MANCHESTER REGION INDUSTRIAL ARCHAEOLOGY SOCIETY

NEWSLETTER No.146

March 2014

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Editorial

A relatively short edition mainly serving to remind members of the remaining lectures of this season and of our programme of 'Summer' visits and guided walks.

Programme 2014

Friday 14th March	- East Cheshire Textile Mills, Dr Mike Nevell
Friday 11th April	- Gibson's Mill, Hardcastle Crags, Trevor Moody
Saturday 26th April	- Walk - Rochdale Canal, Dale Street to Castlefield - David George
	N.B. Meet at 10.30 a.m. at the bottom of the approach to Piccadilly Railway Station, near the traffic lights.
Friday 9th May	- MRIAS 50th Anniversary Lecture, Dr Richard Hills

Saturday 17th May	- Calderdale Industrial Museum and walk – Calder and Hebble Navigation, Halifax basin to Salterhebble – Neil Davies ***N.B. Meet at Calderdale Industrial Museum at 10 a.m.*** ***The museum is almost opposite Halifax Railway Station, between Square Chapel and Burger King at Central Works, Square Road, Halifax, HX1 1QG***
Friday, 13th June	- MRIAS, 50th Anniversary Meal afloat the Bridgewater and Manchester Ship Canals
Saturday 5th July	- Cromford Mill and Crich Tramway Museum, Richard Pink
August	- to be confirmed.
Friday 12th September	- Autumn Buffet, Trafford Heritage Centre
Friday 10th October	- Royal Ordnance Factory, Euxton, Chorley Jack Smith
Friday 14h November	- Archaeology of the Water Street Pump House and the Manchester Hydraulic System, Steve Little
Friday 5th December	- AGM and Speaker.

Membership

Rates -

Single (£20)

Joint (two people at the same address) £25

I would like to thank all those members who have paid their 2014 subscriptions promptly. All other members wishing to continue their membership please send their cheques to me (address shown at the top of this newsletter) or pay at one of the Friday evening lectures as soon as possible please. This makes my job a little easier!

Walter Payne

Project Report by Peter Bone

Summary:

	Project	Lead	Status
1	Mellor Mill	Neil Davies	Ongoing
2	Rakewood Higher Mill contents survey	Peter Bone	Ongoing
3	Members Database	Peter Bone	First draft complete
4	Ashbury's Wagon & Carriage Phase II	Tony Wright	Ongoing

Samuel Oldknow's Mellor Mill *(see also Steve Rhodes article below)*

Collaboration with Mellor Archaeological Trust. Neil Davies and Steve Rhodes (with John Glitheroe) are progressing further work on the survey of the water features. Mellor Archaeological Trust are now working on the site each weekend and are making good progress in uncovering the below ground archaeology. MRIAS members are always welcome to visit (and work on) the site.

Rakewood Higher Mill Contents Survey

John Clegg has been given planning permission for his project at Rakewood Higher Mill. John has requested our help to survey the machinery in the mill and build an inventory, however the project is, temporarily on hold until the buildings have been rendered weathertight and more secure. Volunteers will be required for this interesting project ***in the dry***.

Members Database

This is essentially complete (with errors I expect) I will bring a copy to our monthly meetings so members can see and amend their entries.

Ashbury's Wagon and Carriage Works. Phase II

The site adjoining the Network Rail building is going to be developed. GMAAS put an archaeological condition on the site and Oxford Archaeology North was appointed. MRIAS have been participating in the site investigations.

MRIAS email List

We have recently activated the MRIAS email (mailing) list to keep members informed on a more immediate basis than the quarterly Newsletter.

Fifty-Four of a potential ninety-four individual/joint members have been included.

If you have not recently received a MRIAS email and would like to be included on the list please send an email to **pwbarchaeology@btinternet.com** with the subject MRIAS LIST.

Peter Bone

Samuel Oldknow's Mellor Mill *by Steve Rhodes (MRIAS)*

Heritage Lottery Funding of £1.5m is being divided almost equally between the Mill and the Canal and River Trust. Project Manager, Bob Humphreys-Taylor wants to provide Portacabin facilities for staff and volunteers. He also expects to buy a digger. It is estimated that there will be some 9000 tons of spoil to dispose of - a further 3000 tons will be used on site for landscaping.

A novel use has been found for the several hundred tyres fly tipped into one of the wheel pits – they are to be used as part of the foundations of a local school extension, thus avoiding the cost of disposal (almost £3 per tyre!)

The 1860 boiler and engine house is being dug out (MRIAS member John Glithero is involved) but work is currently hampered by accumulated water. It is believed that a 20 hp two cylinder horizontal engine, with the flywheel was between the two cylinders, supplied by Goodfellow of Hyde was replaced, in 1877, by a 120 hp engine from the same maker.

