

**AIA Conference – Derbyshire – September 2005**

**Visit Notes**

<b><u>Day</u></b>	<b><u>Visit Ref</u></b>	
<b>Saturday 3<sup>rd</sup> September</b>	<b>A</b>	<b>Swadlincote Potteries</b>
	<b>B</b>	<b>Belper Mills and Strutt housing</b>
	<b>C</b>	<b>Heage Windmill &amp; Morley Park Ironworks</b>
<b>Sunday 4<sup>th</sup> September</b>	<b>D</b>	<b>Derby Railways</b>
	<b>E</b>	<b>Long Eaton &amp; Shardlow</b>
	<b>F</b>	<b>Darley Abbey and Derby Mills</b>
<b>Monday 5<sup>th</sup> September</b>	<b>G</b>	<b>Peak District Lead</b>
	<b>H</b>	<b>Caudwells Mill &amp; Hope Cement Works</b>
<b>Tuesday 6<sup>th</sup> September</b>	<b>J</b>	<b>Cromford &amp; Matlock</b>
	<b>K</b>	<b>National Stone Centre and CHPR</b>
<b>Wednesday 7<sup>th</sup> September</b>	<b>L</b>	<b>North East Derbyshire</b>
	<b>M</b>	<b>Erewash Valley</b>
<b>Thursday 8<sup>th</sup> September</b>	<b>N</b>	<b>South Derbyshire</b>

### Sharpe's Pottery

Thomas Sharpe, a local farmer, started his pottery in 1821, one of half a dozen pot-banks founded at that time. He used the good clay available in South Derbyshire and made domestic ware. Colour (acid), white glaze and blue (alkali) wares were made and were soon being exported. As customary, a long central workshop was flanked by a kiln at each end, for biscuit and glaze firings respectively. There was great demand for toilet bowls and sinks in the 1850s – the flushing rim pan principle still used today was patented by E Sharpe. A new works was built in the 1850s with another pair of kilns (demolished 1906). There was further development in 1901 across West Street, that site later passing to Burton Co-operative Society, who have since sold part of it; the curved facade of the car parts shop on the corner betrays a former kiln. Sharpe's ran a maximum of six kilns at any one time. The pottery was an adjunct to Ragg's pipe works, which made and widely exported brown sewerage and telephone conduit pipes. Exporting to Europe and further afield started in the 1860s, including the contract for the first sewerage system for Buenos Aires. The Household Closet was a major product, complete with rim-flush and numerous alternative pipe arrangements, unlike today's standardisation. Some decoration was by transfer, some was painted.

Latterly, washbasins and all other bathroom pottery items, except baths, were sold as Chinaston Ware to 27 countries and were also supplied to Thomas Crapper Co (who still supply repro toilets and washbasins and restore old ones – at a price). The museum contains a Bombay Pan, a flush squatting-toilet for installation flat with the floor, of particularly robust construction for use in Changi Jail, Singapore. Manufacture used both slip and pressings and, after much negotiation, the Trust hopes to gain possession of the iron moulds. The clay was local and gave a yellowish colour; Albert Village, basically one street with a cross street, had an enormous clay pit at each corner of the village. Clay was also mined at a depth of 100 – 150 ft, above the coal seams, which start at 300 – 400 ft. Sharpe's mixed their own cobalt, lead and other salts for colour glazes. Mocha Ware, with its coloured patterned bands on a white body, was basically a South Derbyshire invention which was later copied elsewhere.

In the 1950s the Clean Air Act prohibited continuance of coal firing. The pottery changed to top-hat electric kilns, placed by crane over racks of product. The process was semi-continuous, one rack being fired while others were loaded and unloaded. The bottle kilns were demolished but one kiln hovel survives on site because it had been converted to a warehouse by demolishing its inner kiln and bricking-in the top, despite the tapered shape admitting rain; the base of another is picked out in brickwork. Sharpe's pottery closed in 1967 and after a major fire in 1974 the site gently decayed. In the early '80s part of the then-derelict site was listed as a historical monument and has been done up in the last ten years.

