



# NORTHAMPTONSHIRE INDUSTRIAL ARCHAEOLOGY GROUP

## NEWSLETTER ISSUE 94 - 'SPRING' 2005

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After the last couple of days of some rather sharp winds it felt a lot better when I popped round the village delivering some notices about a new planning application. It is good to see the trees, hedges and bushes beginning to break into leaf and blossom. For NIAG the winter has seen the last of its lectures and there had been an extremely good mix of subjects. We now look forward to the weekly walks and again it has to be said an excellent programme has been put together for us to take part in. This programme is included with this issue and with regards to one or two there may be updates later on in this issue - enjoy and look forward to seeing you on some of them.

I have been experiencing one or two difficulties with the e-mail facility and I would like to take this opportunity of apologising to anyone who has sent things through and which may not be acknowledged in this newsletter. To the gentleman who left a message on the answerphone about an e-mail, the tape ran out in the middle of your telephone number and as there were two or three messages after yours I could not respond. Can you all ensure that if you do telephone, that your name and telephone number are given before the message. Thanks for that and who says that e-mail is better than the post - certainly not when messages go down a black hole never to resurface. Quite frankly you can keep some of this technology I still prefer to receive letters and things to open.

*Jane Waterfield - Editor*

### **The coming of the Railway to Wolverton - 8<sup>th</sup> October 2004**

Although just over the county border in Buckinghamshire, we tend to treat Wolverton as 'nearly our own'. The speaker, a native of the Wolverton area has resided in Northampton for a number of years. Thus we were doubly pleased to welcome him to speak to us - especially as he has subsequently joined NIAG!

In his talk, Robert Ayres illustrated how Wolverton developed in the Victorian era, following the arrival of the London & Birmingham Railway in 1838 and the construction of the railway works. Wolverton was one of the first railway towns to be developed in the UK and is generally accepted as being a model railway town, contemporary with Swindon and Crewe. Wolverton was chosen because it is



equidistant from Euston and Birmingham and was used as a 'watering hole' for travellers as well as locomotives en route.

Slides showed maps illustrating how extensive were the terraces of railway housing, clustered around the works. By 1844, there were over 200 houses built on a grid system of streets on the west side of the railway, south of the works. Three-storey houses for foremen were built at the ends of terraces of smaller houses. Water was supplied to communal taps but sewage disposal was by cess pits. One curious feature of the housing was that the L&B Railway numbered all its houses in a single series, starting with Number 1 at Camden. It must have caused the postmen a major headache!

Under the L&NWR, more railway houses were built to a slightly different design in another eight streets and in 1854 others were built in New Bradwell. Today, most of the earlier railway houses have now been demolished.

In about 1888, managers at the Works formed the Wolverton Building Society with financial backing from the L&NWR and the local bank. The L&NWR built roads and services on their land and then sold the building plots at cost price. For a time, there were more owner/occupiers in Wolverton than anywhere else in the country!

Robert described the public buildings of the town, including the Institute, now sadly demolished following a fire. He explained that the present railway station was the third one, the previous two having been moved as the track was realigned with the growth of the works. In the early days some locomotives were built at the works but in its latter day, it was restricted to building and repairing carriages. Robert showed some examples of both. Today, the works still undertakes some carriage repairs.

Many of the slides shown by Robert were taken in the 1960s and showed street life, complete with contemporary buses. Car parking appeared to be problem in the back- to-back streets even then. From Robert's talk we were able to see clearly how Wolverton had been in the forefront of development of the railway infrastructure and how it justifies its place in railway history.

*Peter Perkins & Geoffrey Starmer*



### **The Story of Leather - 10<sup>th</sup> December 2004**

We were pleased to welcome Roy Thomson who was a founder member of NIAG. He spent his working life in the leather industry and has just retired from running the Leather Conservation Centre at UCN. His talk, postponed from last winter due to a last minute trip to South Africa, covered the history of leather-making from the earliest times.

Leather is thought to have been one of the very first manufacturing industries. The earliest evidence comes from the remains of stone tools with edges which were thought to have been used in Africa some 2 million years ago to cut skin. Neanderthal man used a range of tools for cutting and scraping skins, judging from remains found in caves in Switzerland.

The first evidence of skins being worn by *homo sapiens* comes from cave paintings in Spain showing leather shirts and trousers. Pictures on Egyptian tombs show clearly that tanning was carried out in ancient Egypt. The illustrations show skins being put into pots, scraped and softened. Thus leather making is clearly an ancient process.