So far the volunteers have uncovered:

- The engine mounting blocks (the engine was coupled to the same transmission shafts as the waterwheels, initially as supplementary power)
- A base for a Lancashire boiler, plus a later base for a second boiler
- Adjacent coal storage with various modifications to make handling easier for the stoker
- Possible adjacent economiser
- Path of the flue - up the fields to a short chimney

And expect to uncover a drain from engine pit to river.

At the Wellington wheel pit there was a humidifier which heated spray from wheel and sent humid air up two vertical ducts built into centre of spiral stairs at each side of fireplace. This arrangement was later replaced by steam from a boiler sited next to a coal cellar.

Mellor Lodge

Digging has started but is currently on hold. Cellars, 10 ft deep, have been found under the building and, at the western end there are appear to be other cellars a further 30ft deep with the possibility of a tunnel under the river to Marple Lodge on the west bank.
Digging has also shown that a tunnel ran under the road and gardens to service the Lodge and allow access to keeping cellars and stables from the Lodge.

Steve Rhodes

The Tonnage of Ships *by David Higginson (MRIAS)*

In my contribution to the Conference on the Past of Salford Quays, held at Ordsall Hall during October, I made brief reference *to* the various methods employed in calculating the size of ships. As some of those present showed interest in the subject afterwards, 1 suggested that I might prepare a short article intended to explain a subject which can sometimes be confusing.

Alternative Kinds of Tonnage

The size of a ship can be determined in several ways but these must be based either on Weight or Cubic Capacity.

Weight

This is a ton avoirdupois (20 cwt) and the number of such tons of water (salt or fresh in different parts of the world) displaced either, by the ship's actual weight or, by that of the cargo carried.

Cubic Capacity

A 'ton' in this case is not one of weight but is a corruption of the mediaeval word '***tun***'.

A tun being a large cask or barrel frequently used during the Middle Ages as a handy means of transporting goods - not only liquids (a tun had a capacity of about 250 gallons) but also miscellaneous bulk cargoes (salt, grain, etc).

The number of tuns which could be stowed in the hold was the vessel's ***Burthen*** (first levied by Edward I in 1303 on all imports) or ***Tonnage***.

In 1854 Britain rationalised the tonnage capacity rules to define a tun as being 100 cubic feet of enclosed space (i.e. the cubic area within a vessel's superstructure and below decks). Since then it has been known as ***Register Tonnage.***

These two types of tonnage now used in the measurement of a ship's size, tonnage displacement and tonnage cubic capacity are respectively sub-divided as follows:

Displacement Tonnage

Standard Displacement (d.t.)

Warships are always measured in terms of displacement tons, being the total weight of water displaced by the ship herself and everything else on board.

However, since 1920, a slightly modified measurement, known as *Standard Displacement*, has been adopted as the official measurement for warships.

Standard Displacement being the ship's full displacement LESS the weight of fuel and reserve feed water.

Deadweight (d.w.t.)

Merchant ships are not themselves measured in terms of displacement but their cargo-carrying capacity is. This being of more interest to ship-owners and prospective charterers, as well as to port authorities for calculating the dues to be levied.

This is Deadweight which is the total displacement weight of the ship and everything else on board when she is loaded down to the maximum permitted by the Plimsoll Line painted on her side LESS the basic displacement tonnage of the ship alone (known as the ***Lightweight Tonnage).***

The resultant figure, the ship's *Deadweight*, is thus the weight in tons avoirdupois of cargo, stores, fuel, etc, and is a good indication of the ship's cargo-carrying and, therefore, earning capacity.

It is not an appropriate measurement for passenger ships carrying no significant cargo.

Registered Tonnage

This is the measurement of a merchant ship's passenger and/or cargo-carrying capacity and is sub-divided as follows;

Gross Registered Tonnage (g.r.t)

When, as frequently occurs, the media loosely use only the word 'tons' on referring to a particular ship's size, with no qualification of the type of tonnage, it can generally be assumed that 'gross tons' is intended.

Gross tonnage is the total enclosed capacity of a ship's superstructure and hull measured at 100 cubic feet to the ton.

Some of the largest ships owned by Manchester Liners (and to navigate the Manchester Ship Canal) were the containerships such as the "Manchester Challenge" of 1968. Her gross tonnage of 12,039 therefore indicated an enclosed space within the ship of 1,203,900 cubic feet (all passing through locks 600 feet long and 65 feet wide)

Net Registered Tonnage

This is measured in the same way as *Gross Registered Tonnage* but is the total cubic capacity of enclosed space (the g.r.t) LESS that of the engine room, bunkers, crew accommodation, stores and all other space required for the working of the ship. The resultant net figure is therefore an indication to ship-owners, charterers and others interested in the earning capacity of the ship, whether in the number of passengers who could be carried or the volume of cargo which could be stowed.

