



NORTHAMPTONSHIRE
INDUSTRIAL ARCHAEOLOGY
GROUP

NEWSLETTER



ISSUE 115 - SUMMER 2010

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From the Editor

Apart from a few suspect evenings the annual Friday night walks have been excellent, not only for a steady turnout but, in the main, for not having the heavens open up and deluging us. Only two, therefore, have proved to be 'damp'. We have visited one site which many of us have probably passed and not known that it was there as it was so hidden from view, Peter writes about this on page 5. 10 of us went to Swannington and enjoyed, not only the talks, but also the walks in the afternoon. It was extremely hot and the only disappointment being that there wasn't any tea to round off the day before setting off for home. The next EMIAC will be held at Holbeach and the booking form is enclosed.

In order to save extra postage and another mailing, enclosed is the Winter Programme of talks, also the renewal notice – Terry writes about this amongst other things on page 20. We are taking a stand to the second Heritage Fair, to be held on the 11th September – information is to be found in Dates for the Diary section. It is hoped that many of you will find the time to visit the stand and let us know you have attended.

In this issue there is the usual mix of articles and as always I must thank those members who are sending in information. This, as you know, helps to make our newsletters and for this I am grateful. Wales, Part 2 has now expanded to Part 3 as there was a great deal of information to pass on to you all. Part 3, therefore, will be in the next issue as we did not wish to take this issue over to one particular trip! Hope your summer is a happy one and please let us know if you have been somewhere of interest.

Jane Waterfield



WINTER PROGRAMME 2009 / 10

History of milestones – Friday 12th February

Helen Crabtree is a member of the Milestone Society whose aim is to identify and record the milestones of Britain on a county by county basis and so far over 8,400 have been recorded. Although milestones or mileposts are also found on railway and canals, Helen concentrated on those used on roads.

It was the Romans who first placed milestones along our roads. These were stone obelisks positioned a Roman mile - about 1,600 yards - apart. There are examples of Roman stones in the Museums of London and Peterborough. One of the earliest is thought to be the so-called London Stone which until 1742 was in the middle of Cannon Street in London. It was then moved to the wall of St Swithins Church,

and after that was bombed in WWII, placed in the wall of the Chinese Bank in Cannon Street where it remains.

After the Romans left Britain, the roads declined and modern milestones did not start appearing until the 17th century. The distances marked referred to the Statute Mile which had been defined in 1593 as 1,760 yards; they were probably used to facilitate the calculation of the cost of horse journeys. The first Turnpike Act was established in 1663 on the Great North Road between Stilton in Huntingdonshire and Wadesmill in Hertfordshire and in 1707 the first Turnpike Trust was established for a section of the London-Chester road between Fornhill and Stony Stratford.

From the 1740s Turnpike Trusts were encouraged to mark the miles using milestones and in 1767 this became compulsory. During the 18th and 19th centuries there were some 19,000 miles of turnpike roads most of which had milestones. Turnpike Acts ended in 1888 when county councils became responsible for roads but milestones continued to be widely present until outbreak of WWII when many were removed or obliterated due to the threat of invasion. After the war most of these were not replaced.

The term 'milestone' is strictly speaking only relevant to stone obelisks and the term 'milepost' is more appropriate for cast iron and other materials; however in practical terms the words are interchangeable. Early milestones were of square cross-section but later angled stones were introduced for better visibility. In the 19th century, cast iron became popular both for the complete milepost and increasingly for cast plates to be added to the face of milestones. Roman numerals were gradually replaced with Arabic numbers which helped avoid confusion – especially with II which in some circumstances could be interpreted as 11 or 2!

Milestones in Northamptonshire

There are supposedly 29 milestones or mileposts still in existence on Northamptonshire's roads. Those featured by Helen in her talk included:

- The milestone outside Wicksteed Park, Kettering – put there in 1752 as part of the Brampton-Market Harborough Turnpike. The distances were chiselled out in 1940 and it was left lying at an angle until recently returned to its upright position.
- Desborough Cross is actually an obelisk milestone – topped by a ball. It is reputed to have originally been at Harrington Hall. Helen is in discussion with the local council about painting in the engraved words to make them easier to see.
- An attractive wall-mounted milestone in Oundle near the church, which has pointing hands with 'fingernails'.
- An obelisk at Lilford near the roundabout on the A605 from Thrapston to Oundle – this was found recently when the roundabout was constructed and has been reinstated.



Obelisk milestone at
Desborough (c) Peter Perkins

- The twin obelisks set up either side of the Stanford to Clay Coton road.

Other mentioned examples in the county are at Thrapston, East Haddon, Daventry (2), Towcester (2), Rushden, West Haddon, East Haddon, Crick, Blisworth and Ashton (near Oundle).

Milestones and posts are at risk of damage from grass cutting equipment so the Milestone Society is trying to get the County Councils to put marks on the kerb to point out where they occur so grass cutting operatives can avoid them – and presumably limit damage to their cutting equipment.

This was a very informative talk about one of the key features of our road transport history. No doubt members will be able to identify the locations of the other dozen or so milestones in the county that were not mentioned!

Peter Perkins



SUMMER WALKS AND VISITS 2010

Bradwell Windmill – Friday 7th May

The summer meets programme kicked off with ten members dodging the showers to visit Bradwell Windmill in Milton Keynes. Having been closed to visitors for a number of years, the mill, owned by Milton Keynes Council, is now being looked after by Milton Keynes Museum with regular open days throughout the summer (*details on the MKMuseum website*). Millwright Chris Wilson, from Over Windmill near Cambridge, had visited the mill a month before us, reporting that the weatherboarding to the cap needs replacing as soon as possible - perhaps a £30k job at present, with costs set to escalate if the work is delayed so that the rot then spreads to the cap's structural timbers - but that the basic millwrighting is sound and perhaps a further £20k would return the mill to full working order.

