

## Panel for Historical Engineering Works Newsletter

Number 156 December 2017

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### Isambard Kingdom Brunel and Photography

By Rose Teanby

1839 experienced two simultaneous revolutions in Britain, industrial and photographic. As the fabric of Britain was transformed into the foundation of today's infrastructure, the invention of photography ran parallel. The cutting edge technology of painting with light onto chemically treated paper was immediately recognised by engineers for its potential to accurately represent their work, without unnecessary artistic interpretation. A photograph was a true likeness, drawn by the sun itself.

In 1827 Isambard Kingdom Brunel (1806-1859) became Resident Engineer for the Thames Tunnel and Nicéphore Niépce produced the world's first surviving photographic image. As Brunel's elliptical arched Maidenhead Bridge opened in 1839, immediately claiming the title of widest and flattest brick bridge in the world, the invention of photography in Britain was announced to the Royal Society by William Henry Fox Talbot (1800-1877).

Talbot was a polymath with interests encompassing the arts, mathematics, science and technology. He was not a gifted artist and became frustrated by his own inadequacy, prompting his quest for a scientific solution to the problem. He remarked, "how charming it would be if it were possible to cause these natural images to imprint themselves durably, and remain fixed upon the paper".

Talbot was also MP for Chippenham, Wiltshire, which added a political dimension to an already crowded diary. It also introduced him to the promoters of the Great Western Railway and its chief engineer Brunel. Talbot and Brunel were to have a prickly yet, at the same time, strangely symbiotic relationship.

Their first documented contact was in 9th March 1834 when Brunel wrote "to solicit the support of your influence with members" for the second reading of The Great Western Railway Bill. Despite Talbot's support it was rejected by the House of Lords on 25 July 1834 but a second bill succeeded the following year. Brunel could now build "God's Wonderful Railway" from Paddington in London to Temple Meads in Bristol.

Brunel and Talbot both shared an interest in the development of atmospheric railways, subsequently adopted by the South Devon Railway. But by 1844 the tenor of their correspondence had changed from respectful deference on Brunel's part to defensive bickering, as the Great Western Railway line came too close to Talbot's home at Lacock Abbey for comfort. "I can assure you that I adopted the line which all things considered appeared to me the least destructive" wrote Brunel on 23rd December 1844, but Talbot persisted in his quest for adequate compensation. Brunel's final recorded letter talks of an application to Parliament for "a deviation of a few yards" as the Wiltshire, Somerset and Weymouth Railway branch line challenged their fragile professional relationship.

Although their communication became politely acrimonious, Talbot could not ignore other Brunelian structures transforming the nineteenth century English landscape. One such construction spanned the river Thames and became known as Hungerford Bridge, Brunel's first completed chain suspension footbridge.

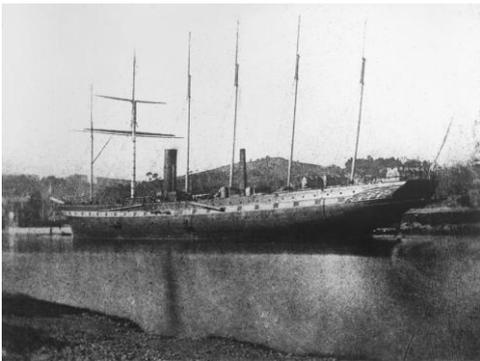


Construction of the bridge was authorised by an Act of Parliament of 1836 with the intention of bringing more custom to the newly rebuilt Hungerford Market at Charing Cross. Opened in 1845, it had a relatively short working life of fifteen years, becoming a victim of the successful expansion of the rail network, leading to the Charing Cross Railway Act in 1859 and a new railway bridge taking its place. This act authorised the demolition of the suspension bridge in the year that saw the demise of Brunel himself.

Chains had been a constant companion throughout Brunel's life, so it was a fitting memorial to recycle those taken from Hungerford Bridge to complete the majestic Clifton Suspension Bridge after his death.

Talbot's invention of photography was limited by long exposure times, necessary to form an image on paper treated with light sensitive silver chloride. His view of Hungerford Bridge provided a blend of modern technology with a foreground comprising redundant boats at low tide.

In April / May 1844 Talbot chose to capture Brunel's ground breaking iron steamship, SS Great Britain. She was the largest and most advanced ship in the world, an irresistible subject regardless of technical difficulty displaying both scientific and artistic appeal. Taming the random movement of water was a constant quest by many early photographers, and although the water in Brandon Wharf at Canon's Marsh, Bristol shows blurring due to the long exposure, the ship itself does not show any evidence of movement.



