



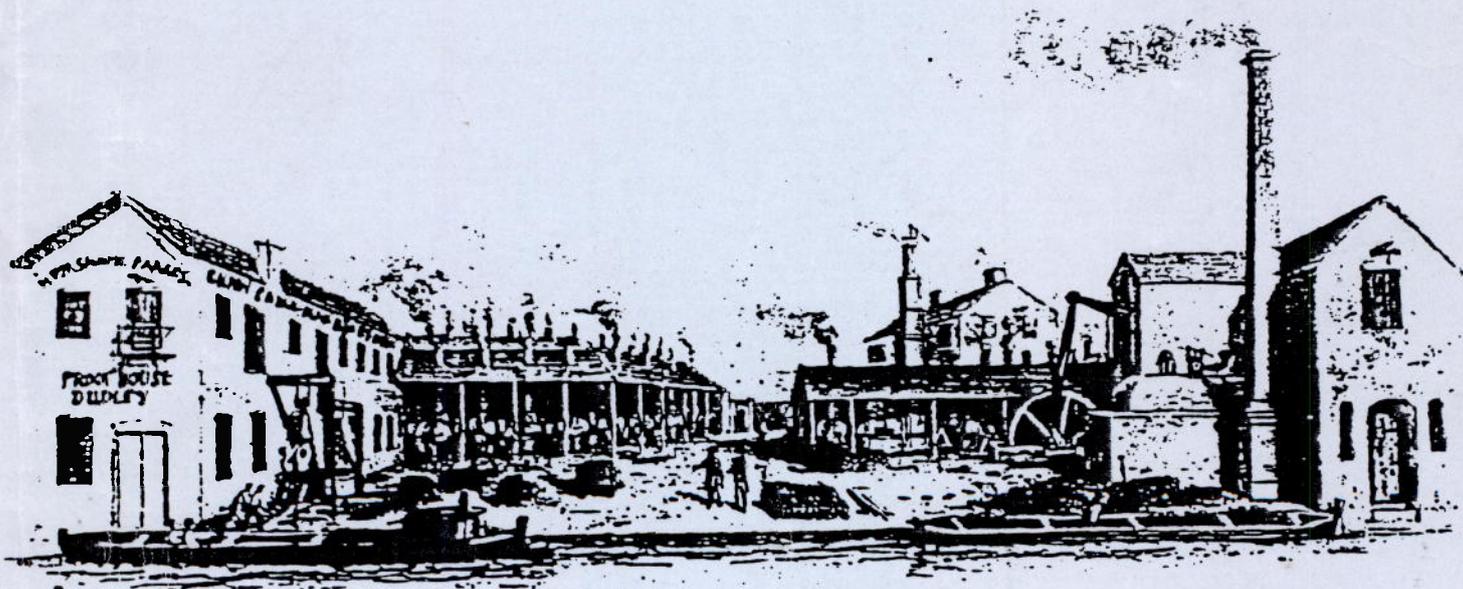
ASSOCIATION FOR INDUSTRIAL ARCHAEOLOGY

# CONFERENCE

9 - 15 SEPTEMBER 1991

WOLVERHAMPTON POLYTECHNIC  
DUDLEY CAMPUS

PROGRAMME, TOUR NOTES AND  
LIST OF DELEGATES



*Stevenson Publications*

On behalf of the Association for Industrial Archaeology, the Black Country Museum and the Black Country Society, welcome to the Dudley Campus of Wolverhampton Polytechnic and the 1991 Annual Conference. The Supplementary Programme has been arranged jointly by the Society and the Museum, and we are grateful to the many companies, groups and individuals who have helped in many ways during the period of preparation.

Conference Secretary (AIA): Janet Graham  
Bookings Secretary: John Fletcher  
Local Organisers: John Crompton, Carol Whittaker

Black Country Society members assisting: Ron Moss, Peter Glews, Paul Collins, Howard Wootton, Vi Wetton

BCS members have pink badge marks, AIA Council members have blue badge marks

#### ACCOMMODATION

Residential Accommodation is in Stafford and Worcester Halls, and in the Annexe between. Conference Registration is at the entrance to Stafford Hall, and will be open as follows:

Monday September 9th: 13.30 - 18.00 (tea available from 15.30)  
Tuesday to Thursday, 10th - 12th: 16.30 - 18.00  
Friday September 13th: 13.30 - 17.30 (tea in Union Building 15.30)

Delegates arriving at other times should collect their room key from Central Reception, which is in A Block.

#### FOOD AND DRINK

All meals will be taken in the East Refectory, which adjoins the Union Building, the venue for all major Conference events. Meal times are:

Breakfast: 07.45 to 08.45

Lunch during the week - see programme. A packed lunch will be provided on Thursday

Lunch: 12.45 (Saturday and Sunday)

Dinner: 18.00 (except Saturday)

Conference Dinner: 19.00 (Saturday)

The Reception preceding the Conference Dinner is hosted by the Metropolitan Borough of Dudley and will be attended by the Leader of the Council.

Tea will be served from 15.30 on Monday in Stafford Hall, and from 15.30 on Friday in the Buttery, adjacent to the Union room and display locations. Morning coffee and tea on Saturday and Sunday will be served in the Buttery, which is adjacent to the Refectory

The Bar is adjacent to the Refectory and overlooks the lecture hall. It will be open as shown and shortly before lunch and dinner. DELEGATES ARE REQUESTED TO BE QUIET WHEN LECTURES ARE TAKING PLACE.

#### CLOTHING

Delegates are reminded that, whilst there are no trackless moors to be climbed, factories and canal towpaths require sensible shoes. There will be several occasions when the party is away from the coaches for some time.

**NB: WARM CLOTHING IS ESSENTIAL FOR WEDNESDAY EVENING'S UNDERGROUND TRIP.**

## PROGRAMME

### Monday September 9th

13.30 - 17.30 Arrival and Registration of delegates  
15.30 onwards Tea available in the Lounge

18.00 Dinner

19.00 Lecture - Dr Eric Hopkins 'Industry and Work in Birmingham during the Industrial Revolution' (Chairman: Ron Moss, Black Country Society)

20.15 Bar

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### Tuesday September 10th

07.45 - 08.45 Breakfast

09.00 Coach A departs for the Cradley Heath Chain District and Stourbridge

08.50 Coach B departs for Walsall, Willenhall and Wolverhampton (see Wednesday's programme).

09.20 Arrive at Mushroom Green Hamlet and chainshop

10.15 Coach departs: 10.30 Party A to Griffin-Woodhouse chain works  
10.40 Party B to Joseph Woodhouse chain works  
11.00 Party C to Lloyds chain works

Coaches collect Party A at 11.25, B at 11.35 C at 11.45

12.15 Arrive at the Beacon Hotel, Sedgley for lunch and brewery tour.

13.30 Coach departs Beacon hotel.

13.50 Harris & Pearson Refractory Brickworks

14.20 Stourbridge Canal arm and Foster & Rastrick's New Foundry

15.00 Broadfield House Museum of the Stourbridge Glass Industry

16.00 Ashwood Basin (Staffs & Worcs canal)

16.45 Coach returns to Dudley via Wall Heath and Lower Gornal

17.15 Return to Polytechnic

18.00 Dinner

19.00 Lecture - Colin Knipe 'Coal Mining in the Black Country' (Chairman: Ian Walden, Director, Black Country Museum)

20.30 - 21.30 Archive film footage will be shown by Dr Paul Collins and members of the Stourbridge Film Society. Delegates are welcome to come and go, or watch from the bar (if your eyesight's good!)

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### Wednesday September 11th

07.45 - 08.45. Breakfast

08.50 Coach A departs for Walsall, Willenhall and Wolverhampton

09.00 Coach B departs for the Cradley Heath Chain District and Stourbridge (see Tuesday's programme).

09.20 Party A arrives at Sedgewick's curriers

09.30 Party B arrives at Whitehouse Cox leathersgoods

09.30 Party C arrives at Strand leathersgoods

09.40 Party D arrives at Hooper & Hucker curriers (Tuesday only) or Jabez Cliff saddlers (Wednesday only)

Coach collects Party A at 10.15, Parties B and C at 10.25, Party D at 10.40, and proceeds to Willenhall

11.05 Party A arrives at Josiah Parkes (Union Locks)

Wednesday September 11th (continued)

- 11.15 Party B arrives at Guardian Locks  
12.30 Lunch at The Brewer's Droop, Willenhall  
13.30 Coach departs for Wolverhampton  
13.45 Photostop at former Henry Meadows Works, Cannock Road  
14.05 Visit to former Clyno Motor Works  
14.30 Visit to former Chubb Locks building  
15.00 Short walk and visit to Wolverhampton Low Level Station  
15.45 Visit former Star Motor Works (now a foundry)  
16.15 Former Sunbeam Motor Factory and C A Villiers engine works  
17.00 Depart for Black Country Museum
- 17.30 Coaches A and B arrive at Black Country Museum. Delegates may visit the 'Into the Thick' mine experience, the (working) replica Newcomen engine, and the hand-fed mill which will be rolling squares between 18.30 and 19.00.
- 19.30 Embark from Dudley Canal Towpath for journey into the limestone mines, followed by traditional Black Country food and entertainment in a unique underground setting.
- 22.30 Coaches return to Polytechnic.

