
INDUSTRIAL HERITAGE ASSOCIATION OF IRELAND

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NEWSLETTER *No 45 December 2014*

FROM THE PRESIDENT

Brendan Delany

As you will see from this Newsletter the Executive Committee continued throughout the year to provide a varied and interesting programme of events. Our Railway Conference in early May was successful and it gave many of our members the opportunity to hear some expert speakers who covered a wide variety of interesting areas relating to the development and operation of industrial railways in Ireland both North & South. Unfortunately it was a bit disappointing for us to have to cancel our planned Weekend Tour to Derry/Londonderry due to a lack of demand. On the positive side it was replaced with a very interesting day outing in July to Turlough Hill Power Station. This event was very well attended. Our visit to the Maritime Museum and Dun Laoghaire Harbour in October was also very successful and enjoyable. We held our second Film Night in early November in the Irish Architectural Archive and although it was a very enjoyable occasion attendance was low. Despite the fact that the weather that night was very inclement we need to learn to advertise the event more widely for future evenings.

We have been working hard to provide more advance notice and certainty on dates for our events but while we have effected some improvement it is very difficult to confirm arrangements for Weekend Tours as many organisations and locations will not provide us with an assurance in advance that they will be in a position to accommodate our Group.

We have continued our contact with a contracted web designer to advise on how best we might make our website more user friendly. The Executive Committee are aware that we also need to be more pro-active in terms of utilising social media as a way of staying in touch with both our own membership and with the wider world and we are beginning to review ways in which we as an organisation might be able to have this ambition realised. A first step in that process will be the re-design of our existing web-site.

On behalf of the Executive Committee of IHAI, I wish to take this opportunity to thank all those who have helped and supported IHAI throughout this year and also to wish all our members and their families every best wish for a Happy Christmas and New Year.

Report on the Railways and Industries in Ireland Conference held in Louth County Museum Dundalk on Saturday 10th May.

Thirty-six people attended the railway conference in Dundalk in addition to the six speakers.

The opening talk of the Conference was given by Charles Friel one of Ireland's leading railway historians. His talk provided an account of the development of the Irish mainline rail network from its inception to the point where shortly before the Great War when no major town in Ireland was no more than 10 miles from a railway. The second speaker was Edel Barry who completed an MPhil in 2010 on the Archaeology of narrow gauge Railways in Munster at UCC. Her talk focused on the narrow gauge lines constructed to serve the remote marginalized areas in the west of Ireland and she highlighted their impact on the rural communities which they served. Tim Moriarty honorary Librarian of the Irish Railway Record Society (IRRS) in his presentation gave an overview of the development of their archive and explained the work of IRRS in both recording and presenting many different aspects of railway history. Andrew Waldron a leading industrial railway historian presented a Paper which showed how the development of railways facilitated industrial development over three centuries and he went on to highlight some industries that still use railways and the importance of ensuring that railway heritage survives as it provides a prism for understanding industrial history. Andrew also stood in for Martin Critchely who unfortunately could not attend and was due to give a talk on the use of railways in the mining industry.

In his second talk Andrew showed a selection of photographs from his vast personal archive to show how railways were used at mine sites highlighting their essential role in transporting the excavated material for further processing. Gerard Muldoon gave a fascinating talk on the limestone industry at Carnlogh on the North East coast of Ireland and how three tramway developments were used to facilitate limestone extraction. The final talk was delivered by Sean Cain who focused on the development of Bord na Mona's extensive operations. Power Stations at Edenderry operated by Bord na Mona and at Lough Ree and West Offaly operated by ESB generate over three million tons of rail track business each year on a network of over 900km. Sean explained how the infrastructure is managed and he also explained the development in the design of custom-built locos from Ruston's built in the 1940's to modern Bord na Mona diesels.



Back left to right: Fred Hamond, Brendan Delany, Gerard Muldoon, Andrew Waldron, Charles Friel.

Front left to right: Sean Cain, Edel Barry, Tim Moriarty.

Following the talks there was a very informative and lively question and answer session and all attending agreed that the event had been a great success.

Those who presented at the conference have been contacted and encouraged to submit a written version of their presentations. It is hoped that the Papers presented will be published by IHAI in the form of Conference Proceedings but this will be dependent on some contribution from sponsors.

