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Editorial

Between what two adjacent station 1.5 miles apart do trains traverse one of the oldest railways and one of the newest? The answer is between Deansgate and Salford Crescent (Greater Manchester), as a short section of the Liverpool and Manchester of 1830 and also the Windsor Link opened in 1987 are passed over. For the 5/8ths mile from Deansgate to Ordsall Lane the line is on a viaduct and there is an excellent view, opened up in recent years by the demolition of derelict buildings, of what must be the greatest concentration of transport archaeology anywhere. Not only the Bridgewater and Rochdale canals can be seen, but the site of the junction of the Manchester Bury & Bolton with the Irwell, almost at the limit of improvement as the Mersey and Irwell navigation. There is also a good view of the restored Liverpool Road station, while Castlefield Junction indicates that it is on the site of Mamucium, the Roman fort and posting station on the road from Chester to York. Doing this journey a few weeks ago I wondered whether more should be done to develop awareness of this unique heritage in addition to the welcome clearing up programme. It is true that Liverpool Road houses the railway collection of the Museum of Science and Industry, but is there a case for a comprehensive transport museum? And the provision of a marked transport trail? Perhaps all this is being done, it would be interesting to have members views and ideas.

Arthur St. G. Walsh—an Appreciation

The morning that the wooden staircase to the Crewe platform at Chelford was closed as unsafe, Arthur missed his usual train for Chester because there was not enough recovery time in his legendary mile walk from his home for him to make a longish detour down the alternative footpath. So he went to the little booking hall on the Down platform and began waiting patiently and without complaint for an hour to pass before the next stopping train. He was then well into his nineties. It was my last memory of him for he moved soon afterwards to Chester where he died last September only a few months short of his century.

He was christened Arthur St. George because he was born on St. George's Day and after graduating at Cambridge and service in the First World War with the Manchester Regiment, he was a master at the King's School Chester, where, for some 35 years, he installed a love of railways into some of his pupils. Local railwaymen kept him well informed and when pupils suddenly found his classes were being taken by other masters, they knew the Chester railway world was astir.

After retirement as a master, he spent many years going back to school working on its history and that of its old boys' organisation. In later years he always replied to an invitation to give a talk: 'I shall be delighted to speak, on one condition—that I am still alive.'

Those who never knew him will be able to reflect upon his work for some of his railway papers, and those of his brother, are housed in the Heritage Library at Stockport, a town with which he had life-long associations, not least through having been a pupil at the Grammar School from 1903–12.

Chelford footbridge still awaits replacement. When it happens I shall once again remember Arthur as a man whose enthusiasm led so many to study railways and value and appreciate the deep enjoyment to be got from them. REX CHRISTIANSEN

A Survey of the River Lea by Sir Christopher Wren (Part II)

BY KEITH FAIRCLOUGH

(continued from page 17)

What is also of note is that although recommendations for improving the existing navigation, by stricter control and supervision of the conflicting interest groups, were forwarded, the conclusion of the report was that it would be far better to canalise the river. The report in fact recommended the very policy which was eventually authorised, but not until 1767. Canalisation was a common river improvement policy in the seventeenth and early eighteenth centuries,[37] but there is remarkably little interest shown in such ideas along the Lea, despite, or because of, it being a thriving navigation. This report by Murray and Wren is the earliest example of such a policy being advocated, and the only other occasion before 1766 that similar ideas emerge was in the late 1730s when a minority group, possibly advised by John Hore, favoured such a solution.[38]