Roy's definition of leather was 'a material made from the skin of any vertebrate animal, tanned to be non-putrescible under wet and warm conditions'. It is made of protein in the form of collagen fibres. Roy demonstrated with the aid of three pieces of coiled wire (very helpful to us non-chemists!) that the structure of a collagen molecule is in the form of a triple helix and that the ends of these break down when the animal dies, allowing the helix to unravel. Tanning serves to put in artificial chemical

links which hold the molecule together and the process includes a range of operations geared to removing all the non protein material in the skin.

The first tanning materials were animal based – including brains! By the time of pre-dynastic Egypt, mineral (alum) tans were being used. However, vegetable tans were used from the classical Greek period right through until the 19<sup>th</sup> century when chrome tannages started to be introduced.

Roy described the various tanning processes from mediaeval to Victorian times with the aid of illustrations. These showed how the de-hairing, baiting, tanning, flattening and drying processes were carried out and the tools which were used. There was also evidence from pictures of the remains of tanneries in England and France, for example the louvred windows used to control the dyeing processes. He had brought along some of the tools which were used in more recent years to de-hair and scrape skins which we were able to examine at close quarters afterwards.

Roy commented on the fact that Northampton was a centre for leather dressing in Britain rather than tanning. In response to a question from the audience, he felt that Bermondsey had probably had the greatest concentration of tanners in England but there was no specific reason why the industry had developed there, other than being outside the city, thereby keeping the smells away from the citizens!

This report cannot do justice to what was a comprehensive and authoritative presentation of the subject - exactly what one would expect from a founder member of NIAG!

*Peter Perkins*



### **Members' evening - 14<sup>th</sup> January**

#### **John Smith - Roads of Weedon**

John detailed the development of Road Weedon, a settlement which was started in the 18<sup>th</sup> century at the point where the Chester Road diverted off Watling Street to go via Daventry and Coventry. The junction with the Warwick - Northampton Turnpike in 1776, the opening of the Grand Junction Canal in 1796, the development of the Royal Ordnance Depot and barracks from 1803 onwards and the coming of the London to Birmingham Railway in 1838 all brought trade to Road Weedon so by 1900 there were seven pubs, eight shops, a post office and two banks. In 1820 the Chester Road became the Holyhead Road. John showed the site of Weedon Brewery and the



Lawn Works where poultry batteries were made in the 1930s.

#### **Barry Taylor - NALH Resource Register**

Barry gave a short resume about the work of NALH (Northamptonshire Association of Local History) of which NIAG is a member. Briefly, NALH is an umbrella organisation for all the Local History Societies and individuals who have a strong sense of history and the Association exists as a link. They hold two events a year - the annual meeting and conference and also a Day of History which is hosted by one of the member societies. Barry told us that he and his wife Liz have a great love of books and have something over 2,000 on Northamptonshire alone! They felt that they would like to catalogue their collection and with this in mind volunteered to take over a Resource Register which had been started by a Dr. Mattingly. One thing led to another and they have now compiled a very big register on the books of Northamptonshire. The register includes all those that have been published and also those that are now out of print. They hope to be able to extend this listing to include CD's, tapes, videos and anything which is the 'written' word about Northamptonshire.

*NB: If you know of any book which has recently been published please let me know, with details, and I will get this information across to them. Ed.*

### **Geoffrey Starmer - AIA visit to Spain 2004**

Geoffrey suitably aided by Judith gave a slide presentation of the visit to Spain last year. NIAG is affiliated to the AIA and anyone is able to go on these trips. We were shown photographs of steam engines, turbines, water wheels, trains, textile mills, water powered engines and of course the buildings themselves with curved roofs, brickwork, design, the list is endless. Architecture of magnificent designs including the wonderful twisted chimney at Colònia Sedó. There was the visit to the cement works high at the end of a valley and which we understand is to be made into a heritage site. The visit coincided with St. George's Day, a feast day in Spain. We understood that the group all had far too much wine and that Geoffrey had had the foresight to take many photographs beforehand. The slide show of this trip well and truly complimented Geoffrey's article on the trip in Newsletter No. 91 - Summer 2004.



### **Technology on the Country House Estate - 11<sup>th</sup> February**

Virtually a full house of 48 members and guests (including two from Yorkshire!) was present to hear Geoffrey give an excellent presentation on how technology has been used on the country house estate. In the recent past he has talked on this subject relating to Northamptonshire, so this time he concentrated on examples from outside the county. Furthermore the talk covered examples from the estate, rather than the house or its close environs. Pictures of the stately homes were shown only to remind the audience of the location and to put the examples into context.