### The Common

The Gresley family had long been landowners in Castle Gresley and Church Gresley villages a couple of miles west of Swadlincote. Gresley Common is a mile south of Sharpe's Pottery and ½ mile north of Albert Village, just over the Leicestershire border.

The common stands high and is now neatly grassed. It is dominated by an artificial ski slope sculpted from the tip of a former colliery, served by the railway loop. In the 18<sup>th</sup> century the Gresleys came to realise the land's economic worth and leased out its pasture, clay pits and coal mining to different parties, also taking rent from firms squatting on the edges, but without recognising their security of tenure.

Following extensive clay and coal working, in the 1920s the north side of Common Road was the first part of the common to be re-laid as an amenity. The adjacent sewerage pipe works is

still in business, with piles of grey clay weathering in the open air, but the large site appears not to be intensively exploited. Much the same could be said of T G Green's site next door, which contains Grade 2 listed bottle kilns and other old buildings. This very old firm, originally squatters on the common, is on the John Street extension of Pool Street and manufactures domestic pottery. This area has seen its profile dramatically reshaped by successive rounds of coal and clay extraction to the extent that the current contours bear no resemblance to those of over 2 centuries ago. At the southern edge of the area a group of potteries survive still producing sanitary ware and earthen ware including Greens characteristic blue and white striped Cornish ware. These works incorporate 5 surviving bottle kilns. The drive into Swadlincote passes the currently sadly derelict showroom of the Bretby Art Pottery.

**Saturday 3<sup>rd</sup> September      Visit B      Belper Mills and Strutt housing**

### **Belper North Mill**

Jedidiah Strutt, who founded the mills at Belper made his initial fortune by the invention of the Derby Rib attachment, this enabled framework knitting machines to produce ribbed fabric which had more elasticity and was more suitable for the production of hosiery. He acquired a patent for the 'Derby Rib Attachment' in 1759. It was his involvement in the hosiery business which led him into yarn production as he came to realise that to make good quality hose, good quality thread was essential and he set up a silk mill in Derby.

In 1770 Richard Arkwright was looking for someone to invest in his cotton spinning venture and Strutt and Arkwright became partners. They quickly realised that a more efficient power source than horses was needed and in 1771 they bought land at Cromford to build the worlds first water powered cotton spinning mill. In 1776 Strutt began buying land at Belper to build his own mills and in 1781 when the partnership with Arkwright ended he also bought land at Milford, (2 miles away) and built more mills there and created factory communities for his workers at both Belper and Milford.

In Belper his North Mill of 1803/4, originally powered by the waters of the Derwent, is one of the oldest fire proof mills surviving and replaced an earlier mill of 1786 that was destroyed by fire. It is of brick construction with cast iron columns and transverse brick arches sprung off cast iron beams, the voids in the arches being filled with hollow fired clay pots to minimise the weight. Adjacent to it is the East Mill of 1912, built to a typical Lancashire mill design, provides a startling contrast of 130 years of cotton mill development. The North Mill, a grade 1 listed building, is part of the Derwent Valley Mills World Heritage Site. Strutt originally built a complex of six mills on both sides of the road in Belper. The mills were for many years used for the production of sewing threads by English Sewing. All of the other Strutt mills were swept away when the new West Mill for synthetic yarn production was built in the 1960's. This finally closed as a hosiery production plant this year. The arch built to connect the two mill complexes on either side of the road still survives.

Adjacent on the River Derwent is the great weir complex built in 1796/7 to power the mills. Water power is still in use on this site with two turbines generating power for sale into the National Grid.

### **Strutt Housing**

Strutt developed several areas of housing for his work force. Long Row of 1792/3 has a substantial stone built terrace on its north side which is complemented by a later brick terrace on the south side. In Short Row there is a group of three terraces probably dating from c 1790. The clusters of 1803 were built for more senior staff with four houses in each block. The other streets in this area are named William, George and Joseph Street after Jedidiah's sons. In Joseph Street there is a surviving nail maker's work shop. In the 1840's the local nail making industry employed over 600.

