diseases. In addition to the incidental danger of working with unguarded machinery the high level of flour dust within mills meant workers faced the constant threat of fire and explosion. In common with many other trades, personal hygiene was a strong element influencing the health of millers. When this aspect of their life fell to an unacceptable standard a miller became susceptible to skin infections and other conditions owing to the high concentration of flour dust. The deleterious outcome of poor hygiene had been highlighted early in the eighteenth century in Italy; the message had not spread far enough to influence the behaviour of British millers.

One occupation which should have been comparable to the miller was that of baker, both occupations being exposed to a similar level of flour dust. For this period, medical statistics for the United Kingdom are difficult to obtain. However, some statistics are available from German sources which have produced unexpected results. It might be anticipated that both occupations would show the same proportion of victims from the same type of diseases. However, the outcome was quite different. Out of 100 bakers, seven would die from phthisis compared to ten millers, but from pneumonia, out of 100 deaths, the rate for bakers was 8.4 compared to 42 among millers. This was a startling revelation; two occupations both subject to abnormal levels of flour dust but with strikingly different health outcomes. When later statistics became available in the United Kingdom this discrepancy was in dispute.

Some members of the medical profession considered this difference reflected the changing technology from stone ground to roller ground. It became accepted that stone grinding flour not only created unacceptable amounts of flour dust but also stone dust and it was deduced that it was this contaminant which led to the high death rate. There was also the popular belief that during the process of grinding flour in small rural mills contaminants such as chalk would be added. Before the introduction of steel roller mills the trade of flour miller was considered so unhealthy that friendly societies (the main providers of funding for medical expenses) would not accept millers as members. By 1900 the occupation was not considered to be any more dangerous than other manual trades. The introduction of steel rollers did not make milling completely safe. There was the incidental danger of working with machinery, fire and explosion, but the exposure to flour dust was greatly reduced. [Visitors to Jordan’s Mill during the Conference will particularly appreciate this point—nearly everything was enclosed—Ed] Using steel rollers in large scale mills also brought with it mechanical means of washing and removing physical contaminants from the cereal. This was another factor contributing to general improvement to the health of flour millers.

In the old system the atmosphere was laden with fine flour dust, and with each breath this fine dust would be drawn into the bronchial system. It formed plugs with mucus of the bronchial system and it took great effort to dislodge such plugs. It wasn’t contended that the flour dust reached the lungs but other contaminants would have done. The flour dust would have also contained particles of harder grains than wheat as well as portions of hair from oats, bristles from rye and particles of mineral dust from the millstones. This constant irritation to the bronchial system led to the development of pulmonary emphysema. By the end of the nineteenth century the advent of photomicrographs clearly demonstrated that some of this fine dust did reach the deepest parts of the respiratory system.

The material for many millstones was imported from Epernon in the Seine valley and from Fierté-sous-Jouarre. It is a flint-like stone referred to as French buhrstone. A type of quartz, it is one of the hardest stones in nature, not only destructive of steel tools but also of human life. One sign that a mason worked with French buhrstones was the bluish-black motting of his forearms caused by fine particles of steel penetrating the skin. To demonstrate the vast quantity of these being emitted by the process of dressing buhrstone, a member of the late nineteenth century Dangerous Trades Committee would place the magnetised blade of a knife into the waistcoat pocket of a mason and move it from side to side for a few moments and then withdraw it to show the edge of the blade had a fern like growth of steel dust.

The fine dust combined with the steel particles would be inhaled by the mason and reach the deepest parts of the respiratory system with devastating results. Officially the life expectancy of men working on buhrstone was between 36 and 40 years. After about ten years the first signs of pulmonary consumption would appear, manifested by coughing and spitting blood. As with many dangerous trades there were other influences which would have had an impact on life expectancy. Buhrstone construction was usually conducted in sheds with open sides and in all weathers. It was stated that the men were temperate and careless in habit. Their wages of between 50 and 60 shillings per week when at the same time a miner would have received about 20 shillings clearly gave them the ability to pay for alcohol and any other distractions.

Why were safety precautions not taken? The men could have been required to wear respirators. Mechanical means to control dust could have been deployed. However, means of powerful suction for dust capture would have been costly and the open sided workshops made it impossible for mechanical fans to clear the dangerous dust. When considering personal protection, the Dangerous Trades Committee suggested goggles or face guards should be used. Here is an extract from their report: “It is such a dangerous occupation that if the industry was swept out of existence altogether it would be no great loss either to the commercial world or to civilisation at large.”

Originally published in the Cumbria I H Society Bulletin 98 August 2017 and reproduced with their kind permission.
If you have ever driven up through the Wirral from Chester along the M53, you will have seen Vauxhall Motors’ Ellesmere Port Plant as you drive past. What you have likely not spotted though, just behind the trees beyond the employee car park, is a glimpse of the front of a much older building dating back to the site’s former use as an airfield. If it has caught your eye then you are looking at one of three paired general service flight sheds built in 1917 for the Royal Flying Corps (the precursor to the Royal Air Force) still standing at Hooton Park. Together with their ancillary buildings they form one of the best preserved complexes of WW I aviation structures in the country.

Jonathan Howard (Trustee)

The most recognisable feature of the flight sheds or hangars is the roof trusses. With spans of 80ft, held together only by nails, made from lengths of timber no longer than 12-14ft at the very most, and a very distinctive lattice work pattern, it can mean only one thing – you are looking at a Belfast roof truss. They are so-called as the design has its origins in the city’s nineteenth century shipyards. It was a simple way of covering large areas as it could be done cheaply with offcuts from shipbuilding, and they required minimal skill as the main requirement was being able to wield a hammer.

Since they were handed over by General Motors in 2000, the Hooton Park Trust has been working towards the restoration of these WW I buildings. Two of the three hangars, Buildings 17 and 18, are now in good repair and are in regular use, while Building 16 is presently the subject of a major renovation programme. The biggest challenge, with a wooden roof structure covering some 12,500 sq. ft. is preventing water ingress. Sadly for Building 16, the roof has been leaking for many years this has resulted in widespread rot, causing the trusses to either collapse under their own weight or to be beyond economic repair.

Wherever possible, measurements were taken by structural engineers from the remaining truss sections and cross referenced with those of the other buildings to create a set of working plans. The hope was that one day funding would be available to recreate them as, although it is woodworking on a large scale, the salient point is that the whole design of each truss is still just lengths of wood nailed together (albeit in a complex pattern).