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Thursday September 12th

- 07.45 - 08.45. Breakfast
- 9.00 Two coaches depart Polytechnic for the middle Severn Valley  
9.40 Arrive at Churchill Forge  
10.30 Depart for Kidderminster  
11.00 Visit to Brinton's Carpet Factory, Kidderminster  
11.45 Depart for Stourport  
12.00 Guided walk of canal basins and riverside  
**A packed lunch is provided**  
13.30 Depart for Bewdley  
14.25 Train on the Severn Valley Railway for Bridgenorth.  
15.10 Brief tour of Severn Valley engine yard  
15.30 Depart Bridgnorth  
16.00 Arrive at The Bratch Pumping Station and Locks  
16.50 Depart for return to Dudley  
17.15 Return to Polytechnic
- 18.00 Dinner
- 19.00 Lecture - Peter Wakelin 'Trade on the River Severn' (Chairman: Malcolm Wanklyn, Wolverhampton Polytechnic.)  
20.30 IA Recordings will show a selection from the videos they have recorded of the Black Country at work. The bar will be available from 20.15.

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Friday September 13th

- 07.45 - 08.45 Breakfast
- 08.50 Two coaches depart for Birmingham  
09.30 Party A visits Jewellery Discovery Centre. Party B begins Guided Walk through the Jewellery Quarter.  
10.25 Party B leaves for Guided Walk through the Jewellery Quarter. Party A arrives at Jewellery Discovery Centre.  
11.15 Both parties arrive at top of Farmer's Bridge Locks to embark for a

Friday September 13th (continued)

- canal journey along the Birmingham Canal to Smethwick (Lunch on board).
- 13.30 Disembark at Brasshouse Bridge, Galton Valley.
- 14.00 Commence walk down Smethwick Locks (Party A moving ahead).
- 14.25 Party A arrives at site of Smethwick engine (Party B still at Engine Arm Aqueduct)
- 14.50 Party B arrives at site of Smethwick engine (Party A will have time to return to Engine Arm Aqueduct)
- 15.15 Depart for brief visit to gateway of Soho Foundry, leaving there at 15.45
- 16.00 Arrive at Birmingham Science Museum for special steaming of the Smethwick engine.
- 16.40 Depart for Polytechnic to join delegates to main conference

Consecutive arrangements:

- 13.30 - 18.00 Registration and erection of stands.
- 15.30 onwards: tea available in the Buttery
- 15.30 Meeting of Members' Services Committee
- 18.00 Dinner
- 19.00 Opening of main conference and welcome - Ian Walden OBE (Black Country Museum) and Ron Moss (Black Country Society IA Group)
- 19.15 Lecture: John Crompton, 'Industry and Archaeology in the West Midland Iron District'
- 20.30 Members' Forum
- 21.15 Meeting of Finance and General Purposes Committee
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Saturday September 14th

- 07.45 - 08.45 Breakfast
- 09.00 - 10.30 Members contributions
- 10.30 - 11.00 Coffee and bookstalls
- 11.00 - 11.25 Ron Moss, 'Black Country Chain'
- 11.30 - 11.55 Roger Dodsworth, 'Stourbridge Glass'
- 12.00 - 12.25 Mike Glasson, 'Walsall's Leather Trades'
- 12.45 Lunch (buffet)
- 13.45 Excursions:
- A: Mushroom Green and the Cradley chain district
- B: Stuart Crystal Glass Museum, Wordsley Canal locks, Cobbs Engine
- C: Walsall Leather Centre and the National Lock Museum, Willenhall
- 17.15 Arrive at Polytechnic
- 18.30 Reception by courtesy of Dudley Metropolitan Borough Council (Cllr F Hunt, Leader of the Council)
- 19.00 Conference Dinner and Award Presentations.
- 21.00 Member's contributions (continued), and Bar

PLEASE ALLOW MEMBERS TO BE HEARD DURING THIS PERIOD

Sunday September 15th

- 07.45 - 08.45 Breakfast
- 09.00 - 10.00 Reports from the Royal Commissions - Nicholas Cooper (England)  
Miles Oglethorpe (Scotland)  
Stephen Hughes (Wales)
- 10.00 Annual General Meeting of the Association for Industrial Archaeology
- 10.45 - 11.20 Coffee and bookstalls
- 11.30 - 12.30 Rolt Memorial Lecture: Keith Gale, 'Researching Iron and Steel - a Personal View'
- 12.45 Lunch

END OF CONFERENCE

- 14.00 - 16.00 Informal visit to the Black Country Museum

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TUESDAY SEPTEMBER 10TH: CRADLEY HEATH AND STOURBRIDGE

Guides: Ron Moss and Peter Glews

The route passes through the western edge of Dudley, taking the A459 through Netherton to Old Hill and Cradley Heath. After visiting the chainshop and squatters' hamlet at Mushroom Green, the party will divide into three to visit three working chainworks at Cradley Heath and Brierley Hill. The Beacon Hotel, Sedgley, provides a small pub brewery visit and lunch. The coaches return to Brierley Hill, visiting the remains of a refractory brickworks, a famous foundry, the museum of the local glass industry, and a canal basin once served by an early railway.

We pass through the western side of Dudley and descend the ridge on the west side. On the right is a construction shaft for the Dudley Canal Tunnel, now an air vent. Work on the tunnel began in 1785 and it opened to traffic on June 25th 1792. We cross over the Oxford, Worcester and Wolverhampton Railway opened to goods traffic on the 16th November and to passengers on the 20th December 1852. On the right was M. & W. Grazebrook's Netherton Ironworks established in 1860; the last blast furnace was blown out in 1946. In Netherton (the lower town) is the 'Old Swan Inn' a famous Black Country home 'brewd' pub known as 'Ma Pardoes'. Note various examples of subsidence. Before the next canal bridge (left) was Withymoor Interchange, a busy canal/road/rail centre, now much overgrown. On the right stood the large ironworks of Noah Hingley and Sons; they introduced the making of cable-chain to the Black Country. By the canal stood Dank's Boiler works, but both sites have been cleared in the last five years. 'Bishton's Bridge' provides views of the Dudley No 2 canal winding its way round Netherton Hill leading to either Netherton Tunnel or Coombs Wood (Halesowen) - until 1917 it was possible to pass through the Lapal Tunnel to then join the Birmingham & Worcester Canal at Selly Oak. At the bottom of the hill we cross over the Mousesweet Brook, a boundary for centuries and said to have been a 'Moot Meet' where ancient councils met on opposite sides of the brook to sort out their problems. Until 1974 it was the county boundary between Staffordshire and Worcestershire.

Old Hill had many chainshops and nailshops, produced ships tackle, leather objects for the many hot metal trades based in the district, and of course had many coal and iron mines. Eliza Tinsley (Works on left) took over the

works when her husband died in 1839 and built up a nailmaking empire that numbered 4,000. On the opposite side of the road is an electricity sub-station originally put in to serve the Cradley Heath - Dudley trams, the last of which ran on 31st December 1929). Next to this is a single storey school built in 1876 by Miss Haden on the site of an 1790-endowed school. Opposite this is Reddall Hill Hall, which once had a datestone stating 'built AD 1759, rebuilt 1819'. Note on the right recent decorative brickwork on walls denoting chains and anchors. Behind Reddall Hill Library is Corngreaves School, built in 1849 by the New British Iron Company to educate their workers' children. Opposite on the right the remains of the Chain and Oddwork manufactory of David Willets Limited established in 1841 and closed late 1969. In the hollow on the left, still containing its setts was the G.W.R. Spinners End Goods Yard serving Old Hill closed in the 1960's.

At the traffic lights the Barclays Bank has a stone lintel with 'United Counties Bank'. Turning into Newtown Lane, we continue past several chain works and re-cross the Mousesweet Brook, besides which was William Bannister's Chainworks established 1830 and closed in 1924. The buildings were acquired by Stevens (Galvanising) Ltd for the manufacture of galvanised holloware, but the firm was taken over in 1990 and the works demolished in 1991. The whitewashed walls are part of the former chain proof shop. Evidence of colliery subsidence is seen in a house with timber props, tied with bars which were shared with another house now demolished. This area was heavily mined, and criss-crossed with colliery tramways. The 'Victoria' in Dudley Wood Road shows many signs of subsidence; here the Pensnett Railway crossed the road by an ungated crossing. Close by is Mushroom Green where the first visit is made.

Mushroom Green is the best remaining example of squatter settlement on the Earl's estates, with housing dating from the late C17th to C19th. It was originally a nailers' settlement, but when machine-made nails began to compete c.1830 their skills at working iron were turned to producing small chain. John Griffiths was the hamlet's factor, and his works have become Griff Chains Ltd, still supplying chains and agricultural implements. Part of the original works buildings survive as garages. There is a six hearth chainshop, preserved by the Borough and operated by volunteers.

