

INDUSTRIAL ARCHAEOLOGY NEWS

189
SUMMER
2019

THE BULLETIN OF THE ASSOCIATION FOR INDUSTRIAL ARCHAEOLOGY

FREE TO MEMBERS OF AIA



First use of IA • Dulgan Furnace • Lady Elizabeth
Winch Restoration • James Watt 200



INDUSTRIAL ARCHAEOLOGY NEWS 189 Summer 2019

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Tel: 01952 416026.
E-mail: secretary@industrial-archaeology.org
Website: www.industrial-archaeology.org

COVER PICTURE

Hetty Pit, Great Western Colliery, Pontypridd.
Engineers from Mann Williams examining the
headgear prior to restoration.

Photo: Aubrey Green

'Industrial Archaeology'

'Industrial Archaeology'

Searching for 'First use of the term Industrial Archaeology' leads one to two sources. The first is an item in an early version of the AIA website – 'The first use of term 'industrial archaeology' is generally attributed to Michael Rix in 1955 and the term gained national recognition in 1958 when the Council for British Archaeology organised a conference on industrial archaeology and subsequently formed a Research Committee on Industrial Archaeology to campaign for the subject. The critical point was the deliberate destruction in 1962 of the Doric Arch that formed the entrance to Euston Station, the first London main line railway terminus.'

The second, from Wikipedia, is slightly more circumspect as it uses the word 'popularised', – 'The term 'industrial archaeology' was popularised in Great Britain in 1955 by Michael Rix of Birmingham University, who wrote an article in *The Amateur Historian*, about the need for greater study and preservation of 18th and 19th century industrial sites and relics of the British industrial revolution.'

A recent article published in the *TICCIH Bulletin* (reprinted below) by Professor Paulo Oliveira Ramos, from the Universidade Alberta in Lisbon takes the term much further back. The earliest example is from in France in 1842 but lest readers protest that that is not in English the author also quotes *The Builder* from 1881.

THE EARLY USE OF THE TERM "INDUSTRIAL ARCHAEOLOGY"

For decades now, scholarly literature has attributed the earliest uses of the term 'industrial archaeology' to the French baron Jules de Verneilh in 1876, or to the Portuguese historian and archaeologist Sousa Viterbo in 1896. But in the course of a recent investigation, I have located previous deployments of this expression in the attempt to challenge a long-established chronology. Trawling through old archaeological bulletins, journals, almanacs, and reports from great exhibitions, it soon became evident that the term industrial archaeology was not only widely in use in the late nineteenth century but it came to life, in fact, several decades before what is commonly assumed. The earliest occurrence I found dates back to 1842. What follows is therefore a selection of the most noteworthy examples which, hitherto unknown, should lead us to revisit and revise the foundations of the discipline itself.

1881 – Augusto Mele (?-?) [Italy]

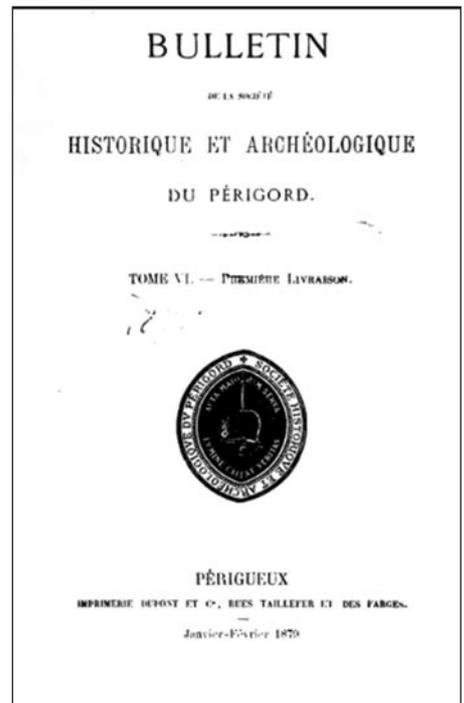
That is exactly what we propose to do, to publish under the title of **Industrial Archaeology** the most careful and accurate drawings of one thousand things, from the masterpiece to the smallest object, which would show us how ancient art has never dissociated itself from the purity of form, lines, ornaments. (1)

1881 – *Forest and Stream* [U.S.A.]

An illustrated review of popular and **industrial archaeology** and art [*Pompeii*] appears on our table for the first time. Its purpose is a happy one, and deserves all encouragement. Its salutatory announces the desire that archaeology, that science which to-day is the monopoly of a small number of scientific men, should for an hour or two each month doff its severely precise cloak and, attractively clothed in the modern style, tell us the story of its deeds more simply than it has yet done. (2)

1881 – *The Builder* [U.K.]

We gladly take this opportunity of mentioning the recent publication at Naples of a monthly review termed *Pompeii* [...] the aim of the new publication; [is] to render practical the archaeological researches into the art of the classics, and in the several parts into which the publication is divided, "**Industrial Archeology**" is to take a large and important share. (3)



1877 – Louis Cartier de Saint-René (1839-1916) [France]

In Volume IV of the *Revue des Sociétés savantes des départements*, published under the auspices of the Ministry of Public Instruction, Baron de Verneilh has recently noted that **industrial archeology** had been little studied until now, and brought this regrettable fact to the attention of the Arts Committee. He mentioned, in particular, the iron industry, and, by way of example, he drew an interesting summary of the history of the old Ironworks of Perigord and Limousin. (4)

1870 – Luiz Henrique de Moraes Garcez (?-?) [Brazil]

Session of the Board of Directors on January 3, 1870 [...] Dr. Garcez presented the following proposal, put on the table to be discussed in due course: "I propose to the *Sociedade Auxiliadora da Industria Nacional* [Society for the Support of National Industry]: 1. The creation of a school for adult women; and opportunely: 2. A cabinet of **industrial archeology**, and especially numismatics, which will constitute the museum of national industry". (5)

1865 – Charles Blanc (1813-1882) [France]

As for the library proper, at present it already constitutes an imposing collection of ancient and modern books concerning the arts [...] which are the best books for manufacturers, artists and the curious, because **industrial archeology** has produced textbooks with examples, veritable lessons in action. (6)

1865 – Félicien de Saulcy (1807-1880) [France]



My dear Bertrand,

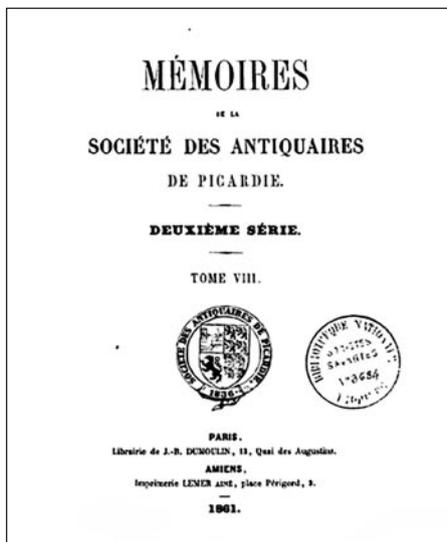
It is a question of **industrial archeology** (if I may indulge this expression), which has for a long time been of much lively concern to men of the greatest merit and whose solution, for want of tangible evidence, has thus far remained in an unfortunate limbo. I wish to speak of the *Phoenician purple*. (7)

1862 – Michel Chevalier (1806-1879) [France]

In the Middle Ages, needle-tapestry was in great favour; it was made on canvas. From this period, we still have remarkable works of patience, not as objects of art, but as monuments of **industrial archeology**. (8)

1861 – Boyer de Sainte-Suzanne (1824-1884) [France]

[...] we want to talk about the organization of a



sort of industrial museum where a specimen of every new manufacture would be deposited. This sacrifice asked of everyone would be insignificant and the profit for all would be considerable. The *Société des Antiquaires* would not hesitate to devote to what we can call **industrial archeology** one of the rooms of this splendid Museum, whose doors will soon be open to all archaeological and artistic riches of the province. (9)

1842 – Marie Pierre Le Pelletier de Saint-Remy (1809-1882) [France]



On this point of **industrial archeology**, such is the opinion of several writers, particularly M. Rodet, the author of the article "Sugar," in the *Dictionnaire du commerce* [...]. (10)

The previous ten excerpts were originally printed in the following sources from which the present translations are made:

- (1) *Pompei. Rivista Illustrata di Archeologia Popolare e Industriale e d'Arte*, Anno I, Num. I, March 31, Naples, 1881, p. 2.
- (2) *Forest and Stream*, Vol. 16, May 26, New York, 1881, p. 326.
- (3) *The Builder*, Vol. 41, August 6, London, 1881, p. 164.
- (4) *Mémoires de la Société des antiquaires du Centre*, vol. 6, Bourges, 1877, p. 283.
- (5) *O Auxiliador da Industria Nacional. Periódico da Sociedade Auxiliadora da Industria Nacional*, Vol. 38, Rio de Janeiro, 1870, p. 186.
- (6) *Gazette des Beaux-arts*, Tome 19, Paris, 1865, p. 196.
- (7) "Lettre sur la Pourpre Phénicienne a M. Alex Bertrand Directeur de la Revue Archéologique" in *Revue Archéologique*, Nouvelle série, Vol. 9, Janvier à Juin, Paris, 1864, p. 216.
- (8) *Exposition Universelle de Londres de 1862. Rapports des membres de la section française du jury international sur l'ensemble de l'exposition*, Tome Cinquième, Paris, Imprimerie et Librairie Centrales des Chemins de Fer de Napoléon Chaix et Cie, 1862, p. 251
- (9) *Bulletins de la Société des Antiquaires de Picardie*, Tome VII, Paris, Librairie de J.-B Dumoulin, 1861, p. 224.
- (10) "D'un impôt sauvage. Lettre à M. le rédacteur des Annales maritimes et coloniales", in *Annales Maritimes et Coloniales*, Vol. 2, Part 2, Paris, Imprimerie Royale, MDCCCXLII, p. 1329.

With thanks to James Douet, editor of TICCIH Bulletin and Professor Paulo Oliveira Ramos.

Black Country Living Museum

Planning permission has been granted for a new sustainable Black Country Living Museum visitor centre

The new visitor centre will provide a dedicated entrance that is able to efficiently cater for up to 5,000 visitors per day. The existing Rolfe Street entrance building, which is situated next to the proposed visitors centre, will be re-purposed into a dedicated learning centre.

That will see the new visitor centre process ticket sales, give a brief introduction to the history of the Black Country and BCLM and provide retail, café and toilet facilities enabling the Museum's current Rolfe Street entrance building to be repurposed as a dedicated Learning Centre.

The buildings, which are elevated on the hill to make the most of the views towards the BCLM, will sit on a plinth of traditional Staffordshire red brick. Metal cladding to the façade takes reference from the metal panels used on the existing cottages on site. The roof, which will be made from black standing-seam zinc, is created by a series of folding planes which are supported by a steel diagrid structure.

Dolgun Blast Furnace – 300th Anniversary

Dolgun is about one and a half miles ENE of Dolgellau (SH 751 188). The site is well known because of its Quaker connections and for the blast furnace which was planned by the famous Abraham Darby shortly before his death. 21 March 2019 is the 300th anniversary of this furnace being blown-in and this has been the stimulus for a project to recover and excavate the site.

Peter Crew, Penrhyndeudraeth

John Kelsall was appointed by Darby to be his clerk at Dolgyn at the end of 1713. Kelsall's diaries, now preserved in the library of Friend's House, provide a rare archive for an early eighteenth century furnace. They give details of the construction of the furnace and for the first campaign in 1719, when 446 tons of pig iron were made. Despite the success of this campaign Kelsall was dismissed and returned to Dolobran to manage the forge there for the Lloyd family. After Darby's death in 1717 the furnace was sold to Samuel Milner, another Quaker. John Kelsall returned to Dolgyn in 1729, when it was sold to the Payton family, and his diaries give many details of the operation of the furnace from then until 1734.

In 1982-85 Dolgyn was cleared of collapsed rubble and consolidated by a team from Plas Tan y Bwlch, the Snowdonia National Park Study Centre. This showed that the furnace was well-preserved, with structural details of the lining and hearth which cannot be seen so easily at a contemporary furnace elsewhere in Britain. From the 1980s until 2007 the site was managed and maintained by the National Park but no work had been done at Dolgyn since then and the furnace had become overgrown with brambles and saplings.

The furnace has now been cleared, a preliminary series of drone photographs have been taken by Mark Walters of SkyWest Surveys (Figs 1, 2) and EDM and magnetometer surveys have been carried out by Ian Brooks of Engineering Archaeological Services.

The upper ranging rod on Fig. 1 is against the original inner facing stones of the tapered square shaft, with the upper lining of flagstone blocks resting on a step in the casing. Much of the crucible has survived as heavily vitrified sandstone blocks, repaired with firebricks. The boshes would have been rather higher and the junction with the upper flagstone lining is marked by curving lines of vitrification. On the each side of the blowing arch are the lower courses of a slate-block arch, which would have supported the front wall of the shaft casing.

The main concern in 1982-85 was to clear and consolidate the furnace and only limited excavation could be carried out. Part of the crucible was cleared to the hearth slab and below the tapered opening the dam stone and tapping slot were found.

Between 1729 and 1734 the pig iron was shipped for refining to bar iron at the Payton



A perspective view from a height of about 4m, looking over the furnace pillar, the blowing arch on the left and the tapping arch on the right. Scale rods 2m. Inset: Detail of the tapping arch excavated in 1984. The tapered opening in the sandstone blocks, which would be blocked during use, gave access to the crucible for repairs to the lining. Scale rod 1m.

forge at Llanfread, now Glanfraidd, south of the Dovey Estuary. There is little evidence for the furnace continuing in use beyond Kelsall's departure in 1736, but recent research has recovered considerable detail about the later Dolgyn forge, built in 1757 and lasting until the early 1800s.