Visit to ESB's Turlough Hill Power Station on Saturday 12th July.



On a misty morning, Saturday 12th July, a group of twenty-seven members and friends visited the ESB's pumped storage electricity generating station at Turlough Hill near Glendalough in county Wicklow. The station is not a primary producer of electricity, but uses the excess capacity that is available in the national system during periods of low demand mainly at night to pump water from a lower reservoir to an upper reservoir. It then uses this same water to produce electricity during periods of high demand. It can also be used to provide electricity on demand at times of sudden loss of system generating capacity.

The group met at Lynam's in Laragh and travelled to and from the site by mini-bus, where there were met by the Plant Manager, Dave Sexton. There were also public tours to mark the 40th anniversary of the commissioning of the station in 1974 and, in addition, the station was non-operational due to maintenance of the turbines and generators. Dave first took the group to the lower reservoir where he explained the design and operation of the station. The station can generate up to 292MW of electricity at times of peak demand and can go from standstill to full operating capacity in 70 seconds. The hydro control centre located at Turlough Hill provides central control for all the country's ten hydro stations.

The scheme was designed by the Civil Works Department of the Electricity Supply Board. The cavern and tunnels were constructed between 1969 and 1974 by a consortium of German companies led by Alfred Kunz & Co., and in association with the Irish Engineering and Harbour Construction Co. The upper artificial reservoir, which holds 2.3 million cubic meters of water, was formed on the top of the mountain by removing many tonnes of peat overburden. Rock fill was then excavated and used to form a 25m high embankment, and the inside was lined with asphalt and sealed to make it watertight. The lower reservoir was a natural lake, Lough Nahanagan, the bed of which was lowered by about 15m. The mean gross head available at the site is 287m.

Dave Sexton then conducted the group down the 1.5km access tunnel to the

cavern inside the mountain. Due to maintenance, it was only possible to view the generator floor, but a good impression was nevertheless formed that the station was a significant feat of innovative engineering and the only one of its type in Ireland.

The cavern is 82m long by 23m wide by 32m high and entailed the removal of 47,000 cubic meters of granite rock. The cavern houses four 73 MW reversible pump turbines and associated generating units. A single steel-lined pressure shaft connects the turbines with the upper reservoir and has an internal diameter of 4.8m and a length of 584m at a slope of 28°. The tailrace tunnel has a diameter of 7.2m and is 106m long, whilst the main access tunnel to the cavern is 565m long and has a curved segmental section of maximum height 5.5m above a flat floor 5.7m wide.



Dave Sexton Plant Manager conducting the tour for our Group.

The IHAI are indebted to the ESB and to Dave Sexton for facilitating the visit and providing some fascinating insights into this fine example of Ireland's more recent industrial heritage.

Visit to The National Maritime Museum & Historical Walking Tour of Dun Laoghaire with Rob Goodbody Industrial Historian & Archaeologist on Saturday 18th October.

(Please note an extensive part of the information below on the History of Dun Laoghaire Harbour is based on extracts of an excellent publication "The Construction of Dun Laoghaire Harbour" published by Dun Laoghaire Harbour Company and it is reproduced by their kind permission)

The National Maritime Museum of Ireland opened in 1978 in the former Mariners' Church in Haigh Terrace, Dun Laoghaire. The church was built in 1837 for seafarers and remained open until 1971. In 1974 the Church of Ireland and the Maritime Institute of Ireland signed an agreement that led to the museum's opening. The Museum has since been refurbished.

In 2006 substantial funding was authorised by the Government for capital expenditure to cover the cost of the refurbishment, however the funding has since been cut off, and the Museum is now dependent upon door receipts, fund raising events and donations. It is operated by volunteers and a community employment scheme provided by the Department of Social Protection. It was reopened by President Michael D Higgins on 5 June 2012. It was also presented with an Award by IHAI for the Best Restored Museum in 2012.

Our Group were split in two and given extensive tours of the Museum.

The Museum's greatest artefact is probably the building itself as it is one of a few customised places of worship for sailors remaining intact in the world to-day. The Museum houses an extensive collection on all aspects of maritime heritage, from the massive anchor in the museum courtyard to tiny models put together by the lighthouse keepers in the many lonely hours spent on duty off the coast of Ireland.

