Industrial Archaeology North West

Issue 4
(Volume 2)
for
2004-2007

Typeset and printed by
the University of Manchester Archaeology Unit, University of
Manchester, Oxford Road, Manchester, M13 9PL, on behalf of
the
CBA North West Industrial Archaeology Panel

© Individual authors, CBA North West Industrial Archaeology
Panel, and the Association for Industrial archaeology

ISSN 1479-5345

Front Cover illustrations: left to right, top row: Eanam Wharf (BL12); Finsley
Mill (BU07); Lancaster canal (L04); middle row: Tewitfield Locks (L.V20);
Marsh Mill (F42); St George’s Quay (L10); bottom row: Southport Lord
Street Station (S04); Nelson canal warehouse (RV30); Burscough bridge
station (WL12).

Back Cover illustration: a map of Lancashire showing industrial archae-
ology sites mentioned in the tour notes and in the 2007 ‘Guide to the
Industrial Archaeology of Lancashire’, published for the AIA’s Preston
Conference.
# Industrial Archaeology Tour Notes for Lancashire

## 2007 Tour Programme, 11th August to 16th August

<table>
<thead>
<tr>
<th>Day</th>
<th>Tour ID</th>
<th>Venue</th>
<th>Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturday</td>
<td>A</td>
<td>Helmshore Mills</td>
<td>Ian Gibson</td>
</tr>
<tr>
<td>Saturday</td>
<td>B1</td>
<td>Blackpool Tower</td>
<td>Gordon Browne</td>
</tr>
<tr>
<td></td>
<td>B2</td>
<td>Blackpool Heritage</td>
<td>Paul Dunkerley</td>
</tr>
<tr>
<td>Saturday</td>
<td>C</td>
<td>Carnforth Station &amp; Sedgwick Gunpowder Mill</td>
<td>Richard &amp; Caron Newman</td>
</tr>
<tr>
<td>Sunday</td>
<td>D</td>
<td>Preston Walk (1) (Mills &amp; Housing)</td>
<td>Michael Nevell</td>
</tr>
<tr>
<td>Sunday</td>
<td>E</td>
<td>Preston Walk (2) (Mills &amp; Canal)</td>
<td>David George</td>
</tr>
<tr>
<td>Sunday</td>
<td>F</td>
<td>Preston Dock, Ribble Steam Museum &amp; Millennium Canal Link</td>
<td>Colin Dickinson &amp; Gordon Browne</td>
</tr>
<tr>
<td>Monday</td>
<td>G</td>
<td>Lancaster &amp; Glasson Dock</td>
<td>Colin Dickinson</td>
</tr>
<tr>
<td>Monday</td>
<td>H</td>
<td>Landscapes of Cotton Weaving in the Pendle Area</td>
<td>Roger Holden</td>
</tr>
<tr>
<td>Tuesday</td>
<td>J</td>
<td>World of Glass (St Helens) and the Sankey Canal</td>
<td>Gordon Browne &amp; Peter Keene</td>
</tr>
<tr>
<td>Tuesday</td>
<td>K</td>
<td>Aviation Sites around the Preston Area</td>
<td>Brian Tomlinson</td>
</tr>
<tr>
<td>Wednesday</td>
<td>L</td>
<td>Rossendale Valley &amp; East Lancs Railway</td>
<td>Michael Nevell</td>
</tr>
<tr>
<td>Wednesday</td>
<td>M</td>
<td>The Leyland Commercial Vehicle Museum &amp; ROF Chorley</td>
<td>Jack Smith</td>
</tr>
<tr>
<td>Thursday</td>
<td>N</td>
<td>Burnley Weavers’ Triangle and Queen Street Mill</td>
<td>Ian Gibson &amp; Brian Hall</td>
</tr>
</tbody>
</table>
TOUR A - HELMSHORE MILLS

Saturday 11th August 2007

Introduction

Map References: LR103, Ex287 (LR109, Ex286)

Site Condition: The Museum is a well paved visitor attraction, (with toilet facilities available) although restoration work is underway so tour members will need to steer clear of this area which will be clearly marked.

Gazetteer References: R36 and R37 and R38

Helmsshore Mills Textile Museum

Helmsshore Mills Textile Museum comprises two mills, one built in 1789, the other in the late 1820s and then approximately 80% rebuilt following a fire in 1858. Originally the two mills were in the common ownership of the Turner family and the last active male member of that line (William Turner 1793 – 1852) became an enormously powerful figure in the area both as a J.P. and as owner of a number of mills and other properties.

The 1789 mill (below) was built as a water-powered fulling mill and its function never changed until it closed down as a commercial concern in June 1967. We know it today as Higher Mill, Helmsshore. The other mill is referred to today as Whitaker’s Mill in recognition of the fact that for most of the 20th century it was operated by the firm of L Whitaker & Son as a condenser cotton spinning mill. It ceased commercial operation at Christmas 1978. For almost the last hundred years of their commercial existence the two mills operated under different managements, although, as will be seen on site, Higher Mill’s operators needed access to part of Whitaker’s Mill for most of their last 70 years of commercial operation to keep their business viable.

Today Higher Mill, the fulling mill, still has the full range of wool cloth finishing machinery in situ (see above and below), including water-wheel-powered fulling stocks, rotary milling machines, flock shaker, dolly scourer, squeezer, teasle raising gig, and others. These are all situated on the ground floor (the “mill bottoms”). On the middle floor the story of the East Lancashire woollen industry will be told and exhibits will include an early non-self actor woollen mule by Leach of Rochdale. The top floor of the Mill contains a range of handlooms. Note that it has not proved possible to make the top floor accessible to persons who cannot manage stairs.

Whitaker’s Mill (top opposite) has an entire floor of carding and mule spinning machinery situated exactly where it worked commercially until 1978. With some twenty five carding engines and some 2,856 mule spindles this floor is a memorable preserved working environment. On the ground floor are the machines for the dangerous and noisy preparation of waste yarn
and other waste cotton. Alongside is the story of how this early example of a true “recycling industry” developed alongside, and was fed from, the burgeoning conventional cotton industry.

Also on the ground floor the “Revolution” gallery tells the story of the mechanised Lancashire textile industry from its inception in the mid-eighteenth century up to its peak just before the First World War. Within this gallery is a facsimile of a portion of one of Richard Arkwright’s Cromford Mills containing machinery made while Arkwright was still alive. Most notable is the 96-spindle Waterframe (below) which is the only surviving complete machine of its type in the world. For the period following the outbreak of hostilities to the present day the history is traced via a short video incorporating archive film material, some of which dates back to 1919, or earlier.

Helmshore Mills Textile Museum has been closed to the public since end of May 2006 for a major Heritage Lottery Fund-assisted development project. At the time of writing (May 2007) it is very much a building site but by August I expect the building work to be completed, although the additional new display and interpretation will not be fully installed.

Part of the developmental work has been to create space at the junction between the two mills. This has been done by recreating a facsimile, in external appearance, of a boilerhouse which was on the site from around the First World War until it was demolished in 1974. Internally, this building will have an entirely modern function and will serve to orientate visitors and inform them about what there is to see during their visit, and the routes they can take around the two mills.

Construction of this new building has not been straightforward because excavation revealed much of the foundations of the boilerhouse building, the boiler seating blocks, and side flues survived. Advised by English Heritage and supervised by Oxford Archaeology North the underground structures have been carefully exposed and measured, drawn & photographed. Also recorded is the rather surprising finding of substantial remains of a still earlier boilerhouse in which the boiler lay at an angle of some 30 degrees to the later one but still vented into the same underground flue system.

Relatively little further disturbance of these remains will occur before they are protected with an inert covering and sand, prior to the casting of a concrete slab to form the floor of the new structure on top of them.

By mid-August it is anticipated that all the building works will be complete, but the Interpretation works will still be in progress.

Ian Gibson
TOUR B1 - BLACKPOOL TOWER

Saturday 11th August 2007

Introduction

*Map References:* LR102, Ex286 (Ex287)

*Site Condition:* Street pavements. Beware of trams and tramlines.

*Gazetteer Reference:* F01

The coach will take about 45 minutes to travel to Blackpool, where the Walking Tour Members will be dropped at Talbot Road Bus Station before the coach drops the Blackpool Tower Visitors at Blackpool Tower.

**Blackpool Tower**

The Blackpool Tower complex was designed by the Architects Maxwell & Tuke, with the engineer R.J.G. Reade designing the tower itself. The contractors for the tower were Heenan & Froude, assisted by James Bell and also by R. Neill & Co.

The tower was designed in imitation of the Eiffel Tower in Paris, which had opened in 1889. Blackpool Tower took 3 years to build, opening in May 1894.

The Observation Platform at the top is 480 feet above the base, the height to the top of the flag mast above the Crow’s Nest being 518 feet 9 inches.

A total of 2,493 tons of steel and 93 of cast iron were used in the construction of the tower.

The tower dwarfs the Tower Buildings below, which contain many tourist attractions including the Tower Ballroom with the largest sprung dance floor in the world, the Tower Circus, and the Tower Aquarium. The Aquarium predates the tower, having been established by Dr Cocker, the first Mayor of Blackpool; it was kept open during the construction of the tower to provide an income to help fund the project.

Blackpool Tower is very significant in the history of Blackpool; before the Tower, all major developments in the town were financed from within the town; after the Tower, all major developments in the town were financed by outside capital.

*Paul Dunkerley*
TOUR B2 - BLACKPOOL HERITAGE

Saturday 11th August 2007

Introduction

Map References: LR102, Ex286 (Ex287)

Site Condition: The upper part of the tower is exposed to the elements, although there is not time to go to the very top of the tower. Street pavements elsewhere.

Gazetteer References: F01, F02, F04, F05, F28

Blackpool has bid for recognition as a World Heritage Site, and has no other credible contender for the title of ‘World’s First Working-class Sea Side Resort’.

Blackpool Heritage

The coach will take about 45 minutes to travel to Blackpool.