Beginning with farming, Geoffrey outlined the importance of experiments on steam ploughing carried out by Lord Willoughby at Grimsthorpe Castle in Lincolnshire. In the early 1850s, the Great Western Railway built two portable steam engines which had been designed by Daniel Gooch and these were used for the ploughing experiments, the ropes hauling the plough being coiled on vertical drums. It seems that Fowler visited one of Willoughby's demonstrations at Grimsthorpe and then went on to patent his ploughing system but using horizontal winding drums beneath the engine boiler and this became the commercial system for ploughing.

Other examples of technology in farming were shown at Wrotham Hall, near Potters Bar and at Tatton Hall in Cheshire. To illustrate the use of milling Geoffrey chose Stainsby Mill on the Hardwick Hall estate and the mill associated with Mapledurham House near Reading, visited by NIAG in 2000.

In thinking about timber production, Geoffrey used the local example of Boughton Estate to illustrate how oak trees were encouraged to grow with straight trunks by planting them out in nurseries alongside faster growing trees. He then went on to show examples of water-powered saw mills on the Osmaston estate in Derbyshire and on the Gunton estate where water power was used to drive a vertical reciprocating 'coffin' saw and linked to an ingenious wheel and ratchet system to 'inch' the logs forward through the saw blade.

Geddington sawmill on the Boughton estate used to house a horizontal saw driven by a portable steam engine. At the Combe sawmill on the Blenheim estate, the water wheel was supplemented by a steam engine built by Thomas Piggot of Birmingham in 1852 and last used in 1912. The final illustration in this section was of the Dadford sawmill on the Stowe estate visited by NIAG only a year or so ago. Unfortunately on our visit deep undergrowth made it difficult to see if the remains of Geoffrey's slides taken in 1974 were still there.

Although the country estate often took steps to exploit its mineral resources, it usually took good care that this was done without too much inconvenience to those living on the estate. Drayton House near Thrapston is a good example where iron ore working took place all round and beneath the estate but without disrupting the view. Calke Abbey near Ticknall in Leicestershire was another example where the tramway used to export the ore passed through a tunnel under the driveway up to the house. NIAG visited this site as well as the nearby limekilns in 1989, the latter having been

excavated by the Leicester Industrial History Society.



Drayton House

Ticknall is also the site of a brick kiln for which, unusually, a photograph of it in use in the 1930s still exists.

In looking at exploiting the country estate's water resources, Geoffrey used as examples the pump house on the Chiltern estate near Hungerford and the water systems used to supply Sandringham and Cragside estates. The Sandringham system is a particularly fine example with its engine house at Appleton Farm and the Italianate style water tower frequented by the Prince of Wales at the end of the 19<sup>th</sup> century. There is public access to this today.

In the final section, Geoffrey covered the role of transport on the country house estate. For road transport, examples included stables by Soane at Tyringham Hall with an old petrol pump underneath an arch and a large glass-roofed garage on the Sandringham estate. For canals the large canal system on the Arbury Hall estate near Nuneaton was used to link with the Coventry Canal. Finally we returned to Grimsthorpe Hall where Lord Willoughby had built the Edenham Branch standard gauge railway in 1855 to convey coal wagons to his estate from Little Bytham Station on the GNR. Evidently the wagons were conveyed across the main line by means of wagon turntables!

In concluding, Geoffrey brought us right up to date - the former walled garden at Wrotham Park is now a helicopter pad! This was a thoroughly entertaining talk and reminds us of the wealth of industrial archaeology on country estates, most of which are well worth a visit.

*Peter Perkins*



### **Safety Systems - how good are they?**

Peace time and war time roles. How good are our safety systems?

A report has revealed that two traffic patrol officers from North Berwick were involved in an unusual incident whilst checking for speeding motorists on the A1 road between Oldhamstocks and Grantshouse.

Last May, they were using a hand-held radar device to trap unwary motorists on the Edinburgh to London trunk road. One of the unnamed officers used the device to check the speed of an approaching vehicle, and was surprised to find that his target had registered a speed in excess of 300 miles per hour.

The £5000 machine then seized up and could not be reset by the bemused PC's.

The radar had in fact latched on to a NATO Tornado aircraft in the North Sea, which was taking part in a simulated low-flying exercise over the Borders and Southern Scotland.