The Bailey Optic is still a working Optic, donated by the Commissioners of Irish Lights. It is the light from the Bailey lighthouse in Howth. It was installed in 1902 and removed in 1972 when the lighthouse was modernised. The lighthouse was originally gas, then vaporised paraffin powered, the light was equivalent to 2,000,000 candle power.



The Bailey Optic

It is now a museum piece which has been customised to shine a lesser light over the museum. Our tour was designed to give us an overview of the different elements of the collection and it certainly achieved that objective. We also learned that the Museum has thousands of objects but even though

there are hundreds on display there is much more in storage.

Following our tour of the Museum we had a very enjoyable lunch in the Museum Café before assembling for our guided tour of industrial heritage sites in Dun Laoghaire.

Dun Laoghaire takes its name from a fort built on the coast by High King Laoghaire in the fifth century. No trace of the fort remains, but it probably stood where the bridge over the railway to the Coal Harbour is now.

From the time of Laoghaire to the mid eighteenth century, Dunlary (as it was called on a 1760 map) was a small village of fishermen's houses based around a creek where the Purty Kitchen pub is now. A stream flowing from Monkstown Castle ran into the sea there. From the Middle Ages to the sixteenth century, Dalkey was the main port south of Dublin.

By the eighteenth century, Dublin Bay had become badly silted up and dangerous to enter. Ships often had to await tides and winds to enter Dublin safely and while doing so moored on the coast off Dun Laoghaire. Many let off their passengers on small boats to come ashore at Dun Laoghaire and a coffee house was built around where the petrol station beside the Purty Kitchen pub is now.

In 1710, Dean Swift complained about the Dun Laoghaire boatmen who charged him double to row him quickly out to his ship which they said was

about to depart. When he got out to the ship, he found he had plenty of time.

Day trippers came out from Dublin and the village was popular as a sea-bathing location. Some verses published around the 1720s invited the ladies of Dublin to repair to Dunleary where they would find honest residents and could procure good ale.

The continued danger to shipping of Dublin port and the increased popularity of Dun Laoghaire as a landing place led to a petition being presented to the Irish Parliament in 1755 for building a pier. This was agreed and Parliament voted £21,000 for this to be done. The pier was completed in 1767 with locally quarried granite under the supervision of Captain (later General) Charles Vallancey. The new pier became useless in a very short period of time. It quickly silted up with sand and was known as the dry pier before long. It remains today as the Inner Coal Harbour Pier.

The growth of Dublin city, increased shipping traffic, and the danger of Dublin Bay and access to the Liffey led to much debate around the turn of the eighteenth into the nineteenth century about how to make Dublin Bay safer. One popular idea was to make a deep sea harbour at Dalkey between Dalkey Island and the shore. An alternative was to build a “locked” harbour at Dun Laoghaire and run a canal from there to the Grand Canal docks near Dublin.

Captain W M Bligh (earlier of HMS Bounty fame) surveyed Dublin Bay in 1800 and said of the then Dun Laoghaire harbour: “It has nothing to recommend it, being ill adapted for its purpose and ill taken care of, and although sheltered from the east winds, is much incommoded by the swell which sets in around the pier end as well as with the northerly winds”.

In 1802, John Rennie, an outstanding Scottish engineer and designer of many fine bridges and harbours in Britain (including Waterloo Bridge and London Bridge) and the Irish Royal Canal, gave his “decided preference” to Dun Laoghaire as the best site for a new harbour in Dublin Bay.

Despite this, in 1807, work began on building a new harbour at Howth. In November that year one of the greatest marine tragedies in Dublin Bay took place when two ships, HMS Prince of Wales and the Rochdale, sailing out of Dublin, were wrecked in a storm on the rocks between Dun Laoghaire and Blackrock. The Prince of Wales was wrecked near where Blackrock Park is now. Nearly four hundred people were drowned, many of them soldiers and their families. Some of the soldiers from the Prince of Wales are buried in the small graveyard beside the Jury’s Tara Hotel on the Merrion Road where a memorial stone still stands. The Rochdale hit the shore at Seapoint and many of its dead were buried in the graveyard on Carrickbrennan Road in Monkstown where a plaque remembers them. There is also a tombstone in Dalkey churchyard.