That the mill was never fully restored during the various projects done by Milton Keynes Development Corporation during their ownership between 1969 and 1996 might come as news to those familiar with the guidebook to the mill produced in the early '70s by MKDC - written in anticipation of a full restoration - or those of simple mind lacking the imagination to understand just how MKDC laboured for 27 years and still managed to end up with a non-functioning windmill yet

managing to surround it over the course of those years with a functioning new town.

The guidebook's contents are regularly reproduced in other publications and on the internet by authors who have assumed that if it's in the guide it must be true - one example being the presence of a fireplace in the mill, and the claim that only one other mill in Britain being known to have taken the risk of flour dust exploding, whereas Trevor Stainwright in '*Windmills of Northamptonshire*' details fireplaces at Barby, Blakesley and Newnham!

The state of play at present is that the mill has a pair of common sails and a pair of spring sails, the shutters for which are all damaged and have mostly been removed. The sails are being regularly pushed around by hand to even out the strain on the sailstocks but have yet to be turned by windpower - the one attempt so far to try, with the sailcloths spread on the two common sales, having been a triumph of timidity on too



Chain wheel for turning the cap

(c) Terry Waterfield 2010

calm a day. The stocks look sound where they pass through the poll-end, a place always prone to rot. Despite various rumours about there being '*something wrong with the cap*' it has been happy thus far to turn to face the wind (turned by hand - the mill does not have a fantail) and is in the process of having the mechanism re-greased - another task will be to cut back some of the surrounding trees which are close enough for the sails to collide with. Inside, the brakewheel, wallower, main shaft and great spur wheel all look OK but it is the final mechanism for taking the drive to the stones, the tentering gear to adjust the gap between the stones and the centrifugal governor to regulate this that was never sorted out during the restoration(s). In addition, the guidebook promises a pair of French burr-stones and a pair of Derbyshire peakstones, but only the burrs are in situ with, curiously, a single peak stone in place but it is a runner stone placed as a bedstone and dressed to go around anti-clockwise whereas this is a mill where the sails go anti-clockwise and the stones go clockwise.

It is hoped that some combination of a capital bid to the council for the roof improvement can be combined with a Heritage Lottery bid (Milton Keynes apparently having a priority status for such funds for the next couple of years) for various enhancements, both to return the mill to working order and to enhance the site for visitors. Besides the proximity to the canal - hence the logic to the mill, constructed soon after the canal's opening made it possible for local farmers to supply grain to London but, with the capital always short of milling capacity, it

also made sense to build the mill out here - the mill also stands next to the former railway line between Wolverton and Newport Pagnell, now a cycle track and being promoted as the '*lost track of time*' route linking together various heritage sites across north MK. At this point the plan usually descends into jibberish about leveraging opportunities and stakeholder involvement, but hopefully you get the picture.

Matthew Nayler



Blatherwycke Walk – Friday 14th May

The main IA interest in the village of Blatherwycke in the north-east of the county lies in its lake and former corn mill. However, much of our visit this evening was taken up with exploring the site of Blatherwycke Hall, which until recently was covered in thick undergrowth.

Blatherwycke Hall was originally a Tudor building constructed in the 16thC by Sir Humphrey Stafford. The house came into the ownership of the O'Brien family, supposedly descended from Brian Bora King of Ireland in 1002 and the Staffords and the O'Briens were subsequently united by marriage in 1699. In 1713 (or 1723 depending on which source you believe), the Tudor house was replaced by a grand Palladian style mansion surrounded by a deer park of some 400 acres. It was designed by Thomas Ripley and built by local man Robert Wright. Throughout the 18thC and 19thC the Stafford O'Briens enjoyed an elaborate country house lifestyle there, with Henry O'Brien becoming High Sheriff of Northamptonshire in 1868. However in the 20thC the family fell on hard times due to the loss of their 25,000 acre estate in Ireland following Irish independence in 1921. They could not afford to repair the major damage caused by troops billeted there in WWII, so in September 1948 the two surviving O'Brien sisters watched as the house was demolished. They were rehoused in a wooden bungalow built near the walls of the kitchen garden on the estate where they stayed until they died some ten years later.



Stable Block the surviving building of the old hall (c) Jane Waterfield 2010

Today only the stable block remains next to the Norman church, plus the high walls of the former kitchen gardens and the aforementioned wooden bungalow. These are located on the eastern side of the lake which was dug in the 19th century reputedly by Irish navvies. At the northern end of the lake is the former corn mill which Stewarts & Lloyds Ltd. acquired in the 1930s installing electric pumps to take water from the lake to the new integrated iron, steel and tube works being developed at Corby. Recently much work has been done to clear the area around the lake and the site of the house, to refurbish the stables and to plant new trees.

Our walk took us along a public footpath running along the eastern side of the lake towards Kings Cliffe. We saw the wooden bungalow set against the walls of the former kitchen garden and walked past the church and former stables to the site of the hall. From a plan of the site we were able to identify the extent of the garden contained within the remains of a ha-ha, the site of the central pond and the approximate location of the house. There was conjecture that a wall alongside the footpath was the remains of one of the pavilions to the house.

Further on, up a slope, was a statue – in the middle of the field. This was a copy of the Apollo Belvedere (the original being in the Vatican Museum) and used to stand in the gardens of the Hall. It looked rather odd standing among the crops!



The corn mill

(c) Jane Waterfield 2010

Walking on, we were able to observe the former corn mill in the distance across the lake, before retracing our footsteps to the churchyard, where eagle-eyed members spotted the grave of the O'Brien sisters who witnessed the demolition of the house. At the bridge which carries the public road through the village across the edge of the lake, we observed that most of the estate cottages and the bridge itself carry the monogram *SO'B*, referring to the Stafford O'Briens. The bridge is Grade II listed and according to English Heritage carries a datestone of 1626, although it appears to be much altered and widened and carries several NCC plaques indicating restoration work in the 20thC.