Thanks mainly to the research by Peter King, soon to be published as an important gazetteer of the iron industry, we now have a more comprehensive, if still rather fragmentary, story of this forge. Most of the references are from newspaper advertisements of sales and bankruptcies, which give a rather negative picture, but it is clear that the forge was in more or less continuous use until the turn of the

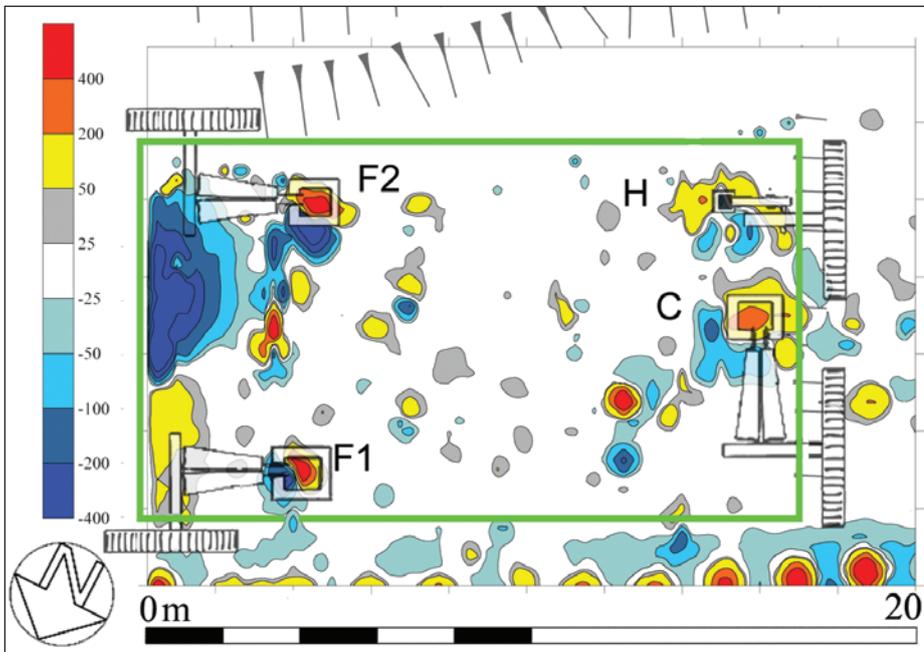
century, with a major reconstruction in the later 1790s.

The forge is recorded in 1763 and in the 1790 list as having two fineries, and a chafery. This implies that the forge had four water-wheels, one each for the hearths and one for a hammer, which would have been driven by a complex series of launders from a leat coming from the Afon Clywedog.

The location of the forge has now been established by a high resolution magnetometer survey, carried out by Ian Brooks, on the east end of the level shelf below the furnace (Fig 3). The massive negative anomaly on the east and the line of positive anomalies on the north are the remains of old iron fencing. There are four major



Vertical view from a height of 10m. Scale rods 2m. The upper lining of the shaft is shown clearly by the reddened burnt flagstone blocks, which is 2.15m square at the level of the boshes. The charging platform, in sunlight on the right, still has the original paving. The site of the wheel-pit is indicated top left. Inset: Vertical view of the crucible, as partly excavated in 1984, with the vitrified dam stone and tapping slot below the tapered opening in the tapping arch. Scale rod (only partially visible) 1m.



High resolution magnetometer survey with readings at 0.25m spacing, colour filled contour plot, positive readings in red and yellow, negative readings in blue, with a non-linear scale. The overlay indicates a putative layout of the forge, with three hearths and the hammer, in a building 17m x 10m.

dipolar anomalies of archaeological interest, each with a northern orientation, indicating material burnt in situ.

F1 and F2 are probably the finery hearths and C the chafery hearth. The arc of low positive readings at H is characteristic of a spread of forging debris, indicating the location of the hammer, which would have been driven by a wheel on the west of the building. The small and strong anomaly between the finery hearths might indicate the location of a separate finery hammer. The orientation of the dipoles, to East of North, is indicative of a late eighteenth century date when the secular curve for Britain is historically recorded. A resistivity survey will be carried out to try and confirm the location of the wheel-pits.

The historical records give several names of the occupiers, the workers and suppliers, which add a welcome human dimension, though little else is known about the people concerned. The pig iron was brought in from elsewhere, with records of purchases from Horsehay in 1759-1761 and from Backbarrow in 1787.

The 1802 sale particulars are especially instructive, recording the sale of the leases of both Dolgun Forge and Borthwnog Forge (further west near Bont Ddu and well known from the 1776 print by Paul Sandby), implying that both forges by then had the same occupier. They state that the forges still had a lease with 55 years to run, suggesting that they had been leased, and probably built, in 1757.

For the Dolgun forge the sale particulars record interesting detail, both confirming the two finery and chafery hearths recorded in the 1790 list and, for the first time, giving some idea of the potential output of the forge, "Dolgun Forge is well supplied with water, and has lately undergone considerable repairs, and an improvement of great consequence added to it for obtaining blast, at an expence (sic) upwards of

£800, which supplies sufficient for three fires at one time; the water is afterwards conveyed into the pool to serve the hammer wheel; from eight to ten tons of half blooms may be regularly made at this forge, or six tons of bar iron weekly". The six tons of bar iron per week would imply an annual production of perhaps 250 tons, comparable to contemporary forges.

In the spring of 2019 the tapping arch, blowing arch and wheel-pit will be fully excavated to the original floor levels. Selective excavation will also be carried out on the site of the forge. The samples recovered, together with the finds from 1982-85, will be subject to a programme of scientific work on the ores, slags, firebricks and iron, forming a crucial part of the publication.

For the 300th anniversary a new interpretation board and pamphlet will be produced and there will be a celebratory occasion, on the 27 April, when the excavations will have been completed. There will be a series of talks followed by a tour of the site. crew.peter.susan@gmail.com

The HMS Dolgun Fund – appeal for contributions

The Council of the Historical Metallurgy Society has set up a temporary fund to support the programme of works and research to be carried out at the Dolgun Blast Furnace and Forge during 2019-2020.

£1500 has already been pledged to the Fund and further contributions will be gratefully accepted. Gift Aid will be claimed on contributions when it is applicable. Any surplus in the Fund on its closure will be added to the HMS Anniversary Fund, for the support of other grant applications within the aims and objectives of HMS.

Contributions should be sent, payable to the Historical Metallurgy Society, to the Treasurer Peter King at 49 Stourbridge Road, Hagley, Stourbridge, West Midlands DY9 0QS.

Paul Rondelez, Chairman HMS

The National Lottery Heritage Fund

The Heritage Lottery fund has helped many Industrial Archaeology Heritage projects over the last decades and in many ways it is the envy of our friends in other countries. Early this year they unveiled their new five year plan which includes changing the name to the National Lottery Heritage Fund. This change is intended to make more clear the relationship between the purchase of lottery tickets and the public benefit that ensues.

The plans include: -

- A major devolution of decision-making across the whole of the UK is at the heart of new plans to distribute more than £1 billion of National Lottery money to the UK's heritage over the next five years. Decisions on around 80% of all funding by the National Lottery Heritage Fund, will be made in Scotland, Northern Ireland, Wales and three new English areas.

The new approach includes: -

- A major focus on nature, communities, and on ensuring everyone is able to enjoy heritage – the three top priorities for people who responded to the consultation;
- New models of investment, moving beyond grants to include loans and partnerships, designed to attract others to invest money alongside the National Lottery;
- More support for commercial, sustainable approaches to tackling heritage that's in danger of being lost;
- Investment and support to help heritage organisations to be more financially sustainable;
- A requirement for every heritage project that receives funding to be environmentally friendly;
- Simpler, streamlined and more efficient funding;
- Greater engagement and support to help 13 deprived communities that have in the past been less successful securing funding;
- Continued support for large-scale, iconic projects over £5 million.

On the debit side it would appear that the total money available will be considerably less, perhaps by as much as 50%.

George Landmann

Almost the first historical booklet I wrote was about George Landmann, the man who actually built the Greenwich Railway and its viaduct. This was in 1986 when there was a big festival at Cannon Street Station for the 150th anniversary of the Railway's opening. I had been interested in Landmann for some time, had done some research and intend to carry on and write a proper book. I had no idea then how difficult this would be and that 32 years later it would still remain unfinished.

Mary Mills

Greenwich, lives on its tourist trade. Today, as ever, many visitors come by boat but, despite the newly added DLR, many of them still arrive by South Eastern trains at Greenwich Station. Hardly any of them will know that they are travelling on

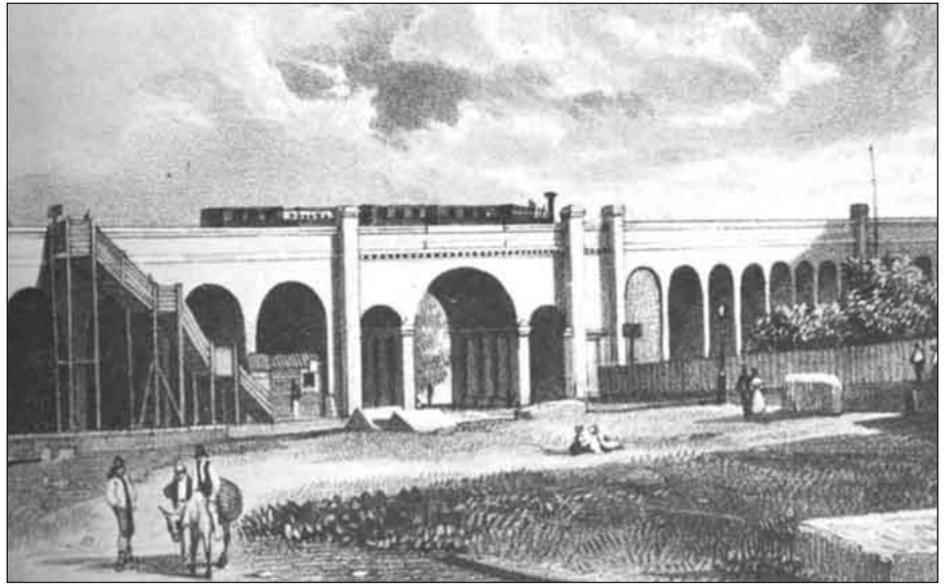


George Landmann

what should be recognized as an important heritage asset for Greenwich. The line between London Bridge and Greenwich, built in 1836, is the oldest powered railway in London and the first commuter railway in the world. Passengers travel from London Bridge on a massive brick viaduct – there are lots of facts and figures about the numbers of bricks used and so on. It is claimed as the biggest brick structure in the world and it was built by a Royal Engineer.

Landmann is almost unknown although he is someone Greenwich should be proud of – he was a local lad as well as the builder of this railway. I am also aware that despite his achievements railway historians take no interest in him.

He was actually born in Woolwich, in 1779, in the old Royal Military Academy. His father, Isaac, was a Professor in what became the Royal Military Academy; he had been headhunted by



The viaduct and spa road station - London's first railway station!! note the platform access via a ladder, and access to the train from the side of the viaduct - free for you to walk along.

the British government from the Ecole Militaire for his expertise. George was educated at the Academy and was then commissioned in the Royal Engineers. Still in his teens, he built fortifications in Canada. Back in England his parents had moved to Crooms Hill, in the posh bit of Greenwich, and he both visited and lived there while they were still alive.

As a Royal Engineer he was involved in the Peninsular War against Napoleon.

His autobiography ends after the Battle of Vimero and I am not really sure about his military career in Portugal after that. He was certainly used as a linguist but I think he was really a spy – and thus almost impossible to research. He was eventually retired and returned to England as Royal Engineer in charge at Gravesend, Durham and then Ireland. He sold his commission in 1821 when he was to be posted to Ceylon. His official obituaries and his entry in the Dictionary of National Biography stop right there – apparently he had become a non-person.

Perhaps the real problem was that he had left his wife and was living with a lady from Brandon in Suffolk (where her family produced flint for the Royal Ordnance). He married her when his wife died and, interestingly, his three eldest children seem to have stuck with him rather than their mother. Confusingly, both wives were called Harriett.

Having left the RE he set up as a civil engineer and became involved in the early gas industry travelling in Europe with William Congreve (that's Congreve of the Rockets who was also Comptroller of the Royal Laboratory at Woolwich). Much of the European gas industry was founded and funded by British interests and Landmann negotiated and built many of the earliest gasworks for Continental cities.

The story of the Greenwich Railway is well known. There is an excellent book London's First Railway published in 1986 by the late Ron Thomas. There are a lot of things which could be said but in the short amount of space here I come back to the viaduct which stretches between

London Bridge and Greenwich – unprecedented in scale. For 180 years it has carried trains of a weight, size and frequency which would have been unbelievable when it was built. I have been told by current railway staff that it just never gives any trouble. When it was built, there was a parallel 'boulevard' so you could walk alongside it – difficult to do today but there is lots to see if you try. I also found, in the Royal Artillery archive, drawings by George Landmann's father about arch construction in fortifications. The contribution of the Royal Engineers to the early railways has sometimes been noted but mainly in signaling technology, rather than viaduct building.

Landmann wanted to extend the railway on to the coast, but the Royal Observatory and like interests refused to allow him to extend it through Greenwich Park. I am grateful to the Deptford Dockyard based Shipwright's Palace blog for telling me that Payne's Wharf in Deptford was probably built as part of a railway pier by Landmann. The railway to the riverside, however, was never built.

He died in Hackney in 1854.

LONDON AND GREENWICH RAILWAY.

The Company's Trains run every Quarter of an Hour, from EIGHT in the Morning till ~~ONE~~ in the Evening, until further Notice.

Fares.—Imperials, 1s.—Mail, 9d. Omnibus or Open Carriage, 6d.

Five Tickets (not transferable) may be had at the Company's Office, Cannon Hill.

Imperials, 2s. Mail, 1s. Omnibus or Open Carriage, 1s. per Quarter.

ENTRANCE

Duke Street, foot of London Bridge, & Eligh St. Deptford.

GEORGE WALTER, Managing Director.

Good Progress at Hetty Pit

IA News 180 included an article describing the Hetty winding engine at the Great Western Mine, also known as Hetty Pit at Hopkinstown, near Pontypridd.

The head frame and winding engine house and steam winding engine of the Hetty Pit are Grade I listed buildings and scheduled monuments and the fan house is Grade II* listed. By 2017 sixteen years of work by volunteers had restored the engine to working order but much remained to be done, particularly on the headframe and the adjacent fan house.

Progress on these fronts was reported in *Hetty News* in January 2019 from which the following is an extract.

Report on the headgear

We have been concerned for a number of years about the slow deterioration in the condition of the iconic headgear which sits on top of the Hetty shaft. It was built in 1896 as one of the first steel beam frames to be installed in South Wales.

Last year our Trust was successful in receiving grant support to carry out a structural survey. We received £10,000 from the Rhondda Cynon Taff Community Enabling Fund and a £5,900 Resilient Heritage Grant from the Heritage Lottery Fund, and the survey work was carried out in August.

At a special meeting in December 2018 we received the report from Mann Williams Consulting Civil and Structural Engineers, which included full survey drawings of the headframes and adjoining structures prepared by laser survey specialists Russel Geomatics. Both firms had been assisted by aerial rope specialists iBEX Technical Access.

The good news is that overall the structure is stable and solid, notwithstanding considerable



The fan as revealed

Len Smith, photographer volunteer

corrosion issues with individual beams and plates. There are safety concerns for less critical items such as the thin platform walkways plates and the edge railings.

The recommendations for restoration of the headframe are dependent on what we want to do with it, - simply preserve it as a static exhibit or enable the sheaves to turn when the engine is working.

Mann Williams also inspected the steel beams which support the gantry walkway leading to the east door of the winding house (the 'Ponty side'). The corrosion here is very advanced and

the steel can no longer be relied upon to support the access. Repair work here would be straight replacement of the unserviceable beams.

The next stage is to develop a detailed repair scheme and seek financial help to carry it out.