### Morley Park Ironworks

The two blast furnaces of the former Morley Park Ironworks are substantially the earliest surviving blast furnaces in the county. Ironworking and shallow coal working had taken place on the site from the Tudor period at least but the first blast furnace on site is traditionally dated 1790, although this is unsubstantiated Hurt family testimony, Francis Hurt of Alderwasley being responsible for developing the site around that time. Because of the lack of certainty over the precise date and the lack of evidence from the early years of the operation, it is a matter of conjecture whether the first furnace was operated by a steam engine from the start or whether there was a short period of water-powered operation. This proposition looks highly unlikely nowadays, but the topography of the site has been altered radically by opencast coal mining in the relatively recent past.

The earlier of the two furnaces is the northern one, built in 1818, which is in turn a rebuild of the original c.1790 furnace. Although it ostensibly looks older, the southern furnace dates from about 1825. The works remarkably continued in operation until the 1870s given its isolated site, modest scale and technological backwardness. It is generally assumed that it had a small niche market but lack of any surviving business records makes it difficult to ascertain the precise nature of the business in later years.

### Heage Windmill

The squat, coal measures sandstone building is 24' in diameter and has a stone plaque by the entrance door marked 'WSM 1850', the significance of which is not clear. The mill is built on a small mound and an entrance below could have enabled carts to back right up to the building for loading and unloading. The first indication of the mill is in an advertisement for a tradesman in The Derby Mercury of 16th June 1791,

'Heage windmill to be erected, any mason inclined to undertaken the stone building to attend at the mill, all materials laid down in place.'

*(Note. We have subsequently learnt that the actual stone for the mill was quarried on the site – we found large quantities during the restoration work!)*

and soon after, ( 20/9/1798)

'To be let - complete smock mill with fantail, two pairs of stones, good dressing machine - made to plans approved by Mr. Wass - standing in good situation at Heage'

The mill was advertised in the Derby Mercury, 1816, offering for lease in Nether Heage 'a dwelling house, a smock mill and four acres of land'. However, tower mills were commonly called smock mills in Derbyshire and note should be taken of the above request in 1791 for a mason to build the mill!

There was a small stone building alongside the mill which was used for the drying kiln, and one report suggests that a woman who entered the kiln to turn the corn was burnt to death when her clothes caught fire! However, before the restoration of the mill in 2002, the roof had fallen in and only the shell remained. The kiln has been rebuilt and is now the Visitor Centre.

In 1850 the two brothers Isaac and Joseph Shore purchased the mill, trading as millers and grocers. At this time the mill was fitted with four patent sails, with shutters rather like venetian blinds, worked by the striking rod which went through the windshaft. It operated in this form until

February 1894 when the cap and four sails were blown from the mill in a violent storm. A contemporary photograph shows a man, presumably the miller standing on the wreckage of the sails in front of the mill and the brake wheel protrudes from the top of the tower.

When the rebuild was commenced it was decided to replace the four sails with six patent sails, presumably to obtain more power, although in other respects the mill was externally similar. The work was carried out by George Chell, a millwright from nearby Fritchley, where a house in the village carries a plaque bearing his name and Trade.

The mill continued to be in regular use until 1919, operated by Joseph and Enoch Shore, the sons of Thomas and later by T.J (Tom) Shore. It in fact worked in conjunction with the nearby water and steam mills in the valley to the west of the windmill which were under the same ownership. However in 1919 the fantail was severely damaged in a gale, most of the blades being lost. The damage was serious and presumably in line with the economic situation of mills at that time, the mill closed down.