The coach returns via Newtown Lane to Cradley Heath. In Lower High Street is 'The Workers Institute' said to have been financed by money left over from the funds collected to support the Womens Chain strike of 1910, and opened by the Countess of Dudley 10th June 1912. The fine range of two storey industrial buildings was the chain and tackle works of Rowland Priest and Company. Cradley Heath Station has been extensively rebuilt during the last five years, and the level crossing lost its gates when flashing lights and barriers were fitted in August 1990. The railway opened April 1st 1863 by Stourbridge Railway Company, with running powers for the West Midland Railway. Woods Lane is named after the large chainmaking company of Henry Wood, later Woods Brothers, which transferred operations to Saltney before 1880).

Party A visits Griffin - Woodhouse Limited. The company was formed by the amalgamation of William Griffin & Son, Woods Lane (established sometime between 1885 and 1896) and Woodhouse Bros (Cradley Heath) Ltd., formed by Emmanuel Woodhouse in a small chainshop c.1860. In 1942 Griffin-Woodhouse introduced and patented an integral stud chain. The coach continues past the huge Woods Bros works, now an industrial estate; on the left are Ernest Stevens' 'Judge Ware' enamelled holloware, the Cradley Boiler Works where a boiler erecting tower can still be seen, and the anchor works of Isaiah Preston. Close to the railway bridge was Connop Bros chainworks. In Foxoak Street are the remains of an ironworks, a drop-forging company, and (behind

the large house) the works of Joseph Woodhouse (Chains) Ltd, which Party B will visit. The company was established in Foxoak Street in 1906, by the grandfather of the present manager who had previously been an agent for chain orders. Handmade chainmaking finished in 1966; the company is now owned by Griff Chain Ltd of Mushroom Green and makes and tests electrically welded chain. At the top of the short side street was Foxoak Colliery.

In Providence Street are the drop forging works of Arthur Edge (recently closed); Barzillai Hingley's, established in 1815 and the oldest firm still making chain; Penn Bros who rolled iron for chainmaking, and the recently closed chainworks of Woodhouse Bros. The coach now retraces an earlier route to Saltwells, passing close to Mushroom Green. Once again the Pensnett Railway crossed the road; the Blackbrook emerges from Saltwells Wood (where the Earl tried unsuccessfully to develop a saline spring as a spa) to feed the New Pool. Part of the 'Metro Centre of the Midlands' provides a sharp contrast to the rest of the day. In Delph Road is 'The Vines', colloquially known as the 'Bull and Bladder', with its own (Batham's) Brewery next door. The 'Black Delph' was heavily mined for coal and clay, and the housing estate (left) covers the site of E J & J Pearson's huge Delph Brickworks. Delph 'Nine Locks' raise the Dudley No 1 Canal from the end-on junction with the Stourbridge Canal immediately below the bottom lock. Opened in 1779, seven locks of the original irregular flight were replaced in 1856 by six in a straight line - but the old name stuck! In Brettell Lane the OWW railway and the Stourbridge Canal are crossed, and between them is the office of Harris & Pearson (see afternoon).

Party C visit LLOYD's chainworks. Lloyds (Brierley Hill) Ltd commenced c.1870 as Samuel Taylor and Sons, makers of large chain and anchors. In 1930 they introduced "TAYCO" chain, a high-tensile electrically welded cable chain, supplied 4 1/8" diameter to the liners Queen Mary and Queen Elizabeth and many warships. In 1965 the firm became British Tayco Chain Co Ltd, and when Tayco chain was discontinued on grounds of cost in 1970 the name was changed to Lloyds. In 1990 the company became a member of the Triplex Group.

The coach follows the route again to collect all parties, and then returns towards Dudley. A large complex of offices is being built on the site of the Earl of Dudley's Road Oak Steel Works. This originated as Level New Furnaces, rebuilt 1846-7 and augmented by a model modern ironworks. 'Earl of Dudley' iron had a high reputation for quality. Steel was first made in 1890; British Steel closed the works down in 1986. Also on the right is a bus depot, built as a tram shed. We pass through Dudley towards Sedgley following the old turnpike along the ridge. The Burton Road Hospital began as the Dudley Union Workhouse. Mining extended to the top of the ridge here, and a horse-gin pit was active in the 1920's. Recent opencasting uncovered fine examples of square-work in the Stinking Coal, and the Thick Coal has also been worked in 1991. There were sandstone quarries at Upper Gornal, and the product is seen in several buildings, including the 'Junction Inn' where the 1841 Woodsetton Turnpike meets the old road. Sedgley's 'Bull Ring' commemorates a sport outlawed in 1825. We visit the Beacon Hotel and Brewery, where 'Sarah Hughes Dark Ruby Mild' is made and where lunch will be taken.

After lunch the coach returns to Brettell Lane, and we briefly visit Harris & Pearson's (now Dyson Refractories) works. The ornate office dates from 1888 and incorporates the company's own products. The company produces a range of highly specialised refractory blocks by chemical processes, so the old kilns are being demolished. We will not be allowed to see any processes. We then continue to 'The Fish', passing the tram sheds of the Kinver Light Railway which ran from here into the countryside from 1901 to 1930. The Stourbridge

Canal arm and River Stour are crossed at Coalbournbrook, where there is a small water pumping station. Through Wollaston we turn down into the Stour valley and briefly visit the former foundry of Foster & Rastrick. John Bradley established an ironworks in 1800 close to the Stourbridge Canal arm with Foster interests; James Foster took control in 1816, and formed a new partnership with John Rastrick in 1819. The 'New' Foundry dates from 1820 and has an amazing iron roof with cast fishbelly tie bars and light wrought trusses. The two companies worked closely together and had very wide interests in the Black Country. Their products were highly respected, and in 1828-29 one of four locomotives to Rastrick's design was exported to America; another, 'Agenoria', worked the Kingswinford Railway and survives in The Science Museum.

As we pass through Stourbridge the head of the canal arm and the Bonded Warehouse are glimpsed; these date from 1799 and the three-storey warehouse has been restored as a meeting place. Amblecote parish church was built mainly at the expense of James Foster, from firebrick. The route passes signs for various glassworks, among which is Stuart Crystal, where a museum has been developed incorporating one of Britain's four remaining glass cones, c.1780. It stands next to the Wordsley flight of sixteen locks, completed 1779, which lift the Stourbridge Canal up to the mining district of Pensnett Chase. The Wordsley Art and Technical Institute, opened 1892 and now derelict, provided training for the science and arts of glass making and decoration. At Wordsley Hospital, the single storey building was Stourbridge Workhouse, dating from before 1820. Kingswinford is more like a rural village than an industrial town, but its Broadfield House Museum (which we visit) contains a fine collection of local and other decorative glass.

The route now passes into countryside to the Smestow valley, and to the former Ashwood basin where in 1829 the Kingswinford Railway met the Staffordshire and Worcestershire Canal. The canal basin is in a narrow valley, and the railway descended an incline, rope-hauled at first, and the remains of wooden loading stages can be seen; coal traffic ceased in 1953. The eleven-arched bridge over the basin is very fragile. We return to the main road and make a short detour to see the embankment and a bridge abutment of the Kingswinford Railway, where 'Agenoria' worked alone for thirty-five years until the Earl bought new locomotives in 1864. In Wall Heath is a brick windmill tower dating from c.1818, disused by 1882. The coach begins to climb towards the Black Country ridge, passing through the clay district where some brickworks remain active. The large Pensnett Trading Estate was built on the site of the Shutt End Ironworks, part of the Foster empire. The route passes through Lower Gornal past Milking Bank, site of Benjamin Gibbons' Fireclay Works where a hydraulic press for making gas retorts existed until 1981, and returns to Dudley.

On Wednesday the coach travels to the Black Country Museum (see separate note)

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#### WEDNESDAY SEPTEMBER 11TH - WALSALL AND WOLVERHAMPTON

Guides: Paul Collins and Howard Wootton

The route passes through Dudley and follows the A4037, A4098 and A461 through Wednesbury to Walsall, where four small groups will visit separate leather works. In Willenhall two groups visit different lock works before taking lunch at the 'Brewers Droop'. In the afternoon there are several brief visits to sites in Wolverhampton, with the accent on the early motor industry whose heritage is particularly rich in the town.

The coach leaves Dudley via Castle Hill, passing the ruins of the Priory (Cluniac, c.1160) and the castle. The latter is 14th on an earlier defensive site; the keep was slighted by Cromwell in 1646, but the Lords of Dudley continued to use the 16th extensions until 1750. The hill now houses Dudley Zoo, 1937 with avant-garde concrete buildings designed by Messrs Tecton (listed Grade II). Dudley's High Street lies between the 'top' and 'bottom' churches, and its wide market place is still active six days each week. At the bottom of Castle Hill the Oxford, Worcester & Wolverhampton Railway (1852) emerges from its tunnel through the limestone ridge. We turn down Tipton Road, passing a surviving fragment of the steam tram depot and crossing the South Staffs Railway (1850), then the Black Country Museum. The Guest Hospital (right) was founded 1860 by the Earl of Dudley as homes for blinded limestone miners, but never opened as such; it was endowed by Joseph Guest, a wealthy nailmaster, as a hospital in 1867. The route crosses the Birmingham 'New Road' (built 1927, with government aid for unemployment relief) and the Dudley Canal which joins the Old Line of the Birmingham Canal close by (right). The branch began in 1778 as Lord Ward's Canal, leading underground to his limestone mines at Castle Mill, and was incorporated into the Dudley Canal when Dudley Tunnel was opened in 1792.