Opening up the Fan Drift

The contractors working on the headgear survey were not able to get sufficient access to the bottom of the headgear to examine all of the structure. The solution was for our volunteers to open up the access to the fan drift (the brick-built airway connecting the ventilating fan to the top of the pit), which had been blocked with breeze-blocks to prevent unauthorised access. This was done in December, and has made it possible to photograph the lower sections of the headgear from below. The entrance has been fitted with a steel gate.

We can now also see the ventilating fan for the first time in nearly twenty years. This is a 'Sirocco' fan 12' 3" in diameter. It was driven by a 450 H.P. electric motor, which was removed when the pit closed. The fanhouse would make an ideal building in which to install a permanent power plant, so we do not get a recurrence of the problems we experienced with the hired compressor last autumn.

As we produce this Newsletter we have just heard that we have been successful with a grant application to CADW, so repairs to this building can now begin.

Open Doors

This year we will be open to the public on Saturday 21 and Sunday 22 September and for group visits during the previous week.



Examining the headgear

Len Smith, photographer volunteer

SL Lady Elizabeth

In 2017 the AIA made a restoration grant of £20,000 to Lakeland Arts towards work on the engine and boiler of the c1895 Steam Launch Lady Elizabeth

Caroline Gilbert, Head of Development, Lakeland Arts provided the following report in January 2019 on the progress in restoring Lady Elizabeth

Conservation Management Plan

The 'conservation management plan' (CMP) for each boat in the collection define the conservation method statement to be used. For *Lady Elizabeth* the method statement is 'Restoration: Static wet display'. However, the CMP's also have a section on 'future options'. For *Lady Elizabeth* it states "In the longer term, we will consider applying the operational methodology to *Lady Elizabeth*, to enable the boat to be used for demonstration. We anticipate that this will be a viable route".

For both the 'static wet display' and 'operational' routes it is vital to have a leak proof and safe hull that can be maintained and prevented from deteriorating over time. On stripping the hull, it has become apparent that the work required to achieve this is almost the same for both routes, with very little difference in cost and time and no significant additional intervention or timber replacement for operation. Having evaluated the work required to put back the engine and boiler into operation (and gained funding for this) we have decided to follow the operational route.

Work completed to date

Surfaces

As with the static wet display methodology we will repaint the hull to preserve its condition, and we will avoid sanding of woodwork for varnishing, to retain the patina of the original varnish. We stripped the paint from the hull below the waterline.

Structure

We removed engineered component parts and 'fit-out' items. As a result, it became apparent that some areas of the boat have suffered leakage, been poorly repaired and subsequently rotted. If the hull is to float these issues need to be addressed. However, this is being achieved without replacing original timber in almost all cases apart from the stern post knee.

The hull was originally fastened with iron nails which have corroded almost completely to the point where most of the joints between components are open. Later period copper fastenings have been applied in a few areas, to keep the hull water tight, but done to a poor standard. We are keeping samples of the fastenings being removed and renewing them to achieve a leak proof hull.

We are conserving the hull in the following order:

Removal of garboard and broad strake



Sternpost replaced and keel repaired

planks to inspect and repair backbone components – complete

Removal of drive shaft - complete

Removal of engine bed - complete

Inspection and repair of frames and floors (port to starboard) –

Work in progress

Repair stern post

Remove keel, repair and refasten

Repair stem and apron refasten

Planking repairs including refastening

Cotton caulking

Paint and varnishing

We have stripped the engine down, inspected it and started to reassemble. There are no significant issues. There are a couple of bronze bearings that need machining and re-shimming.

The boiler has been stripped down, asbestos removed, caustic dipped and inspected. It is in a very poor state with many of the tubes holed and the main vessel excessively thinned due to corrosion. Were it to be repaired there would be very little original left so, we will keep it as an exhibit and have researched other approved boiler designs that have appropriate capacity and that fit into the original boiler casing.

Manufacture of the new boiler is being carried out by Alex Sharphouse at John Fowler Engineering Company.

The paraffin burner system is in poor condition and presents operational safety issues were it to be used. The pressurised paraffin tank is heavily corroded and has been repaired many times. Like the boiler we will keep the paraffin system for the record, may reinstall it in the boat, but will run the boiler using solid fuels.

We have completed all the repairs to the backbone and framing of the boat (stem, apron, keel, hog and sternpost).

We have kept as much of the original material as possible, commensurate with the conservation management plan i.e. putting her back on the water. The backbone fastenings were corroded and need to be replaced. We have made these in bronze (see photo below).

We have started to repair the planking. The photo below showing the sternpost and keel repair shows one of the garboard planks in place.

Current status

The museum will open to the public on 23 March 2019. We have moved *Lady Elizabeth* from the temporary conservation workshop to the new purpose built Conservation Workshop in the new museum. We are continuing to work on *Lady Elizabeth*, alongside work on the client fitout phase of the Windermere Jetty capital project. As a result, *Lady Elizabeth* is unlikely to be completed for the Museum opening date, but she will be well on the way and will make a superb inaugural exhibit in the conservation workshop, where work on her will be visible to visitors, as she draws near to completion.



Boiler after stripping and caustic dip

Windermere Jetty Museum now open

The Lake District's new Windermere Jetty Museum of Boats, Steam and Stories has opened its doors following a £20million development by Lakeland Arts working with award-winning architects Carmody Groarke. Principally funded by the National Lottery, and located within the Lake District National Park and UNESCO World Heritage Site, the museum displays the internationally important collection of boats that reflect themes of technical, social and business development in one of England's most picturesque settings.

Windermere Jetty is one of the first contemporary buildings to be constructed on the shores of Windermere in over 50 years. A cluster of seven buildings, the new museum is clad in copper with sculptural silhouettes that frame stunning views of England's largest lake. A series of new jetties on the lake allow visitors to sail on Osprey (1902), one of the museum's fully-restored Edwardian steam launches and enables the regular lake cruise boats to dock and bring visitors to the museum.

The new museum tells the story of 200-years of boats, boating and boat building in the Lake District through its internationally significant collection. Owned by Lakeland Arts, the collection of over 40 vessels is the only one of its kind in the world. For the first time over half of the collection, which ranges from Victorian steam launches to record-breaking speedboats from the 1980s, will be on display. Vessels in the collection include SL Dolly, thought to be the oldest



Steam Launch Osprey at the newly reopened Windermere Jetty Museum. Osprey was restored with the help of an AIA grant in 2012.

mechanically powered boat in the world, Beatrix Potter's tarn boat which she used to sketch in, and the 50-foot luxuriously-designed Victorian steam launch Branksome (1896).

The museum features an open access conservation workshop where visitors will see the team of skilled conservation boat builders conserve and restore vessels that would otherwise be lost to history. The team use traditional boat building, engineering and boat finishing skills and extend the skills and

opportunities through training, apprentice and volunteer programmes that train the next generation. The museum showcases the quality of the work as visitors see live conservation and the finished boats on display and on the lake. SL Lady Elizabeth (circa 1900) is the first vessel to be worked on in the new Conservation Workshop, supported by a grant from the AIA. Visitors can hear a daily talk from the team about the work they are doing on Lady Elizabeth and other vessels.

Bennerley Viaduct's Owners Give Project a Potential Green Light

The Friends of Bennerley Viaduct, which the AIA visited during the Nottingham Conference last year, have much good news to report.

The project took a significant leap forward with the owners, Railway Paths Ltd, (RPL) giving a potential project go-ahead pending the acquisition of planning consent and outstanding funds. Historic England and the Railway Heritage Trust are supporting the project along with other trusts and funding bodies. In addition, the planning application is near the point of public consultation. If all goes well, it is anticipated that work will start on the structure in Autumn 2019. Bringing about a project this size is no easy matter. The Friends of Bennerley Viaduct would like to pay tribute to Bill Tomson of RPL for the amazing work he has put in.

After a recent meeting of the RPL board of trustees, Will Haynes, Principal Officer, made this statement, "Subject to securing the necessary planning and listed building consent, and meeting the fundraising target, we hope to be able to start the project towards the end of this summer. We are in the process of submitting planning and listed building consent applications to Broxtowe and Erewash Borough Councils,

which is a crucial step. Our fundraising activity is going well with two thirds of the total project cost of £660k secured, although we still have a way to go. The mobilisation of widespread support for the project by the Friends of Bennerley Viaduct has been invaluable in the progress so far and will be key in the delivery of the project. Our two organisations share the vision to bring the viaduct back into use for the benefit of the public."

At an Extraordinary General Meeting of the Friends of Bennerley Viaduct on 25 February, members voted unanimously to convert the group into a registered charity. The committee is now in the process of applying to the Charity Commission to become a Charitable Incorporated Organisation (CIO). CIO status will mean that we can operate in a more business-like way in future, possibly employing staff or owning or leasing property. There will also be more opportunities to secure funding from a wide range of sources to advance the project in years to come.

The Friends of Bennerley Viaduct have made an application for it to become one of 25 chosen sites from around the world where local communities are conserving their heritage. The

World Monuments Watch is a global program that uses cultural heritage conservation to improve the resilience of communities, enhance social inclusion, and build new capacities in the heritage conservation field and beyond. The 2020 World Monuments Watch will include sites from around the world in need of urgent action, each site telling a local story that carries global significance. We will know by September 2019 whether we have been successful with our application. Just as we have been inspired by projects from around the globe, we consider that our project has the potential to inspire. The World Monuments Watch 2020 could be catalytic in helping us secure, long term, sustainable, future governance of the viaduct.

Our thanks go to Dave McCabe, a Friends of Bennerley Viaduct Volunteer who has produced a comprehensive landscape management plan for the underside of the viaduct. Dave has been involved with the viaduct for many many years. His management plan is nearing completion and it will make a huge contribution to increasing the biodiversity under the viaduct and guiding the work of volunteers.

Kieran Lee

It's only a winch

The Hollycombe steam collections steam winch is a humble tool but has had an interesting history

Although not a glamorous item, the humble steam winch has performed numerous tasks which would otherwise have given many men bad backs and has saved numerous hours of graft. Now with the help of an AIA restoration grant it will be restored to full working order.

Robert Gambrill Hollycombe Trustee

Winching with steam goes right back to the very beginnings of the steam age; the copper mines of Cornwall used the earliest steam engines to lift ore from the mines with wires and rods.

Our winch was constructed by the firm Clark Chapman and Co, which was established by William Clarke in 1864 and located in Gateshead. After the company introduced its first steam winch in 1868 it grew quickly with the introduction of further partners, and by 1870 the company had changed its name to reflect its new status to become Clarke, Watson and Gurney.

Having started with winches, the company soon developed into multi tube boilers and expanded into just about everything the shipping industry needed on board ship, from pumps to generators. By 1882 Clarke, Chapman and Co. the now familiar name, was adopted.

Clark, Chapman and company was a forward thinking company and developed into a very advanced business, manufacturing everything from high speed steam turbines to electrical generators. The company absorbed over its many years of history such well-known names as Cowans Sheldon and Co, Stothert and Pitt and John Thompson's. The Clark Chapman group finally ended up as a part of Rolls Royce and is now still happily providing engineering manufacturing within the UK.

History of our winch

Hollycombe is a collection of steam engines formed by an eccentric country gentleman, Commander John Baldock. Commander Baldock was horrified by the destruction of our engineering history during the 1950s and 60s. Having been a Conservative MP and been very successful in business, he began collecting the fast disappearing engineering masterpieces from around the country. In the 1950s he purchased a large country estate near Liphook, which made a perfect site for a museum alongside the listed gardens and thus Hollycombe was born.

Initially he focused on traction engines and but soon he looked at all aspects of steam driven machines. His aspiration was to collect an example of every type of steam driven machinery from brick works to railways and by the 1970s he had amassed a huge collection. Much of the collection was unique including the only steam powered Razzle Dazzle steam driven fairground ride.

For a long time Commander Baldock sought an operational sawmill and by chance an advert was spotted in The Guardian for a large steam engine dating from the First World War. This



Waiting ready to leave for restoration

turned out to be a remarkable survivor. A complete and operating (1974) Robey 100hp semi portable supplied for the war effort in 1915 and still powering a whole brush factory in High Wycombe.

Having saved the engine it was installed at Hollycombe and this is where the steam winch arrived.

Close by Hollycombe, during the First World War, the Canadians had set up a steam powered sawmill, which was powered by a Robey semi portable and, of course, used steam winches to haul the logs from the delivery trains coming from the woods.

We have no paperwork for the purchase of the winch but we know that the commander had a good relation with Pounds, the ship breakers in Portsmouth. This famous firm broke up many of the Navy's fine ships some of which the commander had served on!

It is likely Pounds provided the winch as it is painted in admiralty grey underneath the black paint applied over the years. We don't know when it was made, or which ship it served on or, if it was based on shore, possibly in the dockyard at Portsmouth.

A vertical winch by Chapman is now very rare and we have failed to locate an operating one onshore. The winch was sited alongside our Scottish rack saw, joined to the Robey semi portable by a steam pipe; it received no restoration having arrived in good working order.

Hollycombe operates on summer Sundays and the sawmill ran most weekends with the winch hauling logs onto the rack. Unfortunately the steam pipe became poorly and needed replacement, alongside this the winch had become difficult to operate. At this point, in around 1990, the Royal Engineers offered to rebuild the winch and it was dismantled but nothing further happened apart from the parts being returned some years later. The sawmill carried on until it finally succumbed to the need for a new boiler in 2005.

Hollycombe has suffered from the same problem all working museums have faced; the loss of experienced volunteers as the working generation slowly dies out. After Commander Baldock died there were many changes of management none of which could find a way to bring the sawmill back to life.

With the formation of a strong charitable trust, attention turned to reviving some of Hollycombe's peripheral attractions. With the hard work of our volunteers, matched with funding from the HB Allan Trust, the sawmill now has a positive future. A boiler repair for the Robey is underway and the site is subject to redevelopment to make for a much better customer experience, even when the engine isn't running!

The winch is an important part of that future, with the very kind award of funding from AIA we can now look forward to once again amazing our visitors as they see huge logs easily hauled on to our rack saw.

The winch will be in the centre of the mill, as it will be connected to the overhead log haul and the internal tramway system to demonstrate the versatility of the machine.

London Anniversaries

31 May – 1 December 2019

A six-month long season of street theatre and circus, art installations, live performance, exhibitions, walks and tours is inspired by several important historical anniversaries, including:

200th birthdays of Sir Joseph Bazalgette, the deviser of London's sewer system and Sir Horace Jones, architect and designer of Tower Bridge among other City landmarks, also 250th birthday of Sir Marc Brunel and 125 years since the completion of Tower Bridge, as well as 150 years since Blackfriars Bridge and Holborn Viaduct opened and since the first trains used Brunel's Thames Tunnel.

The Restoration begins Hollycombe's steam winch

The restoration started with an audit of the parts and the job of actually getting them all back in one place!