Subsequent to the visit, we have discovered the Blatherwycke Estate is owned by F&A George Ltd who are based at Whitworths Mill at Wellingborough. This is the family that until recently owned Weetabix. Furthermore they have planning permission to rebuild a classically inspired house on the site of the Palladian mansion. Thus it appears the history of Blatherwycke Hall is not yet complete.

Peter Perkins



Turnells Mill Waterwheel – Friday 21st May

Twelve members gathered at the site of Turnell’s mill on the south side of the A45 near its junction with Turnell’s Mill Lane on the south side of Wellingborough to view what remains of the waterwheel which was driven using water from the River Nene.

In the mid-19th century a mill on this site was owned by George Wallis and Thomas Butlin (of Spratton, and associated with later iron-working in the area) who rented it in 1848 to Thomas Turnell, senior, and his son Thomas Battams Turnell. In 1874 a new mill was erected by Wm. Butlin (son of Thomas). The initials “WB 1874” were seen on the building when NIAG visited there in 1964. The Turnell family were at this mill until 1898 when William Hipwell took occupation. By 1951 the mill was being used by Whitworth Bros and in its final years, the mill was used to produce provender which ceased in 1966. The mill was demolished in 1973 ahead of the construction of the dual-carriageway A45, leaving the water wheel and primary gear in situ, now completely enclosed by trees.

Trevor Stainwright, a Wellingborough man and member of the SPAB Mills’ Section, has been carrying out a one-man mission over the past few years to preserve the waterwheel and hopes to obtain funding to help conserve the remains. He had manufactured a wooden bridge which was laid across a ditch specially for our visit to allow us to access the site.



Water wheel remains

(c) Jane Waterfield 2010

On our visit, with the aid of photographs, were able to envisage how the undershot waterwheel sat within the mill building. We could identify one wall of the leet and the remains of two wide arches defining the entrance and exit routes of the water as it passed under the waterwheel inside the building as well as two narrower arches which defined the route of the by-pass channel. Improvements to the drainage of the area in recent years mean that the mill is now well away from the present route of the Nene.

Peter Perkins with input from Geoffrey Starmer



EMIAAC 79

‘Swanning around Swannington’ – Saturday 22nd May

The EMIAAC Heritage Day held at Swannington and organised by the Leicestershire Industrial History Society covered aspects of industrial archaeology in the locality on sites owned by the Swannington Heritage Trust. In the morning there were three excellent talks, the first on the history of the Leicester & Swannington Railway, one of the first railways England, built in 1831 to convey coal from pits in the vicinity of Swannington to a wharf on the River Soar at Leicester. The second talk described work to renovate Hough Windmill at Swannington, an 18thC tower mill, which was completely ruinous at the end of the 20thC but has been restored and with a bit of further effort should soon be working again.

The final talk described how the landscape in the area had changed over the past thousand years or so due to mining for coal. In the first place coal was quarried where it outcropped at the surface. Later in the medieval period, bell pits were used to access coal seams just below the surface. Finally, the advent of animal and steam power meant it was possible to access and ventilate deeper shafts in the 18thC and 19thC.

Visits in the afternoon included the renovated Hough Windmill and the remains of Swannington incline on the Leicester & Swannington Railway. Here, coal delivered from local mines to the bottom of the incline was hauled up in wagons by a steam winding engine located at the top. The site of the engine house has been excavated and bridges carrying roads and tracks across the incline have been reinstated.

In an area called the Gorse Field are the remnants of centuries of coal mining. There are many depressions in the ground here caused by the remains of medieval bell pits. A horse gin has been recreated on a site where one was used to draw up coal from a pit in the 18thC, while in another part of the site, LIHS has been excavating on the site of Califat Mine, one of the deep mines worked for coal in the 19thC. Here they have found a range of brick structures and culverts, thought to be associated with drainage and ventilation of the colliery.

On one of the hottest EMIAC Heritage Days ever, it was difficult to reconcile this idyllic green rolling countryside with the history of industry in this area over the past few centuries.

Peter Perkins



The Incline showing the Potato Lane bridge
(c) Jane Waterfield 2010



Winding gear (c) Terry Waterfield 2010



Part Two of the Field Trip to Snowdonia

The Copper Mountain – Day two - June 2009

Last time we spoke about the full day we had been looking at mines and mills. Part two sees us on Anglesey visiting a copper mine and the port to which the copper went for distributing to the world. We also looked at the original Thomas Telford A5 which lies near to our base.

Metalliferous deposits in Snowdonia are not confined to the Gwydir Forest. In the 1970s there were plans to flood the Nant Ffrancon valley at its northern end close to Bethesda until someone remembered that there were remnants of mining activity in the valley; lead ores often contain arsenic compounds. Needless to say the plans were dropped! In the 18th century, there were several trials for copper in the valley: some came to nothing but at the northern end of the valley over two hundred tons of arsenic pyrites were mined (Bick, David (1982). *The Old Copper Mines of Snowdonia*, The Pound House. ISBN 0 906885 02 7).

However, the bulk of the activity was to the west and south-west of Snowdon in the Nantlle Vale, Nant Gwynant, Cwm Pennant and Beddgelert areas. For the period 1804 to 1913 some 13,000 tons of copper ore were raised in Nantlle Vale, half the amount extracted from the Llandudno mines. The total weight of copper ore raised from the Snowdonia mines (excluding Llandudno) totalled some 37,800 tons during the same period. The ore, mainly copper pyrites, was found either in solid ribs or scattered throughout the lode, which varied from a thread to 20 ft or so in width. Dressed ore contained about 10% copper; lead ore, where it was worked as galena, contained about 80% metal.