In Tipton we pass 'Mad O'Rourke's Pie Factory', a fun pub which explains itself. On the left is A Harper Sons & Bean's 1915 fuse factory, which was adapted to motor chassis construction by the British Motor Trading combine in 1922. Beans regained control when the combine failed, and made chassis until 1932. By the canal is a stable block, and the road crosses close to Factory Junction, where Telford's New Line, here completed in 1838, finally climbs by three locks to rejoin the Wolverhampton level (473ft asl). By the top lock were a gauging station and a boatmen's mission. Beyond the railway bridge (LNWR Stour Valley line, 1852) with its musical decor, Brindley's original line looped round the head of a shallow valley and crossed the road again to circle Coseley and Summer Hill. The Coseley Tunnel of 1837 reduced the Birmingham-Wolverhampton line by more than three miles, but this end of the Wednesbury Oak Loop was abandoned only in the 1950's. Here were Barrows & Hall's Bloomfield Ironworks, where in 1825-32 John Hall developed and perfected the art of wet-puddling or 'pig-boiling'; a plaque on a modern office commemorates the invention. Boulton & Watt's first pumping engine was erected at a Bloomfield colliery. The Angle Ring Company still makes a quantity of steelwork for British Coal. This is another area of heavy mining, as evidenced by the 'Tilted Barrel', a Listed public house in more ways than one. On the sharp double bend the crossing of the Wednesbury Oak canal loop is marked by a few trees. The road descends to Gospel Oak, again an area of heavy mining activity. A Canal branch reached this point to serve the Willingsworth Furnaces and various collieries; all is now under a modern housing estate, and even the LNWR Princes End Loop line has been filled in.

Leabrook Road crosses the Walsall Canal, completed here by 1786. This area had many old-established tube works, but the only buildings of note are now those of Prodorite, making jointing compounds. We pass under the former GWR Birmingham-Wolverhampton line, now a spur to Wednesbury Goods Station. The open land (left) is the recently opencast site of the Patent Shaft & Axletree Company's Brunswick Works, one of three adjacent sites which began with railway axles and made wheels, rails, huge railway bridges and all kinds of rolled sections. Bessemer did some experiments here and in the 20th steel was made by the open-hearth process. The works closed in 1980 and only one pair of gates carries the name. At the roundabout we cross a new road laid out by Telford in the 1820's as part of his Holyhead Road improvements. Wednesbury is an old established hilltop town, devastated by cholera in 1848. The engine houses of the South Staffordshire Waterworks, dating from 1871, are glimpsed

across the park. Walsall Street Works (right), now part of Sandwell College, was the tube and fittings manufactory of John Knowles. We pass over the River Tame, the Grand Junction Railway (1837) and under the M6 at Junction 11. Pleck Road crosses the Walsall Canal again (1799) and we turn off to Sedgewick's Carriers, which the first group will visit. The coach continues along Pleck Road and crosses the Walsall Canal at the bottom of a flight of eight locks built in 1841 to connect with the Wyrley & Essington Canal. Adjacent is the Albion Steam Corn Mill, 1848, which has a covered dock parallel to the bottom lock chamber. To the south of Wolverhampton Street is the terminal basin of the Walsall Canal, very run-down but with one interesting canal warehouse, a rarity in the Black Country. Marsh Street lies close to the Canal, and the second and third parties alight here for visits to Whitehouse Cox & Co and Strand Leathers. The coach continues along Marsh Street and Navigation Street, past small workshops which all related to leather or lorry trades; the end of the road is dominated by the five-storey block of Boak's Ravenscraig Works, the town's largest carriers. The view from the railway bridge includes the massive five-storey clothing factory established by John Shannon in 1887. The fourth party alights to visit Hooper & Hucker, carriers.

The coach repeats the sequence to collect the parties in turn, and proceeds to Willenhall. At Junction 10 (M6) the derelict Anson Branch (1830) passes under the road, and further on the route crosses the dry bed of the Bentley Canal, opened 1843 and abandoned 1960. In Willenhall we pass several small workshops the derelict Albion Foundry, and Doctor's Piece, an emergency graveyard for the cholera outbreak of August - October 1849. In New Road, replacing the original turnpike, we pass the National Lock Museum, before turning to Josiah Parkes Union Lock Works, where the first party alights for a visit. The company was established in 1840 but this site was opened in 1958. This party will walk to the lunch venue after the visit. The coach turns and travels to Guardian Locks, passing Legge's Works and other small workshops and factories. It then returns the second party to the 'Brewer's Droop' where lunch is arranged.

From Willenhall to Wolverhampton we travel via the main A454 Willenhall Road which was turnpiked by an Act of 1810. On the right hand side note a works bearing the legend 'Eagle Works - Machinists' and the Portobello Board School, a former infants school built in 1878 and enlarged in 1897.

L&S Middleton on both sides of the road are one of the country's leading manufacturers and suppliers of equipment to the Fish & Chip trade. The former Willenhall Road Board Schools on the right were built in 1875. On the left is a depot of the Ever Ready Co which was built as the works of the Briton Car Co. They produced cars from 1908-1928. We pass under the Stour Valley Railway, built by the LNWR, as it approaches Crane Street Junction and Wolverhampton station. We enter Horseley Fields which was once lined with a wide range of small shops and businesses, intermingled with heavier industries (tool makers, ironfounders and metal stampers); one survival from which is the premises of Edmund Vaughan, on the right.

Wolverhampton's ring road was built between 1958 and 1986. On the left is the rear of the former Cleveland Road Tramway Depot, built in February 1902. It served as a trolleybus depot until 1967 and is now used as a bus depot by West Midlands Travel. On the right are the premises of Carvers, a builder's merchants. This was formerly the Herbert Street Goods Depot of the GWR, and was built by that company under a Government unemployment relief scheme between 1930 and 1931. It was on the site of Victoria Basin of 1849, which was both a canal/rail interchange and a point where goods could be transferred between that company's broad and narrow gauge systems.

Cross Street North is on the left after the bridge and is the site of the Ceres Artificial Manure Works of c.1850, once the largest such manufactory in the world. Quickly to the right, in Cambridge Street, is William Butlers' Springfield Brewery, latterly owned by Mitchells & Butlers. Its closure was announced earlier this year. We pass under the former Grand Junction Railway, the first main line in the country and the first railway to serve Wolverhampton, opening on 4 July 1837.

#### **The Former Works of Henry Meadows Ltd, Cannock Road, Bushbury.**

Henry Meadows Ltd was formed in 1920 to produce 3-speed gearboxes. They started producing engines in 1922. The present buildings date from 1942 and are now owned by the tyre manufacturers Goodyear. Leaving the works we pass on the right one of the entrances to the Fallings Park Garden Suburb, an often overlooked example of this movement to which just 50 houses and shops were completed between 1908 and 1914.

#### **The former works of Clyno Engineering Co, Fourth Ave., Bushbury**

The former works of the Clyno Engineering Co was established in 1909 by the Northamptonshire cousins Frank and Alwyn Smith, who in the early 1900s designed and manufactured a pulley with a variable drive ratio for belt-driven motorcycles. They termed this an inclined pulley, which, over time, became abbreviated to 'clined' and was eventually encapsulated in the company name: The Clyno Engineering Co Ltd. They produced motorcycles until 1923 The Clyno car was introduced at the 1922 Motor Show and the company moved to this site in 1927. The new works covered a floor area of 4 acres. The cost of the works and a poor quality product combined to bankrupt the company in 1929.

We return to Wolverhampton town centre via Guy Avenue. On the left, a 2-storey range of offices with green painted windows is all that remains from the once extensive works of Guy Motors.

#### **The former works of Chubb & Sons Lock & Safe Co Ltd, Broad & Fryer Streets, Wolverhampton**

Chubb's were founded in 1818, incorporated in 1882 and this striking works was built in 1899. Safe manufacture was transferred to a new factory on the adjoining Wednesfield Road in 1909; and all of the company's lock production in the town was concentrated there from 1964. From then the 'Chubb Building' lay empty but it was restored twice, first by the West Midlands County Council and more recently as part of its conversion into new premises for Wolverhampton's Lighthouse Arts & Media Centre.

Across the road is the 'Queen's Building' of 1849, formerly the carriage drive entrance to the original High Level station. The upper storey also served as the S&B company's offices and board room.