This project was undertaken by two volunteers, as before we could look for funding, we had to first establish what was needed to see the winch up and running again.

It became clear we had been fortunate and there 98% of the parts had been kept. However some of them had been stored in metal boxes and while at first this seems a good idea, it was not when the boxes had been left under a leaky roof as they become buckets!

We knew the winch had stopped working and thus must have had some significant issues to overcome before it would operate again. The work needed included new pistons as well as rebuilding the operating valves. Some of the motion was bent and, of course, all the steam fittings had had, let's say, a hard life! All the shafts were seized and the cylinders had been removed and cast aside.

A full mechanical restoration was needed.

Having researched potential contractors and gone through the application process for AIA funding together with tendering the work, Hollycombe decided to award the restoration to the Vale of Rheidol Railways Heritage Restoration Division. The railway has been working hard to train young people in heritage engineering, something we aspire to carry out at Hollycombe in the future. The restoration of the winch would provide an opportunity to liaise with another steam charity which has already achieved our goal of engaging youngsters.

The winch was lifted by telehandler out of the sawmill in September 2018, it was the first time it had moved since 1974 and quite a moment for us.

Work started in Aberystwyth almost immediately with dismantling and shot blasting within a week!

So far, all parts shot blasted and dismantled and the cylinders rebored. The main steam valve and control valve have been dismantled and repaired which included straightening the main steam valve spindle.

I would like to thank all AIA members for helping us restore this project, we are a small charity and this help is really appreciated. It will make a small part of Hollycombe come back to life and tell its story - THANK YOU.

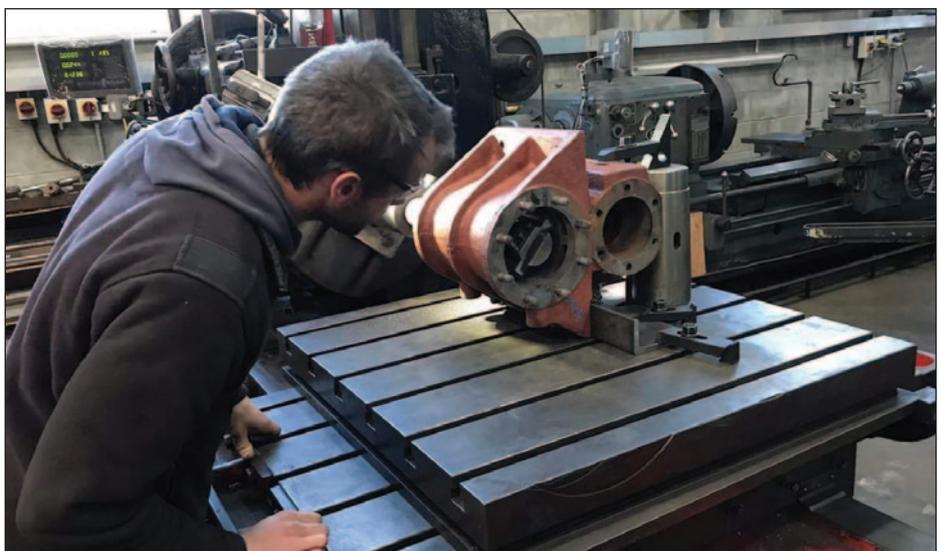
*Robert Gambrell
Hollycombe Trustee*



Everything now cleaned and primed



Part reassembled



Cylinders being rebored

**VISIT THE AIA
WEBSITE**

www.industrial-archaeology.org

Industrial Chimneys

Back in 2000 I had access to a set of plans for the building of a brewery, and those plans described the brewery chimney with some details of the plant it served. The chimney is much more modest than the monsters that have been described in recent articles and letters in this publication, but since I have the information, I thought I should share it.

Bruce Hedge.

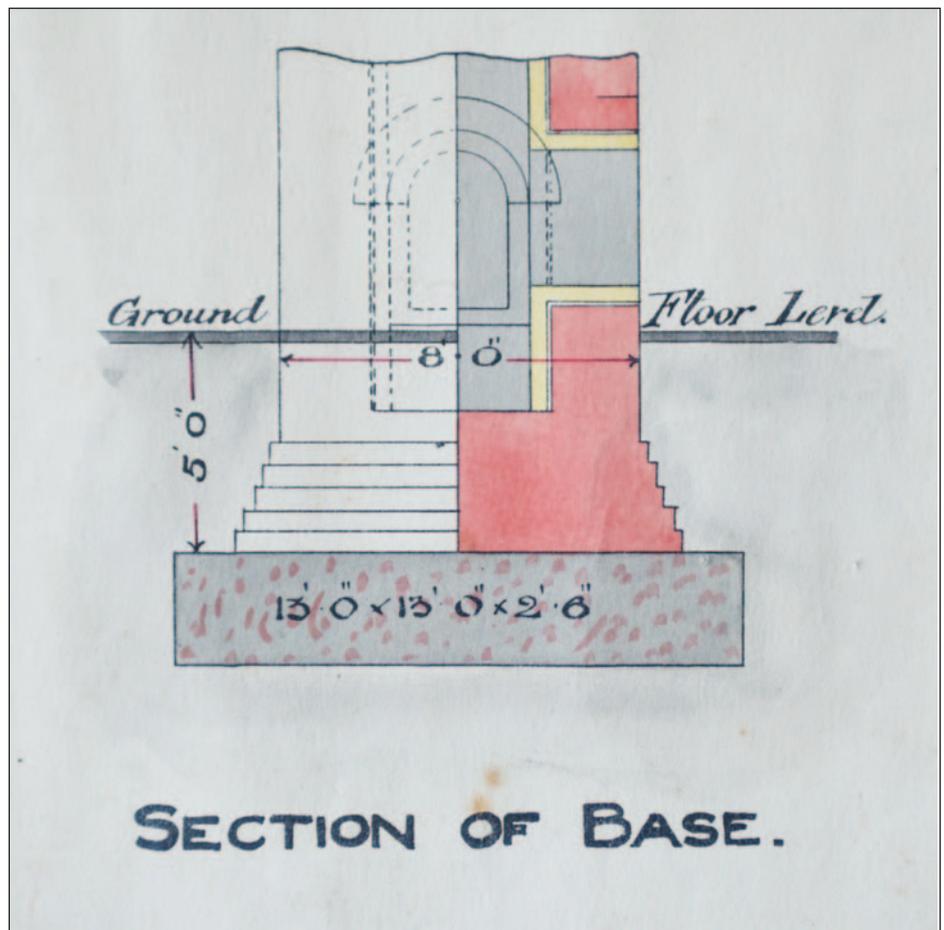
Morlands Brewery was established on its Abingdon-on-Thames, Berkshire, site in 1861 taking over an existing brewery. It was some time before any major rebuilding was undertaken, and when it was the designs were prepared by Joseph D. Wood, architect, of Colmore Chambers, Birmingham. His first project was the design of a 100 quarter malthouse, followed shortly after by a smaller malthouse. It was as an architect of malthouses that J D Wood was known, and the Morlands brewhouse is the only one he is known to have built.

The plans referred to were drawn up in 1911 and 1912, but they are of a conventional tower brewery design common in late Victorian times.

The chimney is brick built, of square section and is 82 feet from ground level to the cap. It stands on five feet deep foundations, see the illustration. The foundations rest on alluvial over Kimmeridge clay.

The chimney is designed in four sections, the lower section 22 feet, the three others 20 feet each. Oversailing ornamental brickwork topped the last eight feet. It is 1.7 times higher than the tower brewhouse to which it is linked, somewhat shorter than is suggested elsewhere.

The lower section is 8 feet by 8 feet and straight-sided, the taper beginning at the 22 feet level. The taper on the remaining 60 feet is $\frac{1}{4}$ inch per foot, or 6 inches for each 20 feet. A section through the base is:



Two feet brick; 6 inches lining; 3 feet flue; 6 inches lining, and 2 feet brick. Since the lining should not touch the brickwork, it must be $\frac{1}{4}$ inches of firebrick and $\frac{1}{4}$ of space. It is only this first 22 feet that is lined.

Above the lined section, the flue starts at 3 feet 6 inches and tapers to 2 feet 9 inches.

According to a plan dated a year earlier, two Lancashire boilers provided the steam for two 15 hp. DC generators. One (pre-existing) boiler measured 18 feet by 6 feet, the other 24 feet by 7

feet, (all outside measurements).

During World War two the brewery was forced to take an AC power supply from the local energy supplier. In the 1960s the boiler house was replaced by a modern one elsewhere on the site, and the chimney was demolished.

Morlands was taken over by Greene King in 1999, production transferred to Bury St Edmunds, and the brewhouse and other structures on the site converted into domestic accommodation.

Historic England guidelines revised

Historic England have revised their document – *Science for Historic Industries, Guidelines for the Investigation of 17th- to 19th-century Industries*.

This guidance is intended to aid archaeologists working on sites of historic industries. For the purpose of this guidance 'industries' are non-domestic manufacturing activities (but not the production of foodstuffs) and 'historic' covers the period from the early 17th century to the late 19th century. The advice demonstrates the additional information that can be obtained by applying scientific techniques. Some of the issues explored are particularly relevant to urban sites, but the principles have wider application. Despite the crucial contribution that scientific techniques can make to archaeology, their application to the post-medieval and later periods has been rare (Crossley 1998). This guidance describes some of the techniques that are commonly used and include examples of the ways in which they have been, or

could be, applied to the archaeological remains of historic industries.

This advice is provided for curators (eg local authority archaeological officers and historic buildings officers) who advise on planning and listed buildings applications and write briefs for archaeological investigations, as well as for contractors who undertake such archaeological recording. The advice should be useful for anyone involved with the archaeology of post-medieval industrial sites.

This document is a response to the increasing pace of redevelopment of urban industrial sites in recent years. The large numbers of new houses being built in urban areas are frequently on the sites of historic industries (often referred to as 'brownfield' sites). Until relatively recently the post-medieval stratigraphy of urban sites was often removed before archaeologists began their work.

The Hoover Building

This Grade II* Art Deco landmark, to be seen from the A40 as you leave London, has now been converted into 66 apartments. Designed by Wallis, Gilbert and Partners in 1933. It was purchased by Tesco in 1980 but the iconic front building was bought by IDM Properties in 2015 after several years of standing vacant.

Internally, many of the original Art Deco features have been refurbished. The building's original colour scheme is reflected in new Art Deco-style corridors with green interiors and high-waisted dado rails. The light fittings, staircases with wrought-iron banisters and terrazzo lobby floors have all been restored.

On The Origin of Tall Industrial Chimneys

James Watt perfected his rotative beam engine in 1782. With astonishing confidence, just the following year, Boulton & Watt started to build a giant steam factory in Southwark on the south bank of the Thames in London. This was the Albion flour mill which had 20 pairs of millstones initially driven by a pair of 50 hp sun & planet beam engines. At the time these were the most powerful steam engines ever built. This mammoth Flour Mill, the first steam factory in the world, was in operation from 1786 until 1791 when it burnt down before a third steam engine could be installed. Thus by the early 1780s there was at least one man who, in the business of designing a large manufactory, clearly had considerable theoretical knowledge and was able to work quantitatively.

In order to design this great work James Watt needed to estimate the power required to drive 20 pairs of millstones before he could design a pair of beam engines of sufficient power and boilers to supply the necessary steam. Following this he had to design a chimney which would provide enough draft. To be able to do this successfully for an undertaking so novel and of such unprecedented size and power clearly demonstrates James Watt's ability, amounting to genius.

An industrial chimney is not designed in isolation. It is part of a holistic scheme involving the engine, the boilers and the chimney. The whole arrangement must provide sufficient steam for the engine to produce its designed horsepower.

In Wiltshire there is a surviving example of steam plant from the early nineteenth century at Crofton. The beam engines, boilers and chimney at Crofton pumping station are essentially the same as those which would be required to drive a flour or textile mill. The only alteration necessary would be to have rotative beam engines instead – quite a small change. A cotton mill of the same size designed by John Rennie is quite easy to visualise.

So it seems there is a possibility that the origin of the tall industrial chimney may be due to the combined efforts of James Watt and John Rennie who together pioneered the first steam factory - the 1783 Albion Mill in London.

If we consider the surviving example of Crofton Pumping station, designed by John Rennie and built about 1807, the industrial chimney there, although not of very great height, is in the very classic late Georgian – early Victorian style, with a circular cross section, whose origin we are trying to investigate. So the question is whether such a chimney design could fairly easily be scaled up to an example three times the height to produce the kind of chimney that Sir George Head described in 1834.

Unfortunately this is taking the investigation in a completely wrong direction. It turns out that the flue and chimney at Crofton were not Rennie's but built about 1856 under the auspices of the Great Western Railway. So what was Rennie's chimney like? Was it at all similar?

I have learnt from Ian Broom who has carried out much research that John Rennie's original arrangement was for a quite modest chimney close to the engine house. Moreover this chimney had a square cross-section and was similar to the chimneys in John Farey's steam engine book of 1827. Ian wrote that 'the later chimney was built by Thomas E Blackwell, Canal Superintendent, and was set some distance from the building to accommodate two separate flues coming from either side of the boiler house'. So Rennie did not even have an underground flue.

The bare facts are impressive. In 1820 the tallest chimney was 95 feet high. By 1835 there was a chimney over 300 feet high. How did this revolution come about?

In the early nineteenth century civil engineers engaged in mechanical engineering which included steam engines and papers on this subject were presented and discussed at meetings of the Civils in London. For instance a paper by George Holworthy Palmer, *On the application of steam as a moving power, considered especially with reference to the economy of atmospheric and high pressure steam* which was presented in 1837 is still being discussed by historians today.

What do we know about chimneys at large military establishments? We know that there were two tall chimneys at Woolwich Dockyard by the early 1840s. At Woolwich Arsenal they had quite a number of chimneys including some tall ones. However most of these were built after 1850. Civilian chimney building seems to have been far in advance.

James Douet in *Going up in Smoke* tells us that before about 1820 chimneys with a circular cross-section were only built on hillsides to provide drafts for flues built in connection with extractive industries such as lead and copper mining. These chimneys were generally constructed of stone rather than brick.

This raises the issue of the availability of materials. In a place such as London where bricks were readily available it would be natural to use them to construct a chimney and as bricks are rectangular one would tend to build a chimney with square cross-section. Using rectangular bricks to produce a circular cross-section is awkward.

On a hillside using roughly-shaped stone, why waste materials building something with a square cross-section? Rough stonework lends itself to building round chimneys and you get a better draft and superior wind resistance. Thus before about 1820 there were perhaps two schools of chimney builders working in rather separate environments. The builders of circular cross-section chimneys were associated with activities such as metalliferous mining. Chimneys for engine houses and arsenic flues in places such as Cornwall were built of stone and usually round.