The 1.5 mile tour will be on foot along pavements, starting from the Talbot Road Bus Station and Multi-storey Car Park. Completed in 1939, this was the first true multi-storey car park in the country. The structure has a reinforced concrete frame and now has modern metal cladding.

The Blackpool Tramway opened in 1885 as the first electric street tramway in Britain, built as a joint venture between Blackpool Corporation and the electrical engineer Michael Holroyd Smith. The Blackpool & Fleetwood Tramway opened in 1898; the two lines being merged in 1920.

The 1912 Princess Parade Colonnades (see right) was built in small precast concrete elements reinforced in the Hennebique manner. The precast columns were founded on concrete pads which part rest on the former 1868-1870 sloping coastal defence ‘hulkings’.

The nearby 1923-1925 Middle Walk Colonnades are on a much grander scale, with an overall length of 2,800 feet. They were built to enable the tramway to run on a separate reservation. The ceilings of the walkway sections are cantilevered from the rear concrete retaining walls.

Built circa 1876, the Sea Water Works once supplied clarified sea water to public bathing establishments and to hydropathic hotels such as the nearby Imperial Hotel. The original cast iron tank on the roof was replaced by a new roof after a fire during the past few years.

The 1895-1899 ‘North Shore Works’ are a rare British example of a ‘Continental’ style of coastal defence, originally with a sloping granite faced apron backed by a curved concrete wave wall with a parapet (see below), protecting an access road. The structures were overlaid in 1981-1982.

The 1862-1863 North Pier was only the second designed by Eugenius Birch, the foremost Victorian seaside pier engineer. Surprised by the height of extreme storm surges along this coast, he was obliged to raise the deck level by 3 feet during construction.
The 1900-1905 basalt faced sea-walls were built by direct labour to provide a wider Promenade and a separate tramway reservation to ease congestion. They are currently being replaced as the final major reconstruction scheme of the town’s coastal defences, commenced in 1981.

Blackpool Tower is the flagship of the British seaside holiday industry. Opened in 1894, it was built in imitation of the Eiffel Tower in Paris. The 518 feet tower was inter-visible with observation towers in New Brighton and Douglas.

The coach will pick up the two Blackpool parties from Adelaide Street just south of Blackpool Tower, and will pass the following sites during the return journey.

The Southern Fylde

The 1868 Blackpool Central Pier was unconventional in having bowed wrought iron girders supporting the deck, which carried two widened sections, one at the pierhead and one centrally placed used as an open-air dance floor, leading to the pier’s popularity with poorer visitors.

The 1893 Blackpool South Pier was founded on jetted piles, another unconventional feature being the steel deck beams.

Blackpool Pleasure Beach boasts several historic rides, such as Sir Hiram Maxim’s 1903-1904 ‘Flying Machine’, built so that ordinary folk could experience the illusion of manned flight. This is the only one of three or four machines originally built c.1901 for the Crystal Palace, Sydenham.

The ‘Revolution’ of 1978-1979 was the first inversion coaster ride in the country, the car performing an oblate clothoid loop forwards then backwards in a single ride. The passengers are fully restrained by compressed air operated harnesses.

St Annes Pier was built in 1885. Unusually for a seaside pier, very suburban domestic architecture was used for the 1899 gabled entrance building. This contrasted with the 1903 Moorish Pavilion and the 1910 Floral Hall at the pierhead, which were in more conventional exotic style.

‘The White Church’ (United Reformed) at Fairhaven of 1912 was constructed with an early quadripartite concrete shell dome spanning some 10 metres and 100mm thick. Corrugated metal lathing was used as permanent formwork, the plaster ceiling of the church being suspended on wires.

Lytham Mill (above) was built in 1805 by the miller Richard Cookson using salvaged machinery. The mill stands on a podium which housed the cellar, the roof acting as a reefing gallery for the 4 common sails. The mill has a Fylde boat-shaped cap and a high fantail.

Paul Dunkerley
TOUR C—CARNFORTH STATION AND SEDGWICK GUNPOWDER MILL

Saturday 11th August 2007

Introduction

Map References: LR97, OL7 (LR103, Ex286, OL41)

Site Condition: The station is a well paved area and has a visitor centre with toilet facilities. Elsewhere reasonable paths a little rough in places.

Gazetteer Reference: LV04

Carnforth Station

The station was left in a state of disrepair and decline from the 1960s to the 1990s but in 1996 the Carnforth Station and Railway Trust was established, as a registered charity, with the aim of restoring and regenerating the neglected station. Members of the friends of Carnforth Station worked closely alongside the Trust, providing support and assistance to the venture.

The Carnforth Station and Railway Trust has raised over £1 million and has obtained a 50 year lease on the station. The renovated Gateway building was opened in February 2002 and the Trust has also refurbished the centre island platform buildings. The platforms, subway, and roof of the station have been refurbished by Railtrack.

Steam trains first pulled out of Carnforth Station (below) in 1856. Carnforth quickly became a bustling junction, linking stations across the North West. During the Second World War thousands of servicemen passed through Carnforth Station en route to duty overseas and in 1945 David Lean’s romantic classic “Brief Encounter” was filmed here (right).

Following the removal of the mainline platforms in the early 1970s the situation for the future looked bleak, but today Carnforth is home to an award winning Visitor Centre (above), boasting thousands of visitors both from the UK and abroad.

Carnforth Station’s most famous landmark, is without doubt, the station clock (above). Made in the late 19th century by Joyce of Whitchurch, this impressive clock is now fully restored and hangs proudly at the top of the subway on platform one. The clock is mechanical and is wound by hand on a weekly basis. It is best known for the prominent role it played in “Brief Encounter” and continues to delight both visitors and rail travellers.

Old Sedgwick Gun Powder Mills

The gun powder mills at Sedgwick in the Kent valley south of Kendal were established in the mid-18th century and closed in 1935. No written details of the manufacturing methods at old Sedgwick are known to exist, but reference to two plans dated 1857 and in the record office at Kendal, allows useful deductions to be made.

Power was provide by water wheels, of which
there were at least three, operated by a head race taken off Larkrigg Weir on the river Kent. The site of the old works is on the east bank of the river slightly north of the site of the new works. The site was congested and to judge from the maps, it is clear that the inter-building distances were too small. It must be remembered however that in 1764, when the works was opened, there were no set standards by which to judge, nor any statutory powers to enforce them.

Charcoal was made at old Sedgwick (above), the retorts being close to the river bank. A stave house, a saltpetre house, and a brimstone house stood as separate buildings. It is possible that the brimstone house held sulphur refining facilities, since purified sulphur was not available commercially when the works was opened.

Primary grinding and mixing of raw materials would have been done in the preparing house. About 50 yards to the south-west were the “powder mills” with a central mill leat and water wheel. Neither map indicates a press house, and this may have been done in the large pair of buildings shown as “corning house” and which straddled a mill race. A “dust house” presumably containing one or more reels was sited on the eastern margin of the works with two magazine to the north and south at distances of 100ft and 150ft.

**New Sedgwick Works**

The works began production in 1857 and was closed in May 1935. The works only made commercial blasting gunpowder based on sodium nitrate, rather than the more expensive potassium nitrate. The other two components were the fuels, charcoal and sulphur. Charcoal was made at Sedgwick by heating wood in retorts, but following a spontaneous fire in 1884 this was abandoned.

Charcoal and sulphur were ground separately to a fine powder using an edge runner mill which was overdriven by a water wheel. The powders were sieved using a sloping reel sieve with 24 inch mesh wire screen, with an anti clogging knocker device. The charcoal was weighed into bags of 12lb 5oz and sulphur into bags of 8lb 1oz, the other constituent being 54lb 10oz of sodium nitrate, the total making a mill charge of 75lb.

Mixing: this mill charge was mixed in a drum mixer with contra-rotating internal mixing blades or flyers for four minutes. Upon discharge the powder was rubbed through a 5 mesh into a drum, and was now termed a green charge.

Milling: this was done in two groups of mills both edge runners, each group under-driven by its own water wheel. All mills had cast-iron runners although it is thought stone runners were initially used. The mills were run on a three shift basis, six days per week, producing 80,000lbs per week. The powder produced was called the green charge, and was then liquored by adding water to the bare bed plate of the mil and then was actually re-milled for a further 1hr 25mins.

Pressing - there were two presses, housed together. Each had four cast iron columns cased in brass sheeting, the daylight (pressing space) was 4ft 6ins. The wrought charges were built up in layers, separated by 36 plates of Muntz metal 29ins square, giving 35 cakes of compressed powder at each pressing.

Corning: the single corning machine was a Hastic type, made in Greenock and installed in 1903. It replaced one destroyed earlier that year in an explosion. It had three pairs of cracker
Reference
1. Reed House
2. Store
3. Chimney
4. Glaze House
5. Upper Expense Magazine
6. Privy
7. Compressing House
8. Corning House & Earth Barrier
9. Toilet Block
11. Cartridge Pump House
12. Press House
13. Toilets Block
14. Expense Magazine
15. New Dust House
16. Electric Motor Shed
17. Heating House
18. Reception
19. 3 Incorporating Mills
20. Pipe Charge House
21. Wheel House
22. Charcoal House
23. Watch House
24. Black Pot
25. Packing House
26. Preparing House
27. Store Magazine
28. not lasting
29. Torque Tower
30. Cooper's Yard
31. Gate House
32. Leat
33. Charging House
34. Green Charge House
35. 2 Incorporating Mills

SEDGWICK POWDER WORKS
rolls and two pairs of smooth rolls. The cracker rolls were in line vertically, with their pyramid teeth 3/4in, 1/2in, and 1/4in descending in order, the smooth rolls were set horizontally below. The product was broken by hand, fed into the rollers, screened, and the coarse material returned to the smooth rolls via elevators with cloth belts and copper buckets. Corning was a hazardous process; Sedgwick had three explosions between 1871 and 1903, resulting in several deaths.