Although it is believed that some form of mining had taken place as early as the Roman period, the great copper discovery in 1768 at Parys Mountain on Anglesey provided a stimulus for many of the ventures. It had been decided that our second day would be a more leisurely affair (?) taking in the sights of Anglesey on the way to Parys Mountain and Amlwch. The island is almost divided into two parts: the marsh land between Pentraeth and Llangefni drains north-west along the Afon Nodwydd into Red Wharf Bay and south-west along the Afon Cefn into Malltraeth Bay. Between Llangefni and Malltraeth Bay a flood prevention scheme has been constructed adjacent to, and parallel with, the Afon Cefn.

In 1406 a certain Robert Parys was appointed by the King to collect taxes and fines from the people of Anglesey who had supported the uprising of Owain Glyndyr. As a reward he was given Mynydd Trysglwyn, which later became named after him. Then, the only asset on the mountain was a farm. Over the next 300 years the area was passed down through the generations until in the mid-18th century the area was held by two of Anglesey's largest landowners: the eastern half by the Bayly family and the western half jointly by Bayly and William Lewis, a neighbouring squire.

It was believed that the Romans had extracted copper from the area but it was not until the Elizabethan interest in establishing a copper industry that the mineral resources of Parys were investigated. In 1579 a Mr Medley boiled the vitriolic water to extract alum and copperas (iron sulphate) and changed iron into copper. Sir John Wynn of Gwydir was present for the experiments and some 30 years later reported on the results to the Council of Wales (Harris, J.R. (2003). *The Copper King: Thomas Williams of Llanidan*, 2nd ed. Landmark Publishing. ISBN 1 84306 092 2.). In another trial, powdered iron was placed in boiling vitriolic water from Parys and copperas and alum extracted from the deposit. Copper was obtained by smelting the remainder of the deposit. It was deemed not to be a commercially viable process.

In 1748 Lewis Morris noted that the mountain "produced an Okery earth which is used to make paint"; so indicating a future by-product of the mine. By 1761 various searches for underground ore were being made in the Amlwch area; at the same time a Cornish miner called James Thomas had samples from Parys analysed. Although the search continued for several years, the copper ore, when found, was always difficult to work due to flooding.

The breakthrough came in 1768 when Jonathan Roose found a rich vein; this led to open cast working in the Mona mine. Within a few years the vein had been extended westwards onto the neighbouring lands, which led to long-running legal disputes. At the same time the precipitation process was being used at the Mona mine; large quantities of scrap iron were being transported to Anglesey from London for use in the precipitation pits (www.parysmountain.co.uk [June 2010]).

Thomas Williams (1737-1802), a lawyer in Amlwch, was employed to untangle the legal disputes over the boundary between the Parys and Mona lands. This work led to the formation of the Parys Mine Company in 1774. His influence grew and by 1792 he had complete control of the Anglesey copper production. He went on to do so much in the copper industry throughout the UK that he has been called "The Copper King". Williams invested heavily in new buildings at the Mona mine and a new quay at Amlwch port and by the end of the century 1200 men were employed at the two mines. Within a few years of Williams' death, however, production from both mines dropped considerably and by 1808 the workforce had reduced to 120 men: The workable area of the open cast had come to an end and demand for copper had decreased.

Treweek became the new Mona mine manager in 1811; by 1828 he was also in charge of the precipitation pits and the operation of the Parys mine. A few years later he was in control of all aspects of smelting at the mine and at Amlwch port. Although demand for copper was still low during this period, Treweek expanded the mines by digging deeper shafts and using engines to dewater the mines.

In 1829 16,400 tons pa of ore were raised - about half that raised from the great open cast. But again price and demand were dropping. The precipitation pits were abandoned in 1830. By 1840 much of the mining had finished and the area remained impoverished until a new vein was found a decade later and some work returned to the mine. For the remainder of the century the mines struggled on sinking more and ever deeper shafts with correspondingly greater increases in operating costs. At the turn of the century work had almost ceased.

It has been estimated that between 1768 and 1904, 3.5 million tons of ore had been removed to give 130,000 tons of copper. Around 20km of underground tunnels had been excavated.

Recent test boreholes have suggested there are reserves of 4.8 million tons of ore containing 1.5% copper, 3% lead, 6% zinc and small amounts of gold and silver. However, extraction awaits more favourable commodity prices so in the meantime we rely on imports!

In 1999 Amlwch Industrial Heritage Trust opened a heritage trail around the features on the mountain; this would form the basis of our walk. After leaving the car park to follow the trail between spoil heaps, the first sight is of the great open cast with its sides shimmering in hues of all colours; most of this was worked by the Parys mine. The open cast represents only a small portion of the mine as later extraction was through shafts reaching down as far as 300m, some 130m below sea level.



View of Parys Copper Mountain showing the deep levels of working – all the colours imaginable are here.

Continuing around the rim of the open cast we reached a path that led down into the opencast, which we explored for some time. Almost opposite this path are the remains of the Mona mine yard - a group of offices, smithy and stores surrounding a courtyard. From here the trail continues to wind its way between more spoil heaps until the view opens out to reveal the precipitation ponds. Here iron was added to the copper-rich water causing the copper to precipitate out. The iron was itself then oxidised and precipitated as ochre, a valuable by-product sold as a pigment.



Terry, Ron and Matthew with the mine behind and the windmill one mile distant.



Pearl Engine House

At the eastern end of the mountain stands the Pearl Engine House, built in 1819, where a beam engine pumped water from the adjacent 230m deep Pearl shaft. Unfortunately its chimney collapsed some years ago. From here the trail climbs gradually to Charlotte yard where the “Copper Ladies” broke the ore into smaller pieces in readiness for roasting. On top of the mountain is the windmill built in 1878 to pump water from the workings below in an attempt to reduce operating costs.