So perhaps the tall industrial chimney with a circular cross-section was pioneered by builders

who originally worked with stone. When activity moved to places such as industrial Cheshire and South Lancashire where bricks were more easily obtained than building stone, they had make use of the available material.

We are still looking for a great originator, should one exist. Having consulted the authorities on the civil engineering history of the period we find that chimneys are not mentioned. Could it be that tall industrial brick chimneys were pioneered rather in the way that railways were by people such as George Stephenson but that in this case the originator or originators never rose to comparable eminence?

Much of this article is just speculation. There are hardly any facts.

Robert Carr

The size of engine houses

With reference to the article *Pumping Stations in Danger* in *IA News 188*, pages 4 – 5, Bryce Caller made the pertinent comment that you design the engine house before the steam plant is installed. If we take the example of Ferry Lane pumping station, *IA News 185*, a triple-expansion engine was put in, and a horizontal engine and a steam turbine were added in a space of just fifteen years.

In addition to improvements in pumping machinery you are also not really sure in advance how much water a borehole will supply and it might take several years of service before you find out. It would be wise to design a commodious building in case you are fortunate and the water supply turns out to be really abundant. If the supply is not so good then less powerful and cheaper pumping engines will do. At Northumberland Park they may have been hoping for plenty of water and been intending to install larger engines.

In the case of Waddon pumping station, again they may originally have been hoping for plenty of water, sufficient to justify the installation of lofty triple-expansion engines. As they installed relatively cheaper horizontal engines instead it looks as if they were disappointed.

Robert Carr

Free tram travel

Heritage of Industry is organising the 2019 AIA summer visit, this year to Hungary. Should this involve travel on any of the 36 tram routes in Budapest, or indeed any travel in the whole of Hungary, participants aged over 65 should know that for them travel is free. All they need to do is to present their EU passport.

Planning Casework Update and associated matters

In 2018 the Association commented on 22 applications. Most were just comments but five were objections recommending refusal of the application and in one case we supported the application. Some have already been mentioned in previous issues of *IA News*, including the Ediswan Building at Ponders End and the Grimsby Ice Factory. The applications in respect of the Kimberley Brewery and its Malt Kilns (Nottinghamshire) have been approved, but others are still outstanding. Another major maltings conversion which fortunately was withdrawn was in respect of Bass's Wetmore Road Maltings in Burton on Trent (Staffordshire), Nos 18 and 19 and the associated Water Tower. The proposal was to turn the two buildings into 182 residential units which would have been a very dense conversion. Together with the Ancient Monuments Society the AIA objected, commenting in particular on the lack of an adequate Historic Building report. There have been several applications in respect of textile mills and their sites, including part of the Ansford Horse Hair factory at Castle Carey (Somerset). Another important application was in respect of the Hafod & Morfa Copperworks, Neath Road, Hafod, Swansea. The AIA supported the Halstead 21st Century Group in respect of their objection to the outline application for the Halstead Air Raid Shelters. This is a group of 16 WW2 Shelters which form a rare group and are an important

survival both because of their number and for their association with Courtauld's.

I have mentioned the Ancient Monuments Society (AMS) and it has been agreed that there is to be a closer liaison between the AIA and the AMS over industrial casework. At present most cases are obtained by a weekly check of the CBA's public database. This includes all cases of whatever period, so the search for industrial cases can be time consuming. The agreed proposal which will come into operation from 1 June 2019 and will be for a trial period of a year. It will mean that the AMS will notify the AIA of industrial cases. (The AMS being a non-period society receives the same cases as the CBA.) Cases on which the AMS requires comments will be identified by them and the planning casework officer will prepare a reply and forward it to the AMS for them to make a formal response. However, there will be cases on which only the AIA will want to comment, and the AIA will continue to comment as it does now. It may also comment on those cases on which the AMS is commenting. Although this may mean some extra work in the preparation of responses, it does mean it will no longer be necessary to go through the cases weekly, usually over a 100, on the CBA's database. The original system of referral of industrial cases was that the CBA notified the AIA of such cases, but this changed with the implementation of their database. So in effect we

are going back to a pre-existing system but with a different Amenity Society.

Finally, it is pleasing to report that the AIA has been asked to respond in respect of the Historic England Listing Project which is an overview of the current state of listing which in our case relates to industrial buildings.

Amber Patrick, Planning Casework Officer

Dr Jake Almond

1929—2019

Dr Jake Almond died on 13 December 2018 at the age of 90. A leading metallurgist and mining engineer, he taught at Teesside Polytechnic (later University) after many years of working in Africa. He was a leading figure in the Cleveland Industrial Archaeology Society as well as The Historical Metallurgy Society, and belonged to the Newcomen Society, Yorkshire Archaeological and Historical Society and AIA. His particular skills and training put him particularly in demand for help with research studies on old metalliferous slags, zinc smelting, and extraction of copper from pyritic ores. His very large collection of books, papers and manuscript notes will be conserved and form the basis of a J K Almond archive housed at the Materials Processing Institute, Middlesbrough, where it will be available for researchers.

Marilyn Palmer (with thanks to Dr F W Smith)

The Association for Studies in the Conservation of Historic Buildings

The ASCHB was founded over 50 years ago, initially as a lobbying organisation after the Institute of Archaeology, London closed its ground-breaking conservation course. It was instrumental in founding the conservation course at the Architectural Association but primarily became a meeting place for those who were interested in advancing the knowledge of building conservation theory and practice. Over the years our discourse has expanded beyond individual buildings. The historical environment as a whole has become our concern.

Through its annual programme of meetings, lectures and visits and its annual conference, ASCHB provides an interdisciplinary forum for the exchange of ideas between professionals and academics with a specialist knowledge of and interest in historic buildings and the historic environment. Our membership includes leading exponents in their fields. Architects, archaeologists, historians, conservation officers, town planners, structural, civil, mechanical and electrical engineers, surveyors, research scientists, conservators and project managers number amongst them. As well as experienced practitioners, we encourage those at the outset of their careers and those who are students on postgraduate courses to join ASCHB.

The lectures on particular projects are given

by the professionals involved and are followed by informative questions and answers. Often a site visit ensues, led by those same people. Other lectures consider general matters of conservation philosophy, policy and history.

We organise the annual conference around a topical theme. Recent events have included: Building Interiors, Transport's Legacy To The Built Environment, Conservation and Colonialism, Historic Building Conservation Now –A review of current conservation research, Beyond Tradition - the conservation of post-industrial revolution architecture, Tension & Transition Construction 1900—1925 and, most recently, to mark the fiftieth anniversary of the association we looked at the future of the historic environment. This year our topic is industrial archaeology. We shall look at recent projects and consider key matters that the conservation of industrial sites must address. Adaptive reuse, significant where the original use is lost, relationship of building to industrial artefact, places that were part of extended systems, site contamination and sites within a setting of continued industrial production are just some of the matters that we might examine. This day-long event will also afford time for delegates to meet.

The Society records its deliberations in *Transactions*, which is frequently cited in academic research and held by many well-known

libraries across the globe. This illustrated journal includes papers based upon the lectures, visits and conferences of the society, upon significant work carried out by members and critical commentaries of important events in the world of historic building conservation. *Transactions* is an invaluable reference resource.

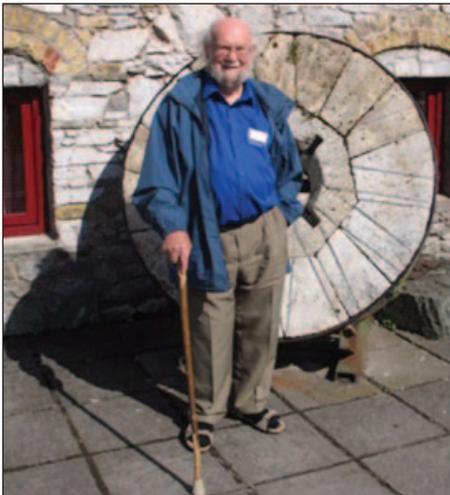
Up to date information about the society's activities can be found at www.aschb.org.uk.

Membership of the association is open to any person professionally engaged in conservation or those working in a cognate discipline who wish to gather expertise in the field. Application forms can be downloaded from the website.

Railway Heritage Trust

In addition to the work on Bennerley viaduct to enable it to be used once again as a cycleway the Railway Heritage Trust has granted Railway Paths Ltd funds to pay for new parapets on the 10-span Martholme Viaduct which carried the Lancashire & Yorkshire Railway across the Calder Valley. The viaduct which opened in 1877 was closed to traffic in 1964. It then became a cycleway until the foot and mouth epidemic in 2001. The new parapets should allow it to be used as a cycleway once again.

Tony Yoward 1924-2019



Tony Yoward

photo Peter Stanier

Tony Yoward died at the age of 94 on 18 January 2019 in his beloved Slipper Mill in Emsworth, where he and his wife Mary had lived since 1970. Perhaps as a result of this, they were both passionate about mills and millers and their many records were deposited as a special collection in 2017 with the Mills Archive in Reading. Sadly, Mary died quite suddenly in 2006 and those of us who were at her funeral in Chichester will remember that Tony persuaded the driver of the hearse to do a circuit of the Goodwood Motor Circuit, with which he and Mary, as members of Southsea Motor Club for many years, were very familiar. Members of AIA who have been on our conferences will have been with Tony at many mill sites, and will remember that he refused to abide by the rule of wearing solid shoes or boots for such visits and I have a clear memory of him scrambling up a very ruinous post mill in Poland in his sandals! He always managed to talk his way into sites which tried to insist on different footwear! On one of my country house technology tours for Heritage of Industry quite recently, Tony had a wonderful time on a mobility vehicle around the estate at Tyntesfield which he regarded in much the same way as he did the Goodwood Circuit!

For many years, Tony and Mary had charge of the very complex booking system for the AIA's Annual Conferences and went around everywhere clutching a laptop. They used to drive to Council Meetings in Ironbridge and park the camper van in various museum car parks. From this, they dispensed gin and tonics with a very generous hand, which certainly helped the meetings along! They also were regular attendees of the meetings of the Newcomen Society in London – and the dinners which followed the meetings! On social occasions, Tony would always drink a toast to "Your moderate health" (as he said he had a pharmacist's business to keep going!). Tony was a member of the Hampshire Mills group and became their President last year. For many years as well, he and Mary also belonged to what is now the

Hampshire Industrial Archaeology Society. This used to be called the Southampton University Industrial Archaeology Society as it met there and was commonly known to Tony and many of us as 'sewage', as Tony used to pronounce SUIAG.

Tony's other interest in things industrial was the production of cast iron grave markers. We were all asked to take photographs of any that we found on holidays both at home and abroad and many of us puzzled local visitors by combing their graveyards for such items. We were always a little worried, though, that Mary gave him one for his birthday many years ago, fortunately with no date on it, which he kept in the sitting room at the Mill. The date has now been reached but he was able to enjoy it for many years! His last AIA conference was the one held in Telford in 2016 and we have really missed him, as I am sure many AIA members have done.

Marilyn Palmer

Dr Jim Arnold, MBE 1946-2019



Jim Arnold at his retirement from New Lanark

Photo: Mark Watson © Historic Environment Scotland.

Jim Arnold, who will be forever associated with the Scottish paternalist mill village New Lanark, died on 19 February aged 73.

Jim Arnold outlasted even Robert Owen. He was Director of New Lanark Conservation Trust for 35 years, whereas Owen was only to direct New Lanark for 25 years. During that time Jim oversaw the 'revivification' of the villagae to become the standard bearer for regeneration of industrial and social heritage in Scotland. Among many highlights UNESCO world heritage listing was achieved in 2001 after an initial push by Jim in 1986 and a second nomination in 2000, when a letter-writing campaign had mysteriously propelled New Lanark to the front of the queue in the UK tentative list!

Jim said that it was his "background and upbringing in a home with a series of staunch and immovable beliefs, such as the work ethic, dignity, respect for self and others and good old socialism, that meant he was practically born to become the first - and only - director of New

Lanark Conservation Trust." Jim described his arrival in 1974 as a "newly appointed naïve and young Village Manager" in which housing refurbishment was first priority for the New Lanark Association. His work experience before then had been in the motor industry with Ford (notably the new Capri), and in teaching.

Jim drove forward acquisition of the mills from a scrap metal extractions company in 1983, following a council-served Repairs Notice and collapse of the roof in the School. With an enormous amount of floorspace to fill, Jim was undaunted and saw through an ambitious tourist route, the Annie McLeod experience. He put a ski tow into service for that, and installed a waterwheel and a steam engine that approximated to what had been there. Following a timely visit with the Scottish Industrial Heritage Society to Selkirk, he also acquired enough spinning machinery to set up a subsidiary business producing woollen knitting yarn, as cotton would have not been economic, and this thrives to this day. New Lanark was never to be described as a museum.

One of the tenants of the mills in early days was Heritage Engineering. Jim Mitchell recalls,

"I worked with him for a few years when I started Heritage Engineering at New Lanark, both as a volunteer then as a business. He certainly taught me that all you really need to make things happen is determination. He was challenging to work for but that's how he got things done. Having pondered this, I probably owe him for learning that any project is possible... the waterwheel, weir, turbine and steam engine are testament to that. He found the money and I did the job!

Jim had a good relationship with his trustees and a succession of able chairs. His combats with officialdom, such as those representing the funding agencies, were always good-humoured, in the certain knowledge that New Lanark would outlast them all. New Lanark is on an even keel, despite the alarms Jim would occasionally raise, and that is his monument.

Leaving what was now New Lanark Trust, and echoing Owen's move in 1827 to New Harmony in Indiana, USA, Jim retired in 2010 to front a project for a new town that would more fully develop Owen's ideas. This was to be Owenstown, in rural Lanarkshire, but planning permission has so far eluded that project.

Mark Watson

Historic Environment Scotland

with a contribution by Jim Mitchell, Industrial Heritage Consulting Ltd

The Power to change the world: James Watt (1736-1819) A Life in 50 Objects, edited by Malcolm Dick and Kate Croft. A new book on the life of inventor James Watt will be published on 10 May by History West Midlands who describe the book as charting "a fascinating, complicated and iconic figure".

Highlights of the March Council Meeting

The first Council meeting of 2019 was held at Leicester University on 2 March 2019, the main points are summarised here.

The Chairman, Mike Nevell, announced that our agreement with The International Committee for the Conservation of Industrial Heritage (TICCIH) dating back to 2008 is to be reviewed. The review will be undertaken by Marilyn Palmer and the Chairman.

Mark Watson stated his intention of stepping down from the roll of the UK's national representative on TICCIH.

The Heritage Lottery Fund has been re-named as the National Lottery Heritage Fund. Mike also noted that the funds available over the next five years are down by 50%.

Historic England and Industrial Heritage: there has been a further re-organisation within Historic England. Shane Gould's secondment to the Department of Culture, Media & Sport in order to produce a strategy has been extended from two to three years. The draft strategy will be reviewed with the AIA in due course.