Glazing: the glazing house had two compartments, one either side of a water wheel, which powered the operation. In each compartment there were three glazing drums 4ft in diameter by 7ft long, with two compartments separated by an iron division. Each section had a bung hole for charging and discharging, and they rotated at 11 rpm. The corned powder was glazed with small amounts of blacklead, and in the case of “bright” powders the blacklead was added after some 16 hours, but for black and cartridge powders the blacklead was added at the start. In 1903 a massive explosion destroyed the glaze house and damaged the corning house.

Stoving: There were two drying stoves adjacent to one another, one for loose powder, the other for compressed cartridges or pellets. Both were heated by hot water pipes the materials were set in wooden trays with canvas bottoms, and were dried overnight at 130 deg. F.

Hydraulic Pressing of Pellets: Miners used to make up their own cartridges of loose powder but later for safety reasons cartridges and pellets of standard weight were produced at the works. They were pressed using a steel mould blocks and plungers made from Bull’s Metal.

Packing: loose material was packed in waxed calico bags or rubber bags acting as liners in wooden barrels. Pellets were hand wrapped, end to end, and had 2, 3 or 4 to a paper wrapper, the wrappers were placed in wax lined wooden cases ready for nailing and stencilling.

Gordon Browne
TOUR D - PRESTRON WALK (I) (MILLS AND HOUSING)  
Sunday 12th August

Introduction

Map References: LR102, Ex286

Site Condition: Well paved footpaths. Includes a walk on busy town streets.

Gazetteer references: P07, P10, P11, P13, P17, P22, P28, P32

The walk will start on the UCLAN campus outside the Foster Building and will look at the industrial archaeology of the centre of Preston. Beginning and ending at the University of Central Lancashire, the tour will pass the warehouses on Corporation Street, housing in Winckley Square and Avenham Road, before passing down to the river to look at the site of the old tram bridge across the River Ribble. The second half of the walk will encompass the mills on the eastern side of Preston and the tour will return via the striking 1960s Church Street bus station and multi-storey car park.

Warehouses in Corporation St

These include Crook & Sons Colonial Buildings (above), a four storey redbrick structure with stone banding and loading bays along the Edward Street elevation. Adjacent is the four storey Askew and Company’s warehouse which has Dutch gables and a half-basement for packing. To the north is a two storey office and possible shop or saleroom wing with wooden window surrounds. There are smaller and earlier textile warehouses and workshops to the north-east of Marsh Lane close to former canal basin, which was filled in in the mid-20th century.

Corn Exchange

The corn exchange lies on Lime Street and dates to 1822-4, but was expanded in 1882. It is a brick-built, nine-bay façade with a three-bay central pediment and cupola. In front is a statue commemorating the shooting of several Chartist demonstrators in the 1840s near this spot.

Winckley Square and Avenham Road

South of the Corn Exchange is an area of middle and working class housing focussed upon Winckley square. The square is dominated by brick town houses of the early to late 19th century, mostly fairly plain in exterior decoration except for their door surrounds, as with Nos 5 and 34. The southern side of the square is the least altered.

Similar period middle-class town houses can be found on the streets radiating from Winckley Square, such as Camden Place, Cross Street, and East Cliff.

To the south-east of the square, however, is an area of early to mid-19th century working class terraced housing, some with small front gardens and bay windows, others opening straight onto the pavement. The most interesting road, however, in terms of industrial archaeology, is Avenham Road (below). Here are the recently converted remains of the Gold Thread Works, which spans the early 19th century to the mid-20th century. The complex demonstrates the shift from domestic working in lofts, through rear-yard workshops, to the full-blown factory,
in the form of weaving sheds (now demolished) and a four storey mill-type structure which still survives.

**Old tram bridge**

This bridge was rebuilt as a faithful concrete copy of the original wooden structure in the 1960s, but retains the original stone abutments, across the River Ribble on the route of the Preston and Walton plateway. It was built in place of the originally planned stone aqueduct to connect northern and southern arms of the Lancaster Canal by William Cartwright. It opened 1803, and closed in 1864. To the north was an incline still visible in Avenham Park, which was operated by a stationary steam engine at the top (now gone). The trackbed for the tramway can be traced through Walton-le-Dale, partly as a footpath, whilst part of the wall of the present footpath is built with stone sleepers which formerly held the rails.

**Ribble Motor Services Offices and Garage**

Located on Frenchwood Avenue the offices are brick-built and date from the 1930s with two wings and a central columned entrance with the Ribble monogramme above. The garage, on the adjacent Selbourne Street, which is still in use, is a long brick-built shed with steel trusses supporting a roof of several periods.

**Fishwick Mills**

This complex lies on Salmon Street and was established in the 1860s. The remains include a four storey cotton spinning range 9 by 12 bay in brick and to the north and north-east later weaving sheds. A late 19th century spinning block with a ruinous engine house also survives at the north-eastern end of the site and on the eastern side of Salmon Street a large weaving shed.

**Centenary Mill**

On the northern side of New Hall Lane, this was built by the Horrock family in 1895. It is four storeys high, 25 by 9 bays, with large windows, ornamental frontage with projecting towers, internal structure of cast iron pillars, steel beams and concrete floors (Ashmore 1982, 219). To the rear is an earlier square-sectioned brick chimney.

It is now converted into accommodation.

**Horrock’s Mills**

Very little now survives on Church Street of this, the earliest and largest single mill complex in Preston. It was founded in 1791 by John Horrocks as a steam-powered mule spinning mill. A four storey brick office and warehouse block and a weaving shed are the only survivors. There is an excellent model of the full site in the Harris Museum and Art Gallery.

**Bus Station and Car Park**

Situated at the foot of Church Street the bus station has a glazed passenger platform with bus bays at back and parking area for buses next to the road. There are also 13 floors for multi storey car parking. Each floor has curved metal ends with safety rails behind, forming distinctive cantilevered bays that project over the bus-parking area (see above). It was built during the 1960s.

Michael Nevell
TOUR E - PRESTON 2: COTTON MILLS AND THE LANCASTER CANAL

Sunday 12th August 2007

Introduction

Map References: LR102, Ex286

Site Condition: Well paved footpaths. Includes a walk on busy town streets.

Gazetteer References: P01, P02, P14, P20, P27, P30, P31

The walk will start on the campus outside the Foster Building and will look at various mills on the northern side of the city as well as the line of the Lancaster canal (see map below).

Warehouses and Cotton Mills

Parts of the campus are built on the former Maudland Road goods yard of the Preston and Wyre Railway, established in 1840. A length of track may still be seen on the east side of the overbridge by the campus. A large single storey goods shed constructed of brick and stone with five bays and two half bays at each end lies to the south (above). The random stone courses on the western side may be the original boundary wall. The building has been converted into a lecture theatre with modern extensions.

The first mill to be visited is Hanover Mill (1796) built by the Horrock family and probably the oldest surviving mill building in Preston. The construction is 11 x 3 bays long with rectangular windows, stone lintels, and stone sills. There is a central three bay pediment and a plaque dedicated to Richard Arkwright.

Proceeding north, Arkwright Mill (1854) is the
next, on Greenbank Street. As with most Preston textile mills it has four storeys with corner pilasters, and an internal structure of cast iron pillars and timber beams. Aqueduct Street Mill (1846) survives as a 10 bay, four storey block. The lowered western wing allows a view of the cast iron brackets of the vertical drive shaft of the central engine house. Note the prominent loading bay at the front by Dallam Forge.

Progress Mill on Shelley Road is a rare survivor in Preston of the single storey weaving mill, and is 17 by 6 bays. At the top of Old Lancaster Lane are two spinning blocks of the Brookhouse and Shelley Road Mills, five and four storeys each with internal engine houses, staircase towers, and ornamental features. Raglan Street Mill is another brick built four storey mill, 21 bays by 7 bays, but built in two periods.

The last mill to be examined is Tulketh Mill on the Blackpool Road; a large Edwardian spinning Mill built by Dixon of Oldham (1905). It has four storeys of machine-made brick with yellow brick decoration, is 42 by 13 bays, and the internal structure is of steel beams and concrete floors. There is a six bay engine house and ornamental water tower.

The Lancaster Canal

The return trip will be made along the towpath of the northern section of the Lancaster Canal. The canal runs on a level for 41 miles from Preston to Tewitfield near Carnforth where the first flight of locks is situated. The canal boats were 72ft long by 14ft wide and carried 50tons each; coal from Wigan northwards, limestone for the south from around Kendal. A fast packet-boat service was introduced in the early 19th century to and from Lancaster and Preston.

The Shelley Road Basin would have been used for fuel and raw materials but is now moorings for private cruisers. At Aqueduct Street the canal is truncated, the last mile into the Preston Basin having been built over in themed-20th century.

David George
TOUR F - PRESTON DOCK, RIBBLE STEAM MUSEUM AND THE MILLENNIUM CANAL LINK

Sunday 12th August

Introduction

Map References: LR102, Ex286

Site Condition: Well paved footpaths, but includes a walk along the dockside and beside the railway tracks.

Gazetteer references: F11, P25, P26

Preston Docks

The Ribble was navigated up to Preston by small vessels from the 17th century with an anchorage below Penwortham Hill. The main development of the port came in the 19th century, following the creation of the Ribble Navigation Company, the deepening of the approach channel, and the draining of the marshes along both banks of the river.

The laying of the foundation stone of the great wet dock at Preston was carried out by the Prince of Wales, later King Edward VII, on Friday 17th July 1885. Sir John Coode, civil engineer, was behind the scheme to get the Act of Parliament necessary for the construction to begin, although the general outline had been presented before local alderman and engineer Edward Garlick and his assistant Benjamin Sykes, civil engineer. Garlick was later appointed engineer in charge. The official opening by the Duke of Edinburgh, second son of Queen Victoria, took place on the 25th June 1892. At that time the dock was the largest single such structure in Britain.