In 1988 Anglesey Mining plc raised £5.5 million and sank a 300m deep shaft with more than 1 km of underground

tunnels. Over 2,000 tons of ore were mined, processed and sold, but market conditions halted any further development.

After our picnic lunch we drove down into Amlwch and parked overlooking the harbour. From here Terry pointed out his connection with the area: In 1953 one of his uncles was the civil engineer responsible for building a bromine extraction plant on a headland on the far side of the harbour; another uncle was to become the principal chemical engineer with the company operating the plant.

In the 1920s an American engineer found that tetraethyl lead (TEL) was an excellent material for preventing “knock” in petrol engines. It was also discovered that dibromoethane (DBE) and dichloroethane (DCE) prevented the build up of lead within the engine. Adding these three compounds to petrol dramatically increased the power available from the engine and hence increased the miles per gallon obtained. In practice the TEL is blended with the two lead scavengers to give ethyl fluid containing 61.45% TEL, 17.85% DBE and 18.80% DCE; a reddish dye is also added. The ethyl fluid is added to the petrol, usually at the refinery, at the rate of 1:1260.

In the late 1930s, the UK government feared war was imminent and realising the importance of antiknock compounds for high quality fuels for military aircraft decided to set up production facilities in the UK. Two plants were commissioned in time for the Battle of Britain. Three factors influencing the choice of Amlwch

as the site for a new plant are: the seawater from which the bromine is extracted is as clean as possible, it is replenished quickly with fresh seawater and it is warmed by the Gulf Stream.

The introduction of unleaded petrol in the 1980s reduced the demand for the antiknock compound. In the late 1990s the plant was taken over by a company for the production of bromine and bromine intermediates for use in consumer products such as pharmaceuticals, dyes, flame retardants, agrochemicals and water purification systems. Increasing costs of raw materials and transport to the new chemical industries in the Far East meant that the plant closed in 2005. It is now a bare brown field site with little to see above ground.

Bromine is present in seawater at only 65 ppm (0.0065%); it takes 22,000 tons of seawater to make one ton of bromine. The Amlwch plant had six large pumps capable of pumping 500,000,000 gallons of seawater into the process every day. Treating the seawater with chlorine converts sodium bromide into free bromine, a very volatile orange-brown liquid, which can be blown out of the seawater with large fans.

We had agreed to meet local historian Bryan Hope at the Sail Loft museum for a guided tour of the harbour area and the significance of the various buildings that survive. On the headland beyond the car park once stood a plant for the manufacture of sulphuric acid, the most important of all industrial chemicals.

The early processes for manufacturing this acid required elemental sulphur, which could be recovered during the calcining of pyritic ores, such as found at Parys. By using the raw pyrites in place of sulphur, thereby removing a processing stage and hence reducing costs, chemist Charles Henry Hills, who owned a chemical works at Deptford in London, developed the pyritic process. The availability of cheap sulphur attracted Hills to Amlwch where in 1840 he established a chemical works producing artificial fertilisers (Hope, Bryan D. (1994). *A Curious Place: The Industrial History of Amlwch (1550-1950)*. Moelfre: Watch House Books. ISBN 0 9535268 0 1). He later went on to calcine ore from Parys at his chemical works.

Immediately below the Sail Loft are the remains of a dry dock; a small natural creek had once been enlarged and fitted with the necessary gates. Alongside are modern quays built to serve the working boats. Between 1974 and 1990 large crude oil tankers moored at a single buoy mooring (SBM) situated off the Amlwch coast to unload their cargo, which was pumped through a 40 inch diameter pipe to the shore station. From here the oil was pumped through two 36 inch diameter pipes to the oil refinery at Stanlow 80 miles away. The SBM allowed the tanker to swing around a single point with the tide.

Across the water on the far side of the harbour stands a 'two seater' restored during the 1980s; this toilet is perched over the sea! Heading inland towards the old harbour on the quayside we came to a preserved lime kiln built in to the embankment. These often featured in small ports in the days of sail when limestone was often carried as ballast in the absence of any cargo. Further along

the quayside are the remains of the old copper bins, into which copper ore was tipped from Upper Quay Street above in readiness for loading onto boats.



Part of the old quay

Standing in the area of the old harbour, believed to have been constructed during the reign of Elizabeth I for the export of copper ore, Bryan pointed out where the smelters once stood on the far side of the harbour. We declined to walk round to the other side of the harbour as the rain was now heavier than when we had started out 40 minutes earlier. Mathew's large broolly came in very handy to protect Brian.



Two seater toilet



In deep discussion protected by that broolly.

A steam driven inclined plane provided an efficient means of hauling the coal to the smelters and delivering the refined copper to the boats. Paynter's water driven sawmill built in 1852 was powered by water from Parys mountain. Because of its high copper content, it was used to pickle timber used in ship building. Alongside the quay are the foundations of Nicholas Bayly's extensive warehouses, which feature arched vaults used for storage extending under the roadway at the back of the building.

On the way back to base we took in some features of Thomas Telford's Holyhead Road aka the A5. Crossing the Menai Straits atop the railway bridge, we had a clear view of Telford's suspension bridge. Rejoining the A5 south of Llandyngai we passed Lon Isaf, one of Telford's toll houses. This no longer stands alongside the A5 due to its realignment to create the A5/A55 interchange. We left the A5 at Tyn-y-maes in favour of the old road to Idwal. From this we could see parts of the turnpike road of 1802-08 below Telford's construction. (Quatermaine, Jamie, Trinder, Barrie and Turner, Rick(2003). *CBA Research Report 135: Thomas Telford's Holyhead Road: The A5 in north Wales*. York: The Council for British Archaeology. ISBN 1-902771-34-6.) It was also possible to see and appreciate the massive embankment built to support the new road. Once back at base we met up with another of our party who was to join us for the final day.

The concluding part will be in the Autumn Issue.