It became almost derelict, drawings and photographs in the 1930's showing it with the sail bars hanging down in a totally neglected manner. A report in the Derby Evening Telegraph in 1934 reports that the mill was up for sale by auction and includes a contemporary photograph showing that the fantail was missing and that the sails were not complete. Care was needed it was said when entering the mill because some of the floors were rotten. The view, taken from the nearby road, shows the adjacent Windmill Cottage and mill standing in an area completely devoid of the trees and vegetation which presently surround the site. Karl Wood painted the mill in 1932, standing without the fantail and with the derelict kiln alongside.

It was struck by lightning in 1961 and a photograph in 1967 shows only the remnants of the sails and a stub where the fantail and its staging had been. A preservation order was placed upon the mill by Derbyshire County Council in 1966 and they later became the owners.

Over the next few years restoration work was carried out by the millwrights Thompsons, of Alford in Lincolnshire and new floors, sails, cap and fantail were made. The new sails were hoisted on the 15th March 1972 and the fantail was lifted into place three days later. The mill remains in the ownership of Derbyshire CC and is listed Grade 2\*. She was again struck by lightning in 1995 and a sail and internal machinery was damaged, fortunately without causing a fire. Repairs were carried out but this event led to the formation soon after, of the 'Heage Windmill Society', closely followed by the formation of the support group 'The Friends of Heage Windmill'.

In conjunction with owners, Derbyshire County Council, a plan for the complete restoration of the windmill, back to working order was developed, the total cost of which was around £400K. Applications were made for grants to various bodies, including The Heritage Lottery Fund, WREN and English Heritage, coupled with contributions from local councils, fund raising and sponsorship, all leading to the work commencing in July 2001. A new access road was constructed and sufficient work was completed for the mill to be formally opened to the public in June 2002. Grain was again milled in 2004, after a lapse of more than 80 years.

The tour includes a walkabout in the Midland Station area and a tour by bus to see railway features elsewhere in the city.

## 1. Midland Station and Locomotive Works

Derby became a railway centre in 1840 when the Midland Counties Railway (from Rugby, Leicester & Nottingham), North Midland Railway (from Leeds) and Derby and Birmingham Junction Railway met at a "tri-junct" station built by the NMR. The MCR and NMR made Derby their headquarters and constructed workshop facilities to the west of the station. The NMR also built a railway village (including houses, shops and a pub) for its staff, and a private entrepreneur established one of the first railway hotels. In 1845 the three railways amalgamated to form the Midland Railway which became one of the largest in the UK, with lines to London, Bristol, Manchester and Carlisle, and even a subsidiary in Northern Ireland. Derby remained its headquarters right up until the grouping of 1923. The station itself and the area in front of it saw several expansions to accommodate traffic and provide office facilities, and the original workshops expanded to become Derby Locomotive Works. The works was progressively closed in the 1990s and the area has been redeveloped as "Pride Park". The train shed was damaged by bombing in 1941 and replaced by concrete platform awnings in 1954, and most of the original station building was demolished in 1985.

The listed 1840 workshop buildings are:

- NMR engine shed – a polygonal building with a central turntable and radial tracks for locomotives. The first example of a distinctive style of railway buildings which was copied all over the world.
- NMR carriage workshops – an unusual galleried building
- NMR offices and clock tower (with later upper floors)
- MCR workshops

A new use for these is still awaited.

Other features we shall see are:

- later Locomotive Works buildings, now disused and for sale
- route of Derby canal under the NMR at north end of station
- MR loco-men's lodging house (1872)
- NMR railway village of 1842 including houses, shops and pub
- MR Institute (1892)
- Midland Hotel (1841)
- Remains of original tri-junc station (1840)
- Nelson Street offices (1872)

## 2. Great Northern Railway in Derby

The second railway to arrive in Derby was the Great Northern Railway's Derbyshire extension, opened in 1878. The route crossed Friargate, the most elegant Georgian street in the town, and to mitigate the visual impact an ornate cast iron bridge was provided, which was somewhat of a show-piece for the Derby foundry of Andrew Handyside & Co. The same company provided an unusual bowstring wrought iron arch over the River Derwent, which survives as a footpath.