In late 2015 the Trust secured the vital funding needed to start returning Building 16 to its former glory. The initial phase of work was to remove hazardous waste (the original roof covering was asbestos cement board covered in felt) and stabilise the remaining structure. With the site cleaned and safe, a purpose built jig was created onsite to build the new trusses on. It took several weeks and nearly £15,000 to assemble and perfect, but eventually the 85ft x 15ft jig was ready.

As one would expect the first truss took the longest to build; nearly two weeks. Mistakes were made and lessons learned. Jump forward nearly 12 months, and at the time of writing this article, number 28 of the 34 trusses needed is in production, and a team of three or four workmen can be expected to take no more than three days to complete a truss from start to finish.

Once completed each truss is slung from the top chord and lifted into position using a suitable crane. When, aligned, the truss is shored up by linking it to its preceding neighbour with the purlins and a number of diagonal cross braces.

With the level of experience now onsite, the contractors will typically lift up six in a day and then spend the next week doing all the detail work such as the cross-braces.

Weather permitting, the plan is to have all 34 trusses in place by the end of 2017. To date 17 are in situ, 10 are ready for erection, and seven await completion.

For those who would like to visit the site and learn more about its history further details can be found on the website. (www.hootonparktrust.co.uk).

Originally published in Newsletter 36 of the Merseyside Industrial Heritage Society and reproduced with their kind permission.

Demolition would make a mockery of Hull’s maritime heritage

An important piece of Hull’s Victorian maritime heritage is at risk of demolition. The Grade II-listed pump house, one of only four buildings that are left standing at St Andrew’s Dock, would be demolished as part of a new planning application submitted to Hull council.

Historic England, Hull’s Conservation Officer and the Victorian Society have already submitted their strong objections to this scheme which seeks to demolish the pump house and leave the adjoining two-storey hydraulic tower standing alone, undermining its historical significance as the legibility of its function would be lost. The hydraulic power generated in the pump house and stored in the accumulator tower was used to operate the lock gates and capstans throughout the dock.

The miserably brief planning application does not even propose any kind of redevelopment scheme for the site, so this vestige of Hull’s strong maritime history would simply be bulldozed leaving nothing but a bare patch of land in its wake.

Both the hydraulic tower and pump house are Grade II structures, listed for their architectural and historical significance. The building dates from the 1870s, when Hull’s thriving fishing industry was in full swing and St Andrew’s Dock was the centre of production. The operation of the dock is still within the living memory of many, in the 1950s, 20% of Hull’s population worked in the fishing industry.
The award for the best creative reuse of an industrial building is usually announced at the AIA’s annual conference but it can take some time to organise the presentation. The presentation of one of the 2015 awards, to the Grave Diggers’ Hut in Painswick, Gloucestershire, finally took place in July. This little stone building had been built for and used by the men who dug the graves in the church yard of St Mary’s, Painswick. It had long ceased its original use and had perhaps not surprisingly failed to find a new one and was decaying. However, when the Tourist Information Centre needed to be relocated, this was an ideal opportunity to convert and so reuse this building. The location is ideal because the small town of Painswick is well-known for its church yard yew trees and chest/table tombs and of course St Mary’s church. The presentation was made on a somewhat damp day, Friday 21 July 2017, with Anne Smith, organiser of the Tourist Information Centre volunteers, and the vicar, the Rev Mike Holloway, there to receive it formally; it was well attended by various members of the Town Council, Painswick residents, the press and a few passers-by and the of GSIA Secretary, Dr Ray Wilson who took the photographs. After the presentation there was tea and cakes (excellent) in the parish room. The presentation was well-reported in the local paper, The Stroud News and Journal.

The 2017 award was made to the Clemencotte Maltings, Lower Barnborough Street, York and announced at the annual conference at Moulton College. The building had been in minimal use since it ceased production and had been threatened with demolition. It is listed grade II and so reuse was a preferred option. It has been converted into six houses, and this is unusual because most metal conversions to residential are to apartments. However, this enabled the party walls of the houses to be used as a structural brace to the listing timber and cast iron frame. Converting to houses also meant that the building fitted in better with this area of York.

In any maltings there are several features which are usually difficult to retain, and these included the steeping cistern, grain cleaning (dressing) machines and conveyors such as bucket elevators. Kiln furnaces can also present retention problems but they can often be kept as a room feature. In the case of the conversion at Clemencotte all these features were retained. Some features such as the bucket elevators have been moved to the main communal entrance hall and the doors to the grain bins were also kept although not in situ. Overall the design of the units was excellent, retaining as much of the original as possible. This was achieved by arranging the floors to reflect available ceiling height, with bedrooms, bathrooms and utility spaces in the lower areas, and living spaces on the higher floors where possible.

The workings of floor maltings are not always understood but here a good interpretation panel has been provided both within the communal hall and on an external wall so that passers-by can see how the building worked and how it has been restored.

This excellent and innovative conversion was a deserving winner of this year’s Best Creative Reuse Award and the whole design team, as well as the contractors, are to be commended for the project. The quality of the Clemencotte Maltings conversion has been recognised by the Royal Institute of Chartered Surveyors in their 2017 awards, being a winner in the Yorkshire and Humberside Region for the Buildings Conservation category where it was sponsored by Historic England as well as in the Residential category. This means that it will go forward to the finals in London. The AIA certainly wishes them success.

Amber Patrick, Co-ordinator Creative Reuse Award

Interim Protection – a valuable petition

The destruction of a seventeenth century ceiling in Small Street, Bristol, controversially ripped out by a developer before it could be assessed by Historic England, prompted renewed calls for an interim protection system.

Perhaps the most famous example is the demolition of the art deco 1928 Firestone Factory in Brentford – demolished over a weekend before the then minister Michael Heseltine listed the building.

A petition is open – search ‘interim protection petition’

Victorian Society lists Fison’s warehouse

There has been some good news about the former Fison’s warehouse in Bramford Lane, near Ipswich (IA News 182). Thanks to the tireless efforts of Kelvin Dakin, the Victorian Society has included the building in their newly-released list of the top ten most-endangered buildings in Britain.

The Victorian Society’s list includes five other industrial buildings, in particular the Grade II Chase’s Glassworks at Smethwick, built in 1824. Chase’s Glassworks is arguably one of the most important industrial sites in the West Midlands. The clock faces of Big Ben and other glass in the Palace of Westminster were produced here, as well as some 2300 Victorian lighthouse lanterns used around the world. Despite this strong international history the buildings have been left to deteriorate to a shocking degree; the site is currently held by a skip hire company, a totally unsuitable operation for such a historically important site.