Two further events were noted by the Chairman: an Early Steam Engine Conference is to be held at the Black Country Museum in May 2020. The Association will provide £150 sponsorship for that event. Secondly, the CBA North West Industrial Archaeology Panel, chaired by Mike, is holding an event on early Steam Engine Archaeology at Bolton Museum on 27 September.

Treasurer's Report. John Jones noted that our surplus for the year ended 2018 was a healthy £8,900, which more than offset the deficit of £6,800 in the previous year. The turnaround was largely due to a conference surplus, increased royalties from our publishers, Taylor & Francis, and lower publishing costs for *IA News* and *IA Review*.

Restoration Grants. £124,282 is available for the 2019 round of applications. All our grant funded projects are recognised by our logo and a credit. This could be improved with the addition of a 'QR' code which would allow access to further information. It was agreed that we could generate better publicity by producing a glossy publication, typically showing 'before and after' images.

Membership Report. Bruce Hedge reported that our membership at the end of 2018 was 500, a drop of eight from 2017. Renewals for the current year (end of February) were 442; however, it should be noted that not every subscription is due for renewal in January.

Forward Plan. As part of our forward planning a Communications Plan has been circulated; a high priority in this is the need for a quarterly e-bulletin. Marilyn Palmer has agreed to compile these and Bill Barksfield has agreed to circulate. It was noted that we now have 2,748 followers on our Facebook page. Paul Collins was commended for this.

Conference Report. It was agreed that all future conferences tours, i.e. from 2020 onwards,

would be charged the same price. This avoids refunds where delegates swap tours whilst at the conference.

For this year's Somerset conference (9 – 14 August) it was agreed that our Affiliated Societies should be invited to take a stand at no cost. *Space must be booked with the conference secretary in advance.*

A contract has been concluded with Liverpool's Hope University for our annual conference running from 20 to 27 August 2020.

For the Dublin conference in 2021 Dublin City University is Council's first choice for a venue, it being close to both the airport and the ring-road.

Planning Casework. Amber Patrick has been working on a proposal for closer liaison with the Ancient Monuments Society (AMS). The AMS Trustees, 'are delighted to accept (the) proposal for closer working between us'. The AMS is a general and not a period society and will be referring to us the industrial planning applications for our comments. This will be for a trial period of one year initially. Reciprocal membership between our two societies was agreed.

Industrial Archaeology Review. Ian West reported the first issue for this year will contain a wide variety of topics:

- China clay working in Devon
- A sugar plantation in Antigua
- A lock cottage on the Regent's canal
- Millstone quarries in Ireland
- A railway works in East London
- Salt production in China.

Ian has received a Publisher's Report which showed the *IA Review* had 112 institutional subscribers in 2017; additionally the Review was also available to 2,428 institutions via Taylor & Francis's licensed sales deals. We are also seeing a dramatic increase in article downloads. The total number in the 12 months to June 2018 was 12,328, an increase of 161% over the previous 12 months.

Chris Barney, the *IA News* editor, gave notice that he will edit the News for a further year only, and that a new editor will need to be sought.

Association Awards. The following award applications have been received for 2019:

- Postgraduate dissertations: 3
- Peter Neaverson Award for Outstanding Scholarship: 2
- Voluntary Society Publications: 3
- Commercial Publications: 1
- Archaeological Reports: 2
- Dorothea Award: 1.

From next year onwards, as conference falls increasingly in August, it was agreed that all award deadlines will be 31 January, apart from the Restoration Grant deadline which will remain at 31 March.

It was also agreed to offer a full year's free membership to all future award winners.

Field Visits. Bill Barksfield announced two tours in the Country House Comfort & Convenience series in 2019, including a new one, 'The Weald of Kent and Sussex' in June. A repeat tour of the North West will take place at the end of September.

The Spring Tour of Hungary 13 to 18 May is open for booking.

Sales Report. Roger Ford has ceased to be the Sales Officer and this role will be covered by David de Haan. A new sales page has been developed to take online orders for back numbers of *IA Review* and *Gazetteers*. Roger deserves our thanks for many years' enthusiastic service in the role of Sales Officer.

Web Report. Bill Barksfield reported our web-site continues to receive about 100 hits per day. There are about 60 searches of our website per month. The top queries last year were, 'Grants' and 'Restoration Grants'. The third most popular hit was 'Characteristics and Forms of Road Transport' with 1903. This appears consistently at the top of the table of hits.

There was a disappointing response from our Affiliated Societies to a mailshot sent 23 October last year on 'AIA launches new Research Grant'; only 30 read it and 6 clicked through, this means that 25 Affiliated Societies don't read our emails.

BAA and Heritage Angels Awards. The 2018 BAA awards were presented at Central Hall, Westminster on 15 October. A report giving an outline of entries of direct industrial archaeological interest has been submitted to *IA News*. These were of a maritime nature.

In November the Historic England Heritage Angels Awards for 2018 took place, hosted by Bethany Hughes. The Bulmer Brick and Tile Company of Suffolk received the award for 'Best Crafts Persons or Apprentices on a Heritage Rescue or Repair Project'. The award for the 'Best Major Regeneration of a Historic Building or place' went to the Historic Dockyard, Chatham, Kent.

Joanna Turska, the Industrial Heritage Support Officer reported that the 'Guidelines for Industrial Heritage Networks' have been finalised and can be downloaded via the new Industrial Heritage Networks (IHNs) website at www.industrialheritagenetworks.com. This site works as an information hub about the networks, explaining their purpose and operation. There are now 11 networks in operation or under development across the regions.

Finally, Mark Watson steps down from Council at the next AGM and announced that this meeting was the last he would be able to attend. Mark was behind the organisation of two successful conferences in Scotland, Dundee in 2013, and Caithness last year. His contribution to the Association's activities will be greatly missed.

Bruce Hedge, March, 2019.

A very warm welcome to our new members

Dr Christine Arkwright, Preston
Charles Bicheno, Harrow
Stephen Harker, York
Lyndon Knott, Worcester.
Mark Bonson, Bristol
Kevin Coffee, South Croyden
and Greg Leary, Sawbridgeworth

Around the World

Members may be interested in nationalities of our members:

United Kingdom	456
Argentina	1
Australia	6
Belgium	1
Canada	6
Czech Republic	1
Denmark	2
France	2
Germany	1
India	1
Italy	1
Ireland	1
Japan	1
Netherlands	4
Norway	2
Poland	1
Portugal	1
Spain	2
Sweden	1
Switzerland	1
USA	8

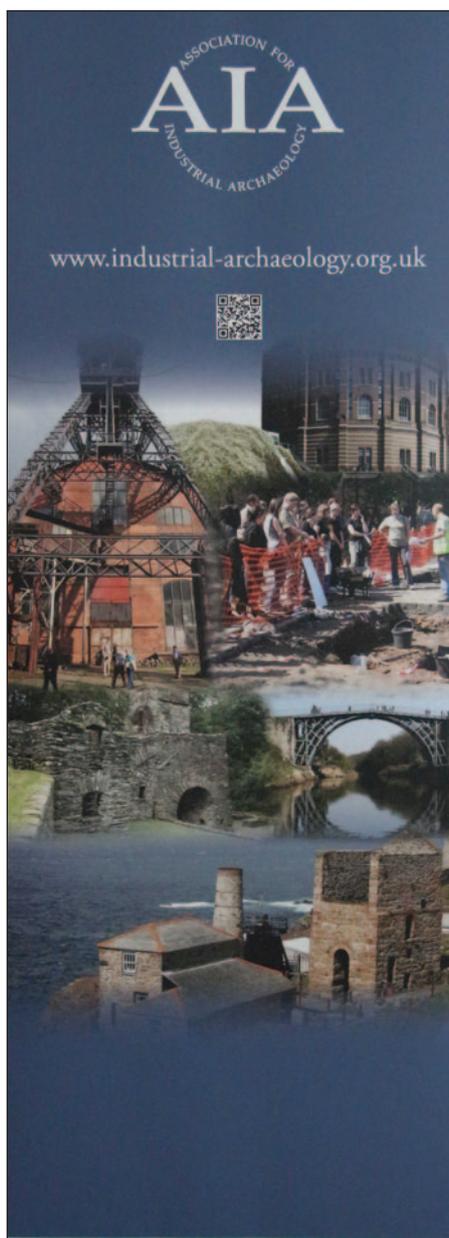
Who would like to edit the IA News?

I expect to have to cease editing the News in 2020 and would be very pleased to hear from anyone who would be interested in taking on the job.

Please contact me and I can give you more information about what is involved.

Pop-up banners

The AIA have commissioned two 'pop-up' banners to accompany our stands at events including regional conferences.



Crossness

The Crossness Engines Trust have announced that planning permission has been granted by the London Borough of Bexley for, 'the installation of a Narrow Gauge Railway and modifications to an existing building for use as depot facilities for the railway.'

They have a major fundraising challenge to cover the purchase of track materials including 1400 metres of rail, 600 timber sleepers, drive screws, fishplates, and the track bed preparation and ballast, before the track laying can commence.

In addition they will need to recruit able volunteers for the exciting and challenging task of constructing a new build 18 inch narrow gauge railway, so close to the track of the iconic Royal Arsenal Railway.

The 7 Most endangered sites

The '7 Most Endangered' programme identifies threatened monuments and sites in Europe and mobilises public and private partners - on a local, national and European level - to find a viable future for those sites. It is not a funding programme. Its aim is to serve as a catalyst for action.

Europa Nostra, the leading European heritage network, runs this programme in partnership with the European Investment Bank Institute and with the support of the Creative Europe programme of the European Union.

In 1918 the Grimsby Ice Factory was nominated and secured a place in the successful seven. A very considerable achievement.

You can nominate a heritage site with the support of an organisation in your country that is a member of **Europa Nostra** or directly by joining our pan-European network of **member and associate organisations**.

The '7 Most Endangered' heritage sites in Europe for 2020 will be announced in March 2020.

Portsmouth-Hard Bus Station Demolished

The former bus station at Portsmouth Hard was probably built in the 1950s although its exact date is uncertain. It was quite good architecturally but no one famous is likely to have been involved. It was unlisted and a concrete construction. Following experience with the Tricorn Centre, Portsmouth seems to have an aversion to this material. The architect of the old bus station was quite likely from a local practice although whoever did the work had some style - it had a really sea-side feeling about it.

The demolished bus station had an upstairs café where something like real cooking took place and you could get hot meals. There was also a very good view from the windows. It was an interesting building to explore but had become run down and rather unpleasant. The new bus station appears to be single story and is unlikely to have more than the usual counter selling muffins and wraps.

The new steel and glass bus station at Portsmouth-Hard has the now quite ubiquitous 'Wow factor' roof. The toilets are Unisex which has caused some concern among older ladies. As with many recent bus stations drivers do not like the new layout because buses have to reverse. They say this is dangerous. The old bus station had a straight drive through arrangement.

Robert Carr

James Watt 200

The year 2019 marks the 200th anniversary of Watt's death and the 250th anniversary of Watt's patent (to use a separate condenser to improve a steam engine).

The Library of Birmingham holds a world-famous archive relating to James Watt and his business partner Matthew Boulton. Here you can see original letters, sketches, notebooks, maps, steam engine designs, artworks and a host of other material relating to James Watt and life in 18th century Birmingham. Some of the highlights of the collection will feature in a major exhibition on James Watt, *Watt in the World*, which will be the centrepiece of the Bicentenary programme and will run from 12 July to 2 November at the Library of Birmingham.

Other Bicentenary activities include a Birmingham wide public events programme (to include talks, tours, films, concerts, art installations and family activities), a major new book on Watt and his life, a schools programme, a city heritage trail, a community engagement programme focussed on Handsworth (where Watt lived for 30 years until his death in 1819) and a conference hosted by the University of Birmingham.

Many events around the UK have already taken place but further events are listed below:

Saturday, May 25: Crofton Beam Engines: James Watt Celebration, Crofton Pumping Station, Wiltshire

Monday, May 27: Soho Steam Fair, Soho House Museum, Birmingham

Tuesday, May 28: Kaleidoscope Colours, Birmingham Cathedral. Family-friendly art event.

Wednesday, May 29: Smethwick Engine Steaming Day, Thinktank, Birmingham

Thursday, May 30: Walking in the Footsteps of Watt – Geology of the Lickey Hills, Lickey Hills Visitor Centre, Rednal, Birmingham

Friday, May 31: Watt A Celebration, Trades Hall, Glasgow

JUNE

Saturday, June 1: "The Power to change the world: James Watt A Life in 50 Objects", free talk and book signing, Beacon Arts Ctre, Greenock

Sunday, June 2: What's Watt, talk at Aston Hall, Birmingham

Sunday, June 2: James Watt Tours, Soho House, Birmingham

Wednesday, June 5: Visit Ecton Mine and Engine House, Peak District

Wednesday, June 5: James Watt Symposium, Kelvin Gallery, University of Glasgow

Wednesday, June 5: Royal Academy of Engineering and Royal Society of Edinburgh, James Watt Public Lecture, Sir Charles Wilson Lecture Theatre, University of Glasgow

Thursday, June 6: Who, Why, Where, When – Find Watt in Handsworth, walking tour from Soho House, Birmingham

Thursday, June 6: James Watt Bicentenary Celebration Dinner, Bute Hall and the Hunterian Museum, University of Glasgow

Thursday, June 6 to Sunday, June 16: Glasgow Science Festival: Glasgow Steams Ahead

Saturday, June 8: Selling Steam: Watt's Steam Engine in Popular Print Culture, talk at Library of Birmingham

Friday, June 14: St Paul's Flower Festival – A celebration of James Watt, St. Paul's Church, Birmingham

Saturday, June 15: Remembering James Watt – Death and Memorials in Georgian Birmingham, talk at Coffin Works, Birmingham

Saturday, June 15: From The Age of Steam – A Musical Tribute To James Watt, St Paul's Church, Birmingham

Thursday, June 20: A Visit To Watt's Workshop at the Science Museum, London

Tuesday, June 25: The Lunar Society and the European Enlightenment, talk at Birmingham City University

Thursday, June 27 (until July 8): Bobby Bird in Residence, musician behind the "Watt's Orbit" composition, at Vivid Projects, Birmingham

Saturday, June 29: The Family of James Watt, Library of Birmingham

JULY

Saturday, July 6: Visit to Ecton Mine and Engine House, Peak District

Saturday, July 6: City Centre Lunar Walking Tour, from Birmingham Cathedral

Saturday, July 6: James Watt Family Lego Sessions, Thinktank Museum, Birmingham

Wednesday, July 10 until Sunday, September 8 – Display of the painting "James Watt and the Steam Engine: the Dawn of the Nineteenth Century" by James Eckford Lauder at the Scottish National Gallery on the Mound, Edinburgh.

Friday, July 12 – Thursday, October 31, 2019: The Life and Legacy of James Watt 1736-1819, Exhibition at the Library of Birmingham.