The GNR station site has remained derelict since closure in the 1960s. The main surviving feature is a very large brick warehouse which has been allowed to degrade into an appalling condition despite being Grade II listed. The associated hydraulic engine house is in better

condition. There have been numerous plans for re-development of the site but none have yet come to fruition.

### **3. Later developments along London Road**

By 1870 the Midland Railway had run out of room for expansion on the Locomotive Works site, and further developments took place around the London Road to the south of the town centre, and most of these remain in railway use today.

The Carriage and Wagon works on Litchurch Lane, built between 1874 and 1878, now belongs to Bombardier Transportation, and with the closure of the Alstom (formerly Metro-Cammell) works in Birmingham, it is now the only large scale railway rolling stock manufacturing works in the UK.

The LMS scientific research building (1935) and the Railway Technical Centre (1965-1972) were established to support the modernisation of railway technology in the mid-20<sup>th</sup> century. This was where British Rail Research developed the technology for tilting trains, magnetic levitation and computerised railway signaling. The buildings now house a myriad of engineering and consultancy companies resulting from the privatisation of British Rail in the 1990s.

Further down the London Road, the LMS School of Transport (1938) is an attractive neo-Georgian building. Inside there is an original mural in the dining room, and a sunken lounge which originally housed a model railway used for training signaling staff.

**Sunday 4<sup>th</sup> September                      Visit E      Long Eaton & Shardlow**

#### **1. Long Eaton Lace Factories**

The manufacture of lace is integral to the history of Long Eaton, along with the railway industry it made the town prosperous. The town's growth as a result of this is shown in the census returns between 1850 and 1900, the population increasing from 1,000 to 13,000 between these dates.

Beside the Erewash Canal, where it passes under Derby Road, stands a group of tenement lace factories of the late 19th and early 20th centuries. These buildings are the dominant features of the Long Eaton Mills Conservation Area. An imposing physical relic of the lace industry, at its peak it employed half of Long Eaton's working population. The four large, four-storey mills, West End Mill (1882), Whiteley's Factory (1883), Harrington Mill (1885) and Bridge Mills (1902) are typical of the form of factory that was built for the lace industry. The buildings were designed to provide rented space for a number of separate firms, the lace trade being traditionally one of relatively small concerns. The system of tenement factories enabled many people to set up as lace manufacturers with the minimum of capital, sharing the cost of power and other overheads.

The factories are functional in design with closely spaced cast-iron windows to provide light for the lace makers, and projecting brick turret staircases to leave each floor entirely clear for the long lace machines. The turrets of turnpike staircases are the only embellishments. Although the factories have gradually lost their lace-manufacturing tenants, they continue in their original role of providing rented space for industry.

On the opposite side of the canal on Milner Road is a later row of lace factories: Victoria, Alexandra and Edward Mills (1906-1909). These are of the 20<sup>th</sup> century single storey layout with north-light roofs, and they stand next to their power source, the Long Eaton Urban District Council electricity generating station of 1903.

## **2. Midland Railway Sheet Stores**

Sheet Stores Basin is located to the east of the Erewash Canal about half a mile from Trent Lock, where the canal is crossed by the main Derby to London railway line. The basin was constructed in 1840 when the Midland Counties Railway had just opened its first route from Nottingham to Derby. The railway bought the coke they used as locomotive fuel from the Erewash Valley coalfield, and so they built a canal basin where coke could be transferred from canal boats to railway wagons. There was a house for the manager, and a stone built coke store equipped with hoisting apparatus to lift the coke from the canal to the railway sidings at a higher level. As well as bringing in coke for their own use, the railway company also hoped to attract coal traffic from the Erewash coalfield to London. They negotiated a deal with the Canal Company, that coal for London transshipped onto the railway at the basin would attract the same discount on Erewash Canal tolls as coal carried all the way by canal.