Also included is the Grade II Great Northern Railway Warehouse, Derby by Kirk & Randall of Seaford (1877-8). This large railway warehouse bordering a roundabout on the outskirts of Derby has been left derelict for almost 50 years.

70 Years of listing

Five places, including a London cabbie’s shelter, a WWI wireless station and a ‘hobbit house’ in Yorkshire, have been listed to mark 70 years of protecting England’s historic buildings.

Listing was ‘born from destruction’, following widespread bombing in WW II – the Town and Country Planning Act of 1947 established the system we know today. The list now has around 400,000 entries including 710 windmills, 514 piggeries, 262 palaces, 72 piers, 16 plague crosses, 13 dung pits, three scoreboard, two fairground rides and one rocket.
**AIA Award Winners 2017**

Our awards scheme continues to flourish and to be recognised nationally – one often finds mention of it when looking up a particular project or book. We were delighted, as ever, that most of our award winners were younger than most of the members of Council, which shows that industrial archaeology and heritage is still very much alive.

**Archaeological Report Award**
Rebecca Haslam and Guy Thompson, for *An Immense and Exceedingly Commodious Goods Station: The Archaeology and History of the Great Northern Railway’s Goods Yard at King’s Cross, 1849 to Present Day*. Becky Haslam is Senior Archaeologist with another very large contract unit, Pre-Construct Archaeology, and has recently agreed to become an Assistant Editor for our own journal, IAR. Guy Thompson did much of the historical work for the project, which revealed important archaeological remains uncovered during the re-development of the area behind King’s Cross station in London.

**Postgraduate Dissertation Award**
Two awards were made this year but no undergraduate one. The first went to Kristin Potterton (Conservation Studies, University of York): *Managing the Industrial Ruin in a National Park: A critical assessment of the Process*. This dissertation tackles a major problem, that of disused industrial sites within a rural setting – her example was the North York Moors. As she said, these are rarely subject to adaptive re-use because of both the context and the types of monument. The second was made to Siobhan Osgood, for *Railway Architecture: The Great Northern Railway (Ireland) at Dundalk.*

![Marilyn Palmer with two of the award winners at the Conference Dinner, Rebecca Haslam on left, Siobhan Osgood on the right](Image)

(M Phil Art History, Trinity College Dublin). This was a very detailed building survey of the station and engineering works at Dundalk, dating from the amalgamation of four railway companies and the decision to locate the engineering works for the Great Northern Railway (Ireland) there.

It is pleasing to report that both awards have helped the students to secure funding for further research.

**Voluntary Societies Publications Award**
Philip Tolley of the Norfolk Industrial Archaeology Society, for *Norfolk 1890*. This was edited from an 1890 publication by the British Industrial Publishing Company of Birmingham, which described some 365 local businesses in Norfolk, with extensive details of their premises, processes and trade. The award was received at the conference by David Alderton, a member of NIAS and a former Chairman and Conference Secretary of AIA.

**Professional Publications Award**
Dr Michael Nevell, for *The Birth of Industrial Glasgow: The Archaeology of the M74*. (Society of Antiquaries of Scotland, 2016) This book is a very important milestone in the publication of the work done on large excavated industrial sites, dealing with the remains found by both building recording and excavation along the remaining section of the M74 around Glasgow. It is also an excellent example of the cooperation of various archaeological contractors, Andrea Smith from Headland Archaeology, Frank Meddens from Pre-Construct Archaeology and a number of their colleagues. Dr Michael Nevell from the University of Salford, with his extensive knowledge of the development of industrialisation, has successfully set the work in a much wider context and produced an exciting and readable book.

**Peter Neaverson Award for Outstanding Scholarship in Industrial Archaeology**
Professor Marilyn Palmer and Dr Ian West, for *Technology in the Country House* (Historic England, 2016, in association with the National Trust)

This award is made from a legacy left to the AIA by a former Council Member and Editor of Industrial Archaeology Review, the late Peter Neaverson. The book is the result of a long-standing project to record and interpret the remains of technological innovation in the context of country houses and their estates throughout the UK. It was undertaken in the realisation that while artefacts such as furniture and paintings were catalogued in these houses, little had been done to record and conserve the evidence for how houses were made more comfortable for their inhabitants in the 19th and early 20th centuries.

**Dorothy Award for Conservation**
United Kingdom Historic Building Preservation Trust for the restoration of the steam engine at Mile End Pottery.

The Award was originally launched in 1984, the tenth Anniversary of the founding of Dorothy Restorations, to commemorate the first decade of service to museums throughout the country. Its purpose is to support and encourage voluntary conservation work on sites and artefacts of industrial, agricultural, and domestic importance. The Award continues through the joint generosity of Wallis Conservation Ltd and GW Conservation. The award was received by Hayley Underwood and Phil Wright, with Geoff Wallis in attendance.

Details of how to apply for these awards for 2018, and for the Restoration Awards, can be found on the AIA website.

**Beehive Mills**

An inquiry was to be held in November over plans to demolish this grade II mill designed by Woodhouse and Potts. Last year, councillors granted permission for Arndale Properties to knock down two buildings dating back to 1895 and 1902 at the Beehive Mills in Great Lever, Bolton. However, the building’s grade II status meant that the Secretary of State would have to give the final go-ahead. Council planning chief Paul Whittingham revealed: “Further discussions have taken place between the council and consultees, and an agreed approach has been presented to the Secretary of State. The inquiry has now been cancelled.”

In granting permission for the buildings to be demolished and 121 houses built in their place, councillors went against the recommendation of planning officers.

**Whitechapel records**

Founded in 1570, Whitechapel Bell Foundry was the oldest manufacturing business still in operation in the United Kingdom. The historic foundry in Whitechapel closed in June 2017. In preparation for the firm’s move, London Metropolitan Archives worked in partnership with the company to safeguard its rich business archives and the records which are now safely deposited at LMA. Peter Guillery and Derek Kendall of the Survey of London team visited the site and recorded it before the closure.