Jane & Terry Waterfield

Photographs in this article (c) Jane Waterfield 2009



Studies of Watermills and Windmills in Northamptonshire

Although all of the windmills and most of the watermills in the county were used for milling grain, water power was also used for fulling cloth, papermaking (The first 'penny black' postage stamps were printed on paper made at Rush Mills, Hardingstone) and textile production. Northampton's Town Mill became the first water-powered cotton spinning mill in the world in 1742 but was not a commercial success so Arkwright's Mill at Cromford in Derbyshire is usually accepted as the first.

During the latter part of the 19th century several enthusiasts, including C A Markham began to record their findings on individual mills in the county in the publications of the County Architectural Society but a geographic approach was developed by John Smith, of Flore, (NIAG member) in his MA thesis on the mills in the Nene Valley basin in 1950.

From the late 1950s a more systematic approach to the study of Northamptonshire's mills has developed, using both physical and documentary evidence. The Northamptonshire Industrial Archaeology Group (NIAG) made a major contribution on the county's mills to the national survey organised in 1964 by the Council for British Archaeology and "A checklist of Northamptonshire

Wind and Watermills” was published in the Bulletin of Industrial Archaeology in CBA Group 9 Newsletter, April 1970. (*Copies held at NRO*)

Northamptonshire County Council personnel undertook several surveys of the physical remains of watermills, concentrating on sites along the River Nene in the 1990s. The County’s Archaeology Unit commissioned Geoffrey Starmer to make a county wide survey of watermill sites in 2001-2002. The resulting illustrated report is held at Northampton Record Office.

Evidence has been found for 247 watermills and 274 windmills in Northamptonshire and it is expected that more will be discovered as a result of ongoing research. For each mill it is hoped to have information on its location, its history, the people involved with the mill (owners, millers and their families), the buildings, type of waterwheel (or sails on a windmill), the machinery, what remains on the site at the present time and pictorial evidence.

The resources at the Northamptonshire Record Office are providing the major documentary input to the current survey. One of the most useful sources has been the advertisements for sales of, and reports of disasters to, mills in local newspapers. The Northampton Mercury and Northampton Herald have been checked from their earliest issues to 1880 (1849 – 1880 by NIAG’s Newspaper Reading Group in the 1970s) and have provided invaluable information on the county’s mills. It is hoped to extend the research to later issues of these papers.

Geoffrey Starmer



Obituary - John William Frederick Golby

‘Fred’ as he was known to most of us, passed away on 12 November 2009 aged 94. He had been a long-standing member of NIAG since the early and somewhat informal days of our group. Born near Bicester, he left school when 14 years old and worked on a farm before coming to a job in a nursery at Northampton. Later Fred took over his father’s nursery and in WWII changed from flower growing to vegetable production but after the war he specialised in dahlias. In 1947 he started a stall on Northampton market and this continued for 40 years.

Fred took a wide-ranging interest in his village of Duston and sang tenor in several church choirs. He developed an extensive knowledge of the history and activities in Duston but for NIAG his researches into the local stone and iron ore workings and brick making were of special interest. Over the years he gave talks on these at our meetings and led us on walks into the fast-disappearing remains of these past industries. In later life, Fred wrote and published five books on various aspects of Duston. He was proud to be a member of NIAG and quoted this fact in the frontispiece of each of the five books he wrote.

Fred was a great communicator and loved talking to people. Many of us benefited from his patience, not only in his time spent on research but also with those of us

who had not had the benefit of his experience and were sometimes slow in understanding what he showed to us. His passing is a great loss for NIAG.

Geoffrey Starmer



Miscellany of Items of Interest

Glendon & Rushton Station

The former Glendon & Rushton station building is one of the more attractive remnants of railway architecture in the county, with its walls of limestone and round headed windows in polychrome brick. However, this Grade II listed building on the Midland Mainline from Kettering to Leicester has been deteriorating since it closed to passenger traffic in 1960. The present owner managed to get planning permission to redevelop the station house and to convert the waiting room/ticket office into a separate residence but no doubt the recession has made this option uneconomic and last year it was put up for sale.

Now a group has been formed with the aim of restoring the station to its original condition and opening it up as a railway museum and heritage centre. It is understood that the *Friends of Glendon & Rushton Station* are renting the premises from the current owner and are holding a number of open days. It is hoped that we can arrange for a NIAG visit there at some stage.

Further details are available from the Chairman:

Mrs Frances Peacock on 01604 882443 or francesmariapeacock@yahoo.co.uk

Long Buckby Locks.

Leaking lock gates on a 63ft section of the Grand Union Canal near Long Buckby have been replaced as part of a £55,000 programme of winter maintenance. The five-week period of repair work on the Long Buckby Locks began in February and no doubt work has now finished in time for the summer holiday season.

The lock gates were more than 20 years old and over time they became worn, mainly from general wear and tear. The gates began to leak, and in particular one set of locks became badly damaged and needed replacing. As each lock was drained inspection teams went into the lock to assess the work needed and how much was required. Teams would have helped to relocate the fish. The locks being drained slowly ensures that the fish follow the flow of water, once the locks are refilled they normally find their way back home.

The gates are handmade and would have been craned into position, before being fitted into place.

Information taken from the Daventry Express – 18th February 2010

Barratts Shoe factory sign

Officers at Northampton Borough Council have revealed the owners of the historic Barratts shoe factory did not have permission to paint over its famous sign and have refuted claims an application had been submitted.

Many people have said they were appalled that the Northampton based McManus pub firm, which now owns the town landmark in Kingsthorpe Road, had covered the huge hand-painted sign in whitewash. The sign was initially part painted in June last year but progress was halted when council officers informed them they needed listed building consent (*reported in newsletter 111 – Summer 2009*).