The tragedy prompted a new wave of activity to lobby for an asylum harbour in Dublin Bay. In 1808 a petition was signed in Monkstown Church by almost all the resident magistrates and gentlemen on the south side of the Bay calling for such a harbour. The Reverend William Dawson published a plan in 1809 which included a new pier at Dun Laoghaire, and in 1811 an anonymous seaman, generally believed to be Richard Toutcher, published a pamphlet on the need for an asylum port in Dublin Bay.

Toutcher was an exceptional figure in the development of Dun Laoghaire Harbour. Born in 1758 in Norway, he came to live in Dublin and work as a shipbroker before the turn of the century. He agitated ceaselessly for a harbour in Dun Laoghaire. He was strongly opposed to the harbour in Howth, arguing that it was built in the wrong place and by certain people to enhance the value of their land.

In 1814, the campaign for a new harbour in Dun Laoghaire intensified and Toutcher made the huge personal contribution of securing a lease for ten years to allow stone to be quarried in Dalkey free of charge for the Harbour. In subsequent years Lords Longford and de Vesci gave permission for stone to be quarried on their lands in Dun Laoghaire.

In 1815, Parliament in London passed an Act to allow the appointment of five Commissioners to oversee the construction of “a harbour for ships to the eastward of Dunleary within the port and harbour of Dublin”. A survey was to be conducted, and in June 1816 a subsequent Act of Parliament was

passed authorising the building of the Harbour. At that stage, the Harbour was only envisaged as a place of refuge from bad weather and not as a port for landing or loading goods and passengers. The original scheme approved by Parliament was for a single pier harbour at the East Pier, but at an early stage of construction John Rennie, who had been appointed as Directing Engineer, amended the plans and sought a second pier which was agreed to by Parliament in 1820.

John Aird became the Engineer on Site and Richard Toutcher was appointed as storekeeper / second engineer where he remained until his retirement in 1831. He died in 1841 having devoted a great part of his life to campaigning for the Harbour and contributing enormously to its construction, practically and financially, through securing the stone in Dalkey. In August 1817 the contract for quarrying stone was awarded to George Smith. In May 1817, the Lord Lieutenant of Ireland, Earl Whitworth laid the foundation stone.

After the ceremony a breakfast was served for three hundred guests in a tent which had been specially erected near the new pier. King George the Fourth departed from Dun Laoghaire on the royal yacht in September 1821 following a visit to Ireland. To mark the departure the town was renamed Kingstown.

The Toutcher’s achievement in sourcing stone for the harbour in Dalkey Quarry led to the construction in 1817 of a remarkable funicular railway to bring stone from the quarry to the sea.

Having acquired land to run the railway across, two tracks were laid down running from the Quarry along the path beside the present railway.

The track descended steeply from the Quarry to where the present railway bridge is at Barnhill Road. Part of the old track path is still visible off Dalkey Avenue. The track then ran down towards the Harbour on a series of further funicular stretches. The curved line, especially between Glenageary and Dun Laoghaire, was used to exploit the gradual gradient to best effect. To this day the path along the railway from Dun Laoghaire to Dalkey is known as the metals. Every “train” had three trucks, each of which held about six tons of rock. The trucks were held together by a continuous chain and ran on iron rails mounted on granite plinths. A seven foot diameter friction wheel was mounted vertically between two large, strong, twelve foot high “A frames” at the top of the hill in the Quarry and a continuous cable ran down overhead parallel to each track to a smaller wheel at the bottom of the hill at Barnhill Road. The trains were connected by a second cable to the overhead cable. The weight of the full trucks going down the hill pulled the empty ones back up. An operator regulated the speed of the friction wheel with a brake. Horses pulled the trucks along the rails on flat ground around the Harbour.

The system was highly efficient until 1840 when the bulk of the stone had been transported to the Harbour. The track between Glasthule and Dalkey was sold to the developers of the Atmospheric Railway in 1841. The Atmospheric Railway ran between Dun Laoghaire and Dalkey between 1844 and 1854. Stone for the Harbour was also quarried in Glasthule (where the People’s Park now stands), and in Dun Laoghaire at an area known as the Churl Rocks (where Moran Park is now).