The Talbot attributed image is a piece of unique visual history capturing a ship destined to have an eventful career. This image is now regarded by the National Maritime Museum as the first photograph ever taken of an identified ship, depicted afloat with a confirmed date.

The SS Great Britain was the only of Brunel's three ships to be salvaged and preserved, now restored to her former glory, resplendent in her dry dock a few yards from Talbot's 1844 photograph.

These two images epitomise the relentless advancement of technology in the mid nineteenth century. A chain suspension bridge replacing the congested Thames river boat traffic, and a ship exchanging traditional sails for a steam powered iron screw propeller. Talbot introduced a different way of seeing the world, of preserving a moment in time, indefinitely.

Talbot and Brunel contributed to an era of irreversible transition from one way of life to another, building and photographing the herculean efforts made by those at the forefront of engineering.

They may not have seen eye to eye but recognised each other's impact as innovators, seeing beyond the present, and into a better future.

## Urban water supply

By Philip Donald

Water supply to towns and cities in the British Isles has been traditionally drawn from rivers and streams. To ensure a constant all-year-round supply reservoirs were built to store water during the wetter winter months and their water levels fell during the drier summer months. Is this all about to alter due to climate change?

When Belfast was running short of water in 1890 Livingston Macassey MInstCE recommended to the Belfast Water Commissioners that to guarantee water supplies for the future they should seek water from the Mourne mountains, some forty miles away. Two rivers were tapped by 1901 and reservoirs built on the Kilkeel river by 1933 (Silent Valley HEW 1889) and 1955 (Ben Crom HEW 2119).



Silent Valley reservoir overflowing



Ben Crom overflowing

Recently I hosted a busload of people on a visit to the Silent Valley. At this time of year with low reservoir water levels we had hopes of being able to walk up the overflow tunnel. We were very surprised to find both reservoirs full and overflowing. The manager of the reservoirs explained that the record rainfall in August had produced this abnormal situation. It seems unlikely we will have water shortages in the foreseeable future.

## An Aircraft and Three ferries during the British Raj

By Sydney Xavier

Recently, I had the pleasure of reviewing *The Raj Agent in Ceylon 1936 - 1940* by Sharada Nayak (Published by the author in 2015).

An interesting photograph of an aircraft and a reference to a ferry caught my attention.

Further investigation revealed that the aircraft was a WACO YQC VT-AIX 5-seater. It was owned by a private Indian company and the regularly flew mail to India from Colombo



The photograph shows Mr AVittal Pai OBE, CIE with his wife at Ratmalana, Ceylon, ready to fly to Delhi, India, in Sept 1940 after end of Mr Vittal Pai's tour of duty in Ceylon.

Three ferries were named after the Viceroy's of India: they were *Elgin*, *Hardinge* and *Curzon*. The ships "*Elgin*" left and "*Hardinge*" right, are shown at the pier in Dhanushkodi, India. ("*Curzon*" is not shown in the picture).

The South Indian Railway Co. Company set up a ferry service between India and Ceylon. In The paper by Dr J Inglis on 'The trials of geared-turbine ferry steamers' presented at the Institution of Naval Architects on July 27th 1913 covered all three ferries. This was reported and the paper and discussion was reproduced in both *The Engineer* and *Engineering*.

The main technical facts are that the vessels were designed to a performance of specification and were 250 ft long, 38 ft broad, and 865 tons on 6 ft draught of water. The contract specified that the vessel was to carry 160 tons dead weight and to travel a distance of 20 sea miles at 16.5 knots. Indian coal was used to power the geared turbines. Passenger capacity and crew numbers are not known.

The vessels were commissioned in 1914 and the ferry service ended in 1950.



This rare picture was supplied by the author of the book during my follow-up correspondence.

## ICE Museum display - Edinburgh Doors Open Day

By Roland Paxton

In the 1970s PHEW's redoubtable Technical Secretary Maurice Barbey often said that there was more to being a panel member than recording HEWs. One of several manifestations of this in Scotland proved to be supporting what has become the ICE Scotland Museum curated at Heriot-Watt University. Its wonderful collection of about 400 artefacts, mainly instruments, calculators, equipment and materials used in civil engineering design and construction from 1800, probably unique of its kind in the world, is open to the public during university normal working hours [see web site via Google].