![Beehive Mills at Great Lever, Bolton will now be demolished](Image)

![Whitechapel records](Image)

VIST THE AIA WEBSITE

www.industrial-archaeology.org
**Industrial Heritage Association of Ireland**

IHAI, our only ‘overseas’ affiliated society, is now 21 years old. In June 1996, I was invited to Dublin in order to launch this Association and I was delighted to be asked to return on 16 September 2017 to see how the society was flourishing – which it was! I was greeted by the current President, Michael Grace, formerly President of The Newcomen Society, as well as Fred Hamond, Mary McMahon and other founder members of the Association. IHAI makes awards to both individuals and heritage sites for contributions to the preservation of the Irish industrial heritage and publishes a bi-annual Newsletter and occasional publications. Two weekend visits per year are made to industrial heritage sites in various parts of Ireland.

The birthday celebrations took place at The Steam Museum at Straffan, Co. Kildare, housed in the former Victorian gothic St. Jude’s Church from the Great Southern and Western Railway Works at Inchicore, Dublin. (Fig 1) The building was dismantled and re-erected in the grounds of Lodge Park, home of Robert Guinness and members of his family, including his daughter Catherine, who helped provide the food for the occasion. The museum contains a fascinating collection of stationary steam engines in working order and all in steam for the day. These included a six pillar independent beam engine, built about 1820, maker unknown, which was moved from Cork to Midleton, Co. Cork and used in conjunction with a waterwheel at the distillery there. Another interesting engine was an inverted vertical duplex pumping engine, built about 1898 by Frank Pearn & Co Ltd, Manchester. It was used to pump water at the Jameson Distillery, DUCK Lane, Dublin. The Richard Guinness Model Hall contains a number of important models including the third Trevithick engine model, the first four-wheeled self-propelled vehicle. Together with the adjoining Lodge Park walled garden, this museum is very well worth a visit if you are in the Dublin area.

Congratulations to IHAI for their 21 years’ work promoting an awareness of industrial heritage in Ireland, both in the Republic and in Northern Ireland.

*Marilyn Palmer*

**Response to Heritage Manifesto**

Following letters from the Heritage Alliance congratulating Ministers on their appointments and highlighting issues relevant to their departments in the Heritage Manifesto (IA News 182), there have been several responses.

The Chancellor, Phillip Hammond, agreed “that investing in heritage can create places where people want to live, work and visit as well as boosting jobs growth and well-being”. The Chancellor went on to stress the investment the Government makes in heritage and to invite us to arrange a meeting with his officials.

Boris Johnson, Foreign Secretary, stated, “your role in protecting and promoting the best of our heritage is crucially important, not only for the proud sense of identity and history we gain from our collective heritage, but also for the magnificent representation of our country that it offers overseas.”

**New Members**

A warm welcome to our new members: Martin Frelford of Beckenham, London Brian Gooding of Cranleigh Roy Barratt, Burton-on-Trent Arthur Dransfield, Amersham Michael Raber, Hartford, Connecticut, USA.

Ron Martin, Brighton, who has re-joined after a brief lapse.

On the previous list Nick Dempsey was recorded from Plymouth for some inexplicable reason. He is from Pocklington in Yorkshire.

**Ironbridge joins the Heritage Alliance**

The Ironbridge International Institute for Cultural Heritage (IIICH) has joined the Heritage Alliance. The IIICH is a focal point for cross-disciplinary research, postgraduate teaching and policy engagement. Its aims are: To provide a welcoming intellectual home and a creative environment for the critical study of cultural heritage which offers new, challenging and trans-national perspectives on the ways in which cultural heritage is understood, represented, managed and mobilised in different cultures and societies;

- To pursue research excellence, policy relevance and to engage with academic and policy communities and the academic/heritage-related sectors;
- To deliver research-informed, high quality, postgraduate education that links theoretical understanding with practice and relevance.

IIICH is a partnership formed over 30 years ago between the University of Birmingham and the Ironbridge Gorge Museum Trust (IGMT) which manages the World Heritage Site and ten museums in Shropshire. Both organisations share a commitment to quality research, innovative education, creativity and engagement with the international heritage sector and the wider public.

**Valentia and Enderby**

Over 150 years ago, the first successful transatlantic telegraph cable was laid between Foilhammerum Bay, Valentia Island off County Kerry, in the south-west of Ireland and Heart’s Content in Newfoundland, Canada. The Valentia Transatlantic Cable Foundation has been set up to raise funds to restore the key historical sites on Valentia Island with the object of opening them up to the public. Now the Irish government has announced that it will support a bid for Valentia Island to be given Unesco World Heritage status because of its contribution to world telecommunication.

As the cable was manufactured at Enderby in Greenwich it would be interesting to see if the WHS could be a step towards a link with Valentia.
Restoration Projects

Since 2008 the AIA have been able to give grants towards restoration projects to a value of well over half a million pounds. This is due to the generosity of our anonymous donor who, as we reported in IA News 181, has now been joined by another. Seventeen projects are in hand, including the eight, following grants made this year. We carry reports on completed projects but here are brief notes on some of this years schemes.

Armoured Simplex LR2182

The AIA awarded a £3,300 grant to Greensand Railway Museum Trust towards restoration of the distinctive cupola roof of 40hp Armoured Simplex LR2182. During this year’s conference the AIA visited the Leighton Buzzard Railway where the restoration is taking place.

LR2182, built by Motor Rail and Tramcar Company of Bedford, was destined to work on WWI trench supply railways and seems to have arrived in France in time to serve on the battlefields during the final year of the war. Later it worked in industrial service until the mid-1960s during which time it lost its distinctive upper bodywork. It entered preservation in 1971, initially being displayed at the (then) Narrow Gauge Railway Centre at Gloddfa Ganol (Blaenau Ffestiniog) before going to the Museum of Army Transport at Beverley. The Army subsequently donated the historic loco, as it stood, to Leighton Buzzard Railway and in 2009 it was transferred to Greensand Railway Museum Trust which undertook to restore it to operation in its original form.

Work started at the beginning of 2016 with the objective of the loco moving under its own power for its 100th anniversary in 2017. Volunteers have restored the frames of the locomotive, including replacing corroded steelwork, and renovated many other components. The seized original 40hp Dorman 4JO 4-cylinder petrol engine has been repaired by contractors. The final element of the restoration is the steel body structure, including replication of the distinctive cupola roof in 10mm steel.

Motor Rail produced open, protected and armoured versions of the 40hp Simplex. They were mechanically similar, the differences being in the bodywork and level of protection afforded to the driver. It seems 34 of the armoured type were built – just two now remain, 2182 being the sole survivor in wholly original form.