The owners told the ‘Chron’ an application had been submitted to the council during week commencing April 19th but the head of planning intimated that no application had been received. She said that ‘*We have a duty to protect the town’s rich heritage and will work with developers and use planning legislation to ensure buildings of historical value are preserved. In this instance we were not notified that work would be restarting and have expressed our concerns to the developer. We are now working with the developer to see how the sign can be restored and expect the developer to submit an application of Listed Building Consent. If no application is received we will consider what action can be taken*’.

Apparently the daughter of William Addington who opened the factory in 1913 with the Barratt brothers, William and Dick, has said it was a ‘disgrace’ the sign had been painted over. She has also said that ‘*It is absolutely appalling. My father set up Barratts and that sign is just about the only thing we had left of Barratts, I find this awful.....I think it is so wrong, there is hardly any of our history left in Northampton*’.

All Paul McManus could say was ‘*I think we should keep heritage and it is a lovely building, but it was a misleading sign*’.

Town resident Roy Brown, a maintenance man at the former factory and a trained painter and decorator, painted the sign some 40 years ago and it became part of Northampton’s heritage. The factory wanted to advertise the factory shop and he made the outline of the lettering and the iconic pointing finger before he and the rest of his team filled it in. Roy Brown’s daughter who lives in Kingsley thinks it should be restored as there is not a lot left of Northampton’s shoe heritage and it seemed a shame that rather than spend a bit of time and money trying to save it, it was just painted over.

Northampton Chronicle and Echo – 27th April 2010

Another case of let’s get rid of what heritage we have left in this county. It was a perhaps a bit of a misleading sign – nonetheless it had been there for years and should have stayed. Shame on the McManus Pub chain and let’s hope the Borough Council actually do something to restore the sign. Ed.

PS: Has anyone got any photographs of this sign and if so could they please let me have a copy so that we can use it on our Publicity Board? Ed

Of This and That

Errata to issue 114

Two minor corrections to the previous issue need to be recorded.

1. The report of the talk about Northamptonshire Gardens on page 10, should have included the surname of the speaker. This was Jenny Birt.
2. Page 18 – ‘Can you help’ - Please note that Ratcliffe should read Ratliffe.

Information received about the top picture on the inside back cover shows St. Pancras under construction between 1868 and 1874.



Further to a piece about the Royal Albert Bridge on the GW line into Cornwall (issue 114), member Chris Godbold sent this note.

“We enjoyed the NIAG Newsletter as always, but unfortunately *Engineering & Technology* is not quite right in its article about the renovation of the Royal Albert Bridge on the Great Western line into Cornwall.

“Many who know about railways know about the Royal Albert Bridge, but it is not the only railway bridge connecting Devon and Cornwall. This may be an inconvenient fact for GWR devotees.

“The Plymouth, Devonport & South Western Junction Railway built Calstock Viaduct across the Tamar, some way upstream from Saltash. This was one of the last great railway viaducts to be built in Britain. It was constructed between 1904 and 1907 and was - uniquely for the period - made from unreinforced precast concrete manufactured in a purpose-built factory on the riverbank. Over 11,000 precast components were produced. Today, the 12-arch viaduct continues to carry rail traffic over the river Tamar, on the line from Plymouth to Calstock and Gunnislake – which involves reversal at Bere Alston in Devon, just before the viaduct.

“The quality of the precast concrete was and is superb. There are no visible signs of any deterioration, although some patching, probably original, is visible beneath the arches.

“From an IA viewpoint, Calstock may indeed be the more interesting structure!”

News from the Treasurer

The membership renewal form is enclosed with this issue, please note the new fees as agreed at last year’s AGM. You will note that the renewal form contains the information held by NIAG, please make any corrections as necessary before returning the form with your subscription. To help maintain costs your next newsletter will be your last communication from NIAG unless you renew your subscription.

Can you help? 2 requests received:

1. Northampton Museum and Art Gallery are hosting an exhibition about Trade Unions in September and are looking for objects that we could use. They wonder if any of our members have ancestors that were active in the National Union of Boot and Shoe Operatives or the National Union of Footwear, Leather and Allied Trades and if you would like to tell them your stories or lend any objects you might have.

If you can help – contact details are:

Victoria E Davies, Information and Resources Officer,

Northampton Museum and Art Gallery : Telephone: 01604 837632

2. I have had an odd request from someone in America who is asking about Northampton in 1969 and what happened during that year. Can anyone help with information, please, if there is any to have. The person does not give any clues as to why they are interested in 1969, what the information is for, whether it is industrial related, family orientated or just plain history. Nor does he say whether it is a school, college or any other project. If you can assist can you let me have your thoughts and memories please. Many thanks.

Editor

Dates for the Diary:

Last walks of the summer – for details check your Summer Programme:

- | | |
|------------------------------|----------------------------------------------------|
| 16 th July | Northampton Railway Walk – A Tribute to Jan Fajkus |
| 23 rd July | Helmdon Village and Viaduct Walk |
| 30 th July | Deanshanger Walk |
| 7 th August (Sat) | Nene Valley Railway, Peterborough – All day. |

Other dates of interest:

- | | |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 14/15 th August | Open Days at the Railway Works at Wolverton. Shuttle trains are to operate from Milton Keynes station. 10.00 am to 5.00 pm both days. £15 adult, £10 senior citizens and children. |
| 3-9 th September | AIA Annual Conference: Penryn, Cornwall.
www.industrial-archaeology.org for more information. |
| 12 th September | 2 nd Northampton Heritage Fair – Is being held in the Church Rooms, Church of the Holy Sepulchre, Sheep St. Northampton. Time 11.00 am to 4.00 pm. NIAG is taking a stand and will be pleased to see members during the day. Note: St Sepulchre Church is open as part of the Heritage weekend. |
| 8 th October | Winter Lectures commence at the Garden Rooms, St Matthews Church Hall, Northampton.
A talk on the Pitsford Ironstone Quarry by Robert Payne. |

- 16th October EMIAC 80 – A Taste of Lincolnshire – Food & Farming in the Fens. This is being held at Holbeach, Spalding. Booking form enclosed.
- 23rd October NALH with Harpole Heritage Group – Heritage Day. As affiliated members to NALH, NIAG members may attend. For information and booking form contact Jane on 01327 312850.
- 12th November AGM followed by a talk on A Building history of the English Power Station by member Steve Miles

More Brickworks photographs

Following on Peter’s report about Brickworks in the county (*issue 114 – Members evening*) member Ron Whittaker has sent the following picture of the Castle Ashby Brickworks taken in May 1982.