We walk to Low Level station via a flight of steps, a subway and an inclined ramp. The subway was extended between 1880 and 1882, with the enlargement of the High Level station. For many years it carried the nick-name of 'The Brothel'! The inclined colonnade to the Low Level station was also completed as part of this extension scheme in 1882.

**Wolverhampton Low Level station, Sun Street, Wolverhampton** completed in 1855. Wolverhampton's Great Western station was planned as part of the OWW line. Under an Act of 14 August 1848, this was to be constructed and maintained jointly with and for the use of the BW&D and S&B companies; from which it

became known, initially, as the Wolverhampton 'Joint' station. Appropriately, it was also designed jointly: the buildings being the work of John Fowler of the OWW; the trackwork the work of Henry Robertson, late of the Shrewsbury & Chester Railway but by then Engineer to the S&B, and the overall roof the work of William Wilson for the BW&D (GWR).

GWR Wolverhampton services were officially converted to standard gauge on 1 April 1869 but the main fabric of the station buildings remained more or less as built until a major refurbishment scheme was begun towards the end of 1922. Under this, a new booking office was created within the booking hall, having 5 ticket windows; a new telegraph department was added adjoining this in the former Station Master's office; the waiting and refreshment rooms on both platforms were extended, and the passenger footbridge was replaced. The 575 foot long, 115 foot span, 400 ton overall roof was demolished in 1933/4. The station closed to traffic in 1972 and various conversion schemes have so far failed, one of them did uncover short stubs of mixed gauge track in 1986.

Rejoining the coach we depart along Sun Street to join the Wednesfield Road. Passing under the former LNWR line, to the left is a British Waterways Depot, formerly a warehouse belonging to the canal carriers Fellows, Morton & Clayton.

#### **The former works of the Star Motor Co Ltd, Frederick Street, Wolverhampton**

The Star Company had its origins in the bicycle making enterprise of Edward Lisle, a pioneer of that industry in this country. He began to produce cycles around 1869 and motor cars in 1899. These premises in Frederick Street were purpose built c.1903 and had a floor area of 40,000 square feet. The company's other factories were in a line along Thomas Street and produced the bodies and engines respectively. In 1929 the company took new premises in Showell Road, Bushbury and the Frederick Street works was closed. But, like Clyno, the company almost immediately hit difficulties and were baled out by Guy Motors who took a controlling interest in the firm. This sustained the production of Star cars until March 1932, when a receiver was appointed. The Frederick Street works was bought by the Chadd Castings Co Ltd in 1947. They use gravity dye and sand casting techniques to produce aluminium components.

From Star we turn into Bell Place, on the left note the former Nippon Works of Robert Stroud & Co. Established c.1865, this company produced tin-plate and japanned wares, and were noted for their Patent Improved Railway Milk Cans. In the 1890s they diversified into furniture manufacture and in 1899 produced the bodies for the first Star cars. On the left, the magnificent polychrome brick of St Luke's Church completed in November 1861.

#### **The former works of the Sunbeam Motor Car Co Ltd, Upper Villiers Street, Wolverhampton**

The Sunbeam company developed out of a bicycle firm started by John Marston in 1887. The first Sunbeam Car was produced in 1905. The offices of the original factory (on the left of Upper Villiers Street) survive as "Automotive House". In 1905 work began upon a new factory, to be known as Moorfield Works, on the opposite side of the street.

Between 1909 and 1914, Louis Coatalen reorganised the works and added a Paint, Gear Box & Engine Erecting, Finishing, Coach Smiths, Body, Machine and Detail shops. Sunbeam joined with Talbot of London and Darracq of France to form the Sunbeam-Talbot-Darracq or 'STD' combine in 1920. The production of ordinary passenger vehicles continued, the works being further reorganized around 1924,

with the addition of new engine erecting and machine shops, together with a new foundry and pattern shop. In the face of heavy competition from larger British manufacturers the STD combine collapsed sometime in 1934, the British elements coming under the ownership of the Rootes Organization, who continued car production for only a few months into 1935, the firm's name surviving as a model designation only thereafter.

The remainder of the Sunbeam Company, which also manufactured trolleybuses, aircraft and motor cycles, as well as commercial vehicles, thrived; and used the Moorfield Works until after World War 2. In 1946 it was bought by the Brockhouse Group, and in 1948 was sold on to Guy Motors. The latter built a new factory at Fallings Park c.1953 and concentrated all commercial vehicle production there in the following year, leaving Moorfield Works redundant. They were sold off into multiple occupancy. Today, the main Sunbeam production area forms part of the works of the Torrington Company, whilst the former machine shop and foundry are occupied by Andrews Water Heaters.

#### **The works of Villiers Ltd, Marston Road, Wolverhampton**

The Villiers Cycle Co. was founded in 1898 by Charles Marston, after whom the road in which the works now stands is named. By 1910, experiments were advanced with the production of internal combustion engines, and the first Villiers engine, a four-stroke, with a two speed gear, clutch and kick-start, was produced in 1911. The first Villiers two-stroke engine, with which it was later to become almost synonymous, was produced in 1913.

The company was taken over in the 1960s by the Norton Motorcycle Company of Meriden in Warwickshire; the combined firm becoming known as Norton Villiers Ltd. As the Villiers Engineering Division of this conglomerate, it continued to make its patented bicycle flywheels, of which it was the largest producer in the World, plus a range of two- and four- stroke petrol and diesel engines until the ultimate collapse of Norton Villiers in the late 1970s. Engines are still made on part of the former Villiers site today, by the remnant of the Villiers Engineering Division of the collapsed Norton Villiers Ltd.

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#### **THURSDAY SEPTEMBER 11th - THE MID-SEVERN VALLEY**

Guides: Ron Moss, John Crompton, Paul Collins, Peter Glews

The route passes through the western edge of Dudley, taking the A461 and A4036 past Merry Hill and Lye, then the B4186 to join the A461 Stourbridge Kidderminster road. There are visits to Churchill Forge before a visit to one of Kidderminster's carpet factories. From Kidderminster the A451 leads to the Stourport where packed lunches can be supplemented close to the canal basins and River Severn. At Bewdley the party will take a steam-hauled journey on the Severn Valley Railway to Bridgnorth, where there will just be time for a rapid visit to the engine shed and workshops. From Bridgnorth we take the A454 and B4176 to Wombourn, visiting the locks and waterworks at The Bratch. Return to Dudley via A442 and B4176.

Passing through Dudley, one of the dozen construction shafts used during the cutting of the Dudley Canal Tunnel (1785-92) can be seen, now an air vent. The route passes through the area known as the Old Park, now covered by housing but once the scene of very extensive coal mining by the Earl of Dudley and served by part of his large mineral railway system. Russell Hall Furnaces were also located here, the first two blast furnaces built in 1827 the fifth in

1858. Operations were suspended in 1868 and all demolished 1869. Turning to the A4036 we cross the Oxford, Worcester & Wolverhampton Railway opened from Stourbridge to Dudley for goods traffic on 16th November 1852 and passengers on 20th December 1852. Next is the Pensnett canal which ran from Parkhead near the Dudley Tunnel entrance to the Earl of Dudley's wharf at The Wallows, Brierley Hill, serving various works on the way; now disused. On the right stood the celebrated Woodside Ironworks of Cochranes, Makers of pillar boxes and which produced the ironwork for the Crystal Palace in Hyde Park and the Clifton Suspension Bridge near Bristol. Established in 1841 it was 'forced out of business' in the 1920's. We cross the Dudley No 1 Canal which also ran from Parkhead to the Stourbridge canal, serving ironworks on the way including Cochranes, Harts Hill and The Earl of Dudley's Round Oak Works. The high ground on the right is made up of slag and waste from these ironworks.

Beyond the roundabout to the left was an area of very early coalmining where the coal outcropped along the ridge. At the lowest point of the road we pass over the route of the Earl of Dudley's Pensnett Railway running from his works and mines in the Saltwells and Cradley Heath area to the ironworks and wharves at Brierley Hill, with a cable hauled incline climbing the hill on the right. The highest point of the route passes Quarry Bank High Street on the left, an area of many chainmaking firms. We pass Mary Stevens Park with its ornate cast iron bandstand, then various industrial buildings which made shipping tackle and holloware. 'Judgeware', enamelled holloware such as pots and teapots, etc. was once made here by Ernest Stevens and Company. Most of the site is now used by other companies, though 'Swan Brand' who took over the Ernest Stevens empire still has a trade outlet here.