Following a complaint by Sir William Sutherland, Chief Constable of the Lothian, & Borders Police force to the RAF liaison office, it was revealed that the officers had a lucky escape - the tactical computer on board the aircraft not only detected and jammed the "hostile" radar equipment, but had automatically armed a Maverick air-to-ground missile ready to neutralise the perceived threat.

Luckily the Dutch pilot was alerted to the missile status and was able to override the automatic protection system before the missile launched.

The Police have so far declined to comment, although it is understood that officers will be advised to point their radar guns inland in future.

*Oops!!!!*

*Item in Berwickshire Gazette - November 11<sup>th</sup> 1998.*



### **A Shocking Discovery**

*ELECTRIC* batteries, 2000 years ago!! Surprised? No need to be, really. There were some pretty smart metal workers in the ancient city of Baghdad, Persia. They did a lot of fine work in steel, copper, gold, and silver.

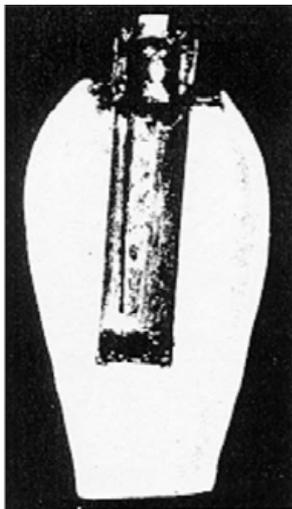
You may wonder what this has to do with electric batteries. It seems that copper vases, some of whose ages go back 4000 years, were unearthed several years ago which had designs plated on them in gold or silver; even some were plated with antimony.

Plating with gold today not only requires gold cyanide solutions, but direct current electricity as well. Where did the ancients get either one?

Information on 200-year-old chemistry is a bit vague in certain areas, to say nothing of the 2000-year-old exploits performed by alchemists and metal workers in ancient Baghdad. Although most of their *pre-dawn* knowledge has been lost to the world, some of it occasionally comes to light.

About 30 years ago, a German archeologist, Wilhelm Konig of the Iraq Museum, while digging into the ruins of an ancient Parthian town on a small hill named Khujut Rabu'a, uncovered a very peculiar object that, to Konig, looked very much like a present-day dry cell.

This archaeologist began to investigate. He learned that four similar vases - plus some slender copper and iron rods had been turned up in the ruins of a magician's hut in the ancient city of Seleucia, down the river. Also, the Berlin Museum has several unassembled ancient cells similar to these from the same area. These strange vases contained a thin copper cylinder about four inches long whose seam was soldered liquid-tight with no less than 60/40 lead-tin alloy. We use the same solder today. The bottom of the cylinder was a crimped-in copper disc insulated with a layer of asphaltum, probably



A cutaway model of the ancient cells described by WFM Gray.

similar to that used by Noah to caulk the Ark. The top of the cylinder was closed with an asphalt stopper through which projected an iron rod. To keep the assembly upright, it was sealed into a small vase.

Some electrolyte was placed into this copper cylinder which would react with the iron and copper to produce direct current. What solution the Parthians used we may never know, but apparently they did. The iron and copper rods found with these "ancient batteries" could very well have been the carriers for this electric power to plating tanks filled with "gold cyanide solutions!" Imagine their problems trying to compound these complex chemicals.

Gold and silver were probably as rare in those days as they are today, so to provide the beautiful and permanent finishes possible with these precious metals, the metal smiths devised a way to coat their copper products with these exotic materials.

Even today in Baghdad, the metal workers are using plating baths with some primitive voltaic cells whose origin is not quite clear.

Galvani and Volta came later, much later, to repeat ancient history.

In 1939, I first read about these archaeological findings in an article by Dr. Willy Ley, famed rocket scientist. He supplied me with the complete drawings and details of these cells from which I constructed a working model and a cutaway cell for the Berkshire Museum in Pittsfield, Mass., in 1940. They may be found there today.

In making the display models of the Persian batteries, I learned to my dismay that the asphaltum available to us would flow cold. All of the components of the reconstructed cells gradually collapsed and ran together. What kind of asphaltum did Norh and these ancients have or what did they do to it

to keep it non-fluid at room temperatures? I had to resort to black sealing wax. Such are the problems of the alchemists.

Occasionally, we feel a bit smug about our tremendous advances in the nuclear sciences and the like, but when we are scooped by some ancient metal smiths we are most assuredly brought down to earth and humbled. It will ever be so.