By the late 1840s, the railways were being extended into the coalfield and the need to transship fuel from the canal declined. From 1854, the site found a new use as the Midland Railway's Sheet Stores. The "sheets" were tarpaulins to protect freight carried in open railway wagons, and the Sheet Stores was where they were manufactured and repaired. The original coke store building alongside the canal was converted, and during the course of the 19<sup>th</sup> century a series of increasingly large buildings were erected in distinctive Midland Railway red brick styles.

At its peak around 1900, over 200 people worked at the Sheet Stores and there was an 18 inch gauge internal tramway to move materials between the buildings. As well as making and repairing wagon sheets, workers at the site repaired grain sacks and ropes. The work is illustrated in an excellent set of photographs taken by the LMS railway's official photographer for an article in the staff magazine in 1925; these are now held in photographic collection of the National Railway Museum at York. The photographs show demarcation between the sexes; both worked at sewing machines, but the men were stitching tarpaulins whilst the women worked on grain sacks.

By the 1960s, the traditional railway goods train with open wagons sheeted over by tarpaulins had become a thing of the past, and the Sheet Stores was sold for redevelopment as an industrial estate. The original buildings have been converted and rented out. The only major loss has been the building built for repair of grain sacks, most of which was destroyed by a fire in 1992, and replaced by a modern industrial unit. The buildings contain a typical mix of Long Eaton industries, from furniture and textiles to engineering and printing. They have survived the change of use remarkably well, and several retain their distinctive Midland Railway cast-iron window frames. The canal basin is now used by the Wyvern Marina and Long Eaton Boat Club.

## **3. Shardlow Canal Port**

Shardlow is an 18th century canal port on the Trent & Mersey Canal about a mile above its junction with the River Trent, where the canal crosses the A6 Derby to London road. Goods were transferred from wide boats to narrow boats and stored during this operation or while awaiting redistribution by road, in a growing range of warehouses. Along with this development came all sorts of other businesses and buildings to support the carriers, boat builders, rope walks, workshops, stores, stables, offices, workers' cottages and owners' houses. The decline of the canal business brought different uses for the warehouses but the area remains remarkably unchanged.

Shardlow Heritage Centre is located in one of the earliest warehouses, known as the Salt Warehouse which refers to the storage of salt from Cheshire at the opposite end of the Trent & Mersey Canal. Our visit will include a look at the displays in the Heritage Centre, and a short walk along the towpath to see some of the other warehouses and wharfs.



**Darley Abbey**

By the mid 1770s Thomas Evans had acquired paper, corn, flint and other mills operating on the west bank of the Derwent at Darley Abbey. Arkwright was a customer of Evans' Derby Bank and Evans was reputedly encouraged by Arkwright to embark on cotton manufacture.

The complex of cotton spinning mills was founded at Darley Abbey by Walter Evans in 1783. This first mill burnt down in 1788. The earliest surviving mill on the site is now the Long Mill which was rebuilt after the fire. Long Mill is of 5 storeys plus an attic and originally had clear span timber beams, later reinforced by the insertion of cast iron columns. The building was extended in 1798 and 1801 with the building of the Middle Mill, East Mill and West Mill. The extensions have progressively more complex fire proof building systems, commencing with sheathed timber and culminating in iron beams with brick arches. The mills were powered by the waters of the Derwent. By 1821 there were four wheels providing around 100 horse power, this situation was unchanged until 1896 when a steam engine was installed and some of the wheels replaced by turbines. Evans subsequently specialised in sewing threads in common with most of the other Derwent Valley Mills, the brand of Boars Head Thread becoming well known. The mills ceased thread production around 1970 as part of the J & P Coats thread empire. The mills are now part of the Derwent Valley Mills World Heritage Site. The adjacent areas to the mill contain several other associated mills and buildings including the North Mill of c1825, the bobbin shop of about 1840, the saw mill, timber drying sheds, preparation buildings and the fire station..