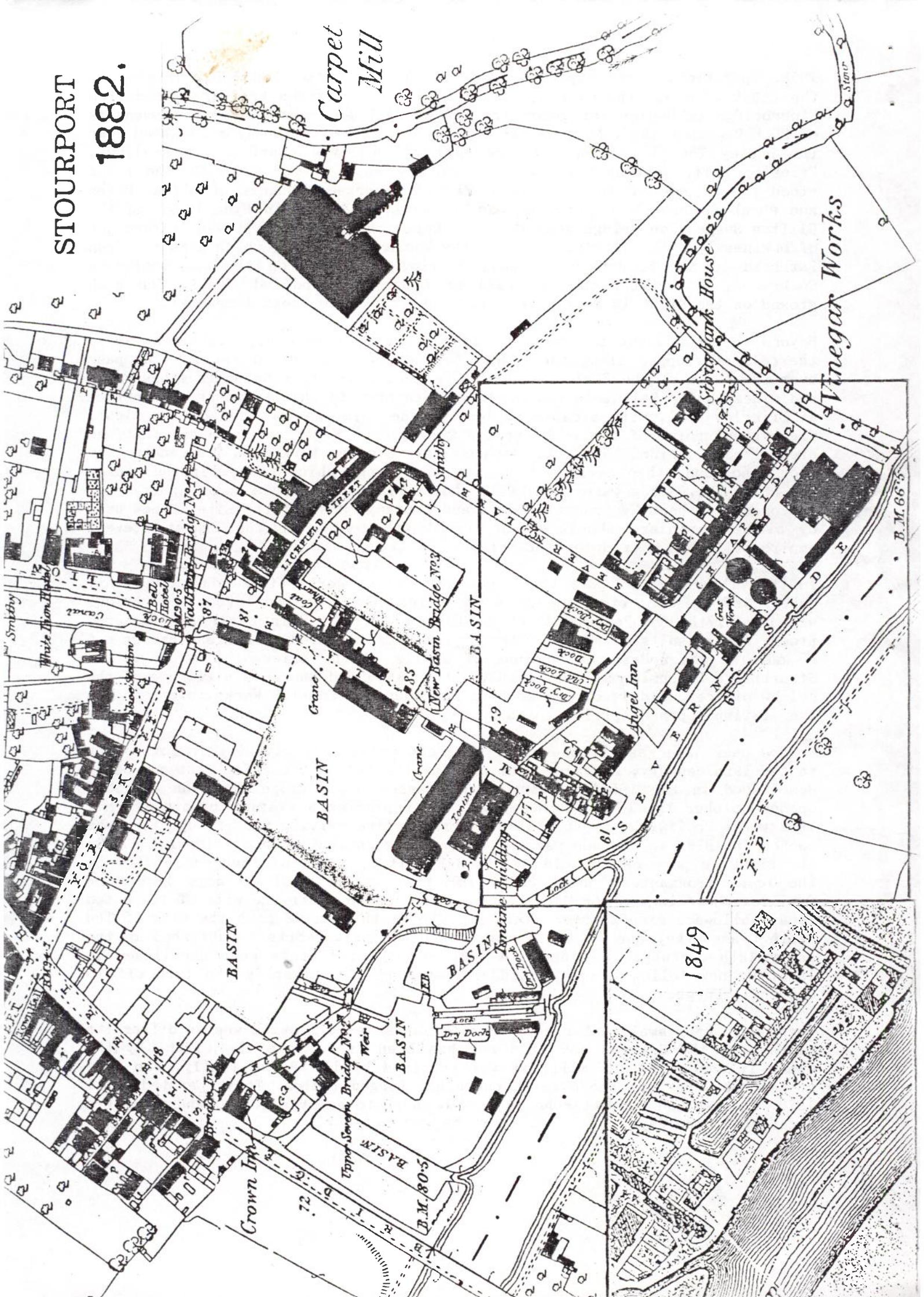
In the valley bottom, past the heavy engineering works of the Bronx Company, makers of presses, etc., we cross the River Stour. On the left of the bridge was the C17th Lye Forge; it is said that one of their early manufactured products were suits of armour. The forge is commemorated by a steam hammer set up outside the modern impressions of anvils in the brickwork. We cross the Stourbridge Extension Railway (1863, later GWR), and there is a glimpse of the yellow office building of George King Harrison's Firebrick Works, close to The Lye station, opened April 1st 1863.

We now pass 'Lye Waste', the scene of great nailmaking activity from the 17th to the 19th century, and also renowned for its 'mud houses' the last one being demolished in the 1950's. Grange Lane passes Stourbridge Junction Station, opened October 1st 1901 by the G.W.R. and replacing a station opened 1st May 1852 (from Droitwich) by the OW&WR. A branch line serving Stourbridge town was opened in 1879. We are now passing through the ancient town of Oldswinford. On the right is part of the Old Swinford Hospital, a school founded in 1667 by the local ironmaster Thomas Foley for the education of 60 boys from poor families. Here is another Mary Stevens Park, named after the wife of the noted local holloware manufacturer. This is 'The Heath' and we pass the site of The Heath Glassworks, one of the early Stourbridge glassworks established in the early 18th century. It closed in 1882 and the buildings were demolished in 1895. We now follow the A451 Kidderminster road to Iverley and turn off to Churchill Forge.

There were many small water powered sites on streams flowing westward from the plateau to the Severn, and this one has been used since the C13th. By the C16th it was a 'blade' mill; it was acquired by the Bache family, who made spades and were best known for a one-piece forged ladles. They operated until 1970. The dam and two waterwheels have been restored by a Trust, and there are occasional open days.

STOURPORT

1882.



Carpet Mill

Vinegar Works

1849

BASIN

BASIN

BASIN

BASIN

BASIN

Angel Inn

Crown Inn

WALLINGFORD BRIDGE

LICKFIELD STREET

SEVERN STREET

SMITHY

Crane

We return to the A451 and continue to Kidderminster, where a series of pools held water for the Broadwaters Iron and Tinplate Works. We skirt the town and approach via Comberton Hill, giving a brief view of the Severn Valley Railway station which was modelled on the chateau style of Ross-on-Wye; beyond is the former goods shed now converted to the carriage works, and a small goods shed holding a private museum collection. We follow the Ringway northwards, passing Tompkinson's Carpet Works with buildings of 1902 and 1932, then St Mary's Church and below the remains of the Staffs and Worcs town wharf, with a wharfing crane. The canal crosses the R Stour here on a brick aqueduct and immediately falls through a lock and passes under the ring road. We turn into Messrs Brintons' yard and visit a sequence of their factory buildings; the finest is the four-storey Slingfield Mill of 1864 with polychrome brick and a distinctively local style of pointed window head. Brintons have come to our rescue with this visit, but it is not possible to go into the loom sheds with such numbers. We leave Brintons and return along the Ringway, into Green Street which is a canyon between mill buildings and loomshops. Woodward-Grosvenor's romanesque style office hides Lord Ward's Shed, built c.1864 for lease to assist the carpet industry at a particularly difficult period. There are arguments - some say that Lord Ward's Shed was across the road and has been demolished. Chlidema Carpets is a small plain office, but the company was established to use a patent for weaving patterned squares which otherwise had to be cut and pieced. The Victoria Carpet Company moved from Kirkaldy in 1899, and has continued to develop as the different phases of building show. Across the road (right) is an enormous weaving shed with window openings in the local style, formerly the Carpet Manufacturing Company but now used as warehousing. The last carpet-related building on the left is a flatted showroom of 1924. On the corner is a small Waterworks building in brick decorated with terracotta, dated 1903. The older pumphouse and boiler house is now part of the Council depot on the left.

Leaving Kidderminster for Stourport, the road passes the sugar beet factory established in 1930, and two large engineering works which moved here from the Black Country in the 1930's. The wide grass verge was the site of the Kidderminster to Stourport tram route. We enter Stourport's circuitous one-way system, crossing the Staffs and Worcs Canal and passing the premises of the Anglo-American Enamelware Company which became part of the Kenrick (West Bromwich) group in the 1930's. We cross the canal again by York Street Lock, which has both a keeper's cottage and a toll office; the Middle Basin is left. Stourport was largely created by the canal and the interchange traffic between the canal and the R Severn, and there are many late-C18th and early-C19th buildings. We alight and walk down the riverside, under the fine cast iron bridge (1870) to the river locks and basins. Packed lunches are provided.

We leave Stourport promptly to travel to Bewdley where we catch the train to Bridgnorth. From the train, Bewdley's Severnside wharves and the fine five-arched stone bridge by Telford (completed 1801) can be seen. The piers of the bridge carrying the Tenbury Wells branch are still complete, and the line passes through an area of chalets with fascinating variety of styles and origins. The Severn is crossed by the Victoria Bridge which when completed in 1861 was the largest cast iron span then built; it was designed by John Fowler and cast at Coalbrookdale. Evidence of mining can be seen at Highley and on the east bank at Alveley, where mines worked the Wyre Forest coalfield; a bridge which once carried cable tubs to railway sidings on the west bank is still there. A cast iron bridge (1841) carries the Severn towpath over the Mor Brook, and the decayed chimney of the Lower Forge at Eardington is just visible (right). This site powered by water brought in a navigable canal tunnel from the Upper Forge was leased by John Bradley & Co of Stourbridge in 1809 and closed in 1869; several cottages are still in use and other buildings

have been converted. Below the viaduct is Daniels Mill, a water-powered corn mill now driven by a 38ft diameter iron wheel and open to the public. We arrive at Bridgnorth station, where there will be time for a VERY SHORT walk round the engine sheds before boarding the coach.