The massive volume of stone transported to build the Harbour can best be appreciated by adding together the length of the two piers (1.75 miles) and then considering their foundation width (300feet) and depth (24 feet below low tide mark). Detailed ledgers and weighing machines were used to quantify the exact amount of stone to be paid for by the Commissioners but, perhaps not surprisingly, by 1830 there was a considerable discrepancy of 11,000 cubic yards of stone between what the contractor said he had delivered and what the Commissioners said they received. The massive scale of the Harbour construction project had an immediate impact on Dun Laoghaire and Dalkey. Up to then, the south Dublin coast was largely undeveloped and Dalkey, which had been an important port in the fifteenth and sixteenth century, had lapsed into obscurity and poverty.



Ron Goodbody explaining to IHAI Group where the rock came from to construct the harbour.

By 1823 there were over 1,000 workers, many with their families, living in huts and stone cabins they had built themselves on Dalkey Commons and on what are now Sorrento Road, Coliemore Road and the Convent Road / Leslie Avenue area. These workers came mainly from Dublin and

Wicklow but skilled stone-cutters also came from Scotland. Most of the worker's homes had no sanitary facilities or running water. Drinking water came from local springs. Outbreaks of typhus and cholera as well as injuries were commonplace, and in the early days of harbour construction no medical treatment was available. The work was arduous and dangerous, particularly from the amount of blasting work going on in the quarry. This led to many losses of limbs, eyes and even lives. There were complaints from local landowners about the workers squatting in Dalkey and living there without permission. The men working on the piers were paid directly by the Commissioners and those in the quarries by the stone contractor. Over the period of construction of the Harbour, employment numbers ranged at any one time between the low hundreds up to almost one thousand. In August 1823, for example, there were 129 men employed by the Commissioners and 690 by the contractor. At that time, labourers were paid 1s 8d (about 10 cent) per day and the overseers 2s (13 cent).

In the early stages of the works, many were paid by tickets or by arrangement with hucksters and publicans until the Commissioners ruled that the men were to be paid in cash only. It is not difficult to imagine the hardship of the labourers and wonder how they managed to exist on the pittance they earned after a tough day's work. Nor is it hard to understand why on several occasions there were riots and strikes.

Because of the many children of workers now in the area, schools were built on Dalkey Commons and Barnhill Road. They were supported by subscriptions from their parents and the Lord Lieutenant. They were known

locally as the "*Oxford and Cambridge schools*". As a result of the works, Dun Laoghaire became something of a boom town and as early as 1826 the Commissioners were being petitioned about the high cost of living in the town. In 1829, workmen employed on the East Pier petitioned the commissioners following a reduction in their weekly wages from 11s 3d (71 cent) to 9s 9d (62 cent).

In 1832 an anonymous letter writer to the Commissioners complained that there were 37 public houses in the town. In the expectation of casualties, one of the earliest letters from the newly appointed Harbour Commissioners was to the Lord Lieutenant of Ireland requesting a special carriage for "*the removal of any of the men who may meet with accidents in the blasting*".

In August 1817, James Weldon was one of the first deaths on the works when a crane in Dalkey Quarry collapsed on top of him. His parents presented a memorial to the Harbour Commissioners. They were subsequently awarded five guineas by the Board. James Farrell was appointed as doctor to the works in April 1821 because of the numerous accidents at the Harbour and the Quarries and the fact that these were constantly attracting public notice and suspicion. Working in the quarries or moving the stone was dangerous work and the early records of the Harbour Commissioners, and the Commissioners of Public Works who took over the project in 1831, contain many petitions and pleas from the families of workers injured or killed.

The long delay in finalising the nature of the pier ends in the early 1830s and the slow down in work led many workers to be laid off. Their prospects of alternative employment were poor

and they petitioned the Commissioners to no avail. The Kingstown Dispensary, run by Charles Duffy, a surgeon, was finally opened in 1831 and a temporary cholera hospital at Glasthule was set up.

Theft from the Harbour workings was a persistent problem and the courts were kept busy for all of the construction period. The metal used on the railway was in particular demand. In 1833, Alice Duffy, a widow with five children, sought the return of her ass and cart which had been seized when it was found to have a piece of metal in it. The Commissioners were unsympathetic and noted that she was a habitual thief. On a couple of other occasions, those who had helped apprehend thieves petitioned the Commissioners for a job for themselves as a reward.