Saturday, July 20: A History of Harper's Hill, talk at the Library of Birmingham

Tuesday, July 23: Watt The World Needs Now, outdoor event for children at Nettlefold Garden, Birmingham

Wednesday, July 24: Smethwick Engine Steaming Day, Thinktank Museum, Birmingham

Wednesday, July 31: Crazy Science and Garden Picnic, Soho House, Birmingham

Wednesday July 31 until Sunday August 4: Tours and talks with engine in steam Saturday and Sunday at the Etruria Industrial Museum, Stoke-on-Trent

AUGUST

Saturday, August 3: Visit Ecton Mine and Engine House, Peak District

Wednesday, August 7: Imagination Playground, Soho House, Birmingham

Saturday, August 10: Watt's Rotative Steam Engines, Library of Birmingham

August: Re-opening of the Watt Institution: the complex including the McLean Museum and Art Gallery and Watt Library in Greenock.

August 23 or 24 – details TBC. Carnegie on Watt, Bo'ness

Saturday, August 24 – Monday, August 26: James Watt Weekend, Thinktank Museum, Birmingham

Sunday, August 25: Go Industrial Day 2019. Events to celebrate Watt at 12 museum sites across Scotland.

Tuesday, August 25: Free talk on James Watt at the Scottish National Portrait Gallery in Edinburgh.

Thursday, August 29: Lunar Inventions, Library of Birmingham

Events later in the year will be listed in the next edition of *IA News*. The principal websites for further information are jameswatt2019 and james.watt.scot

LETTERS

Help please

I'm working with a Spanish Government Entity responsible in Promoting Contemporary Art.

I'm interested in information about Industrial buildings and spaces now dedicated to Arts and Culture within Europe in general and in Great Britain in particular, but having many problems to find reliable and complete data. We have identified 13 in Great Britain for so far - (list below).

As the Organization you represent is main part of the activity, I'm writing to you to know if you would be so kind to address me to Organizations, Reports and/or Inventories of Interest. My email is elenalozon@hotmail.com]

Birmingham	Eastside Projects
Birmingham	IKON
Birmingham	Vivid Projects (Minerva Works) & Centrala
Edinburgh	CAC - City Art Centre
Edinburgh	Fruitmarket Gallery
Glasgow	Tramway
Glasgow	WASPS-The Briggait
Leeds	The Tetley
Liverpool	TATE Liverpool
London	Serpentine Gallery
London	TATE Modern
Manchester	The Whitworth Art Gallery
Newcastle-Gateshead	BALTIC

Elena Lozón de Cantelmi

The Wheel Wreck

Imagine my surprise when I saw the cover of *IA News 188* and wondered who had been excavating a graveyard of Roman chariots and what could be industrial about it! But then I saw the diver top right and realised what it was. Readers with a long memory will recall 'Puzzle Corner' in *IA News 138*, Autumn 2006, which showed drawings of some of the pieces of mine pumping parts from the mystery shipwreck on Scilly with a request for suggestions of what they might be. Now in this new article Kevin Camidge is able to show that more information has come about the layout and composition of the wrecked cargo, which is such a fascinating collection, but admits the date and origin of the cargo are still elusive. The Virtual Dive Trail website mentioned is worth checking out, and the Wheel Wreck video accompanied by breathing apparatus noise is fun.

Peter Stanier

Man(n)

It was interesting to see the article on the Southall gasholder. I would take issue with one word – Mann. This particular design was always referred to both verbally and in writing as MAN holders. This was to avoid trying to pronounce or spell Maschinenfabrik Augsburg-Nürnberg. This firm developed the design in Germany in the 1920s but several UK gasholder firms were licenced to erect them in this country.

John Wilson

Shropshire sites

The below may or may not be of interest to you and may also be an excellent opportunity as a study location for university students interested in the industrial heritage adjacent to our waterways.

As a local, I take an interest in the present and the past infrastructure. In particular the locations of previous industrial areas located either side of the Shropshire Union Canal in Gnosall, Staffordshire. As a human and environmental geographer interested in the social science of former industrial areas I realise the personal stories can sometimes remain untold.

Either side of the Shropshire Union Canal in Gnosall there are sites of clay quarrying mainly used in the making of bricks; there is at least one location where the remains of a brick works can be found. The former pit locations are also visible. We as locals believe that the main period of time for the clay and brick workings is around the 19th to early 20th century, but could be much earlier and pre-date the construction of the canal.

There is the Cowley Tunnel and evidence of some embankment work which could give an insight into late 20th century industry. A potential swing bridge and smithy workings add to the intrigue of this location.

However, the whole of this area appears to be somewhat of an enigma. There is much local information shrouded in legend and misinterpretation of the past. We really could do with some experienced brick scientists to help piece together the past in a fluent historical story to enable the local people to understand our industrial heritage better.

This year we are scheduled to have a canal festival so knowledge of the history of our area could be interesting to visitors.

If you feel a site visit would be of interest to you and useful to your organisation I am sure we organise one. Please let me know if this potential visit is to your interest.

Please keep up the excellent work you do helping to preserve our important industrial heritage.

Paul Boston.

AIA Weekend

Unfortunately the Slate Mining Conference had to be postponed from 6-7 April. It is hoped that a new date can be found in the Autumn

Mining records at Newcraighall

Morag Cross is an archaeologist specialising in archive research. In 2015, for GUARD Archaeology of Glasgow, she was involved in the excavations at Brunstane House, Newcraighall, south-east of Edinburgh. This was a former coalmining area, with nearby twentieth century pits.

She has sent the *IA News* the links to the exceptionally interesting report which covers the seventeenth century mining and formation of the eighteenth century designed landscape as well as the rediscovery of a large, formal mid-eighteenth century 'lost' walled garden. However, it is the social history in the previously overlooked records which makes the report special. This includes day by day accounts and diaries of the underground mining workers from the late 1680s, as well as oversman William Marston's report on the condition of the workings from 1688. This was written for the Duchess of Lauderdale and her managers, as she took a close interest in her own estates. Various financial records also survive from the 1690s, showing how the coal was used to supply both the local market, and the estate's industrial salt pans on the adjacent coast.

Mining records, as well as agricultural and designed landscape artisanal and labourers' records survive from the 1630s-50s, and can be linked in many cases to specific excavated features, bell-pits, walls, hahas and water management, field boundaries and marches. .

The historical research demonstrates the complexities of landownership with evidence of the development of coal mining and coal ownership and the social and economic realities of the times. Examination of papers relating to Brunstane House showed that they had direct bearing on the understanding and dating of the landscaping features and other groundworks, including changes to the estate boundaries and the runrig system. A labourer's diary from the winter of 1735-6 was an especially interesting find from the point of view of what work was undertaken on the estate, by whom and for how much.

This project shows the value of combining the physical and the documentary areas together, and from their partial bodies of evidence, produce a much more rounded view of the life of the times from the landowner to the coal miner during the post-medieval and early modern periods

The report is free to download, and the summary is here:

<http://guard-archaeology.co.uk/wordpress1/?p=241>

The full report is here and the historical section begins on page 38:

<http://archaeologyreportsonline.com/reports/2018/ARO29.html>

Former Northampton Engine Shed now Students' Union Hub

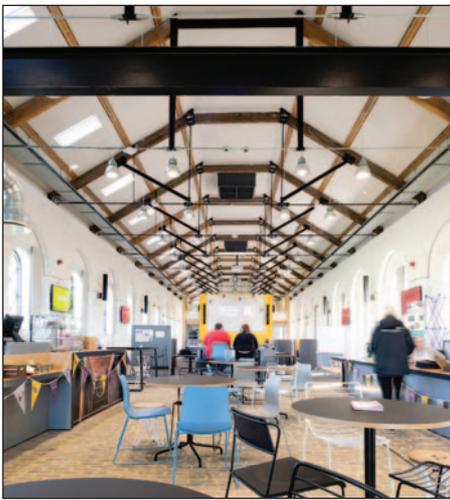
The University of Northampton's new Waterside Campus which opened to students in September 2018 has a former railway engine shed amongst its state-of-the-art campus buildings. Built by the Midland Railway, it has become the headquarters for the Students' Union on the Campus.

Peter Perkins

The two-road engine shed was built in 1872 at Hardingstone Junction, where the MR's Northampton (St Johns) to Bedford railway line met and crossed the LNWR's Blisworth to Peterborough line. It is believed to have ceased being used as an engine shed in 1924 and from the 1960s was used as a welding school by British Railways. The welding school closed in 1998, and was then the victim of an arson attack in 2000,



The restored engine shed



Inside the Students' Union

which destroyed a large portion of the roof at the western end of the building. It stood disused and deteriorating for another 15 years on wasteland behind a ring of steel fencing. The new Campus is close to the River Nene on a site which had seen industrial development since Victorian times, including railway infrastructure.

With the help of Heritage Lottery Funding, the engine shed has been restored back to its original state externally, complete with lantern roof. Internally there are meeting spaces and a coffee shop to meet the needs of the Students' Union on the site. The original inspection pits were uncovered during the refurbishment but

after recording they are once again hidden beneath the floor. However, a length of railway track has been re-installed in the floor along the line of one of the original tracks. As part of the funding package, University students have provided various forms of interpretation to highlight the story of the engine shed by means of visual imagery, a timeline and a local heritage trail. Thus the building provides a number of ways of giving new generations of students an understanding of the heritage of the site. The Engine Shed is also open to the public 9am-5pm Monday to Friday.

Sandfields Pumping station

The year began with an offer by the owner of a one-year lease linked to a commitment to take ownership of the site for £1.00 in its current state of disrepair and no contribution to the renovation costs. The offer included a caveat that if we did not wish to accept this offer, then what are the trusts plans to vacate the building?

Clearly, acceptance of this offer would have transferred a substantial financial liability to the trust and would have placed it in a serious adverse financial position. We also believe that this would have also placed the trust in breach of the Charity Commission rules too, we therefore informed the owners that the trust is declining the offer and agreed to vacate the site by end February 2019.

Fortunately, with the support of Lichfield District Council, Lichfield City Council, South Staffs Water and Historic England the trust was able to recommence a dialogue with the owners and agree to postpone vacating the site, while other options could be explored.

Historic England have put the site on the heritage at risk list, therefore the trust is in active dialog with Historic England and the owners to formulate a plan that will provide ongoing protection and accessibility. The preparation of a schedule of essential repairs in is progress and a new electrical main has been installed, final connection will hopefully be completed within the next month or so.

The trusts teams are continuing to make steady progress on the site. The engineering team are continuing to work on the Cornish Beam Engine with their protection plan for large objects in museum collections, while the archive team are busy cataloguing the site objects and archive documents. Humidity and temperature monitoring continue as do the repairs to the basic site welfare facilities.

The trust is continuing its collaborative working with other organisations including Dudley Technical College who have bought in HI Tec 3D scanning equipment to complete a 3D

walkthrough of the site. A link to this is on our website. The College is also designing an innovative lighting scheme for the 1870 engine house that will be building on and complementing the features of the architecture and heritage.

The trust is continuing its collaborative working with History West Midlands to produce a podcast telling the story of how clean water made cholera history. The podcast focuses on the industrial growth of the Black Country and the problems that a lack of supportive infrastructure had on health and wellbeing. The podcast them talks about how the achievements in engineering provided the supportive infrastructure for a growing population and addresses the fact that the heritage of the modern water industry is almost entirely absent despite its unarguable relevance to human development.

David Moore

A water tower of distinction



Chatterton Tower today

photo R Carr

The Chatterton Tower in Spalding is a dominant feature, a cubic structure 98 feet high and 95 feet wide. Opened in April 1955 by the Marquis of Exeter, it is named after Alderman George William Chatterton who was chairman of the local water board for many years.

Originally its exterior was unpainted concrete but in 1997 the Tower was painted in an attractive terracotta and white tulip colour scheme and these colours have recently been renewed. Close to the bus station and supermarkets this structure is now a well-liked feature of the town and the tower was floodlit to celebrate the repainting. The correct name is the Chatterton Tower, not the Chatterton Water Tower.

There are two tanks at the top that together hold up to 750,000 gallons of water and the Tower supplies 22,000 homes and businesses in the locality. At the bottom are two floors of offices where originally people went to pay their water

rates but now only about ten people work there.

On top of the tower there is a tall mobile phone mast. Estimating from photographs, the top of this slender mast appears to be at least 200 feet above ground level.

Healthy drinking water for the tank is obtained from two boreholes at Bourne from which it is pumped to Spalding via an 18 inch main, a direct distance of about ten miles. At Bourne there are six booster pumps. The tower normally delivers water at the rate of 13 gallons per second and a pressure of 44 psi.

The Chatterton Tower is one of nine water towers in East Lincolnshire and among hundreds across the Anglian Water region. Not far away to the north of Spalding there is a more conventional unpainted concrete water tower with a circular cross-section. This is at Pinchbeck and was built in 1954.

Robert Carr

Crossness and Bazalgette 200

Sir Joseph Bazalgette, 28 March 1819 - 15 March 1891, made the single biggest contribution to the health of Victorian Londoners. It is because of his work that the Thames is now the cleanest metropolitan river in the world. He constructed an extensive network of 82 miles of enclosed sewers culminating on the south side of the river at the amazing Crossness Pumping Station which was opened in 1865 and features some of the most spectacular ornamental cast ironwork.

The site has been lovingly restored by a dedicated team of volunteers, which includes one of the engines, 'Prince Consort' which is fully operational and has been said to be the largest rotative beam engine in the world. Crossness was open to the public on specified days during the year until a building problem occurred in 2017 and the museum had to close and the restoration work cease. Although there is still a lot of work to do, the pumping station is now able to open for their 2019 event programme starting this month. It is tremendous that this coincides with the momentous occasion of the 200th anniversary of the birth of Sir Joseph Bazalgette on the 28 March 1819.

The pumping station would not have been able to open without the financial help given by their generous individual supporters plus the significant financial help given by Thames Water and Cory Riverside Energy. In addition, Historic England and the London Borough of Bexley have also given invaluable guidance and support to enable the building to re-open to the public and the restoration work to continue. Sir Joseph Bazalgette saved London and these generous supporters have saved Crossness. Emily Gee, Historic England's Regional Director for London and the South East, said, "We are delighted that the Grade I listed Crossness Pumping Station in London's Abbey Wood is open to the public once again, marking the 200th anniversary of the birth of Sir Joseph Bazalgette, the Victorian engineering mastermind and public health visionary who



Memorial to Sir Joseph Bazalgette by George Simonds on the Victoria Embankment

designed London's sewerage system in the mid-19th century. The new underground system helped to save the capital's inhabitants from further cholera epidemics and other diseases.

"Through grant-funding and our team's expert advice, we have supported repair and restoration work at Crossness for more than a decade. The pumping station, which opened in 1865, is both beautiful and a brilliant piece of engineering – and nothing quite like it still stands.