Across the River Derwent the Evans built workers housing, a church and a school. The development of the village has a haphazard nature when compared to many planned settlements. The earliest housing is in Flat Square and dates from 1792. Building by the Evans continued until the 1870's.

**Derby Mills**

Rykneild Mills Bridge Street, is an impressive complex of three, five and seven storey mills. They were originally established by Thomas Bridgett as throwing and doubling mills in the early 19<sup>th</sup> century. The constructional details of the mills vary. The 7 storey North Mill was built between c1810-12. The five storey middle mill was added in 1842-5 which, like the North Mill was of traditional timber internal construction. The seven storey South Mill of 1838, built for ribbon manufacture, is of fire proof construction with cast iron columns and cross beams carrying brick arched vaults. The fourth mill on the site, the warping mill dates from the 1840's and is also of fire proof construction. The mills remained in use for the manufacture of narrow fabrics and tapes until 1999. It is now in the course of conversion into residential units. This area of Derby contained many mills, most were originally built for silk spinning and many were later converted to narrow fabrics and other textile uses. The last 20 years has seen a huge rate of loss of these structures.

This tour has been organised and led by Lynn Willies and John Barnatt of the **Peak District Mines Historical Society**. The society was found in 1959 to promote the recording and conservation of the mining heritage of the Peak District. The society operates a museum in Matlock Bath and a Field Centre at Magpie Mine near Sheldon, as well as organising lectures, surface and underground meets, and the unique Derbyshire tradition of the Barmote Court. The society's bulletin "Mining History" is one of the leading journals on the topic and circulates throughout the world.

### **Peak District Mining Museum**

The Museum was set up 28 years ago by members of Peak District Mines Historical Society, and the associated Temple Mine was opened five years later. The building was originally the Kursall, a facility for visitors, c.1910. It was immediately embroiled in a mining dispute – one legal effect is that both the Museum and the Mine are nowadays exempt from the lead mining laws which oppress everyone else, did they but know it!

Development of the Museum is still on-going under project leader Robin Hall, but there is now more than can be absorbed in a single visit. Popular features result from a deliberate hands-on policy (rare when set up) which includes the climbing shafts. Aspects covered include law, geology, technology, lead uses and many others and lead and copper smelting is under development. The Wills Founder water pressure engine, of a type designed by Trevithick was made at Coalbrookdale in 1819. The bookshop has a wide choice of books and the PDMHS journal, *Mining History*.

**Temple Mine** is largely a 20<sup>th</sup> century fluorspar mine, though with older sections. It displays the mineralogy and geology particularly well, and is set out as a small 1950s mine, its last period of use. There is a battery electric loco of 1934, possibly the oldest such available. The fool's gold panning activity outside is hugely popular.

### **Matlock Bath**

Lunch is not pre-arranged today, but Matlock Bath has no shortage of cafes, pubs and fish & chip shops. The tourist industry developed to exploit the mineral waters and the dramatic gorge through which the River Derwent passes. The railway station is in a timbered "Swiss Cottage" style, and in the autumn illuminations along the riverside paths provide an inland rival to Blackpool. A late 20<sup>th</sup> Century phenomenon is the gathering of large number of motorbike enthusiasts at weekends and bank holidays, and a cable-car now provides access to the "Heights of Abraham" show-caves. In the midst of this is the High Tor Works, a former water power white lead grinding site which is the last surviving Derbyshire pigment manufacturer, now operated by Redwood Pigments.

### **Magpie Mine**

Magpie is probably the best lead mining site nationally (say English Heritage, prompted by the writer). It has features dating from the 17<sup>th</sup> century and probably earlier, but the main stone buildings and their chimneys are 19<sup>th</sup> century, including two engine houses. The headstocks and corrugated steel winder-house, with winder inside, date from the last use of the mine in the 1950s. Also on site are a powder house and a re-constructed horse gin and the agent's cottage and smithy, the latter two now the PDMHS field centre. Magpie and the adjacent Redsoil mines were the scene, in 1833 of disputes which led to the deaths of three Redsoil miners underground, part of a particularly fascinating history.