In the case of cargo ships, the important distinction between Net Register Tonnage and Deadweight is that the former represents the maximum bulk of a cargo which can be stowed, whereas Deadweight indicates the heaviest cargo which may be loaded; a bulky cargo is not necessarily a heavy one. It is on a ship's Net Register Tonnage that port and harbour dues, towage charges, etc, are normally levied.

Merchant Ship - Tonnage Comparisons

A merchant ship's tonnage is seldom given as ***Displacement*** (weight), because this is of little relevance for passenger or cargo purposes but, purely by way of interest, the displacement figure will be approximately 50% higher than the ship's gross register tonnage. Thus, a merchant ship of 10,000 gross tons will have a displacement weight of about 15,000 displacement tons.

Containerships

Although all merchant ships have a Register Tonnage, based upon cubic capacity, with the rapid growth, over the past forty years, in the transport of cargoes by individual container, the measurement of a vessel built specifically as a containership is by reference to the maximum numbers of containers which the vessel can carry. This total includes not only those containers stowed in the holds below deck but also those specially stacked on deck.

Almost universally, the standard container is twenty feet long (or its metric equivalent). However, containers frequently exceed this size (forty foot containers are not unusual) but the larger containers are regarded as multiples of the twenty-foot container. A containership's size is therefore measured and quoted in terms of the maximum number of ***TEUs (Twenty-foot Equivalent Units)*** which can be loaded. Thus, a containership customarily carrying forty-foot containers and with a maximum capacity for 500 such containers would nevertheless be described as having '1,000 TEU' capacity.

Comment

Although Displacement Tonnage and Registered Tonnage have necessarily developed in their respective ways, the principle of container shipping has come full circle over some seven centuries from tuns of the fourteenth century to TEUs of the present.

David Higginson

Manchester Region Industrial Archaeology Society

MRIAS 50th Anniversary - Cruise & Three Course Luncheon

Friday 13th June 2014

Sailing time NOON (boarding starts 30 mins before at 11.30 a.m.)

Leaving from the Castlefield Open Air Events Arena -accessed from the steps outside the Castlefield Hotel M3 4JR. The hotel is opposite the Museum of Science and Industry (MOSI)

The bar will be open on boarding.

Departing from Castlefield we will cruise to the Lowry, enjoying a freshly prepared lunch, made and served on board. The starter and main course will be served on the outward voyage. We can then spend an hour at the Lowry to explore the Quays, before tea/coffee and desert on the return voyage to Castlefield via Pomona Lock.

The cost of the voyage and three course luncheon will be £25

If you would like to come along please return the tear off slip below (by the 15th May 2014) (*PLEASE NOTE NUMBERS ARE LIMITED – EARLY BOOKING RECOMMENDED)* to:

Tony Wright, 9 Perth Close, Holmes Chapel, Cheshire CW4 7JH

(Please make cheques payable to **MRIAS)**

Cut…….....

MRIAS Anniversary Cruise 13th June 2014

Please reserve…….places @ £25 per person = £……

NAME(s) (please print) .....

ADDRESS ……

tel: .....

e-mail address .....

Fragments

- **The Manchester Histories Festival 21st to 30th March**
  www.manchesterhistoriesfestival.org.uk/

- **Manchester Central Library (incorporating the City Library)** re-opens on Saturday 22nd March 2014. It has been beautifully refurbished and extended and the historic features have been sensitively restored and transformed.
  St Peters Square, City Centre, M2 5PD (0161 234 1966) libraries@manchester.gov.uk

  Opening Times for Library

  Central Library opening times:

  Monday: 9am-8pm
  Tuesday: 9am-8pm
  Wednesday: 9am-8pm
  Thursday: 9am-8pm
  Friday: 9am-5pm
  Saturday: 9am-5pm
  Sunday: closed

  City Library and the Media Lounge opening times:
  Monday: 8am-8pm
  Tuesday: 8am-8pm
  Wednesday: 8am-8pm
  Thursday: 8am-8pm
  Friday: 8am-5pm
  Saturday: 9am-5pm
  Sunday: closed

  Ground floor café serves a wide variety of local specialities to suit every appetite.

  Mon to Thurs: 9am-7.30pm
  Fri and Saturday: 9am-4.30pm

- **One of MRIAS's new members** Professor Charles S B Galasko is interested in the Manchester Ship Canal and in particular the creation of the **Ship Canal Accident Service** and its influence on the subsequent care of trauma patients, both military and civilian.

- The **AIA Annual Conference** will be held at Chester University, 5-10 September 2014, organised by **MRIAS member Dr Mike Nevell.** Full details and booking form from industrial-archaeology.org