"It's splendid architectural presence reminds us of the important tradition of high quality engineering and design responses in addressing major infrastructure projects in London today."

EFAITH

2018 was an active and important year for E-FAITH. We were selected as stakeholder of the European Year of Cultural Heritage and we were at the origin of six theme months with 90 local initiatives by associations and volunteers.

We also succeeded in updating the software behind the Industriana label with its QR code, making it much more powerful and enlarging its scope. Sites and collections from Belgium, France, Germany, Greece, Hungary, Italy, Luxembourg, Malta, the Netherlands, Spain, Great Britain, ... have already joined - and others will follow. Your site or sites in your area can also be part of the Industriana network.

But most importantly, E-FAITH got new statutes, and now officially - after recognition by Royal Decree - is an official 'international non-profit association' (association internationale sans but lucratif).

E-FAITH is now "EFAITH", without a hyphen.

Mail trains

The Rail Operations Group are planning to expand into the parcel delivery industry using converted bimodal stock, which will operate on either diesel or electric, originally built for Thameslink. The chief executive thinks the time is right for a shift from road to rail for express parcel services and that there is an opportunity, "to re-establish a comprehensive network of express parcel trains."

Meanwhile Royal Mail are still operating 16 dedicated mail trains mostly between the north of England and the Princess Royal distribution centre in Wembley.



Rethinking James Watt (1736-1819): Innovation, Culture and Legacy

Friday evening 30 August to Sunday 1 September 2019, University of Birmingham

James Watt (1736-1819), the Scottish-born inventor, engineer, businessman and employer died on the 25 August 1819. The 200th anniversary of his death in 2019 provides an opportunity to revisit his personal and public life, relationships, context and legacy. By looking beyond his role in improving steam-engine technologies, this conference seeks to consider the diverse influences that shaped Watt's experiences in Scotland and Birmingham. One underlying theme is to look at Watt the innovator in new ways and explore the idea of innovation at different times and in different localities – an issue that will be explored by a panel of historians and scientists.

This conference will bring together academics in different disciplines, including scientists and engineers – the Newcomen Society and Birmingham Centre for Railway Research and Education are involved – as well as historians; heritage professionals working in archives, libraries and museums and researchers at all stages of their careers inside and outside universities. Alongside the conference, there will be a major Watt exhibition at the Library of Birmingham and the oldest surviving Watt working steam engine, the Smethwick Engine, will be operating at Thinktank, Birmingham Science Museum.

Confirmed Papers

Kate Croft (University of Birmingham), 'Of Material Service to Him: Women in the Life of James Watt'

Stuart Hillmansen (University of Birmingham), 'From Apples to Watts, Power and its meaning in the 21st century'

David P. Miller (University of New South Wales), 'The Life and Legend of James Watt: Collaboration, Natural Philosophy and the Improvement of the Steam Engine'

Felix Schmid (University of Birmingham), 'Steam power through the ages from aeolipiles to ship turbines'

Leslie Tomory (McGill University), 'James Watt & Co: Industrializing Gas Technology'

Peter Neaverson Award for Outstanding Scholarship

The 2019 Peter Neaverson Award for Outstanding Scholarship in Industrial Archaeology has been awarded to John Barnatt for his book, *The Archaeology of Underground Mines and Quarries in England*, which is published by Historic England. (see notice below) This provides an authoritative but easily readable overview of all forms of underground mineral extraction in England from Neolithic times to the present day. Illustrated with over a hundred colour photographs and line drawings, it provides a fascinating insight into a form of industrial archaeology which few people will have the chance to see first-hand. A full review of this book will appear in *Industrial Archaeology Review*.

John Barnatt cannot attend the Annual Conference but instead has arranged a lecture where the award will also be presented to him at the Peak District Mining museum in Matlock Bath in Derbyshire. Why not enjoy a weekend in the spectacular Derbyshire Dales and come to this lecture, for which AIA Members will receive a discount? Advice on accommodation will be available on the AIA website.

Any member of AIA or its Affiliated Societies is encouraged to make nominations for this award and any work which has been published in English in the previous two years is eligible. Further details can be found on the AIA web site.

Ian West

The Archaeology of Underground Mines and Quarries in England, John Barnatt, Historic England, 2019, 144pp, 132 illus. ISBN 978-1-84802-381-9, pb £30.

The book is available to AIA members direct from Historic England at a discount of 20% from the full price by using the code AUMQ19. The website <https://b2l.bz/3Yg83e> is a site dedicated to the book where readers can view extracts.

The Archaeology of Underground Mines and Quarries in England.

A talk by John Barnatt



Based around John Barnatt's book 'The Archaeology of Underground Mines and Quarries in England'.
Winner of the AIA Peter Neaverson Award for Outstanding Scholarship 2019.



**Tuesday 15th October 7.30pm at
The Peak District Lead Mining Museum, Matlock Bath.**

Tickets: £6 (£5 for PDMHS & AIA members)

Price includes tea and cake

We strongly advise buying tickets in advance!

Tickets can be bought in advance or on the day (if not sold out) from the museum or, for purchases of £6 and over card payment can be taken over the 'phone - 01629 583834
01629 583834 for any additional information. Wheelchair accessible.



Charity no 50442

Local Society and other periodicals received

Abstracts will appear in *Industrial Archaeology Review*.

- Bristol Industrial Archaeological Society Bulletin*, 157, Spring 2019
Greater London Industrial Archaeology Society Newsletter, 300, February 2019; 301, April 2019
Historic Gas Times, 98, March 2019
ICE Panel for Historical Engineering Works Newsletter, 160
Manchester Region Industrial Archaeology Society Newsletter, 158, Winter 2018; 159, Spring 2019
Midland Wind and Watermills Group Newsletter, 123, April 2019
Northamptonshire Industrial Archaeology Group Newsletter, 149, Winter 2019
North East Derbyshire Industrial Archaeology Society Newsletter, 73, February 2019
Piers: the Journal of the National Piers Society, 129, Autumn 2018; 130, Winter 2018
South West Wales Industrial Archaeology Society Bulletin, 134, February 2019
Subterranea – the magazine for Subterranea Britannica, 49, December 2018
Suffolk Industrial Archaeology Society Newsletter, 144, February 2019
Surrey Industrial History Group Newsletter, 221, February 2019
Sussex Industrial Archaeology Society Newsletter, 181, January 2019
Sussex Mills Group Newsletter, 181, January 2019
Trevithick Society Newsletter, 182 Winter 2018; 183, Spring 2019
The Trow: Cotswold Canals Trust Magazine, 184, Spring 2019
Welsh Mines Society Newsletter, Autumn 2018
Yorkshire Archaeological Society Industrial History Section Newsletter, 105, Winter/early Spring 2019

Books

Edward Harrison Barwell, 19th Century Northampton Ironfounder, Peter Perkins, Northampton Industrial Archaeology Group, 48pp 86 ills 2019 ISBN 978-0-9576647-3-9, pb, £9 + £2.50 p&p.

A comprehensive study of a provincial ironfounder who specialised in high quality decorative railings with extant examples at notable estates particularly at Wrest Park in Bedfordshire. The firm also made cast iron heating systems for houses and even gaols. Other work included iron bridges and mile posts. The firm was founded in 1823 and the foundry survived under Barwell's successors until 1928.

Fabrieksschoorstenen in Nederland (Factory Chimneys in the Netherlands), AJ Barnard, 2018, Factory Chimneys foundation (STIF), 462pp, over 800 illus, ISBN 978-90-827266-0-2, hdbk £35 + £19.50 p&p.

The author, Arjan Barnard, notes that while there were 10 thousand windmills in Holland and there were more than 500 books on the subject there were 11 thousand chimneys and only a single book. This magnificent volume, 30 years in the making, goes a long way to reduce the deficit with sections on

What is a chimney?

Developments in the use of chimneys, in design and in building materials

How do you build a chimney?

Description of chimney construction companies

Rise and fall

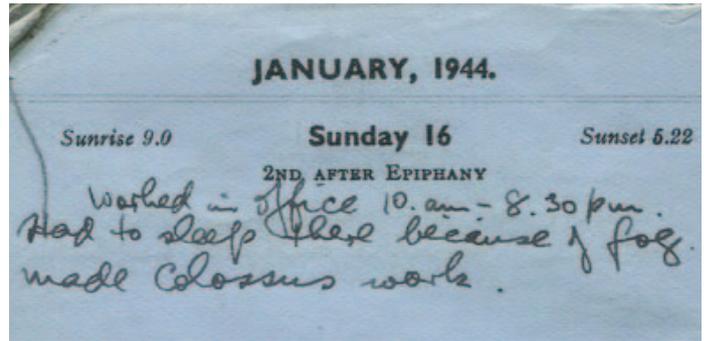
Value and preservation of chimneys

An encyclopedic overview of Ornamental forms on chimneys

A list of 7000 locations of factory chimneys built in the Netherlands

Unfortunately for monoglots like me the text is in Dutch but the illustrations alone are worth close study. Ed

The beginning of another industrial revolution



"Worked in office 10am 8:30pm. Had to sleep there because of fog. Made Colossus work."

This laconic diary entry in January 1944 records the birth of an industrial revolution which has proved to be equally, if not more, far-reaching than that resulting from the invention of the steam engine.

Colossus, of course, was the world's first electronic computer. It was developed for the codebreakers at Bletchley Park, to enable German teleprinter messages to be read. These were encrypted by automatic Lorenz cypher machines, far more complex than the hand-operated Enigma.

The diarist was Tommy Flowers, of the GPO Telephones research centre in Dollis Hill, North London. He had been asked to build an electro-mechanical device codenamed Robinson (after Heath, the celebrated cartoonist) but was convinced that it would not work properly and a valve-based machine was the answer. His judgement was proved to be correct and the rest, as they say, is history.

After the war, the GPO Telephones research centre moved to Martlesham Heath, in Suffolk, where it remains today. An internal road within the complex is named Tommy Flowers Way, in honour of his pioneering work 75 years ago.

John Jones

Buttons by the ton

Graces Guide lists **A Brown & Co Buttons**, based in Croydon as:

'Button manufacturers, specialising in plastic, metal, glass and olive wood buttons, and wooden toggles. Set up in the early twentieth Century.'

With the further note, '2019 - After 104 years of operation the company shut down due to a slump in sales after large clients Marks and Spencer and Next stopped manufacturing clothes in the United Kingdom.'

Rather less prosaically the BBC reported that, 'A Brown & Co Buttons, based in Croydon, south London, was forced to shut down because of a slump in sales. Owner Stuart Brown feared 30 tons of unsold buttons in the warehouse would have to be thrown away. However, he has been able to sell off or give away most of the stock after an appeal on Twitter, retweeted more than 4,000 times, garnered interest from button-lovers across the globe.

His great-uncle set up the company more than 100 years ago. Esther Brown said, "it has not been economically viable for a long time but we wanted to sell as much of the stock as possible however, if we had had to we would just have had to skip it."

Mr Brown said the stock would have fetched up to £1.5m if he had been able to sell all of the buttons he had stored in the warehouse at full price.

6 – 9 June 2019
SIA CONFERENCE, CHICAGO

12-14 June 2019
INDUSTRIAL HERITAGE
FROM A GLOBAL
PERSPECTIVE

San Luis Potosi, Mexico
industrialherit.colsan@gmail.com

9 - 14 August 2019
AIA ANNUAL CONFERENCE,
SOMERSET

30 August – 1 September
RETHINKING JAMES WATT
University of
Birmingham

See page 22

11 – 13 September 2019
BIG STUFF

Katowice, Poland

Preserving large industrial objects in
a changing environment
Muzeatechniki.pl/bigstuff

18 – 19 September 2019
HISTELCON 2019

Strathclyde University

19 September 2019
ERIH UK

Port Sunlight Village

5 October 2019
ESSEX IA GROUP
INDUSTRIAL HERITAGE FAIR

Sandford Mill,
Chelmsford

Full details to follow in IA News 190

26 October 2019
DEVIZES CONFERENCE

Devizes Town Hall

See page below

5 November 2019
PRECISION: BRAMAH AND
MAUDSLEY TO ADVANCED
MANUFACTURE

Kelham Island, Sheffield

details - newcomen.com

May 2020
2ND INTERNATIONAL EARLY
ENGINES CONFERENCE

Black Country Living
Museum

20 – 27 August 2020
AIA ANNUAL CONFERENCE,
LIVERPOOL

IMPORTANT NOTICE

IA News would like to publicise your event, particularly if it will appeal to members outside your area BUT if you don't tell the editor IT WILL NOT HAPPEN. The production schedule is long and it is no good leaving it to the last minute.

For events before the end of May, copy information needs to be with the editor by email before the end of December to make the edition distributed in February.

Likewise for events before the end of August information by the end of March (distribution in May) and events before the end of November then information by the end of June (distribution in August).

2019 Devizes Conference

Saturday 26th October 2019.

Devizes Town Hall,

St John's Street, Devizes SN10 1BZ.

Registration at 0930. Symposium closes at 1630. Tickets £15 which includes morning coffee and afternoon tea.

Speakers will be confirmed in IA News 190

Booking is either via the museum website at www.wiltshireremuseum.org.uk, by post to The Bookings Secretary, Wiltshire Museum, Long Street, Devizes SN10 1NS cheques payable to 'WANHS Ltd.' or by phone on 01380 727369

Information for the diary should be sent directly to the Editor as soon as it is available. More Diary Dates can be found on the AIA website at www.industrial-archaeology.org



PS *Waverley* is the last seagoing passenger-carrying paddle steamer in the world.

Named after Sir Walter Scott's first novel, she was built in 1946 to replace a PS *Waverley* that was built in 1899, served in the Second World War as a minesweeper and was sunk in 1940 while helping to evacuate troops from Dunkirk. Shipbuilders A.& J Inglis of Glasgow launched the new 693 tonne steamer in October 1946. She entered service with the London and North Eastern Railway in June 1947.

Waverley's 2019 sailing season, which begins on 23 May, will celebrate the Diamond Jubilee of the Paddle Steamer Preservation Society.

Waverley's operators claim she is 'probably the most photographed ship in the world'.



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- 1 January for February mailing
- 1 April for May mailing
- 1 July for August mailing
- 1 October for November mailing

The AIA was established in 1973 to promote the study of Industrial Archaeology and encourage improved standards of recording, research, conservation and publication. It aims to assist and support regional and specialist survey groups and bodies involved in the preservation of industrial monuments, to represent the interests of Industrial Archaeology at national level, to hold conferences and seminars and to publish the results of research. The AIA publishes an annual Review and quarterly News bulletin. Further details may be obtained from the Liaison Officer, AIA Liaison Office, The Ironbridge Institute, Ironbridge Gorge Museum, Coalbrookdale, Telford TF8 7DX. Tel: 01325 359846.

The views expressed in this bulletin are not necessarily those of the Association for Industrial Archaeology.