The Main Dock survives along with the hydraulic lock gates, but many of the associated structures have been demolished. The main dock is 914m by 183m with walls of Longridge stone, approached by a lock with two compartments from a basin north of the river. The New Dock was built in 1883-92, and involved the diversion
of the river to the south and the building of a 457m long quay wall. A hydraulic power system, with water raised to a pressure of 750psi, ran not only the lock gates but cranes, hoists, and capstans, some of which survive.

The major imports into the dock complex were china clay from Cornwall, which was used in the sizing of textiles and paper making; wood pulp for the paper making districts of eastern Lancashire; and large amounts of timber. The major export was coal from the Lancashire coalfield. The docks closed on the 31st October 1981 and have since been redeveloped as a leisure facility and for housing.

Ribble Steam Railway

The Ribble Steam Railway was formed out of the ashes of Steamport Southport Ltd, which operated from the old Motive Power Depot on Derby Road in Southport.

In 1997 the decision was made to move to a brown field site at Preston Docks. With the proceeds of the sale of the Derby Road site, and the essential support of the volunteer workforce, the exhibits large and small made their way from Southport during the Easter period of 1999.

During 2001 the carriage shed and workshop were constructed, and in 2002 work began on the museum building. The fitting out of all the buildings was carried out by the volunteers, and passenger operations began in 2005.

In addition to the stock from Southport, further locomotives and stock joined the collection in Preston from the Fleetwood Loco centre, as well as attracting new exhibits from other railways. A total of 18 new locomotives have been added to the collection since the move, which also prompted the expansion of the British Rail M1 carriage suite.

On site there are approximately 14 locomotives, including representatives of steam, diesel, petrol, and battery locomotives, dating as far back as 1894 and as recent as 1968. This is the
single largest collection of standard gauge industrial locomotives housed undercover in the UK.

Ribble Steam Railway is more than a static experience. You can enjoy the sites, sounds, and smells of steam locos in action as you ride in the renovated and hand painted carriages pulled by steam locos on a three mile return trip alongside the River Ribble what was once the Preston Dock Railway.

Millennium Canal Link

The Millennium Ribble Canal Link is Britain's youngest waterway. As the first new navigation to be constructed since the Manchester Ship Canal, this new waterway is unique. It was built purely for recreational and leisure needs and was officially opened on the 29th September 2002.

The new link connects the Lancaster Canal into the Ribble Estuary so that boats can now cruise from the Link down the Ribble and Douglas rivers to the Rufford branch of the Leeds Liverpool Canal and then onto the rest of the inland waterways (see map above).

The new construction consists of nine locks, including a sea lock. This sea lock is known as a Rising Sector Gate, the local version of the Thames Barrier, which rises to empound the water as the tide goes out. A three chambered staircase lock flight marks the entrance into the Link from the Lancaster Canal (see bottom left).

The Link itself flows along the line of the Savick Brook. This has been canalised, but care has been taken to retain the original bank of the brook to the north. Savick Brook is situated approximately two miles down stream from Preston Dock on the Ribble. It takes a right angled course north from the river to the main Preston to Blackpool Road (A583) which is where the sea lock is situated, and the new canal link begins.

Colin Dickinson & Gordon Browne
TOUR G - LANCASTER AND GLASSON DOCK

Monday 13th August

Introduction

Map References: LR97, LR102, Ex296, OL41 (LR103, Ex286)

Site Conditions: Well paved footpaths in Lancaster. At Glasson Dock reasonable paths, a little rough in places.

Gazetteer References: L04, L05, L07, L12, LV10

The tour will start at Rennie’s aqueduct on the Lancaster Canal, north-east of the city centre, following which we will visit the Maritime Museum in the Old Customs House of 1765 on the Lancaster Quay (River Lune). Afterwards we will look at the remains of James Williamson’s linoleum-making works on St George’s Quay, before returning to the coach and travelling to Glasson Dock.

The Lancaster Canal

The full length of the canal was 67.25 miles and ran from Westhoughton (where it joined a branch of the Bridgewater Canal) near Wigan to Kendal. Although construction began soon after the Act of Parliament of 1792, the canal did not reach Kendal until 1819. The cost of building an aqueduct over the River Ribble proved too expensive so the Preston and Walton plateway was built in 1803. This ran on an embankment (some of which can still be seen) from Walton summit through Penwortham and cross the Ribble at Preston on a wooden tramway bridge just below Avenham Park, where there was a steam-powered incline. A branch two and a half miles long was built from Galgate to the Lancaster port Commissioners’ coastal dock at Glasson and opened in 1826. Today the canal is unnavigable north of Tewitfield locks but the Millennium Link provides access between the northern branch, the Ribble Estuary and the canal port of Tarleton in West Lancashire.

The main trade on the canal was Wigan district coal, which would be transported northwards, and limestone from the quarries around Kellet which would be transported southwards.

The Lancaster Canal Aqueduct (Lune Aqueduct)

Considered to be the first canal aqueduct in the North West, the Lune aqueduct carrying the Lancaster canal over the River Lune at Lancaster was built 1794-97, and designed by the canal’s engineer John Rennie. Stone built, it consists of five 70ft span semi-circular arches in a classical style, the total cost being £48,000 which almost crippled the canal company.

St George’s Quay

The port was extensively developed in the mid-18th century and now comprises a line of four and five-storey stone-built warehouses.

Each has a narrow front and faces gable-end onto the quay, with wooden and later iron hoists, and projecting corbels below loading openings to support planks. The classical customs house, designed by Richard Gillow, dates from 1764.

Lune Mills

Oilcloth and linoleum works started by James Williamson from 1839 onwards. His son became
Lord Ashton, whose memorial in Williamson Park is a dominant feature of the town.

**Glasson Dock**

The dock (see figure below) was built in 1783-91 at the mouth of the Lune by the Lancaster Port Commissioners to offset the silting of the River Lune. It was linked with the Lancaster Canal by the Glasson branch, opened in 1826, with a lock connection between the dock and a large basin at the end of the canal branch.

The LNWR built a railway branch from Lancaster in 1883 with the idea of developing traffic to Ireland, although this was never very successful. This closed to passengers in 1930 and the station was later demolished. Goods traffic, however, did not cease until 1964 (Ashmore 1982, 205). The railway line can still be followed along edge of the marsh to east as an embankment.

The dock remains in use by vessels up to 4500 tonnes gross, with the mouth of the Lune acting as the wharf. The dock itself is 152m by 61m (see figure below), with masonry side walls, heavy wooden entrance gates at the river end, a small stone-built office, and lighthouse on the eastern pier, and a dry dock on western side, now filled in. The latter is thought to be the earliest example in the county and is now a Scheduled Ancient Monument.

The lock between the dock and the canal basin has masonry side walls, wooden gates at the dock end and canal end, a swing bridge between gates, and a winch by the Phoenix Foundry of Lancaster, to operate the gates.

The two and a half mile long Glasson branch of the Lancaster Canal was built between 1823 and 1826 and had six locks. The canal basin (see figure below) is 365m by 275m, with an overflow and iron grille at the west, and a stone wharf on north where there was formerly a warehouse. At the southern end of the swing bridge is a two storey stone built lock-keepers cottage.

*Gordon Browne & Colin Dickenson*
TOUR H - LANDSCAPES OF COTTON WEAVING IN THE PENDLE AREA

Monday, 13 August 2007

Introduction

Map References: LR103, OL21, OL41 (Ex287)

Site conditions: Some street pavements. Otherwise, reasonable paths.

Gazetteer references: RV01, RV06, RV30, RV32, RV33, RV34

Nelson

Nelson was a new town of the second half of the 19th century, which developed around the railway station opened in 1849 to serve the districts of Marsden and Barrowford. Mechanised spinning mills had been established in the area by the end of the 18th century, Lomeshaye for example, and a hand loom weaving industry had developed. Nelson grew into a cotton weaving town, becoming the fourth largest in Lancashire after Blackburn, Burnley, and Preston. The weaving mills took the characteristic form of large single storey sheds with saw-tooth, north-light, roofs, with attached multi-storey warehouse and preparation blocks. The mills built in Nelson tended to be large, housing up to 2000 looms, reflecting the fact that many were built on the room-and-power system where companies built the mill and operated the steam engine to provide power, then rented the space for manufacturers to install and operate their own looms and associated equipment.

The need for water supply for the boilers and engine condensers meant that the most popular locations for mills were along the Leeds and Liverpool Canal, the Walverden Brook and the Hendon Brook. The mills needed workers, and the workers needed housing, so around the mills there developed streets of characteristic terraced housing, together with shops, schools, churches, and chapels. Recently this historic landscape of Nelson has been under threat from the council who saw wholesale demolition as the only way forward for the town; fortunately concerted efforts by the CBA, English Heritage and local residents managed to halt demolition in the Whitefield area of the town and the Council has now dropped all demolition plans.

The walk in the morning will take us to look at weaving mills along the canal, and through the terraced housing of the Whitefield area, led by John Miller of the Heritage Trust for the North West.

Higherford Mill, Barrowford

Barrowford is an older settlement than Nelson, as witness the two large 17th century houses, Bank Hall and the White Lion, and the many weavers’ houses. Higherford Mill was established as a water-powered spinning mill in 1824; a date-stone of this date appears on the present south wall of the mill. A steam engine was added in 1832 (this date appears on the detached chimney up the hill behind the mill), and power looms were installed about the same time, possibly in a weaving shed to the south of the site. A weaving shed was added to the north in 1844. Apparently the mill was damaged by fire around 1870, after which the present central portion of the mill was rebuilt as a three-storey warehouse with the water wheel in the basement.

It seems that the mill had ceased spinning by this date and in the 1880s both north and south weaving sheds were rebuilt and extended, a new steam engine being installed. By 1914 the water wheel had been replaced by a water turbine driving an alternator. Weaving ceased in 1971 and the building was put to alternative uses. In 1994 plans were put forward to demolish the mill and use the site for housing, but a local campaign succeed in getting the mill listed and it was acquired by the Heritage Trust for the North West in 1999 (and who now have offices there), who have developed the site for alternative uses and...
have an ambition to re-instate the water wheel. It featured on the BBC Restoration programme in 2006.