The coach skirts the sandstone bluff with its slighted castle keep and the Telford-designed church of St Mary and St Michael, built 1796-97. Where the road bends sharp right over the bridge, look back to see the Castle Hill Cliff Railway, the only inland cliff railway dating from 1892. It was originally driven by water balance, but was converted to electric winding in 1944. On the corner is a river warehouse, now converted and advertising Ridleys, the world's oldest seedsmen; their works is across the river. North of the bridge on the east bank was the HAZLEDINE Foundry, associated with John Urpeth Rastrick and Richard Trevithick. Trevithick's 1808 London locomotive was built here, together with many other steam engines. A bronze plaque on the clock tower over the bridge (left) commemorates this association. We climb the steep hill from the narrow Severn valley, taking the A454 towards Wolverhampton. and joining the B4176. We pass through Wombourn, crossing the Smestow Brook and the Staffordshire and Worcestershire canal, and passing WOMBOURN Station on the G.W.R.'s dismantled Wombourn Branch, opened on January 11th 1925. Passenger traffic on the line was not a success and was 'suspended' on the 31st October 1932. Goods traffic continued until March 1st 1965; the line is now a 'leisure walkway', with interpretation centres at several stations.

Ahead, the toll house and Bratch locks climb the hill while left is The Bratch Water pumping station built for the Bilston Urban District Council Waterworks Company, the foundation stone being laid on June 28th 1895. It was designed by Baldwin Latham of London. The water supply commenced on 2nd July 1895 although the station was formally opened on the 12th August 1897. The construction of the two triple expansion engines was begun by James Watt & Company of Smethwick, but when they were declared bankrupt in 1895 the engines were completed by Thornewill & Wareham of Burton-on-Trent in 1896 and 1897, number one engine being named 'Victoria' and number two engine 'Alexandria'. Each engine could raise one million gallons of water in twenty hours. These engines were shut down in 1960.

The three Bratch locks were built to drop the Staffordshire and Worcester canal down 30ft. They are separated by short pounds with side sluices and overflows, one side sluice can be found on the other side of the lane. Originally built as a staircase. The canal, engineered by James Brindley, was opened in 1772 linking the River Severn at Stourport with the Trent & Mersey at Great Haywood near Stafford, a distance of 46½ miles using 45 locks.

The coach returns to Dudley past Himley Hall, seat of the Lords of Dudley from 1750. At Hascoe (Askew) Bridge the dried ponds of Dud Dudley's furnace are just about visible.

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#### FRIDAY SEPTEMBER 13TH - BIRMINGHAM AND SMETHWICK.

The route passes through Oldbury and Smethwick on the way to Birmingham's Jewellery Quarter, for a guided walk and preview of Birmingham City Museum's restored workshop. From the top of Farmers' Bridge Locks we embark for a journey along the Birmingham Canal to Brasshouse Bridge, Smethwick. Here we see the Smethwick locks, Engine Arm Aqueduct and the excavated site of the 1779 Smethwick engine by Boulton & Watt. Pausing briefly at Avery's Soho Foundry, we return to Birmingham by coach for a special steaming of the Smethwick engine at the Science Museum.

Guides: John Crompton, Ron Moss, Paul Collins, Peter Glews etc.

The coach leaves Dudley via Castle Hill, passing the ruins of the Priory (Cluniac, c.1160) and the castle. The latter is C14th on an earlier defensive site; the keep was slighted by Cromwell in 1646, but the Lords of Dudley continued to use the C16th extensions until 1750. The hill now houses Dudley Zoo, 1937 with avant-garde concrete buildings designed by Messrs Tecton (listed Grade II). Dudley's High Street lies between the 'top' and 'bottom' churches, and its wide market place is still active six days each week. At the bottom of Castle Hill the Oxford, Worcester & Wolverhampton Railway (1852) emerges from its tunnel through the limestone ridge.

Burnt Tree (roundabout) lies on the edge of the Coneygre estate, where Newcomen's first successful engine was built in 1712. From the 'New Road', built 1924-27 with government aid for the relief of unemployment, there is a fine view across the basin of the Oldbury branch of the Tame. Spoil from the Netherton canal tunnel, completed 1858, forms a bank beyond the playing fields. The bridge abutment carried a former quarry tramway bridge demolished in July 1991. Approaching Oldbury, there is a glimpse of a retaining wall built of phosphorous crucibles; Albright perfected a process for making amorphous phosphorous and built a works near Oldbury in 1851, but his Quaker principles prevented further development because he felt it could only be used for war; the safety match was developed in Sweden in 1854 from samples sent from Oldbury.

Beyond the Oldbury ring road the M5 motorway is elevated on concrete pillars, with Brindley's Old Line Canal of 1772 meandering between them. There is a glimpse of Broadwell Works, developed from 1854 by Johnson & Kinder and later as the Oldbury Carriage and Wagon Company. The site of Chance's once huge glassworks lies on the left, now a modern trading estate whose name board is carried on two ornate cast pillars from a glass casting shop. The site was first developed by the British Crown Glass Company c.1812, and acquired by Henry Chance in 1824. Sheet glass manufacture was introduced in 1832, and the company provided the glazing for the 1851 Crystal Palace. There are several ranges of warehouses and a seven-storey block (1847) between the canal and the M5, and the former company school is visible along Spon Lane. Just beyond the motorway the ornate spire of Archibald Kenrick & Sons' offices can be seen. The company was founded in 1793 on this site to make domestic cast holloware; the office and some fragments of the 1880's are still in use, and in the 1950's the Shepherd castor was developed here.

Entering Smethwick, there is a glimpse of Telford's famous Galton Bridge over his Birmingham Canal New Line (1827), now running parallel to the route in a deep cutting, and itself paralleled by the Stour Valley Railway (LNWR) opened for freight in February and to passengers in July 1852. Brindley's original 1769 line climbed over a short summit level at 491ft a.s.l with six locks each side, which suffered acute water shortage problems. Smeaton lowered the summit to 473ft, the level of the Wolverhampton Old Line (1772), passing through a deep cutting and reducing the locks to three on the east side and three down to the Walsall line. This was still unsatisfactory, and in 1825 Telford was called to report on and improve matters. He transformed Brindley's 'crooked, stinking ditch' by driving the New Line at 453ft through enormous cuttings and over high embankments to Tipton. Smeaton's Old Line parallels Telford's New Line under Brasshouse Bridge, where a pumping station to return water to the upper level was built in 1892.

The canals here are lined with generations of industrial premises. Heath Street passes through the middle of what was Guest, Keen & Nettlefold's works.

Nettlefold & Chamberlain established the works in 1854 to exploit Sloane's Patent for machine-made pointed woodscrews, and the site expanded rapidly in the 1880's and 1890's - one gable end on the right carries an 1897 datestone. GKN still has offices here, but the site is in multiple occupation. We turn to cross the combined canal and railway cutting, so straight when compared to the contour course of Brindley's Soho Loop which the route also crosses. The low terracotta frontage, a former plating works, is a victim of previous rating regulations which required owners to remove the roof (and here a storey as well) to escape rates on empty buildings. On the junction with the Birmingham ring road is Springhill Library, a superb example of Birmingham civic building in brick and terracotta. Designed by Chamberlain & Martin and opened 1893, the most ornate work is just round the corner in Icknield Street. The Birmingham Mint, established here 1860, is visible before we turn into Warstones Lane and into the Jewellery Quarter, passing too many works to mention. The clock in the centre of the Vyse Street/Warstone Lane crossing was erected to commemorate Joseph Chamberlain's visit to South Africa after the Boer War. In Vyse Street we alight at the Jewellery Discovery Centre, which is being prepared for opening to the public and which incorporates the works of Smith & Pepper.

NB: the second coach will travel to Newhall Street to begin a guided walk through the Jewellery Quarter, finishing at the Discovery Centre. The route skirts the south-west margin of the Quarter, with views of the new International Conference Centre and Arena. We cross the Farmers Bridge locks of the Birmingham & Fazeley Canal (opened 1789) twice, and narrowly avoid the Inner Ring Road which tunnels under the Central Library and passes through a concrete canyon in Great Charles Street. Some of Birmingham's fine turn-of the century commercial buildings are briefly glimpsed.

Both parties will visit the Discovery Centre and walk with guides through the Jewellery Quarter, meeting up again to embark at the top of Farmers Bridge Locks. Brindley Wharf, the departure point for the voyage by canal, was a much vaunted piece of early 1970's 'restoration' of near-derelict canal. The basin is the much shortened New Hall branch, one of the two terminal branches of Brindley's original canal.