Another important trend noted by Wren and Murray was the importance of mills along the river. They note an expansion in the number of wheels, and indeed many corn mills had three or four pairs of stones by this date, and they emphasise a variety of industrial uses. At the beginning of the seventeenth century all water mills along the valley ground corn, with the exception of fulling facilities at Ware, Waltham, and Stratford, and some gunpowder production at Stratford. By 1670 a different pattern had emerged. Water mills along the upper river between Hertford and Waltham were still corn mills, serving the London bakers as well as the local markets; mills along the lower non-tidal river between Waltham and Leyton had mostly been converted to a series of industrial uses; whilst the tidal mills at Stratford were corn mills, also serving the London bakers. The two areas of corn milling tapped different sources of grain, the upper river relied on Hertfordshire and Cambridgeshire, the Stratford mills processed grain brought by coastal traffic. In both these areas some fulling capacity remained, but it was the need for meal in the London markets that spurred the expansion in milling capacity. In the area dominated by industrial milling some corn milling did remain, but the general pattern of development was reliant upon entrepreneurs seeking facilities to use to serve the London industrial markets. In particular this area emerged as a major centre of the gunpowder industry. Between the 1640s and 1690 virtually every mill along this stretch of the river was associated with the industry at some date, some were temporary sites during war which turned to other uses when peace came, some were associated with the industry throughout this period. The sites of all the industries noted by Murray and Wren can be identified, and in addition oil processing can be added as an important use of mills, but this was both before and after 1670, for at the time of this report none of the mills were put to this use.[39]

This report is of interest as a unique snapshot of developments along the Lea during the seventeenth century, but it cannot be said to have had much influence on the navigation. Many recommendations were already the customary practices of Commissioners of Sewers, those that were not, including the best solution of canalisation, were never implemented. There is no evidence to suggest that later improvers used this report as support for their own ideas, or that they ever knew of its existence. The report may have had some immediate effect upon the activities of Commissioners of Sewers, but the absence of their records means that this cannot be checked and in 1681 the Privy Council did suggest that the Commissioners consult the report once more,[40] but that it is all. An interesting document to a minority today, it may be, but it was a report that had little influence in its own day.

NOTES

1 Public Record Office (hereafter PRO), PC 2/62, 25 February 1670. The Privy Council registers have no further reference to the report, so it is not known whether it was ever discussed by them.

2 Mylne was appointed joint-engineer to the New River Company in 1767, as assistant to Henry Mill. On Mill's death in 1770 he was appointed Chief Engineer, a post he held until his retirement in 1811 when his son, William Chadwell Mylne, succeeded him. Robert was also chief surveyor to the Dean and Chapter of St Pauls, and he was responsible for an inscription to Wren being placed over the choir screen as well as setting up the great stone of Wren's monument. When he died Robert insisted on being buried in the crypt of St Pauls Cathedral, close to the remains of Sir Christopher rather than at the family mausoleum at Great Amwell: R. S. Mylne, *The Master Masons to the Crown of Scotland and their Works*, Edinburgh 1893, pp. 261-83; *Dictionary of National Biography*

3 The report makes reference to an annexed schedule of abuses made by private persons (fishermen, millers, riparian landowners). If this schedule still existed Mylne did not copy it

4 B. Rudden, *The New River: A Legal History*, Clarendon Press, Oxford 1985, pp. 32-35

5 Gomme: a Dutch military engineer who worked for both Charles I and Charles II. In 1661 he was appointed engineer-in-chief of all the King's castles and fortifications. During the 2nd Dutch War coastal traffic between Newcastle and London was so harried by the Dutch that the colliers were putting into Kings Lynn and taking coal by river to Cambridge, then by road to Ware, and then to London down the Lea. The total cost of carriage from Kings Lynn to London was at least 30/- a chaldron, two-thirds of which arose from the road haul between Cambridge and Ware. In November 1665, to offset such problems the Privy Council ordered de Gomme and Jonas Moore to investigate the possibility of a canal between the river Cam or other rivers in East Anglia and the Lea or any other river that entered the Thames. Nothing else is known of this initiative: *Calendar of State Papers Domestic 1667*, p. 268; PRO, SP 29/137 nos. 150, 153

6 *Dictionary of National Biography*

7 S. Wren, *Parentalia: or Memoirs of the Family of the Wrens*, London 1750, pp. 198-99. For a discussion of Wren's early scientific background: M. Hunter, 'The Making of Christopher Wren', *The London Journal*, Vol. XVI no. 1, 1991, pp. 3-14

8 Wren, *Parentalia*, pp. 267-71; P.Abercrombie, 'Wren's Plan for London after the Great Fire', *The Town Planning Review*, Batsford, London 1977, pp. 22-30; J. Ogilby, W. Morgan, '*A New and Accurate Map of the City of London*' London 1676; *Wren Society* Vol. XII, plate XXIV, University Press, Oxford 1935; *Wren Society* Vol. XVIII, University Press, Oxford 1941, pp. 201-02