In Barrowford we shall visit Higherford Mill and the Pendle Heritage Centre at Park Hill, the former headquarters of the Heritage Trust for the North West. There shall be time to eat lunch and look at some of the hand loom weavers housing in the village.

Bankcroft Mill, Barnoldswick

Although in Yorkshire until the boundary changes of 1974, Barnoldswick and the neighbouring town of Earby were cotton weaving towns. In Barnoldswick a number of very large weaving mills were built after 1900, the last of these being Bancroft Mill. Work started on this in 1914 but was delayed by the First World War and the mill did not commence weaving until 1920. The mill followed the traditional pattern of weaving mill building in the area, consisting of a single storey weaving shed with a two-storey warehouse and preparation block, driven by a steam engine. With 1250 looms it was smaller than others in the area, most of which were room-and-power mills whereas Bancroft was owned and operated by the same company. When the mill ceased weaving in 1978 it was one of the few remaining steam-powered weaving mills in Lancashire. The weaving shed itself was subsequently demolished, but the engine house, boiler house, and chimney were saved and the engine is regularly steamed, as it will be for our tour. It is a 600hp cross compound engine built by William Roberts & Son at Phoenix Foundry, Nelson.

Roger Holden
TOUR J - WORLD OF GLASS (ST HEL- ENS) AND THE SANKEY CANAL

Tuesday 14th August 2007

Introduction

Map References: LR108, Ex275 (LR103, Ex286, Ex285)

Site Conditions: The Museum is a well paved visitor attraction with toilets available. The Sankey Canal; has reasonable footpaths a little rough in places.

Gazetteer references: Beyond the boundaries of the modern county of Lancaster but within the historic county (Ashmore 1982, 159-60)

St Helens

The Ravenhead area of what became St Helens is one of the more important industrial sites in the UK. Southern Lancashire had a number of glass-making enterprises using the local Shirdley Hill Sand during the 17th and 18th centuries. Coal was locally exploited and new Newcomen pumping engines were installed in the Prescot collieries almost as soon as they became available. But it was the exploitation of collieries in the Haydock area by Liverpool capitalists that led to the investment in the Sankey Navigation in the 1750s. The Ravenhead Branch (completed in 1777) allowed coal to be taken to Liverpool by boat instead of Turnpike Road. The network of Weaver and Mersey Rivers also allowed Flats with 60 tons capacity to carry loads both ways.

The first major trade was copper ore. In 1779 the industrialist Michael Hughes arrived in St Helens as the Lancashire controller of the Parys Mine Company and manager of the New Ravenhead Copper Works. This was followed shortly after by the development of glass, bringing salt from Cheshire to Ravenhead where coal and sand were convenient and cheap.

Until the late eighteenth century cast plate glass had been made only in France. In 1773 the British Cast Plate Glass Company was set up by Act of Parliament with a capital of £40,000. The company built a huge works at Ravenhead in 1786 and the first domestic plate glass was cast here. Plate glass was an expensive process to establish and maintain and there were never many establishments in Britain. The St Helens Crown Glass Company was established in 1826 and continued production till 1952 on the same site – renaming as Pilkington Brothers in 1849.

The World of Glass

The World of Glass is the title of a visitor attraction that opened in 2000 (see below). It was the culmination of almost a decade of planning and development as part of an urban regeneration initiative called Ravenhead Renaissance. By the late 20th century the industrial centre of St Helens was substantially derelict. As the coal industry of St. Helens disappeared in the 1980s there was considerable pressure to regenerate the town. Ravenhead Renaissance was a public and private sector consortium driven by St Helens Council. Much of the funding was from the EU, with UK Government assistance. The decision was taken to retain the Sankey Canal and develop around it, with a supermarket and a hotel constructed on its banks.

Perhaps following the success of the Albert Dock in Liverpool it was felt that a “visitor attraction” should be established to bring people into the ground. Accordingly the “Hotties Arts and Science Centre” project was developed. Pilkington’s decided to close their successful but increasingly mature museum at their Lakeside HQ in St Helens and the local authority took the opportunity to close the existing St Helens Museum and make the collections available.

The World of Glass is thus a registered museum with a curator and significant collections relating to glass and the development of the town of St Helens. During the development the emphasis on interactive arts and sciences declined but the centre retains elements such as a glass-blowing studio and an elaborate audio-visual show that would not normally be in a museum. The total project cost was in the region of
£15m with the newly formed Heritage Lottery Fund awarding a significant grant. It is an unusual build consisting of two new buildings with a five degree pyramid effect of the external façade, and the third main feature known as ‘The Cone’ building leaning at 15 degrees, all built utilising solid wall construction with Hydraulic Lime Mortar with a total of 500,000 bricks. A glass bridge over the canal links the new build to the historic tank furnace house (see left).

The project won its category for best structural use of brick at the 2000 Brick Awards.

The site of the Centre was extensively excavated in advance of development (see above). The site was extensively undermined by centuries of working the Ravenhead coal seam and was the site of a variety of industrial uses.

There were two main sites investigated. Initial documentary research undertaken by Lancaster University Archaeological Unit (LUAU) revealed the existence of a former iron foundry on part of the development site. Known as the St Helens Iron Foundry, and latterly owned by the Daglish family, the site had an international reputation for the casting and building of steam pumping and winding engines for the mining industry. It was particularly successful during the mid-19th century producing locomotives and bridges for the expanding railway network. The foundry was in continuous production from 1798, until its decline and eventual demolition in 1939.

The core of the 'Hotties' development is a Grade II* listed tank house (left). It is now the earliest remaining example of a gas-fired continuous tank furnace in Europe, and probably the oldest surviving example of a furnace using the Siemens regenerative technology for cylinder glass manufacture. The tank house was purpose-built by Pilkingtons in 1887 for the manufacture of window glass using the blown cylinder method; the cone house element of the complex still stands, and is an impressive Grade II Listed building. The investigations revealed the surviving base-level remains of a continuous tank furnace, with its regenerator chambers and gas supply flues still largely intact. The structure is therefore of key importance in understanding glass-making technology in the later-19th century. The 'Hotties’ site represents a landmark in the development of modern window glass manufacture, and the international reputation of Pilkington and St Helens, and is a unique survival from an age of rapid technological development within the glass industry.

**The Sankey Navigation or St. Helens Canal**

In the early 1770s the port of Liverpool was expanding and its labour force needed housing, leading to an increasing demand for coal for both the industries and domestic hearths. Unfortunately whilst coal was available in Wigan and Prescot, transport was difficult and expensive as the turnpike roads were in a poor state of repair and the amount of coal carried was restricted to the capacity of the panniers slung across a pony’s back. Further price increases caused such discontent in Liverpool that the Common Council began looking into the possibility of reducing costs by finding a water route between the coalfield and city.

Over the centuries many rivers had been widened, straightened, and deepened to make them more navigable, thus creating ‘Navigations’. Although coal could be brought from Wigan via the Douglas Navigation and round the coast, bad weather and rough seas caused problems. Since there was no major river linking Liverpool with Prescot, investigations revealed the Sankey Brook flowing from a small hamlet, round the chapel of St Ellen, southwards to meet the River Mersey near Warrington. Beneath the land around the chapel there was coal in abundance.
The Common Council commissioned a survey of the brook by John Eyes and William Taylor, a Bill was placed before Parliament, the navigation was authorised and work commenced in 1755. The Sankey, however, was a comparatively small stream; it wound about a great deal and its water supply was unreliable. The Engineer appointed to the contract, Henry Berry, was a local man from Parr and he was well aware of the problems. He took advantage of a clause in the enabling act which allowed ‘the cutting of any artificial channels which were considered necessary’ and cut a completely new channel from the Broad Oak area of St Helens to the Sankey Brook near its confluence with the Mersey, present day Sankey Bridges (see above).

In 1757 the canal which was to herald the beginning of the Industrial Revolution was opened to traffic, and coal prices in Liverpool fell dramatically. A number of extensions followed, in the north to Blackbrook, to Gerards Bridge, and finally to Ravenhead. Limited tidal access at
Sankey Bridges resulted in southern extensions, first to Fidlers Ferry and eventually to Widnes. The Common Council members were also businessmen, some being associated with the salt producing industry of Cheshire. Coal could now be taken down the Sankey ‘Navigation’, along the Mersey then up the Weaver Navigation directly to the salt boiling pans, thus reducing production costs. Many salt owners bought or leased pits around St Helens to ensure reliable supplies of coal for their saltworks. Other cargoes brought upstream included salt, sand, chemicals and metal ores, leading to the establishment of the town of St Helens with its alkali, copper, iron, and later glass industries.

The canal was a ‘broad’ canal, catering for vessels of length 72 feet, width 15 feet and draught 6 feet. Since it was a pioneer, there were no traditional ‘canal boats’. Instead the canal was designed to accommodate the coastal vessels of the day, sailing flats with masts. To allow the passage of these vessels, bridges had to be swung aside or lifted. During the early days the flats were pulled along by teams of men known as hauliers, but later horses or mules were used to bring the cargoes inland from the Mersey. Later vessels had engines and needed no masts.

The canal prospered for many years and shareholders received regular dividends. On the horizon however was a competitor, the newly developed railway. When the Liverpool to Manchester Railway was opened in 1830 its success encouraged a group of entrepreneurs to build the Runcorn Gap Railway from St Helens southwards to the Mersey at Widnes, opening in 1832.

As in other parts of Britain where railway companies were in competition with canal companies, a price war developed and eventually the two combined to form the Sankey Canal and Railway Company in 1844. A further short period of prosperity followed but competition from other rail routes and the take over of the SHC&RC by the LNWR in 1864 resulted in the decline of the canal as traffic was diverted to rail.