Ferryhill Turntable

The AIA was able to give a substantial grant to the Ferryhill Railway Heritage Trust towards the refurbishment of the turntable at the former Ferryhill locomotive depot at Aberdeen. This is a major project and the AIA grant will go towards the replacement of cross timbers and longitudinal timbers, provision of safety handrails and a tarmac walkway for this, A-listed 1905 hand-operated turntable which is one of the last of its kind in Scotland.

Trustee Gary Thorley-Smith said: “We’ve already been given 80% of the cost by providers, now including this latest generous donation, so we’ve only got to find cash for the final 20%. This will be a huge help. The central pedestal is currently being machined, so it can fit the turntable, and we’re hoping that soon the turntable will be back at Ferryhill.”
**Underfall Yard**

The 1880s Underfall Yard in Bristol received an AIA grant this year towards the restoration of its Victorian dock maintenance machinery. This was particularly for work on a Whitworth planer and a Whitworth slotting machine.

Both machines date from 1884 and form part of the Bristol Docks Engineers’ workshop, used to maintain all mechanical operations of Bristol, Portbury and Avonmouth docks. The workshop is still used by the Docks Engineers today and the Trust shares the space, helping to show the site as a ‘living’ boatyard rather than a static museum.

The machines themselves are designated as scheduled ancient monuments.

With help from this grant, the Trust will fit a modern motorized system to the line drive (originally driven by steam) which powers these and other machines. This will allow for the safe, easy operation of the machines without the need to restore and operate the historic boiler and steam engine.

The planer and slotter will then be fully cleaned, mechanisms freed off, and damaged or worn components will be assessed. Where possible, the original components will be repaired and re-used. Parts will only be replaced with new components when they are deemed irreparable and critical to the operation of the machine. The intention is to render the machines capable of cutting metal in the manner that they originally did.

**Empress of Britain**

The AIA made a 2017 grant to the Museum of East Anglian Life for a new boiler barrel, tubes, front plate and smoke box for their 1912 Burrell agricultural traction engine, the *Empress of Britain*.

Lisa Harris, the Museum’s Collections and Interpretation Manager, has written, “Thank you so much for agreeing to fund the *Empress* – I learnt to drive a steam engine on her and our Burrell ploughing engines about 16 years ago, as have many before and since, so she is a very special object to me as well as the museum. I can’t wait to see her in steam again and for others to get the chance to learn with and about her.”

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Empress of Britain powering a Ransomes threshing drum used for the crop grown on the museum site.
**Beeleigh Mill**

The AIA visited during the 2012 Chelmsford conference and awarded a 2017 grant towards the cost of restoration of timber flooring to the 'stone' floor of this 1845 flour mill.

In April 2017 volunteers from the Beeleigh Mill Restoration Group started to strip back the timbers of the stone floor to expose the main beams for inspection and ultimate repair by specialists in the field.

The stone floor is supported by a grid of major beams. In addition there are joists and floorboards. The joists are set into the beams with mortice and tenon joints and set into the wall in pockets.

After each layer of timber was removed the exposed timber layer was surveyed and the data added to a 2D CAD drawing. It quickly became apparent that the second layer of timber, the kerbs, had been badly affected by woodworm and some of these timbers crumbled to dust when disturbed. Those that didn’t were carefully removed and placed in storage. Subsequently each piece has been measured and photographed for future reference.

In early August the bottom layer of timber was reached. The condition of these planks was much worse than was believed from the initial survey work. These will have to be replaced with new timber in due course.

The volunteers are being supported by Mr Joe Bispham, Historic Buildings Consultant, who will be advising the group on the repair of the beams. The next stage of the project will involve the erection of scaffolding, and preparation of proposals for discussion with the relevant authorities.

**Dawes Twineworks**

In 2015 the AIA made a grant to the Coker Rope and Sail Trust towards the work they are doing to restore the works. The building work took much longer than was anticipated and so the Trust is only now moving towards restoring the 'ancillary machinery' which was the particular purpose of the grant.

They wrote to say, "We had, on site, a 12ft length of 1.25in line-shaft in three pillow bearings, an extra twine-twisting machine and a grinding wheel set. We have been given a steel bench, and a further 50in length of 1in line-shaft with drive pulleys, together with belt-driven lathes and a drill press. Now that the old buildings are once again usable, we are setting up this machinery as a typical early C20 workshop.

We have bought an old 1HP Brook single-phase motor and the belts, pulleys and nuts and bolts we need to put it all together.

The workshop is on the ground floor so we will be able to demonstrate twine-making to those visitors who are unable to climb our steep stairs. The whole set-up will also allow us to demonstrate working machinery without starting our main 23HP oil engine."

**Stover Canal Graving Dock Lock – now complete**

On Saturday 23 September, on behalf of the AIA, Keith Falconer attended the ceremony marking the completion of the restoration of the Graving Dock Lock. John Pike chairman of the Stover Canal Trust thanked the AIA and Tesco’s ‘Bags of Help fund’ as the major funders of the restoration and Devon County Councillor George Gribble, an active supporter of the restoration work, cut the ribbon. The re-constructed plank bending boiler was also ‘fired’.

It was noted, in the published blurb and information posts, that, "This project was supported by a restoration grant from the Association for Industrial Archaeology"
In a way, Societies, may now themselves be equally outmoded Victorian institutions, with their internal elections, committees and secretaries? I have an important circle of friends, all undertaking and sharing research away from any formal organizational set-up. Perhaps this is the way in which those with a shared interest will develop in the future? If it is the role of a Society to share and preserve information, what role does such an institution have when both sharing and archiving of such information, including lectures and presentations – and additions to them – happen freely, on-line, instantly, and where new connections and possibilities become open to the wider community of interested individuals at the click of a mouse? It is sometimes difficult to accept that what is of interest to people today, may be of little interest tomorrow. An amazing number of activities have a surprisingly short life-span. Organized football is probably at its zenith of popularity at the moment, but was very much a local affair a hundred years ago – and may be so again in fifty, or thirty, years’ time – when fully immersive holographic games take over? And they are coming! In life, one thing remains constant: that the near future we imagine will almost certainly not be the future that actually arrives, in all its pan-dimensional fabulousness! (and here we remember with affection the section in the Government’s 1963 Report into the future of Traffic in Towns which dealt with the potential implications for traffic management of personal jet-packs!). What place then for a Victorian pumping station museum…? So – a managed retreat may indeed be the future? Let’s make the most of our interests while they last!