As well as the workers who quarried the stone and built the Harbour, another group of people had a hard time in the Harbour. These were the prisoners on board the prison hulk Essex which was permanently moored in the Harbour from 1824 to 1837. It was moored about fifty yards off the East Pier and 100 yards from the shore opposite what is now the National Yacht Club. The hulks were ships that had their masts removed and were stationed in harbours around Britain, usually to hold convicted prisoners who were awaiting transportation to Australia. There was also a hulk off Cobh in County Cork.

The Essex had been a distinguished American 32 gun frigate built in Salem, Massachusetts in 1799 for the then young American navy. After fighting against the British in the Pacific, and also against British whalers there, it was captured in 1814

off Valparaiso in Chile and towed to Plymouth in England where it lay until being moved to Dun Laoghaire in 1824.

Prisoners held on hulks around England usually worked on shore based building projects but this was not the case in Ireland. Although it was suggested to the Harbour Commissioners at the time the Harbour was being built that the Essex prisoners might be used in the works, this never took place. Between 250 and 300 prisoners were held on the Essex, most of them convicted and sentenced to transportation to Australia for what now seem relatively minor offences. An interesting anniversary in the history of transportation took place in June 2003. On June 2nd 1853, 150 years before, the very last transport ship from Ireland to Australia – the Phoebe Dunbar - sailed from Dun Laoghaire to Freemantle, Western Australia.



Ron Goodbody explaining the history of the Harbour

From the time that Harbour construction began, Dun Laoghaire embarked on a period of rapid growth. King George the Fourth's departure from Dun Laoghaire on the royal yacht in September 1821 conferred a new status as well as name on the town and as the Harbour piers extended out into

the Bay, the town of Kingstown developed rapidly up the hill facing it.

The main axis of the developing town was George's Street, which was initially the connecting track between the no longer standing Martello Towers built in 1805 that stood on the site of Laoghaire's old fort at the Coal Harbour Bridge and in what is now the People's Park. What is now Marine Road, was called Forty Foot Road and the town's centre gradually moved from the junction of York Road and Cumberland Street to where George's Street met the Forty Foot Road. In 1826 the mail service from Britain was transferred from Howth to Kingstown and a special wharf was built on the East Pier for the packet steamers. While a committee chaired by Daniel O'Connell took evidence in 1833 about the merits of building a ship canal to link Dun Laoghaire and Dublin, the arrival of the railway killed off the idea.

In 1834 the first railway in Ireland was built from Westland Row to Dun Laoghaire. The initial station was beside the end of the West Pier but the track was extended in 1836 to where the present station is. The railway became a huge success and drove the rapid expansion of the town as a fashionable place to live. Between 1831 and 1861 the population more than doubled from about 5,500 to 11,500. The combined growth in efficiency and speed of both the railway and the steam packet ships made Dun Laoghaire a central point for relatively comfortable and quick travel between Ireland and Britain. In 1860 the average crossing time to Holyhead of the Dublin Steam Packet Company ships was 5 hours and 40 minutes. Between 1885 and 1896 this had been reduced to 3 hours and 37 minutes and in 1896 it dropped further to 2 hours

and 51 minutes. The railway now met the boat on the Carlisle Pier and the Dun Laoghaire to Bray section of the railway had opened in 1856 making the Harbour directly accessible to Dublin and the national rail network.

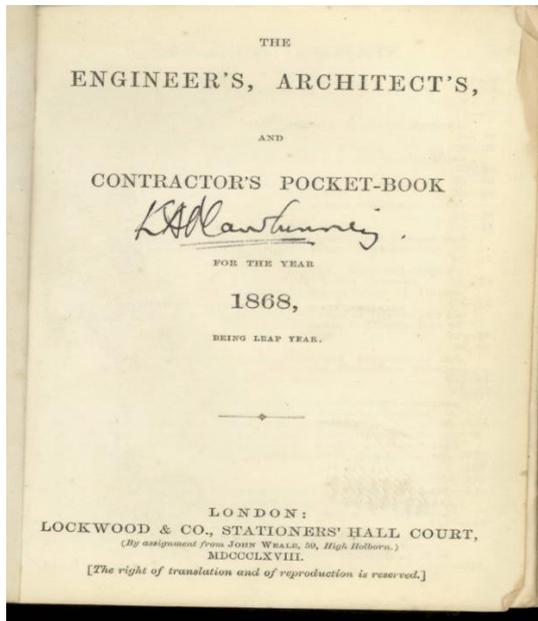
IHAI Film Night Wednesday 5th November at The Irish Architectural Archive.