The last flats to reach St Helens passed through the New Double Locks at Pocket Nook in 1919 and the canal north of Newton Common Lock was officially abandoned in 1931. The Sankey Sugar Works was the last commercial user of the canal, bringing raw sugar up from Liverpool until 1959 when it went over to road and rail transport. The remainder of canal was officially abandoned in 1963.

From that time the course of the canal suffered ignominiously, some sections being filled in with building rubble and others with domestic waste. Swing bridges were rebuilt as permanent structures; compatible with road and rail levels but far too low to allow the passage of boats. Embankments were built across the canal carrying various types of pipe work, and pipes were even laid along the bed of the canal in places. The railway bridge carrying the Wigan to Liverpool line across the canal was replaced by an ugly embankment and the M62 was built across the canal to create the largest embankment of all.

What little that remained of the canal’s architecture fell into disrepair and the last lock keeper’s cottage was demolished in the 1970s.

Sankey Canal Key Sites

Spike Island

The last extension of the southern end of the canal, Site of sea locks, railway dock, remains of wooden sailing flats, chemical industry artefacts, boat marina and Catalyst Museum.

Fidlers Ferry

The first extension of the southern end of the canal. Site of locks, boat building yard, boat marina.

Sankey Bridges

Original point of entry of the canal into Sankey Brook and thence into the River Mersey. Site of swing bridges, (one survives) railway signal cabin and railway station. Lead Works buildings survive.

Hulme Lock

Lock chamber and by-wash channel partially excavated by members of the Society. Site of unique lock cottage with lower story below ground level. Includes room for washing, a well and an outside faggot oven. Interpretation board present. Nearby is the site of confluence of the canal with Sankey Brook, where the Brook’s waters flowed into the canal from the west and flowed through sluices on the east bank to continue, parallel to the canal, southwards to Sankey Bridges.
**Winwick Quay**


**Common Lock**

Site of Newton Common Lock chamber, partially excavated by members of the Society and Waterways Recovery Group. Foundations of the lock cottage also exposed for future development. Lock is in sight of the Sankey Viaduct carrying the Liverpool to Manchester Railway across the Sankey Valley. Adjacent to the site of Stephenson’s cottage where he stayed during the construction of the railway. A short walk beyond the viaduct lies Bradley Lock, a complete lock chamber in water with the canal filled in behind the top gates.

**Old Double Lock**

Properly known as a staircase, this pair of locks is the first of its type to be built in England. Original the northerly terminus of the canal lay downstream of the locks, carrying coal from local collieries down to Liverpool and the salt-fields of Cheshire. The locks allowed access to further pits along the Blackbook Branch whilst the main line continued towards the developing site of St. Helens town. Lock chambers were "cascaded" in the interests of safety.

**New Double Lock**

Similar staircase pair to number 7, built later to lift the canal to its highest elevation to access the collieries surrounding what was to become the town of St. Helens. Top lock chamber excavated by SoCiety members and Waterway Recovery Group. Remaining chamber excavated and both fully restored by St. Helens Metropolitan Borough Council.

**The Hotties**

Terminus of the canal since the Ravenhead Branch was filled in during 1898. It owes its name to the fact that Pilkington's Glass Factory extracted water from the canal for cooling purposes and returned the resulting hot water to the canal. Reputed to sustain a population of tropical fish. World of Glass and multi-storey car park occupy the site of Dagfish’s Iron foundry whose products survive around the world.

*Gordon Browne & Peter Keene*
TOUR K - AVIATION SITES AROUND THE PRESTON AREA

Tuesday 14th August 2007

Introduction

Map References: LR102, Ex286

Site Conditions: Includes working industrial sites, pavements and reasonable paths. Please note that photography at Warton is strictly forbidden anywhere on this site.

Gazetteer References: F06, F07, F45

The flat nature of the landscape of the Fylde and the lower Ribble Valley around Preston encouraged the development of a uniquely 20th century industry; aircraft production and airports. Manufacturing sites were established at Blackpool, Lytham (for seaplanes from 1917 to 1924) and Warton, although only Warton now survives. In terms of aerodromes the Fylde saw some of the earliest in Britain; Blackpool Squires Gate from 1908 and a few years later Stanley Park, whilst during the Second World War the airfields at Warton, to the west of Preston, and Salmesbury to the east of Preston were established. Of these, Warton is now a private aerodrome associated with the BAE Systems factory there, whilst Blackpool is a growing regional feeder airport. Sadly, the seaplane assembly hanger at Lytham was demolished in the 1990s.

To the south-west the sands at Southport were used by aircraft at the Hesketh Park Aerodrome from 1910 to 1966 and as a service base and for the assembly of Mosquito aircraft during World War II whilst the nearby Vulcan Motor Works at Cossens was used for aircraft assembly in World War I. Bankfield Shed in Barnoldswick in the Ribble Valley was taken over by Rolls Royce in the Second World War for the manufacture of jet engines and is still used for this purpose.

This coach trip will begin with a trip to BAE Systems Warton Airfield, passing on the way, Strand Rd, Preston, the site of the old Dick, Kerr/English Electric works, where trams, trains, locomotives, washing machines, Cookers and numerous other things were produced, as well as nearly 7,000 Aircraft (see below).

Next on route is Freckleton village, the site of
a serious wartime crash onto a school, which is still the worst civilian death toll from a military air accident. The Liberator bomber was trying to return to Warton airfield during a storm.

The Warton airfield was built in 1942 as a Base Air Depot for the American 8th Army Air Force. The tour will include buildings that have not changed much and also building developments from then till now. Unfortunately, it is not possible to go inside any buildings on this occasion but your guide will tell you what goes on in them and we will probably see some aircraft.

From Warton we go to Blackpool’s present airport, Squires Gate, travelling through Lytham where flying boats were assembled and tested until 1926. Before arriving at the WWII shadow factory we pass Blackpool’s growing airport terminal buildings.

We shall go inside what was the Vickers Armstrong factory, where over 3,000 Wellington bombers were built during WW II and where Hawker Aircraft later built many Hunter jet fighters. We will be shown some of the features of the factory and the work done there today, by courtesy of Steve Crossley, manager of Arvin-meritor A & ET Ltd. Photography is permitted provided permission is sought and given at each location.

Then we travel to Blackpool’s earlier airport, Stanley Park (by courtesy of Jude at Blackpool Zoo).

The airport buildings (below) still look much
the same as when they were built, two of them in 1931, the ones between them, in WWII. The unusual position of the ‘Control Tower’ – on top of a hangar/club house, will be seen from ground level.

From Blackpool we travel to BAE Systems Samlesbury site (see above), for a buffet lunch in the Pendle Room, where we shall hear more about Samlesbury from Bob Keyburn, our sponsor there.

You can take photographs of the two ‘Gate Guardian’ aircraft as we approach the site entrance but there must be no photography on the site so after lunch, please leave cameras, including cameraphones, on the coach. Also, mobile phones should be switched off within factory buildings.

Bob will take us on a tour of the High Technology Machine Shop and the Eurofighter Typhoon front fuselage build facility.

After we leave the premises comes your final chance to photograph the two aircraft as we return to Preston.

Brian Tomlinson
TOUR L - ROSSENDALE VALLEY AND EAST LANCASHIRE RAILWAY

Wednesday 15th August

Introduction

Map References: LR103, LR109, Ex287, OL21 (LR102, Ex286)

Site Conditions: The East Lancashire Railway is a working steam line. Elsewhere, reasonable paths, a little rough in places.

Gazetteer references: R52, R54, R59

The Rossendale Uplands

Modern south-east Lancashire is defined by the Rossendale Uplands, and the tour will pass through the outskirts of Blackburn the gateway to this area. Blackburn has a long tradition of textile manufacture, and was noted for its fus-tians (originally a linen-wool mix) in 17th century and its grey cloth (a type of fustian which by this date was a cotton-wool mix) in early 18th century. Little is left of this domestic industry and the vast majority of the remains around the town date from the high industrial period of the 19th century and steam-powered mills can be found along the Leeds and Liverpool Canal (opened through the town in 1810 with an important wharf at Eanam). A specialisation in cotton weaving from the 1840s. At its peak around 1914 more than 100 mills were working in the town.

The Rossendale Uplands to the south-east of Blackburn are defined by the steeply sided valley of the River Irwell and its tributaries Holden Brook, Limy Water, and Whitwell Brook. Along the valley are a number of significant textile towns, the two largest of which are Bacup and Rawtenstall.

Bacup had water powered mills as early as the late 18th century and with the arrival of the railway in the 1840s steam powered mills became common. In the late 19th and 20th centuries the town diversified into felt, slipper and shoe-making, re-using former cotton mills.

Rawtenstall is an entirely new 19th century industrial town serviced by the East Lancashire Railway’s line to Bury, which still functions as an enthusiast’s steam railway. The town retains a number of large stone-built mid-19th century mills and weaving sheds, the most impressive of which is Ilex Mill, as well as traces of the domestic industry such as the late 18th century proto-factory known as the Weavers’ Cottage. In the late 19th and early 20th centuries it became prominent in the development of felt, slipper, and shoe manufacture. On the eastern side of Rawtenstall is Waterfoot, another textile town which became the centre of the growing felt, slipper and shoe industry in the same period. By 1900 there were 13 slipper firms in the town, and the industry also stimulated the growth of ancillary trades, such as cardboard box making, rubber processing, quilting and leathercloth making.

At the eastern end of the valley are Facit and Whitworth cotton and quarrying townships north of Rochdale, with housing strung out along line of the Spodden valley and the road to Bacup. The Lancashire and Yorkshire Railway line from Rochdale to Bacup was opened to Facit by 1870, and throughout by 1881 and helped to service more than 20 gritstone quarries, the largest of which were Britannia and Facit. These lie on the western side of the valley between Bacup and Facit, and are amongst the largest in Lancashire, and supplied building stone for many of the rapidly expanding Lancashire cotton towns in 19th century.

Weavers’ Cottage, Rawtenstall

This is a three storey, single depth, stone-built
handloom weavers’ proto-factory built in the late 18th century. The upper two storeys contain workshops and externally the southern elevation has long stone mullion windows grouped in six pairs of three.