Guy Bettley-Cooke

It’s not only anvils

I enjoyed Bob Carr’s piece on the music of anvils in the last AIA newsletter. I worked as a stoney mason for some years on Portland and in London, and that was also a rhythmic trade, with a history of singing. The foreman used to come down and shout for us to sing something with a brisker tempo to get the job finished sooner.

James Douet

Drainage Charges

Though not a member of your association I have been shown a copy of IA News 182 mentioning the dire situation of Queen St Mill.

Bancroft Mill Engine Trust was established in 1986 to preserve the engine and boiler house of Bancroft Mill and to establish a small museum in a town which was once home to thirteen cotton mills. Whilst we cannot claim to have the international significance of Queen St, we receive several hundred visitors a year to see the 1920 Roberts engine in steam.

With Queen St, we have the only two surviving engines built by Wm Roberts and Sons of Nelson. Queen St has a tandem compound and ours is a cross compound. Next month we will return to steam the only known surviving engine by Smith Bros and Eastwood of Bradford, and like Queen St, Bancroft Mill is also under threat.

We receive no regular funding except from entrance and membership fees and donations, and our average annual income is around £8,500. We are now being faced by Highways Drainage charges of over £1,100 per year levied by United Utilities and their successor company Waterplus. This is more than ten times our annual bill for water and sewage. As a registered charity there is by statute an 80% reduction in our business rates, and the local authority waives the remaining 20%, but charities receive no such relief on highways drainage charges which are based on the area of the site they occupy.

The imposition of these charges makes it difficult to see how we can continue running the charity for more than a few years. Our MP has intervened with the water authority, to no avail so far.

Are you aware of this problem affecting other similar heritage charities and any favourable solutions they may have found?

A K Nixon, Treasurer – Bancroft Mill Engine Trust

Who is this? (IA News 182)

Greg Page-Turner is correct in suggesting that the sitter in the portrait could be a significant personality in mineralogy or geology. This is a portrait, attributed to Joseph Wright of Derby, of Anthony Tissington FRS (1703-1776) of Derbyshire who is shown holding a large piece of green copper ore (chalcopyrite) and there appears to be a large vein of it behind his right shoulder. He was a mineral agent and originally connected to the Ecton copper mine in the Manifold valley of the Peak District. He was eminent in his field and his circle of friends included members of the Lunar Society – Erasmus Darwin, Matthew Boulton, John Whitehurst (an early Derbyshire geologist), and also Benjamin Franklin who supported him when elected as Fellow of the Royal Society.

Derek Brumhead

Anthony Tissington FRS
It is Prior Park, Combe Down

In IA News 182 is an illustration headed by a plea: "Where is this?" The answer is: Prior Park, Combe Down, just across the river from the main city of Bath. Ralph Allen was the man responsible. He is well known as a Post Office reformer, who made his money by farming the post office revenues, amplified by the efficiencies he introduced. He also owned the Combe Down Quarries, which yielded much of the stone that Georgian Bath was built of. He applied his sharp mind to improving the efficiency of the quarrying operations, in particular by solving the problem of transporting the quarried stone from the quarries to the banks of the Avon 500ft below.

There were no reliable roads, and the extracted stones weighed up to 4 tons each. The solution was a wooden tramway, built in 1731. To design it and superintend its construction Allen hired John Padmore, the Bristol engineer who had in 1712 in that city built Britain's third wet dock. This paleotechnic plateway became a popular curiosity, and contemporary engravings show elegant strollers rather implausibly mingling with the trundling waggons. One wonders how many fashionable ladies were bowled over like silk-clad skittles.

John Evelyn, grandson of the famous diarist, wrote to his father in 1738 describing how stone was "conveyed in a very clever manner down to the town upon carriages with low broad wheels covered with iron, which run upon a wooden frame made the length of the hill, so that when the machine is set a-going it runs down the hill without any help, only one man behind to steer it, and in this manner above three hundred Tunn of stones are carried down at one load." This is obviously a description of a counter-balanced incline of the sort which existed in the Ironbridge Gorge and was later common in Welsh slate quarries. At the head of the incline a rope or chain ran round an anchored wheel and one end would be fastened to loaded waggons destined to descend while, at the incline foot, its other end would be attached to a run of returning empties to ascend to the quarry. Evelyn hadn't quite understood exactly what was going on -- his 'only one man behind' would be braking, rather than steering, and the small wheels on the waggons would probably have been cast iron, rather than tyred wood -- but he was an attentive observer.

According to Bertram Baxter (Stone Blocks and Iron Rails), the gauge was 3ft 9in. Baxter is not always reliable, but this figure seems about right.

When Ralph Allen died in 1764 the line closed, and was much regretted. In 1788 the Rev S Shaw displayed an early example of that affinity between railways and men of the cloth: "The former mode of conveying the large blocks directly down the hill to bat, by machines running in grooves or frames of wood, such as we see in the collieries about Newcastle, is now no more; they carry them in common waggons, to the detriment of the roads, and inconvenience of travellers." Michael Lewis, in his pioneering work (Early Wooden Railways) doubts the implied connexion with the North Eastern Coalfield, and suggests that the line had more in common with the early Shropshire railways -- small ('low') wheels, narrowish gauge, long wheelbase etc. It is also interesting that Shaw's description of the line as having 'frames of wood' is an unconscious echo of the first known written reference to railways, in the records of the Court of Star Chamber for 1608, which struggles to describe the novel technology with the words 'frames of rayles'. And that is an installation at Brosely, in the Ironbridge Gorge.

The gracious building in the background of the picture is the western pavilion of Allen's grand mansion (designed by John Wood the elder and, after his dismissal, completed by Richard Jones, Allen's clerk of works). Today's pavilion is an 1834 remodelling at the less-than-expert hands of H E Goodridge, but the pavilion which existed at the time of the tramway's operation was of Palladian style, with the roof concealed behind a parapet and a raised banqueting room in the centre. This could plausibly be what we see in the picture; if so, that suggests that the view is earlier than the suggested dating of 1830-1850, and could well be contemporary with those operating years, 1731 – 1764.

I hope this helps.