### High Rake Mine

Excavations are currently underway next to a well-used footpath, on land owned by the National Park Authority, at High Rake Mine near Great Hucklow. Here a large 19th century mine complex, rivalling Magpie Mine in size, had been largely demolished in the 1920s to provide stone for council houses. The site was later partially re-worked for fluorspar and then used as a council tip. Before the project began little was visible. A large concrete cap over the deep engine shaft was obvious, while an ore-crushing stone and a few other large blocks of gritstone peeped through the rank vegetation; overgrown hollows marked the sites of some of the buildings. To date, the lower walls of two Cornish engine houses with boiler houses and chimneys, a cobbled coal yard, an ore-crushing circle and a gin circle have been revealed by excavation. When archaeological excavation and consolidation are complete, on-site interpretation will be provided as this site now provides a valuable opportunity to raise public awareness and appreciation of the lead mining resource.

**Monday 5<sup>th</sup> September**

**Visit H Caudwells Mill & Hope Cement Works**

### Caudwell's Mill

On the South East edge of the Peak Park in Derbyshire is Rowsley, on the A6 between Matlock and Bakewell, a typical Peak District village with farms and industry interspersed among the houses. There has been a water mill in the village, at least since 1300. The mill was, and is still, owned by the Duke of Rutland, who has an estate locally at Haddon Hall. John Caudwell in 1874 leased the site, where formerly had stood the remains of a saw mill and a corn mill, and built a 4 storey mill.

John Caudwell came from a Derbyshire family, who had been involved in the flour trade since 1836, with mills at Southwell, Wingerworth, Pye Bridge, Bolsover, Huthwaite and Mansfield. John was a partner in some of these with his cousins, Francis and Theodore, but left the partnership and leased Amber Mill near Alfreton in 1860. He ran this successfully until 1874 when he leased the site at Rowsley from the Duke of Rutland's estate. The clearance of the site and the construction of the mill in Derbyshire gritstone was completed at a total cost of £7,000, a sign of John's confidence in the business. He equipped the mill with two water wheels, one to power the flour mill and the second for the provender mill. There were 8 pairs of millstones on the first floor, supported on cast iron columns, for the flour mill and three pairs for the provender mill. Some of the columns remain in the mill supporting the floor. Two worn-out millstones, one Peak District gritstone and one French burr have been found buried in the mill yard and are now on display. Following the introduction of roller milling into England in the 1880s, by 1884 John Caudwell was sufficiently impressed by this new technology to rip out his almost new mill stones and have Thornton's of Retford replace them by the, then modern, roller technology. This is believed to have cost a further £2700. The use of waterwheels to drive the roller mills was not very successful since rollers required a higher speed (typically 300 r.p.m. instead of 100 r.p.m.), and as a result a 35 H.P. 'Trent' turbine was fitted in 1887 for the flour mill. Caudwell & Co. wrote to C. L. Hett of Brigg who supplied the turbine saying "we have turbine at work and shall be pleased to give you a testimonial as we cannot speak too highly of it." The waterwheel remained driving the provender mill until 1898, when a "Little Giant" turbine of 50 H.P. was installed, supplied by S. Howes of London. This turbine still is used today, driving a 12 kW electric generator for the mill lighting. Through the years the machinery was improved and modernised. Briddon & Fowler from Manchester installed new rolls and other plant over a two year period starting in 1905 when 8 pairs were installed. A further 10 pairs were fitted by the end of the two years, these having the new 'Alpega' system of separation after the rolls. Most of these rolls are still in use in the mill today. Flowcharts and layouts of this date are in the Derbyshire Record Office.

In 1914, the German firm of Amme, Giesecke & Konegen installed a new roller mill, four 'Ageka' plansifters, a purifier, a dust collector, ten detachers and a 76 H.P. turbine, to replace the 'Trent' at a total cost of £1500. The German workforce, who were working at the mill in 1914 at the