The surroundings of this building can still be interpreted to demonstrate the growth of industry in this area. The ‘cottage’ itself has gone through many changes, from workplace, to housing, to threatened slum, to Listed Building. Currently owned by Rossendale Civic Trust, it houses a cloggers shop, 19th and early 20th century kitchen equipment and, on the top floor, a re-created loomshop with two working hand looms. Around the walls are pictures illustrating the growth of the town and many of the local buildings. The cottage itself has a very unusual façade consisting almost entirely of triplet mullioned windows, and retains most of its original timbers.

Ilex Mill, Rawtenstall

A huge integrated cotton spinning and weaving complex constructed in 1856 on northern bank of the River Irwell. It was later used for slipper manufacture and cotton waste spinning but was recently converted into flats. The complex comprises a five storey spinning range with integral engine house and half basement; a five storey storage and preparation range with an internal hoistway built over a private siding from the Lancashire and Yorkshire Railway; a three storey combined warehouse and office range; a single storey weaving shed with a later second storey addition along its southern edge; and a large detached octagonal chimney.

East Lancashire Railway

The East Lancashire Railway celebrates its 20th anniversary in 2007. The current line runs from Bury in the south up the Irwell Valley to Rawtenstall with a branch line eastwards along the River Irk to Heywood. The line originally ran to Bacup and was opened in the 1840s. It closed in 1972 but the first stretch was re-opened by the east Lancashire railway on the 25th July 1987. In 2006 the railway carried 120,000 passengers, running several steam engines including two tank engines, No 70 ‘Manchester Ship Canal’ and No 140 ‘National Coal Board’.

The current northern terminus of East Lancashire Railway’s line is at Rawtenstall station opened in 1846, and closed 1972. The platform buildings and track have been restored by the East Lancashire Railway (above). The bridge over the River Irwell has also been rebuilt, although the adjacent railway warehouse is original.

Ramsbottom Mill, Ramsbottom, Greater Manchester

Once the most powerful water and steam powered mill in the valley Ramsbottom Mill was built in 1802 by Samuel and Thomas Ashton, who rapidly expanded it to include both spinning and weaving on the site. The Irwell Reservoir Scheme Survey indicates that by 1833, it was the most powerful and productive water and steam driven mill in the Irwell Valley, north of Radcliffe. However, it closed so long ago that few local residents are aware that it existed, even though six of the original buildings still stand. Except that the machinery has been removed from within them, the two-storey weaving shed and small warehouse are in their original condition and other buildings have had only slight modifications. The remains of one of the engine houses with its huge stone mounting blocks also exist.

We are fortunate to have two very detailed accounts of the mill dated 1833. The Tottington
Lower End Poor Rate Assessment listed all the buildings, and so we know that the mill then consisted of four power-loom shops, a lime house, sizing house, scutching room, weft room, several store rooms and a blacksmith’s shop. There were also three steam engines with their boiler houses and gas house. Other cottages were also listed and the presence of an apprentice house indicates that the Ashton’s were still using child labour at this time.

The second record from 1833 was The Irwell Reservoir Scheme survey, which included details of all the factories in the valley from north of Bacup down-river to Radcliffe and Farnworth. This showed that Ramsbottom Mill was by far the biggest of them all, using water and steam to produce a total of 183 horse-power. Two of the water-wheels measured 15 ft in diameter and 10 ft wide and the third, less powerful, was 16 ft in diameter and 6 ft wide, between them all producing 50 hp. These wheels were in the northwest corner of the site, where their water supply fell about 10 to 12 feet from the reservoir to the mill floor, though the wheel pits may have been deeper. Whilst Ramsbottom Mill’s water-wheels have long since disappeared, a wheel of considerable size can be seen in the Helmshore Textile Museum.

The Irwell Reservoir Scheme shows that the power from the water wheels was dwarfed by that of its three steam engines. Together they produced a total of 132 hp, far greater than any other mill listed in the Irwell Reservoir Scheme survey. One engine assisted the 10 foot wide water wheels and with a second engine these drove 430 fustian looms and powered the dressing processes. The most powerful engine, at 72 hp, drove another 470 fustian looms and other machinery. From 1802 throstle spinning machines

The weir across the Irwell and tailrace next to Ramsbottom Mill
developed from Arkwright’s water frame, would have been used, but the weaving would have been put out to handloom weavers until the 1820s when steam power looms became popular throughout the industry.

Although the Ashton’s continued to prosper for another 30 years, they eventually became bankrupt and the mill was sold in 1867. Gradually over the years the mill changed its use from the cotton industry to other activities including warehousing, and buildings in the centre of the site were later demolished.

The diagram shows what can still be seen of Ramsbottom Mill with its two storey-weaving shed and small warehouse (in original condition, but with machinery removed), two other buildings still used for light industry, the apprentice house (now three dwellings) and the remains of one of the engine houses.

The ground floor of the two storey weaving shed has flag flooring and narrow jack arch fire-proof vaulting (similar to that found in the 1860s railway warehouse in the Museum of Science and Industry in Manchester). The first floor has a north light roof with ventilation holes with hinged wooden doors at one end of the building.

Whilst there is some evidence of original roof beams, they had mostly been replaced along with the cast iron pillars. There is no evidence of a power source within this building, but there is, what appears to be a drive shaft box on the first-floor side wall. This is unusual and suggests that the motive power came from outside the building, which sometimes happened on a mill site with a problem of space. It is possible that an overhead, exposed, power shaft might have come from an engine house in the courtyard.

There were three engine houses in the mill and part of one of these still exists. There are two rows of very large mounting blocks for the steam engines, with each block being just over 1 metre wide. The size of the blocks suggests that there were from the 1840s or 1850s and were therefore unlikely to be from the original steam engines. There were probably two upright beam engines, which would have been unusual, each engine having a low-pressure cylinder. The fly-wheel might have been up to 5 metres or more in diameter.

Features of the water supply to the mill still exist. There are remains of the 1802 weir across the River Irwell just below Stubbins Bridge, the goit, the large reservoir and the dam, which was 12ft to 15ft high above the mill floor. The tailrace re-entered the River Irwell in the middle of Ramsbottom (see left).

Existing properties built by the Ashtons include some of the houses in Crow lane, shops on Bridge Street, St Paul’s School building (now converted into housing) and St Paul’s Church.

The mill site can be reached from the M66 by following signs into Ramsbottom, over the level crossing and 2nd right into Crow Lane. The two buildings in original condition belong to Joshua Greaves and Son at the end of Garden St.

Michael Nevell & Kate Slingsby
TOUR M - THE LEYLAND COMMERCIAL VEHICLE MUSEUM AND ROF CHORLEY

Wednesday 15th August

Introduction

Map References: LR108, Ex285 (LR102, Ex286)

Site Conditions: The museum is based adjacent to an industrial site, but is a well paved area. Otherwise reasonable paths, a little rough in places.

Gazetteer references: WL32, WL37

The sites we will visit on this tour are but a few of the large number of industrial archaeology remains in West Lancashire, south of the River Ribble. This brief overview is but a taster of just how much and how varied the Industrial Archaeology of this area is.

The Leyland Commercial Vehicle Museum

The first stop of the tour is the Leyland Commercial Vehicle Museum. The museum was formed in the 1980s in order to bring together, under one roof, a number of historic vans, trucks and buses then under various ownership. A former Leyland Vehicles’ factory building situated on King Street in the centre of Leyland was provided to house the vehicle collection and a large quantity of archive material.

The museum is owned and managed by the British Commercial Vehicle Museum Trust, a body which has full charitable status, whose central objective is to preserve for future generations vehicles of special significance in the development of the British Commercial Vehicle industry.

The Museum has been dedicated to preserving the physical evidence of the history of the road transportation industry in the United Kingdom. The collection has been classified as being of outstanding national importance. It is the UK’s only heritage collection of such vehicles and archives, and it reflects the growth of British road transportation from 1896 to the present day.

The Trust’s Archive contains a unique collection of drawings, literature, historic photographic and film material formally retained by companies within the Leyland Vehicles and other manufacturing groups. The Archive also contains a photographic collection consisting of thousands of negatives and prints dating back to the early 1900s.

The whole manufacturing site contains some fine 20th century office building and an extensive range of engineering shops for the lorry works which developed by James Sumner from 1892 onwards. The Lancashire Steam Motor Company produced steam lorries from 1897 to 1926. The site also produced the first petrol lorry in 1904, and first double-decker bus in 1905. The complex was later known as Leyland Motors and much of the site is still a manufacturing centre, now run by Pacar Ltd who assemble lorries.

The Lancaster canal and Tramway

The Lancaster Canal Company was formed in 1792, following proposals that a canal between Lancaster and the Wigan Coalfield’s would be of great benefit to the industrialists and the town of Lancaster and beyond, to Kendal, by transporting bulk loads of coal from the collieries by boat. From the north Limestone would be carried to the south for use in building and agriculture.

The appointed engineer for the work was John Rennie, whose aqueducts and ‘cuts’ for the canal itself, followed as much as possible, the contours of the land. This greatly reduced the number of locks which had to be constructed along the route. Between Preston, the south end of the northern section, and Tewitfield’s eight locks, to the north of Lancaster is a distance of 41 miles. This is the longest stretch of lock free canal in the country and was opened in 1797.

Also north of Lancaster magnificent stone aqueduct 660 feet long, carries the canal at a height
of 50 feet above the River Lune. The canal cutting arrived in Kendal in 1819. In 1826, a branch from the main canal was constructed to Glasson Dock, connecting the canal to a seaport. The total mileage between Preston and Kendal is 57 miles. The River Ribble was the biggest problem encountered by the canal engineers, due to the height between the banks of the river varying greatly. In addition to this, the river itself had been known to flood large areas of the land to the south, which presented yet another problem.