The collection, which reflects the dedication and enthusiasm of its ICE curators, is based on donations. The cost of its fine display cases was met from a £15,000 Forth Bridges Visitor Centre legacy in 2012. Remarkably, more than half the Museum's items are now on display, enhancing the academic environment of the University in and around its Arrol and Chadwick Buildings, and informing students, staff, ICE members and the public. Its fascinating projects featuring such names as Telford, Jessop, Jardine, the Stevensons, Arrol, Grainger and Miller, have attracted significant visitor and media interest.



Derek Chambers showing a sample of a new Forth Crossing cable and its bird-friendly transparent shielding © R. Paxton

Recently the collection was promoted by taking part in the Scottish Cockburn Association's Edinburgh Doors Open Day event on Saturday 23 September. This occupied c.150 hours of our time and comprised organising four 1 hour tours at 1½ hour intervals. The tours, led by Museum curators Prof David McGuigan, Derek Chambers and John Andrew were nearly fully subscribed and attracted much favourable comment. Attendees included the National Museums of Scotland's Keeper of Technology Klaus Staubermann and his German Museum guests. During the guided tours some of the Museum's more popular items were highlighted and explained. All tours ended at the William Arrol Conference Room where, overlooked by our unique oil portrait of the erector of the Forth Bridge, visitors were treated to view a selection of items, photographs etc. not on permanent display.



Prof David McGuigan explaining rocker/roller and rocker bearings from each end of the 100m Bilston Viaduct iron girder © R. Paxton



Recently acquired brass, ball and socket joint, level used from 200 years ago. Note typical Museum display label © R.Paxton

The main focus of the day was exhibits on the Forth bridges, which the Museum has prioritized in its acquisitions. Many visitors remained after each tour to

view these and to ask more questions. Our written feedback on the tours was, without exception, excellent.

## Chairman's Column by Gordon Masterton

Some mixed feelings as I write this, having just returned from the funeral of one of our most distinguished past members, Denis Smith. Whilst sad for the family and friends of course, the funeral was a genuine celebration of Denis's life and disparate interests, from engineering heritage to folk and jazz music, and an uplifting reminder of a life well spent. I particularly liked this section from the reading from Ecclesiasticus delivered by his son Graham, in praise of craftsmen:

"All these rely on their hands, and each is skilful in his own work. Without them a city cannot be established, and men can neither sojourn nor live there. Yet they are not sought out for the council of the people, nor do they attain eminence in the public assembly. They do not sit in the judge's seat; nor do they understand the sentence of judgment; they cannot expound discipline or judgement, and they are not found using proverbs.

But they keep stable the fabric of the world, and their prayer is in the practice of their trade."

Very apposite for engineers too. In the UK, at least, we tend not to be deeply involved in "the council of the people". There remain very few engineers in Parliament. But, nevertheless, we keep stable the fabric of the world, and our achievements lie in the practice of our profession. I hope we might have a full obituary for Denis Patrick Smith (1930-2017) in a future issue.

I received a letter from another long-standing contributor to this newsletter, Brian George of "HEWS in the News" fame. Quite understandably, at the age of 92, Brian has decided that with very great regret that this issue of Hews in the News must be his last. Brian has contributed the column for 27 years, and his final piece will be his 108th. What a wonderful contribution and we wish him and his wife Pamela all our grateful thanks and best wishes. We'd like "Hews in the News" to continue but we need a volunteer so please let me, Carol or Dermot know if you would like to preserve the continuity of a familiar and much-loved part of our Newsletter.

The Panel continues to be active in the promotion of engineering in the media, and the excellent series presented by Rob Bell on Channel 5 "The World's Greatest Bridges" had an episode on Iron Bridge and its successors partly filmed in the ICE library, featuring Thomas Telford's bold conceptual design for a single span cast-iron bridge to be thrown across the Thames. As always, more is filmed than used, so my attempt to squeeze in a reference to our 200th anniversary failed, but it was a decently sized segment and made up for another occasion when Channel 5 filmed me at the Forth Bridge for "Britain's Greatest Bridges" but excessive background noise prevented its use in the programme – or perhaps that was just a polite let-down!

As we await the announcement of this year's ICE People's Choice Award on 13th December, it reminds me that a space is reserved for the winner to be added to the 200 representative projects to celebrate ICE200.