(c) Ron Whittaker 1982

Did you know?

Glassmaking:

Before legislation reformed their hours, boys often worked up to 12 or 14 hours a day, starting work at the age of 9.

In 1800, English glass manufacturers paid around £250,000 in Excise duty.

When Chance Brothers of Smethwick glazed the Crystal Palace in 1851, it took 299,665 panes of glass.

In 1867 the average weekly wage for a glassmaker was between 18/- and 30/-.

There are only 4 surviving glass cones in Britain: Wordsley, West Midlands; Alloa, Clackmannanshire; Catcliffe, Rotherham and Lemington, Newcastle Upon Tyne.

News in numbers:

116 metres: the height of a monument to mark the Battle of Britain planned to be built at London's Royal Air Force Museum,

440,000 shareholders of the Great Western Railway whose details are now available to search online at www.findmypast.co.uk.

Taken from Who Do You Think you are? Magazines – June and July 2010

1.2 million tonnes of wheat are required to fuel a new biofuel refinery on Teesside which opened in the autumn of 2009. This plant at Wilton will produce 450 million litres of wheat-based biofuels to supply cars and lorries in the UK. The National Farmers Union has warned that demand at the plant may require the UK to import wheat for domestic bread production!

Taken from Countryfile – December 2009

Odds and ends

Eastbourne pier listing has been upgraded from Grade II to Grade II*.

HMS Belfast has received a grant of £150,000.

The 1938 Marks and Spencer store in Oxford Street, London, has been listed Grade II.

Bletchley Park museum has been given £250,000 for maintenance and repair of buildings.

A grant has been given to the Chatham Historic Dockyard to enhance visitor experience.

A new 'Tentative List' for sites to put forward to receive World Heritage status is being drawn up for completion next year, with the first nomination in 2012. The new list will be shorter and more focussed than the 1999 list. (*How many IA sites will be included?*)

The final parts of the finance for the restoration of Cutty Sark is in place and this should be completed by 2012.

Shortly before 10 am on the 3rd June a section of about 30 metres in the middle of the derelict Southampton's Royal Pier collapsed into the sea. Conditions were said to be 'calm' at the time. Onlookers at Mayflower Park described 'two enormous booms', a terrific tipping of stuff and a huge plume of water. (*Southern Daily Echo website 3.6.10*).

Beachy Head lighthouse is one of six facing closure by Trinity House which says that ships now carry satellite navigation which makes lighthouses redundant. A local MP thinks smaller vessels need lighthouses.

The above taken from Hampshire Industrial Archaeology Society June 2010

On the 10th May Morris Singer ceased production due to the current recession. The company cast two of the four lions which guard the base of Nelson's column, installed in 1867. The lions were supplied from the Morris Singer Arts Foundry

which had a lineage back to 1843 via the Frome Art Metal Works, founded in 1848, and had cast the Justice figure on the 'Old Bailey', St George & The Dragon at Blackfriars Bridge, and Boadicea (at Parliament). The two companies had merged in 1927.

The Pump House Steam and Transport Museum celebrated one hundred years of the B-type Bus on the 23rd May. AEC began nearby, later migrating to Southall, the original site converting to other uses. Over 900 B-types were produced in Walthamstow, peaking at 50 buses per week by the end of the 'Great War'. Few B-types survive and none were available for the centenary, apart from a scale model.

Earl's Court is under threat, to be replaced by a 'modern development' of 'towers' of offices, shops and leisure facilities, as one of many significant sites and buildings are now considered unfit for modern use. (*There are big tanks under the main exhibition floors which were used for the Boat Show exhibits.*)

More office blocks may appear in central/inner London and Docklands in the next decade, most of which have planning consent. With large holes appearing, unique views may be briefly had. Eg: the 'Pinnacle' site at the Gracechurch Street / Threadneedle Street junction offers new views of Lloyds and the Swiss Re (Gherkin) buildings from the street. Better still views from the top deck of buses can be had. (*If you happen to be in London ensure you have your camera just in case of a 'surprise' view*)

*Taken from the Transport for London Industrial and Social History Group
June 2010*

Finally

From the archives:

Watermills

Alan Teulon reports that in the first week of December the Turnell's Mill waterwheel (which had stood isolated in its wheelrace for many years after the rest of the mill had been demolished) was in two sections standing by the fence at the roundabout giving access to the new A45 road south of the A509 Wellingborough to Newport Pagnell road.

Issue 7 – December 1981

27 years later it was good to see that the waterwheel is being restored – Peter's report on page 7. Ed.

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Newsletter:

Next Issue: **October 2010**

Deadline for all articles and information **13th September 2010**. Anything received after this date will be held over to the next issue.

Article guidelines: Should be no more than 1½ pages long, unless article is of a special nature and accompanied by photographs or diagrams. Photographs will be inserted if submitted.

Please submit by e-mail, fax or mail. Where possible photographs are encouraged to illustrate all articles. When submitting photographs via e-mail, the picture should be no larger than 250,000 pixels in JPEG format. Please give information about the photograph. Photographs/slides sent by post (first class) will be returned to you the same way. Please also include your name and address so that you can be credited with taking those photographs and don't forget to put a caption with them.