Gavin Watson

Other kinds of kerbstone marks

In Newsletter 366 of the Mersey Industrial Heritage Society, Rob Jones, the editor, included the following note:

"John Horne recalls a puzzle to be found in Southampton until quite recently in certain areas of the town. A hole in a kerb stone about 1" in diameter and about 1" deep. What for? The answer was for a pole to support the shop keeper's sun blind that was prevalent into the 1960s".

Church Street, Liverpool about 1903
The last vertical retort house

What is suggested were the remains of the last surviving vertical retort house in the Northern Hemisphere have gone.

In 1878, the Borough of Newbury Corporation purchased the Newbury Gas undertaking, which had been operating since 1825. Two years later a new site was purchased and new works constructed. This is the site of what later became known as the Sterling Cables tower.

A report written by W.R. Davey, Engineer and Gas Works Manager, on the 1925 inauguration of the Gas works’ new vertical retort plant talks of poor workmanship on the 1880 works, much of which had fallen into serious disrepair within a twenty-year period. However, in the early 1900s, new buildings were constructed to a higher standard and in July 1925, the new vertical retort plant was opened. As the town grew in size, demand for gas increased and in 1947 a larger retort house was constructed next to the existing one, and a new gas holder. This had a capacity of 750,000 cubic feet, almost double the capacity of one, and a new gas holder. The last vertical retort house in the Northern Works, a significant local employer, would close.

Thereafter the site was home to a number of local businesses, perhaps the best known being the Sterling Cable Company, which manufactured cables for the oil and petrochemical industries worldwide. It was they who added the ugly top sections when they subsequently started using the building as their cable winding house.

In our safety conscious age it is worth recalling other uses for coal gas not to mention an incidental comment on gender attitudes.

The Rev John Bacon lived in Cold Ash from 1876 until his death in 1904. He invented the hot air balloon petrol burner, the forerunner of the modern hot air balloon, in 1903, with John N Maskelyne. He demonstrated the feasibility of his scheme by constructing a copper-coiled ‘roarer’ burner with a pressurised fuel system. The Victorian polymath is also credited as being the UK’s first aerial photographer, as he took shots of the English countryside on his first balloon flight on August 20, 1888. Mr Bacon flew many times from Newbury Gasworks, in a coal gas balloon, becoming a local celebrity. The Newbury Weekly News reported that one particular journey, to photograph shooting stars, captured people’s imaginations as hundreds of townspeople, “remained out of their beds all night in order to give the intrepid voyager a good send-off”. The story continued: “It had been known for several days that the Rev John Bacon intended to take a trip into the upper regions in order to get a better view of the ‘shooting stars’. It was understood that his daughter, Miss Gertrude Bacon, was to accompany him. It was this latter fact that aroused the keenest interest, for while people understood that Mr Bacon in his ardent zeal as an astronomer was ready to face any danger, it was not so generally understood why a young lady should be ready and anxious to share the same unknown possibilities. “These people, however, did not know that Miss Bacon shares her father’s courage and enthusiasm, and that being an accomplished amateur photographer it was an opportunity not to be missed. Among the big crowds that witnessed the ascent were many women, and these were more anxious to see Miss Bacon, than even to cheer her father.”

Retired scientist and Cold Ash resident Fred Davison recalls that Bacon was a minor national celebrity at the time, often appearing in the Newbury Weekly News. He said: “He was a great philanthropist and a great pyrotechnician. He once made an 8ft rocket, and his firework displays were the talk of the town.” Although ordained a priest, he never earned his living in the church, acting as unpaid assistant curate at Shaw. He was interested in all things scientific and his pastimes included astronomy, magnetism, acoustics, chemistry, bee-keeping, gardening and music.

Information taken with thanks from Newburytoday, reporter Jackie Markham.
In early 2011, beside a fast stretch of road with no parking places, buried in a tall dense hedge, an almost complete milepost was rediscovered. Near the village of Little Wolford on the A3400, it was one of the series of nationally unique 10ft tall cast iron posts with curly arms pointing up and down the road. There were three others still in position elsewhere along what had been the Stratford-upon-Avon to Long Compton Turnpike (1730-1877), and a fifth smashed to pieces but rescued by a villager in Newbold-on-Stour. To complete the set of six there was another, complete but of unknown origin, at the Shipston-on-Stour Museum. The Little Wolford post was put forward to English Heritage for listing, which was duly granted in December 2011. This added impetus to a plan to restore all six posts.

Much speculation had abounded over the years as to just what these strange gas lamp like posts actually were. One theory, colourful, but a little unconvincing, was that they were for use by the Post Office. Bags of post would be suspended from the arms by passing mail coaches for onward delivery. The mystery was solved when a photograph (the only one found so far) was uncovered in the archives of the Shakespeare Birthplace Trust in Stratford. It was of the Shipston-on-Stour picture house from just before WW I, and there alongside it was the Shipston post, complete with wooden direction board inserted in grooves in the top castings of the post.

It was realised at the outset that the work involved was outside the scope of a DIY job, and Leander Architectural from Dove Holes, near Buxton was selected for the work. They would be able to pick up the posts and deliver them back to site, but not extract them. For this they recommended RM Installations.

Warwickshire County Council Highways provided full and detailed surveys of services at the locations of the posts, together with consent for the work involved. Our encounters with affected landowners and parish representatives went well and, in particular, Long Compton Parish Council were keen to help by purchasing and providing a site for the complete post in private hands after its restoration. It so happened that the site of a long lost post was just beside what is now the village hall.

In early 2017 work began, and immediately we ran into a serious snag. RMI announced that two of the sites would require traffic management (ie. traffic lights, etc.) during extraction and reinstallation of posts. It also meant an extra £1,200 cost.

The restoration work at Leander went well. There were one or two worries, such as when it looked as though they had not put enough S’s in Shipston, but all was well, and the posts were collected by RMI and reinserted at their sites all in one day!

The reception by the public has been one of delight. That six old posts, all rusty, and some incomplete or damaged can be put back together with splendid new green paint and big unmissable direction boards has been met with acclaim! Just one abiding problem. We STILL don’t know who made the posts, or when.

Above all, we need to thank The Heritage Lottery Fund, without whom nothing could have been done.

Industrial London

The impressionist painter Claude Monet painted Hungerford railway bridge 37 times between 1899 and 1905. As he was fond of good food, when in London the painter liked to stay at the Savoy Hotel where until 1898 Escoffier was the chef. Monet used to set up his easel on the Hotel terrace. Opposite was the south bank in Southwark – the Black Country of London. Here were belching furnaces with flames lighting the night sky from lead and iron works. Looking east from the Savoy, beyond Waterloo Bridge Monet’s paintings depict a riverbank with towers, industrial chimneys and generally plenty of smoke and smog.