South of the River Ribble, the canal itself had a northern end of the southern section. This was located some five miles south of the Ribble at a place called Walton Summit, in the township of Bamber Bridge.

At Walton Summit, a dock was built with three ‘arms’, plus warehouses. For the boats not only carried coal to the north and limestone to the south, but loads of ‘general cargo’ were carried as well. The wide canal barges could carry 50 tons of coal, and were 70 feet long by 14 feet wide. This coal had to be unloaded at Walton Summit Basin, and loaded into wagons, to be transported to Preston.

The Basin at Walton Summit was connected, as a temporary measure, to the basin at Preston by a horse drawn tramway which opened in 1803.
Chorley Textile Mills

During our tour we will briefly visit two mills and see others en-route.

The first mill was one which only ceased production a few years ago, but had its origins circa 1790. The mill was allegedly only the second cotton factory built in the Preston area by John Watson one of the pioneers of the cotton manufacturing business in the Preston Area. He employed large numbers of orphan children in the mills he owned. After 1807 following the collapse of his business, the mill was run by several owners between 1807 and 1850.

The factory was rebuilt and enlarged in 1860 under the ownership of Edmund Cockshutt. Further extensions and additions during the later 1800s took place, and in the early years of the 20th century. The site was acquired by Messrs Vernon & Co, manufacturers of surgical dressings in 1910, when bleaching operations were increased. By 1914 the factory was making Cotton Wool, Bandages, Gauze etc, all essentials at this time in view of the war.

The 1930s saw the factory still providing similar materials as well as hospital surgical requirements as it did up to closure in circa year 2000. It is of interest to note that the factory itself has its own community of cottages close by it, most of which are still occupied. We cannot unfortunately enter the factory but some of the external features are well worth the short visit.

The second mill we visit is in Coppull, and one of those built in the often quoted ‘post zenith’ era of the cotton manufacturing business. This is a former spinning mill called Coppull Ring Spinning Mill. It was built in 1906 to the design of Messrs Stott and Co Architects. The mill ceased production during the 1960s and its steam engine by J E Woods was scrapped, despite its ‘immaculate condition’. The mill is used by many independent units today. It is also a Listed Grade Two building. We will walk around the outside of the mill.

ROF Chorley

ROF Chorley is a shell filling factory built in the late 1930s and originally covering 928 acres, making it at the time the largest such factory in the world. Now most of the site has been closed and most of the concrete storage magazines and process buildings demolished to make way for housing. However, part of the site is still used for munitions and three of the 1930s office buildings, concrete and steel framed flat-roofed multi-storied structures with steel-framed windows, also survive along the northern side of Euxton Lane.

Building started at this 1000 acre site in 1937. By 1939 it was officially opened by King George VI. During the war years some 40,000 were employed on three shifts seven days a week. The factory was the biggest Explosive Filling Factory in the country, its main production being a large variety and calibres of bombs and shells. It was the factory which filled the ‘Dam Buster Bombs’.

Around three-quarters of the factory close dint he late 1990s and is currently being redeveloped. The rest is still producing detonators, but is due to close later this year. The tour will drive through the site.

Jack Smith
TOUR N - BURNLEY WEAVERS' TRIANGLE AND QUEEN STREET MILL

Thursday 16th August

Introduction

Map References: LR103, OL21 (LR102, Ex286, Ex287)

Site Conditions: Well paved street paths. Includes a walk on town streets. Queen Street Mill is a well paved visitor attraction, (with toilet facilities available).

Gazetteer References: BU12, BU15, BU16, BU17, BU19, BU20, BU22, BU23

Introduction

Burnley was a late medieval village which in the 17th and 18th centuries became a market centre and the focus for domestic woollen manufacture. Three storey stone-built weavers’ cottages were once common around the town, as for instance at the small weaving community of Lane-bottom, but these have now nearly all disappeared. The earliest water powered cotton spinning mills were along the Rivers Brun and Calder which run through the modern town centre. Burnley changed over to cotton spinning in first half of 19th century, and this coincided with a rapid growth in the town’s population so that it grew to be come the chief urban centre of the Upper Ribble Valley. After 1850 Burnley came to specialise in the weaving of cotton fabrics, hence the preponderance of single-storey sheds in the urban landscape. The Leeds and Liverpool Canal runs east to west through the town and was a major factor in the location of industry in 19th century Burnley. Along the eastern side of the embankment, a major landscape feature in its own right, there grew up a dense concentration of weaving mills, but the most dramatic canal-side textile landscape can be found in the area now know as The Weavers’ Triangle. This is an area north and south of the Leeds and Liverpool Canal between the Manchester Road Wharf, a striking grouping of multi-period canal warehouses, and Westgate. Ancillary industries such as engineering and warehousing have also left their mark on the town. Burnley was also an important coal-mining area. There were 12 collieries working around the town in 1900, and six as late as 1950, although now like most of the rest of the Lancashire coal field there is virtually nothing left above ground.

Weavers’ Triangle, Burnley

The Weavers’ Triangle is a modern name for an area astride the Leeds and Liverpool Canal at the heart of Burnley’s textile industry.

The name was first used in the 1970s, as interest developed in preserving Burnley’s industrial heritage, and refers to the roughly triangular shape of the region.

If you explore the area, you will still find many buildings from the days when the town led the world in the production of cotton cloth. A largely unbroken sequence of weaving sheds and spinning mills encloses the canal, making this one of the finest surviving Victorian industrial landscapes in the country.
The area contains many other historic buildings - foundries, warehouses, domestic buildings and a school. Of particular interest is Slater Terrace - an unusual row of eleven houses above a canal-side warehouse. The Weavers’ Triangle Visitor Centre is located in the former Canal Toll Office and the Wharfmaster’s House at Burnley Wharf. Adjacent to the Toll Office is the large canal warehouse with its canopies still in place over the towpath.

Oak Mount Mill lies just off the Leeds to Liverpool Canal within the Weavers’ Triangle. It started in 1830 and continued to produce cotton cloth until 1979, making it one of the last in Burnley to close. It still has an imposing circular plan stone chimney but the boilers are gone. However, the steam engine has been restored with financial help from the Heritage Lottery Fund and the Science Museum PRISM Fund. It is now operated by an electric motor.

Queen Street Mill Textile Museum, Harle Syke, Burnley

Queen Street Mill was built in 1894/5 and it was the last commercial steam powered textile mill in Lancashire when it closed down in March 1982. Now we believe it to be the only surviving mill of its type (with original working machinery) in the world.

There are over three hundred Lancashire looms still arranged as they were commercially operated up to closure. The looms are by two Burnley manufacturers; Harling & Todd and Pemberton and they have remained essentially unaltered since they were installed over a hundred years ago. Queen Street Mill’s commercial output was mostly “grey cloth”. This relatively straightforward product allowed the Mill to operate with six loom weavers (that is one weaver looking after a set of six looms). As a result most of the looms in Queen Street Mill are laid out in sets of six, but there are some eight sets, and some ten sets, each of which had a distinct, and different, purpose.

Queen Street Mill was always operated as a Workers’ Cooperative. This, and another alternative, Room & Power, may be less familiar to those used to wholly conventionally capitalised industries.

The Lancashire looms are driven by flat leather belts from cross-shafts, which are in turn driven
from a first motion shaft directly coupled to the crankshaft of the 500hp (375kW) horizontal tandem compound condensing steam engine called “Peace”. Each cross shaft rotates in the opposite direction to its immediate neighbour presenting the spectator with lines of crossed, and un-crossed, leather belts. The reason will be explained during the visit when the over 100 decibel din of the weaving shed in action has subsided.

There are two Lancashire boilers in the boilerhouse, one dating from when the Mill was built in 1894/5 and the other dating from 1901 when the weaving shed was completed to its present size. Both boilers are by Tinker Shenton of Hyde in Cheshire and both were converted to mechanical stokers by Procter of Burnley in 1960’s. Currently “Peace” is steamed by the 1901 boiler which we have returned to its original hand-fired form by removing its Coking Stokers. The 1894/5 boiler is not in commission and for visual comparison purposes it has been left in its 1960’s form with its Procter Spring Shovel Stokers still in place.

Feedwater for the boilers is delivered by a Weir steam pump installed in 1956 to replace a pump driven directly from the engine. The feedwater passes through a 120 tube economiser made by Green of Wakefield and installed in 1901.

“Peace” was built by the local firm William Roberts of Nelson. Originally a slide-valve engine it was rebuilt with eight Corliss valves just before the First World War. Some two years ago we had all the Corliss valve chambers re-bored and new Corliss valves manufactured. This appears to have been the only really large scale refurbishment work carried out on the engine since its conversion to Corliss valves some 95 years ago.

When it closed it was bought by Burnley Borough Council with a view to it becoming a heritage attraction and a source of employment for a range of crafts-people, many of whom, it was hoped, would be engaged in textile-related crafts. Since Burnley Borough Council was heavily committed to heritage provision at Towneley Hall it contracted the management of Queen Street Mill out to Pennine Heritage, a charitable trust based in Hebden Bridge. During the early 1980’s about half the Lancashire looms in the weaving shed were scrapped and/or disposed of and the shed was reduced in width but using appropriate materials to make the alteration very difficult for visitors to pick out. One area of the empty shed thus separated was turned into about eight units of varying size for craft persons. The other area of empty shed was converted into visitor reception space with café facilities, toilets, and a small shop.

In this form Queen Street Mill was officially opened for visitors by HRH Prince of Wales in April 1986. Before the end of the 1980s Pennine Heritage sought to withdraw from operating the Mill and seeing the threat the Director of the Science Museum in London (Neil Cossons) convened a meeting in 1989 to discuss the future of Queen Street Mill. After lengthy negotiations it was agreed that ownership of the Mill would be transferred to Lancashire County Council who would operate it as part of Lancashire County Museum Service. Approximately £1m of non-county Council money was made available to improve the fabric of the Mill. While much remains to be done the Mill has been open to the public under LCMS management since May 1997.

Ian Gibson & Brian Hall