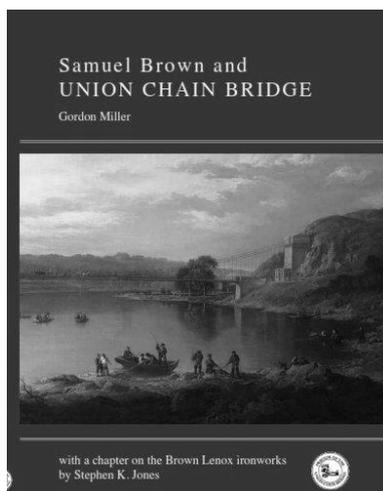
Each ICE region, in the UK and internationally, and most civil engineering fields of endeavour will have something to celebrate within these 200 projects, and the people that created them. But I hope, too, that members everywhere see this as the start of further celebrations of excellence and actively build on the ICE200 in their own areas of interest.

Finally, the momentous anniversary seems to be a good trigger for a review of how best to organise our heritage activity within the ICE, and ensure that it is fit for the next 200 years (we'll perhaps settle for dealing with that in shorter increments), and in 2018 I'd like us to define that, taking full advantage of the ICE's knowledge delivery methods, so that we can continue to tell the story of how engineers have kept stable the fabric of the world, to understand and inform the decisions we need to make today. Turning hindsight into insight, and insight into foresight.

## New books

### Samuel Brown and Union Chain Bridge, Gordon Miller

£17.50 from the Friends of Union Bridge  
[www.unionbridgefriends.com](http://www.unionbridgefriends.com)



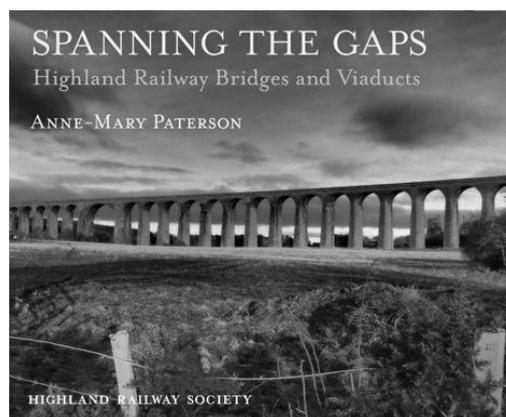
Gordon Miller's eagerly-awaited book on Samuel Brown and Union Chain Bridge has just been published. It comprises 300 pages with 135 photographs, drawings and facsimile documents, including three full-colour plates. The book's chapters cover an historical preamble, Samuel Brown's naval career and engineering enterprises, the need for the Union Bridge and reasons for suspension, the proposed and final designs, contract and completion, the Grand Opening, and the continuing story of the Bridge from 1820 to its last major restoration in the 1970s; concluding with a chapter on the Chainworks

of Brown Lenox and an Epilogue covering the efforts of the local community to have the Bridge fully repaired and restored before its bicentenary.

### Spanning the gaps by Anne-Mary Paterson

ISBN 978-0-9927311-1-3

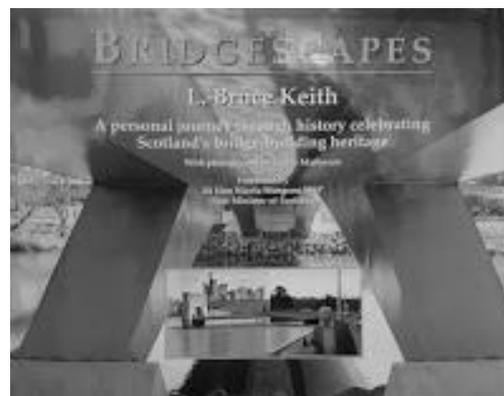
£16



This is the second book by Anne-Mary Paterson, the first being the story of her great uncles William and Murdoch Paterson, who designed the Highland railway.

This coffee table book contains photographs and plans and describes the major structures on the Highland lines including the iconic Culloden Viaduct.

### Bridgescapes, L. Bruce Keith, Priory Ash Publishing £18



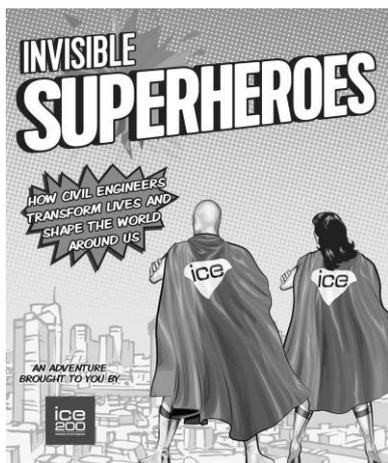
This beautifully illustrated book takes a chronological journey of bridge building from mediaeval period to the current day.