This was the second year that this event was staged. Although the attendance was low those who braved the bad weather were not disappointed with the archival film shown which included an interview with Dusty Miller appointed Technical / Innovation Manager in Bord na Mona in 1946 who outlined some of the major developments undertaken in their early years. This was followed by a short history of Irish Distillers at their premises in John's Lane Dublin from the origins of the company to the closure of their operations in this location in 1974. A short film "Over the Hill" explained the design and operation of ESB Turlough Hill Pumped Storage Generating Station. The final film to be shown on the evening was on the operation of Sion Mills which became one of the most important linen yarn manufactures in the world being managed by the Herdman family from 1835 until the mill was finally closed in 2004. This was also of a self sustained model community and the archival film documented their way of life which has sadly disappeared with the demise of the famous mill.

Special Archival Presentation to IHAI Archive by Ken Mawhinney.

At the close of the evening Ken Mawhinney presented Brendan Delany President IHAI with a very rare original copy of "The Engineers,

Architect's and Contractor's Pocket-Book For 1868".



This book will be lodged to the IHAI Archives which are now housed in the Irish Architectural Archive. The Pocket book is a treasure trove of easy to use and practical reference information which includes information on Electric Telegraphy, Wrought & Cast Iron, Waterworks & Sewers, Hydraulics, Gas Works, Memorandum Book of Mr Teleford: Power of Men, Horses, Machines, Wheels and Pinions, Measurement Formulae, Properties of Materials, Coal & Gases, Thermometers, Commercial Weights & Measures and Information on Current Coins of the Principal Commercial Countries and their Values in British Money.

Heritage Publications of Interest:

The Great Archaeologists

Edited by Brian Fagan

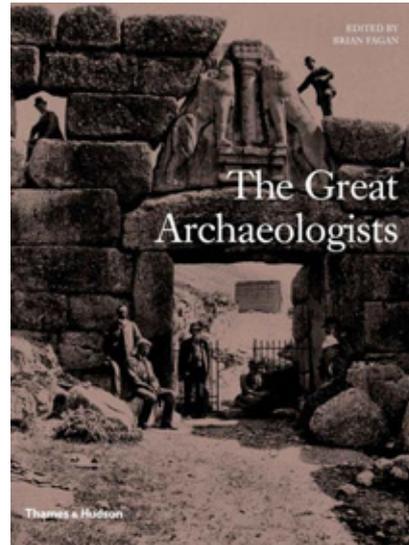
ISBN 9780500051818

24.60 x 18.60 cm

Hardback 304pp

201 Illustrations, 188 in colour

First published 2014 Price £24.95



The excavators and decipherers who revealed buried cities, lost civilizations and forgotten scripts to the modern world

Brian Fagan has assembled a team of some of the world's greatest living archaeologists to write knowledgeably and entertainingly about their distinguished predecessors, the result is full of fascinating anecdotes, personal accounts and unexpected insights.

'A compelling range of brilliance, imagination and eccentricity, conveying not just a sense of what being an archaeologist involves, but of how much archaeology has achieved as a contribution to human understanding. As well as in the design and image selection that make this book a pleasure to hold, its strength lies in its writers' – British Archaeology.'

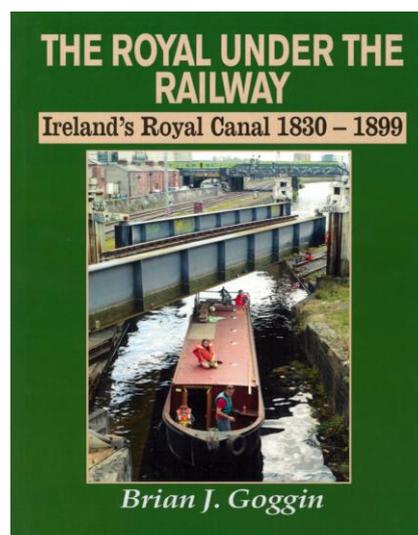
This comprehensively illustrated book encompasses more than two centuries of research and excavation round the globe, Europe, Africa and Asia to the Americas and the Pacific.