Willard F. M. Gray

*Article submitted by John Rigby.*



### **Of this and that**

#### **Television:**

BBC2 : 3.30 pm. Monday to Friday weekly - "Flog It": For those who might like to watch other people's treasures being auctioned off. In between the items being selected for possible auction and the auction itself, Paul Martin usually finds collections of worthy note. Not the usual type of programme for all our readers, but interesting nevertheless and ideal watching if you are wanting a cup of tea between jobs.

Channel 5: 8.00 pm. Mondays - "Massive Machines". 10 programmes. Chris Barrie traces the history of some of our massive machines which are used today for various jobs.

BBC2: 8.30 pm. Tuesdays - "Fred Dibnah's Made in Britain". 12 programmes. Now half way through. Fred finished building his traction engine and subsequently took it on a very long drive round Britain before his death to visit the last surviving factories and workshops that still produce components for steam engines and the like. A fascinating programme with lots of anecdotes and frustrations. Catch it if you can.

Channel 5 at 7.30 pm. Tuesdays - "Hidden Treasure Houses". 1 of 4 programmes commences 12<sup>th</sup> April. Four British Country Houses are explored by antiques connoisseur James Miller.

**Dates for the Diary** - Events, Exhibitions and conferences taking place around the Country.

**29<sup>th</sup> April** : The Summer programme of weekly walks commence.

**21<sup>st</sup> May**: EMIAC 69 - Worksop at Work. Cost £12 for the day. Hosts are Nottinghamshire Industrial Archaeology Society and The Worksop Archaeological and Local Historical Society. A full day is planned. Book by 30<sup>th</sup> April at the latest.

**11<sup>th</sup> June**: EERIAC 15 - Sheringham area of Norfolk. Decent sized SAE for details from Mrs B Taylor, Crown House, Horsham St Faiths, Norwich, NR10 3JD

**3-6<sup>th</sup> July**: Exploring Devon's Industrial Heritage - Dillington House, Ilminster, Somerset. Details from Dillington House, Ilminster, Somerset, TA19 9DT. Tel: 01460 52426, website: [www.dillington.co.uk](http://www.dillington.co.uk).

#### **ADVANCE NOTICE**

EMIAC 70 - October 1<sup>st</sup> 2005

Towcester

NIAG are hosting

Please support this event

Details will soon be available

**Finally, but not quite :**

From the Northampton Mercury of 24<sup>th</sup> January 1885.

A model in butter of the proposed new lifting bridge to be erected by the Corporation of London across the Thames at a cost of £750,000 is now on view at Arthur Kingham's Provision Depot, Abington Street, Northampton.

*Anyone got a photo and can anyone tell me where this was supposed to be in London as I have never heard of it? Ed*

### **Finally**

We look forward to seeing you in the summer months. If any of you who go on the walks feel inclined to write up a few paragraphs on the walks, they will be greatly welcomed - please send to me at 6 Bakers Lane, Norton, NN11 2EL or via e-mail, black holes permitting!



Walkers beware - look out for our friendly cow!!



### **NIAG Committee:**

President: Geoffrey Starmer, 34 The Crescent, Northampton, NN1 1RH  
Chairman: Peter Perkins, Eastfields Farmhouse, Manor Road, Rushton, Kettering, NN14 1RH  
Secretary: Roy Sheffield, 7 Elysium Terrace, Northampton, NN2 6EN  
Treasurer: Jan Fajkus, 101 Holly Road, Northampton, NN1 4QN  
Web-site: Jan Fajkus as above  
Members: Mike Brown, Alice Luikinga and Terry Waterfield

### **Newsletter Editor:**

Mrs Jane S Waterfield, 6 Bakers Lane, Norton, Daventry, NN11 2EL  
Tel/Fax 01327 312850 - e-mail [js-sec@tandjassociates.co.uk](mailto:js-sec@tandjassociates.co.uk)

### **Newsletter:**

**Next issue - July 2005.**

**Deadline** for all articles and information: **20<sup>th</sup> June 2005** anything received after this date will be held over to the next issue.

Could I please request that any articles which are submitted, including some of the reports, be kept to a minimum of one and a half pages - I do not wish to cramp your style or enthusiasm but we certainly need to keep a tighter hold on the length of the articles/reports.

Please submit by e-mail, fax or mail. Where possible photographs are encouraged to illustrate all articles. When submitting photographs it would be appreciated that they are not sent via e-mail as this can take a very long time to download and the quality is not always good. Preferably send photographs/slides by post (first class) and these 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!

*April 2005*