Although not a bridge specialist, Bruce Keith, CIWEM past President, traces his interest in bridges to his father, who was a local authority engineer responsible for bridges in the Highlands of Scotland.

There is a review at <http://happyontist.blogspot.co.uk/2017/11/bridgescapes-by-l-bruce-keith.html>

## Invisible Superheroes exhibition

For ICE's 200th anniversary we are celebrating the role civil engineers play in transforming lives and safeguarding our future.



Invisible Superheroes is our year-long exhibition at One Great George Street, focusing on the unsung heroes behind some of the world's most amazing engineering projects.

Using state-of-the-art technology the exhibition brings to life the best examples of civil engineering. The exhibition is divided into three sectors: Connected Communities, Environmental Impact and Smart Infrastructure.

The unique comic book look will help inspire the next generation of engineers and create a memorable experience for everyone who visits.

For more information and opening times see <https://www.ice.org.uk/events/exhibitions/ice-invisible-superheroes-exhibition>

## Hews in the News By Brian George

Under the heading 'What a difference 10 years makes' the Inland Waterways Association Bulletin of 28 July announced that boaters are being welcomed back to the Bow Back Rivers that run through the East London Queen Elizabeth Olympic Park after a 10-year transformation project that has turned the derelict, virtually unnavigable waterways into a major new route for the capital. It follows investment of over £60 million as part of the regeneration of the whole area in the lead up to and following the London 2012 Olympic and Paralympic Games.

This summer the loop of waterways around the London Stadium, which includes the Old River Lea,

City Mill River and St Thomas Creek was due to open to public navigation for cruising without prior booking. The Canal and River Trust was also planning to create a 100 metre stretch of short stay visitor mooring, as boaters might journey from far afield, and the restoration of Carpenters Road Lock was being celebrated at an East London Waterways Festival at the end of August.

On 24 June the Canal-side Heritage Centre at Beeston Lock, Nottingham on the River Trent opened its doors to the public after more than eight years of hard work by volunteers. The project to save and renovate a row of four derelict 18<sup>th</sup> century cottages, originally built to house the navigation company staff, was instigated by local resident Stewart Craven, who assembled a team of locals to see the project through. All the building materials had to be moved in from across the canal.

Fifteen years after she officially opened the restored Forth & Clyde and Union canals, the Queen returned to Scotland's waterways for the naming of the country's newest navigable link as the Queen Elizabeth II Canal. The Queen and Duke of Edinburgh boarded the Seagull's Trust barge *Wooden Spoon Seagull* to lead a flotilla along the quarter-mile length of canal built as part of the £25 million Helix Park regeneration of ex-industrial land between Falkirk and Grangemouth. The canal provides a new eastern gateway to the Forth & Clyde Canal greatly improving access from the Firth of Forth.

It is however no ordinary stretch of water. Complex and innovative civil engineering solutions were needed to carry it under a motorway and trunk road, to carry it across utility pipelines, and into the tidal River Carron. It also features the Scottish waterways new icon, the Kelpies, the two great horse's head sculptures that stand guard each side of the lock.

For those who consider mining to be a form of civil engineering, the Daily Telegraph Business 14 August noted that claims that Cornwall is sitting on a multi-million pound lithium bonanza are due to be tested after a start-up project, that plans to drill for the metal, raised £1m from a trio of experienced mining investors. Jeremy Wrathall, chief executive, said the firm would tap the experience of investors and use the funding to collate historic data on hot brine in Cornwall and confirms its targets for drilling.

It would raise another £1m for drilling 500m to 1000m deep along the 15 mile concessionary area to extract the hot brine and remove lithium in a processing plant. Cornish Lithium considers the metal has a great value due to the research into battery development for motor cars following the government's decision to phase out petrol by 2040.

The Daily Telegraph Business 6 August showed an impressive photograph of the massive steelwork in the North Sea of Amec Foster Wheeler, which is expected to open the door to an influx of American giants into the region.



The Express and Echo, Exeter, showed a large photograph of the site of the proposed Marsh Barton station adjacent to Exeter's main industrial area on the main line to Plymouth and Paignton. About 50 years too late for all the workers who travel by car it is on hold due to lack of funding. The building of the two platform station was due to get under way at the end of 2016. The local authorities are ready to provide their share of the funding but the Department of Transport at present has no money in its station fund.