Controversial figures such as Heinrich Schliemann of Troy fame and the Aurel Stein, plunderer of ancient manuscripts from Central Asia, are reassessed. Little-known pioneers such as Max Uhle in Peru and Li Chi in China are set beside the giants in the field – from Lepsius, Mariette and Carter in Egypt, and Koldewey, Dörpfeld and Woolley in the Near East, to Stephens and Catherwood, discoverers of the Maya of Mexico, and Louis and Mary Leakey, who transformed knowledge of our African ancestry. Other indomitable women here include Gertrude Bell, explorer of Arabia and Iraq, Kathleen Kenyon, the excavator of Jericho, and the script-decipherer Tatiana Proskouriakoff.

Imaginatively chosen illustrations range from photographs of the archaeologists and their sites, original drawings and field notebooks, to images of the famous objects that were unearthed.

Brian Fagan, one of the world's leading writers about archaeology, is Emeritus Professor of Anthropology at the University of California, Santa Barbara. His many books include *Cro-Magnon* and *Beyond the Blue Horizon*, and he has written or edited for Thames & Hudson such volumes as *The First North Americans*, *Discovery!*, *The Complete Ice Age* and *The Seventy Great Mysteries of the Ancient World*.

THE ROYAL UNDER THE RAILWAY
Ireland's Royal Canal 1830-1899
Author: Brian Goggin with contribution (Chapter Seven) from Ewan Duffy
Published by the Railway & Canal Historical Society
ISBN 978 0 901461612 Price €10.



A 120-foot-long steam powered narrow boat, canal boats with onboard stabling, a floating bridge and a fleet of iron cattle-carrying boats with doors in their sides were all remarkable features of Ireland's Royal Canal.

Ireland has two canals connecting Dublin to the river Shannon. The more northerly the Royal Canal, was much less successful than its rival, the Grand, and it was bought by the Midland Great Western Railway in 1845. It remained open, with declining traffic, for another hundred years; it closed in 1961 but reopened as a recreational waterway in 2010.

This book draws on online archives and information resources to supplement existing histories of the Royal Canal. It provides new information about engineering works, canal carrying and a surprising source of finance.

Brian J. Goggin spent some years as honorary editor of the quarterly magazine of the Inland Waterways Association of Ireland. He then began research on steamer traffic on the river Shannon from the 1820's to the 1850's; he thinks that the end is now in sight. He maintains an extensive ad-free website at <http://irishwaterwayshistory.com> with historical articles and comment on current waterways issues. Brian and his wife Anne own a converted 100-year-old former river tug-barge, the "Knocknagow", which takes up their leisure time and much of their income.

IHTA 26: Irish Historic Towns Atlas, no. 26 Dublin III, 1756 to 1847
Author: Rob Goodbody
ISBN: 978-1-908996-34-3 Price €35



Published by the Royal Irish Academy in association with Dublin City Council, this atlas traces the history and development of Dublin through the late eighteenth and early nineteenth

century when many of the city's modern streets were laid out. A series of loose sheet maps present a variety of views that illustrate Dublin over the period. Large-scale colour maps depict the city in 1847 at two different scales, and these can be compared with a modern town plan of 2012.

Historical maps, illustrations and paintings such as those by Rocque, Scalé, the Wide Street Commission and the Ordnance Survey, are produced to high quality and in large format. Thematic maps depict notable elements of the evolving urban landscape, for example, brewing and distilling, churches, city estates and growth phases. The maps are accompanied by a detailed text section and an introductory essay on the growth of Dublin from 1756 to 1847. A CD-ROM presenting all the maps and text in high resolution is included.

Editorial Note.

I would like to acknowledge the inputs of Fred Hamond, Ron Cox, Rob Goodbody, Dun Laoghaire Harbour Company for the material used for this edition of the Newsletter.

IHAI would be glad to hear from any readers who have comments or suggestions. We would be particularly pleased to hear from those who might be willing to supply news, write articles, review books or contribute photographs. Please send any articles for the next one to the editor at e-mail: brendan.delany@esb.ie.