At Farmers Bridge Junction, marked by a small island, the Oozells Street Loop, part of Brindley's original alignment, is straight ahead. To the left the canal passes behind the Conference Centre and under Broad Street to Gas Street Basin. To the right is Telford's New Line completed in 1827, now graced by the rear of the new National Indoor Arena. Many of the bridges bear dates. The Icknield Port Loop - another piece of Brindley - branches off left under a typical cast iron roving bridge, and Bellis & Morcom's works (now NEI) were served by both the loop and the Main Line. Icknield Port Road Wharf has a fine cottage with gothic windows and door, and an iron wharf crane, all restored. The end of the loop is a canal crossroads to the Soho Loop, avoiding a deep cutting (which didn't deter Telford) through the hill. The Soho Loop takes an obvious contour course round the hill. Where it passes under the Dudley to Birmingham road were 'Mr Harcker's Glass Works' and a basin with three docks, the site of which later became the Springhill Boiler Works. Dudley Road Hospital was previously a Workhouse, and further round the loop were the Borough Smallpox Hospital, the Borough Fever Hospital, the Borough Lunatic Asylum and Winson Green Prison. The Hockley Port branch was originally the Soho branch, built to serve Boulton's Soho Manufactory which was about  $\frac{1}{2}$  mile from Brindley's line in the valley of the Hockley Brook; the  $\frac{1}{4}$  mile branch terminated at a wharf from which a road ran to the works. Just before passing under the Stour Valley line (1852) is Wellington Works, a fascinating engineering works now in multiple occupancy.

Beyond the junction with Telford's line was Winson Green 'Stop', one of several islands where boats were 'gauged' and recorded, and tolls collected. The wooden office was burned down in the early 1970's. Adjacent is the railway depot where suburban sets are maintained. Telford's line continues through a complex of industrial premises, with evidence of a former loop which served the GKN works. Another short branch served the Soho Foundry. At Smethwick the right fork leads to Smethwick Locks under a roving bridge cast by the Horseley Company in 1828. Telford's line continues in deep cutting, passing under the magnificent Engine Arm Aqueduct which carries a feeder from Rotton Park Reservoir. We disembark at Brasshouse Bridge (Telford's fine Galton Bridge is just beyond the ugly earth bank which carries a link road to the M5).

We disembark to hear about Sandwell Borough's work in restoring the canal features of the valley. Note that the pumping station once again has a chimney and an engine, pump and boiler similar to the originals are being installed. The interior cannot be accessed at present. We walk back to Engine Arm Aqueduct and down the Smethwick locks; the present lock chambers are those added by Smeaton in 1783 and the Brindley locks were filled only in the 1970's. Half the party will be encouraged to walk ahead to the excavated site of the 1779 Boulton & Watt pumping engine at Bridge Street - not everyone can look at the same time! The site was excavated in the early 1980's under the leadership of Jim Andrew (Birmingham Science Museum) who published an article in IAR. Once you have seen the site, please make way for others. There is time to return to the canal and look again there.

Leaving Bridge Street we pass a small electricity generating station and then go through the site of Richard Tangye's Cornwall Works. This was Tangye's third site in Birmingham, developed after 1862 to make steam and gas engines, hydraulic jacks and presses, and all types of machine tools. It closed in the late 1950's. Round the corner is Avery's, the weighing makers who took over Watt's Soho Foundry when it became bankrupt in 1895. The party will alight briefly to see the cottages built for Murdoch and the partnership's workers c.1800, and two pairs of decorative cast gates. We then return to Birmingham, past Winson Green prison and rejoining routes used earlier to the Science Museum where the Smethwick engine is being specially steamed for our visit.

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#### **SATURDAY SEPTEMBER 14th: TOUR A - CHAIN IN THE CRADLEY DISTRICT**

Guides: Ron Moss, Vi Wetton, David Whyley.

This excursion visits the hamlet and demonstration chainshop at Mushroom Green, followed by a guided walk through the chain-making district of Cradley Heath. It concludes with a short walk down the 'Nine Locks' at Black Delph.

For the first part of the journey, see Tuesday Coach A.

From Netherton, the route passes down Primrose Bank, crossing the Dudley No 2 Canal at the top. On the right is Lloyd's Chain Proving House, re-clad now, which closed in March 1991. This tested chains and anchors from the Netherton area to Admiralty specifications, and was responsible for the proving of the Titanic anchor and chains. On the left was Noah Hingleys Netherton Iron Works, established c.1835; the Black Country's first steam hammer was set up here in 1851, supervised by Nasmyth himself. A huge combine was established and the quality of the iron was world-famous. The site was cleared in 1989. The canal basin with its surviving wooden warehouse was built by the LNWR in competition with the GWR's Withymoor Interchange Basins, and served by road. The coach

the 'Nine locks' at Black Delph (see Saturday A notes) and The Vines where Batham's beers are brewed (see Tuesday notes). We pass a corner of the 'Merry Hell' shopping centre, travel along Saltwells Road, with Doulton's clay pit providing the basis of their sanitary ware trade location in the woods (left). In St Peters Road we once again crossing the canal (Dudley No 1) where the party alights to walk along the towpath to Netherton Tunnel and Cobbs Engine. The National Waterways Rally was held here over August Bank Holiday, and the area was heavily 'tidied up'. Netherton Tunnel was cut 1855-58, the last great canal tunnel, 3027 yards long with a 17ft wide waterway and twin towpaths, lit by gas and later by electricity generated by water falling over a turbine from the 473ft to the 453ft levels at the Tividale aqueduct.

Above is Cobbs Engine, a brick house built c.1831 which contained a Watt type single acting engine. It was taken over in 1873 by the South Staffordshire Mines Drainage Board and modified to the Cornish cycle with a 63 inch diameter cylinder, pumping almost half a million gallons a day until the 1920's when the Drainage Board abandoned pumping. Adjacent was an atmospheric winding engine moved here in 1832 but thought to have been built c.1800. It was acquired in 1930 by Henry Ford together with a haystack boiler for his museum at Dearborn, Michigan.

The coach now returns to Dudley.

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#### SATURDAY SEPTEMBER 14TH - TOUR C, LEATHER AND LOCKS

Guides: John Crompton, Howard Wootton

This excursion travels to Walsall, visiting the Leather Centre and Museum where traditional leather crafts are demonstrated. In Willenhall we visit the National Lock Museum, a preserved small lock works where traditional techniques are demonstrated.

The coach leaves Dudley through the 1930's Priory Estate and along the Wolverhampton New Road, built in 1927 with unemployment relief. At Woodsetton the very straight line of the very late Sedgley - Tividale turnpike, surveyed in November 1840 and enacted in June 1841, is crossed. This area is called The Foxyards, the Staffordshire Thick Coal lay very close to the surface and the area was heavily mined. The road passes a converted windmill tower and rises over Rose Hill, then on the right is the Birmingham Canal emerging from Coseley Tunnel (1837). We take the new Link road which crosses the canal (1772), the Stour Valley Railway (1852), and the site of Bilston Steel Works; ironworks activity began with the Springvale Ironworks which were acquired in the 1860's by G R Hickman. By 1880 there were five iron-cased furnaces producing 25,000 tons per annum. Another company, the Staffordshire Steel & Ingot Works, was established in 1882 to make steel by the Thomas-Gilchrist process, and in 1895 the two companies amalgamated as Alfred Hickman Ltd. Stewarts and Lloyds took over in 1920. Three of the C19th furnaces worked to 1953, when they were replaced by 'Elisabeth' the Black Country's last blast furnace. This was demolished in 1980 and the works has been completely swept away. The Oxford, Worcester & Wolverhampton line, closed in 1962, is also disappearing as roadworks progress.

We pass along the busy Bilston High Street, where some much altered C17th buildings survive, and cross behind the church into Mount Pleasant. On the left is a former tramways generating station and next to it the tramway

offices, with a distinctive magnet symbol. The route skirts Willenhall, crosses the now dry line of the Bentley Canal (1843, closed 1961) and at the motorway roundabout the Anson Branch, opened 1830 and dredged in 1979. Entering Walsall, we pass the derelict Foundry of the Walsall Malleable Iron Company, which looked just as derelict when it was working. The eight Walsall Canal Locks were completed in 1841, linking the Walsall Canal (1799) with the Wyrley and Essington at Birchills. Next to the canal is the Albion Steam Corn Mill, dated 1848, with its own covered canal arm, just wide enough for one boat, next to the lock chamber. We pass along the tortuous ring road to the Leather Centre which we visit.

The coach returns by the same route to Willenhall, passing through the town on the old turnpike road, past the derelict Albion Foundry, the cholera burial ground called 'Doctor's Piece, and several small workshops associated with the lock trade. The National Lock Museum was established in one of these and has the support of the local industry. The house was latterly a draper's shop, the lock workshop being rented out.

After the visit the coach returns via Portobello, passing the Union Lock Works of Josiah Parkes and crossing the Grand Junction Railway (1837). Stow Heath was a desolate wasteland of mining activity, but only a few landscaped heaps remain. We cross the Holyhead Road realigned by Telford in the 1820's, and pass New Village, which provided housing for the many local ironworks at the beginning of the C20th. At Union Mill (the inn of that name was demolished in 1988) we pass over the Birmingham Canal and under the Stour Valley Railway. There are several large works, the most striking being the 1930's concrete and glass power house of the former John Thompson Boiler Works. Left is Tarmac's original plant, the offices being off our route in Millfields Road. We return to the Birmingham New Road and to Dudley.