The special London light that so attracted Monet was due to industrial pollution, of the kind we don’t have any more. It is in fact generally true that the much admired Victorian paintings of the river Thames by numerous artists which show dramatic red sunsets result from industrial pollution – now gone. You just can’t paint pictures like this any more.

Robert Carr
In the last edition of the IA News this list of Council member duties had a number of serious errors – the correct list is printed below. Apologies to all those misled or mislisted. Ed

AIA Roles of Council members, including co-opted members

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<td>Conference Booking Secretary</td>
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<td>Restoration Grant panel</td>
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The Council is always anxious to recruit new members to spread the work and further the aims of the AIA. In particular we would like to recruit a Communications Manager. If you would like to help with this or in any other way please contact the Secretary, David de Haan.

Eight of those at the 2017 Conference had been at the first AIA Conference in Hull in 1974. From left to right, John McGuinness, David Alderton, Fred Brook, Peter Stanier, Malcolm Tucker, Michael Messenger, John Stengelhogen, Keith Falconer.
Local Society and other periodicals received

Abstracts will appear in Industrial Archaeology Review.

Bristol Industrial Archaeological Society Bulletin, 152 Autumn 2017
Cumbria Industrial History Society Bulletin, 98, August 2017
Dorset Industrial Archaeology Society Bulletin 49, September 2017
Greater London Industrial Archaeology Society Newsletter, 292, October 292
Hampshire Industrial Archaeology Society Journal, 25, 2017
Histelec News: Newsletter of the Western Power Electricity Historical Society, 66, August 2017
Historic Gas Times, 92, September 2017
ICE Panel for Historical Engineering Works Newsletter, 155, Autumn 2017
Manchester Region Industrial Archaeology Society Newsletter, 154, Autumn 2017
Merseyside Industrial Heritage Society Newsletter, 364, May 2017; 365, June 2017; 366, September 2017
Midland Wind and Watermills Group Newsletter, 118, August 2017
Northamptonshire Industrial Archaeology Group Newsletter, 143, Summer 2017
North East Derbyshire Industrial Archaeology Society Newsletter, 67, August 2017
Piers: the Journal of the National Piers Society, 124, Summer 2017
Somerset Industrial Archaeological Society Bulletin, 135, August 2017
South West Wales Industrial Archaeology Society Bulletin, 129, July 2017
Suffolk Industrial Archaeology Society Newsletter, 137, May 2017; 138, August 2017
Surrey Industrial History Group Newsletter, 215, August 2017
Sussex Industrial Archaeology Society Newsletter, 175, July 2017
Sussex Mills Group Newsletter, 175, July 2017
Trevithick Society Newsletter, 176, Summer 2017
Triple News: Newsletter of the Kempton Great Engines Society, 50, Summer 2017

Books

The Archaeology of American Mining, by Paul J. White, University Press of Florida 2017, 201 pp, numerous illus, ISBN 9780813054551, hardback, USD $74.95

Part of a series of explorations on the historical archaeology of the American experience, this book synthesizes 50 years of archaeological investigations at American mining sites. Case studies are taken from a wide range of contexts, from eastern coal mines to Alaskan gold fields, with special attention paid to the domestic and working lives of miners.

Junctions at Banbury: a town and its railways since 1850, by Dr Barrie Trinder, Banbury Historical Society, 2017, 276 pp, 100 illustr. ISBN 978 0 900129 34 6

This is a work both of railway history and of local history. It details the growth of the railway network in the South Midlands and analyses the services, both local and long-distance, offered by the railway companies. Dr Trinder investigates the navvies who built some of the lines in the Banbury region, and the successive generations of railwaymen and railway women who worked in the town. He describes the impact of railways on Banbury’s topography and the opportunities they created for travelling to nearby market towns and to London. The role of the railways in delivering coal and goods for shops and in taking away the products of the town’s manufacturers is discussed in some detail. The book makes extensive use of data from nineteenth-century Banbury newspapers, census enumerators’ returns, timetables, maps and archive photographs.

EMIAC 94

DERBYSHIRE ARCHAEOLOGICAL SOCIETY
INDUSTRIAL HERITAGE DAY
ELECTRICITY from COAL

Saturday 19 May 2018
West Park Leisure Centre
Long Eaton, Derbyshire

In the 20th Century, power stations along the River Trent were the backbone of the UK’s electricity supply. They ran with remarkable thermal efficiency 24 hours a day, burning locally mined coal, transported from the collieries in ‘merry-go-round’ trains that could be loaded and unloaded without stopping. Today, the local mines have all closed, and the few surviving power stations operate for a few hours a day to supply peak load in winter. It is expected that by 2025 there will be no more electricity from coal in the UK.

This heritage day will look at the history of electricity generation in the Trent Valley, from the first small scale local plants of the 1880s to the CEBG giants of the 1960s.

Patrick Strange – the early years of electricity generation
Keith Reedman – Long Eaton’s municipal electricity supply
Ian Mitchell – Trent Valley power stations of the CEBG
David Monk-Steel – Merry-Go-Round coal trains
Wayne Cocroft – the heritage of post war power generation Followed by a guided walk

Full details from www.derbyshireas.org.uk

TICCIH conference

The international heritage of the water industry

Museu Agbar de les Aigües
Barcelona, Spain
13 - 14 April, 2018

During the nineteenth century, modern infrastructure to supply water and to remove and treat waste was inserted in towns and cities across the world, pulling them back from a sanitary crisis which was threatening to make life intolerable. Faced with industrialisation, miserable living conditions and repeated epidemics, water supply and drainage networks were devised and incorporated into urban landscapes. The impressive quality of their engineering and architectural design show how important they were for the societies of the time, and many continue to make a vital contribution to living conditions today.

The TICCIH thematic conference on the heritage of the water industry will put the water industry infrastructure into its historic technological and social context, examine the origins of the technical solutions that were developed, and compare how they were applied in different industrial cities around the world.

Inscription will include the conference with lunch and refreshments, simultaneous translation (English/Catalan/Spanish), and the post-conference guided tour of historic water industry sites in Barcelona. Details from museuagbar.com.
You can’t keep the AIA away from a bookshop or a sofa. Waiting for the coach at the Weedon Barracks