The connectivity of the railway system continues to improve. Rail 832 described how work is now under way to consider the reopening of the Halton Curve to its first regular services since 1975. This 1.5 mile long dormant stretch of line connects with the Chester to Warrington main line at Frodsham Junction at its southern end, and the Liverpool branch of the West Coast main line at Halton Junction to the north. An upgraded Halton Curve will offer an alternative to Merseyrail's Wirral Line. This would enable a new hourly service to be introduced from December 2018 between Liverpool Lime Street and Chester via Liverpool South Parkway, (for Liverpool John Lennon Airport), Runcorn and Frodsham.

The first direct freight working to Brandon in Suffolk and east of Ely, since 2005 took place on 19 July when DB Cargo bought a train from Peak Forest with stone for construction of runways at RAF Marham in connection with the introduction of new F35A Lightning II aircraft noted Rail 833.

The Ordsall Chord in Manchester has a direct link between Manchester's three main line stations, Piccadilly, Oxford Road and Victoria improving connectivity for towns and cities in the Northern Region. The quarter mile, almost 180° curve, will provide connectivity between Leeds and Manchester airport without change of trains and is expected to be ready for December. It is a major improvement for the North of England.

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The name Freyssinet has a certain magic to those of us who built some of the first prestressed concrete bridges after the war (Lynmouth 1953-5). Network Rail are looking for innovative ways of working and Freyssinet have come up again with just this magic with their ElevArch bridge system. The system has been proven with the successful raising of the arch of the Moco bridge on a disused section of the East-West rail between Bicester and Bletchley thus saving the lowering of the track or the installation of a new deck bridge, notes Modern Railway, August.

Lucy MacLennan has kindly sent me an extract from the 4<sup>th</sup> August Ross-shire Journal. It is a photograph of the old toll-house and adjacent road bridge over the River Conon. As one approaches Dingwall from the south and Inverness there is the community of Conon Bridge, where both road and railway cross the river Conon as it runs north north east to the Cromarty Firth. On the upstream or south western side is the

railway bridge designed and constructed by Joseph Mitchell in 1862. On the north eastern or downstream side is a reminder of Telford's 1809 road bridge. The ashlar masonry old toll house is remarkable as it has a two storey tower designed by Telford in 1829 and erected under Mitchell's direction in 1830. (see also newsletter 148)

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The IWA Bulletin 10 August reports that the Grade II listed Stainton Aqueduct was built in 1819 and carries the Lancaster Canal over Stainton Beck. Prior to the damage caused during the extreme rainfall in the December 2015 storms the aqueduct was in good condition. Emergency stabilisation works costing £250,000 were completed on-site by CRT in early 2016.

However, they were not sufficient to open up the public right of way through the aqueduct tunnel or to enable navigation over the aqueduct. A Heritage Lottery Fund Grant of £41,000 will enable the Trust to submit plans in November, hopefully to unload £1.5m from the Heritage Lottery Fund towards a total expense of £2.2m.

The second phase of a scheme to replace the sea locks at Heybridge Basin on the Chelmer and Blackwater Navigation was due to begin on 2 October. The work, which is being carried out by Essex and Suffolk Water will involve the installation of a new steel caisson lower gate below the existing wooden mitred gates. The sliding caisson lower gate allows for many more small boats to pass through each cycle of lock operation, which can be crucial as the lock is only available for a limited time at each high tide. It can get extremely busy in the summer months, especially with boat clubs from the continent. Earlier in the year £2.2m was spent on the first phase of the project. The original manual gates date from the 1700s.

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The Daily Telegraph Business section 24 September showed a photograph of the Middlesbrough Transporter Bridge (HEW 10) which has a carriage taking up to 600 persons or an equivalent load of vehicles across the river in two and a half minutes. The structure has a clearance above high water of 160 ft and a span of 565 ft between the towers with external cantilevers 140 ft long anchored to the ground by steel cables and was constructed in 1911.

The photograph was linked to an article on Middlesbrough Docks (HEW 1955) describing how five miles from the mouth of the River Tees, Teesport is one of the few deep water tidal ports, the Redcar deepest point being 56ft. When the Redcar steel plant closed, its bulk output was replaced by importing North American biomass wood chippings, and 100,000 TEU containers (half a million this year).

On 26 September there was a photograph of an off-shore line of nine very large wind turbines and the note that Britain's energy system provided its greenest ever electricity to homes and businesses over the summer due to a surge in wind and solar power. National Grid said almost 52% of the country's power demand was met by low carbon sources such as renewable energy and nuclear power, compared to around 35% four years ago.

The retiring EdF Energy Manager Vincent deRivaz had mentioned that Hunterdone B Nuclear power station on the west of Scotland coastline has just completed 40 years of service. It was due to shut down last year, but will run for almost another decade than first thought. It has just completed a 495 day uninterrupted run. Their Hinkley Point C power station is expected to provide 7% of the country's needs for 60 years, and a photograph of construction progress appeared on 29 September in the Business Section. Meanwhile a later copy of the D.T. Business section showed one of the five large wind turbines located half a mile off the coast at Blyth, Northumberland, built by EdF Energy.

On 1 October the newspaper reported on the changes at Drax power station (HEW 11) in South Yorkshire (SE 665 270), with its six cooling towers, it changed from using 9bn tonnes of coal in 2011 to 2.7bn last year. This is being managed by using biomass pellets which are less efficient than coal and have to be stored in the dry. At present three plants are using biomass, the fourth will change from coal to biomass and the other two will be changed from coal to gas.

Modern railways has a photograph of the new station at Kenilworth being constructed in March and a note that the Department of Transport has pledged £16million towards five new stations under its New Station Fund. These are Horden, Peterlee, Warrington west, Reading Green Park, Bow Street near Aberystwyth and Portway Parkway, Severn Beach

The Transport Secretary has said he wants the Trans-Pennine rail route to be Britain's first digital controlled intercity mainline railway. He said digital technology is transforming the performance of London Underground and wants to apply the same to rail. Network Rail has been given £5m in government cash to assemble a plan to embed the technology in the Trans-Pennine upgrade. The money will come from a £405m allocation for digital rail in last year's Autumn Statement.

There is also now pressure that the single track from the port of Felixstowe towards the London – Norwich main line, which is shared by container trains and passenger trains from Ipswich to Lowestoft, will be doubled and this will allow up to 47 container trains to arrive and leave Felixstowe every day.

The IWA Bulletin 13 September reported the vital repair work was underway to keep the Walsall Canal in good condition for the local community. As part of the work, CRT was holding a special event on 23 September to give visitors the chance to explore Lock 5 on this flight of locks, which runs through the heart of Walsall. The Walsall Canal runs for 7 miles from Ryder Green junction to Walsall Town Wharf. This wharf has undergone major redevelopment in the last decade and has totally transformed the area, which was previously run down and on the verge of being

lost forever. It now provides moorings for boaters and access to the town's attractions, including the Leather Museum.

Following the closure of Ardrishaig Pier, situated on Loch Gilp, a sea loch, to all marine and road traffic after structural collapse of part of the pier on 20 May. IWA has now received reassurance from Scottish Canals that repairs to the pier on the Crinan canal have been completed and the pier reopened for restricted freight use. IWA was concerned about the significant impact the closure would have on timber traffic, which had been operating through the pier. IWA had written to Scottish Canals explaining that IWA supports inland penetration of seagoing vessels so that the environmental advantage of inland waterway freight over road freight can be realised.

The flood of 2015 caused the total destruction of the 19<sup>th</sup> century Crowther Bridge over the Calder & Hebble navigation near Brighouse and over the last 18 months the bridge has had to be rebuilt. Flood resilience was an important aspect to bring to the new design, the new bridge resembles the original as closely as possible. A new towpath completes the scene.

Readers of this newsletter are asked, whenever they read of something which they think might deserve mention here, to send it, or a copy to Carol Morgan, contact details below

## Editor's Note

### By Dermot O'Dwyer

May I repeat the regular appeal for Newsletter contributions which may include diagrams, photographs and / or illustrations. Those which are both informative and appeal for further information, or publicise forthcoming conferences or the availability of recent books, etc., are particularly welcome.

Contributions should be sent to the ICE as soon as possible after receipt of this newsletter by post to:

**Mrs Carol Morgan**  
**Library and Information Services**  
**Institution of Civil Engineers**  
**One Great George Street**  
**Westminster, LONDON SW1P 3AA**

by email to: [carol.morgan@ice.org.uk](mailto:carol.morgan@ice.org.uk)

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