9 *Commons Journals*, Vol. I, pp. 261, 262, 265, 309-13; 3 Jas. 1 c. 18. The early history of the New River has been told by the following, but none have dealt in detail with the effects of the scheme on the Lea, and only Rudden has noted that the Lea was a major source of water as early as 1619; Rudden, *The New River*, pp. 7-22; J. W. Gough, *Sir Hugh Myddelton: Entrepreneur and Engineer*, Oxford 1964; G. C. Berry, 'Sir Hugh Myddelton and the New River', *Transactions of the Honourable Society of Cymmrodorion for 1956*, pp. 17-46.

10 PRO, SP 14/78 no. 106; Bodleian Library, Tanner MS. 98 fo. 49 About 1600-03 when the New River scheme had been first mooted by Edmund Colthurst a Commission of ad quod damnum was issued to see if tapping the springs would harm navigation along the Lea, and this Commission also concluded that it would not: Hatfield House, CP 184.50; Bodleian Library, Tanner

MS. 98, fos. 48, 49, 113; Greater London Record Office, Acc 1953, Deeds Register Book B no. 185; *Calendar of State Papers Domestic 1603–10*, p. 93

11 PRO, C66/2180, in dorso rotuli, C231/4 fo. 141, LR 2/31, 5 September 1618, 10 October 1618, LR 2/32, 5 December 1618; Greater London Record Office, Acc 1953, Deeds Register, Book C no. 306

12 PRO, LR 2/32, 2 December 1620, 16 December 1620; *Acts of Privy Council 1619–21*, p. 8

13 Bodleian Library, Gough MS, Hertford Papers, 1(12). For a discussion of this improvement scheme: K. R. Fairclough, 'The River Lea 1571–1767: A river navigation prior to canalisation', unpublished Ph. D. thesis, University of London 1986, pp. 155–69

14 PRO, PC 2/60, 16 October 1667

15 V. A. Rowe, *The first Hertford Quakers*, Religious Society of Friends, Hertford 1970, pp. 9–19; *Victoria County History Hertfordshire*, Vol. 1, p. 36; PRO, E 112/303/86 Herts 12 Chas II; J. Loftes, editor, *The Memoirs of Anne, Lady Halkett and Ann, Lady Fanshawe*, Clarendon Press, Oxford 1979, p. 105

16 Hertford Record Office, Borough of Hertford Records, Vol. 20 fos. 445–46

17 PRO, PC 2/59, 11 September 1667, PC 2/61, 22 September 1669, PC 2/62, 1 December 1669, C 225 Bundle 2 no. 5A, SP 29/268 no. 79. For a fuller exposition of the disputes before the Privy Council during the late 1660s: Fairclough, 'The River Lea 1571–1767', pp. 171–80, 201–210

18 Manifold Ditch is the channel shown as Manifold Ditch and the Barge River on Figure 1. The use of the term Barge River was politically motivated, reminding the New River Company that the bargemen were prepared to open this old route if they so chose. Evidence of its actual use as the navigable channel is hard to discern, but it was always accepted as the traditional navigable channel (see also footnote 24).

19 Hertford Record Office, Borough of Hertford Records, Vol. 20 fo. 458, Vol. 39 fo. 21; British Library, Add Mss 27979; B. D. Henning, editor, *History of Parliament: The Commons 1660–1690*, Secker & Warburg, 2 volumes, Cambridge 1989, Vol. 1, pp. 768–59

20 PRO, PC 2/62, 17 November 1669, 24 November 1669, 1 December 1669, 8 December 1669, 15 December 1669, 21 December 1669; W. J. Hardy, W. le Hardy, editors, *Hertford County Records*, 10 volumes, Hertford 1905–57, Vol I, pp. 215–16

21 City of London Record Office, Repertories 75 fos. 16, 86

22 These two springs, Chadwell and Amwell, were the sources originally authorised by the Enabling Act. The sites can be seen today. Chadwell spring was temporarily dry in the Summer of 1992 as a result of recent weather conditions, while Amwell spring dried up some years ago and had to be supplied by pumping.

23 Ware mill, a corn and fulling mill, was bought by Sir Thomas Byde in 1668. The pound lock next to it was the only pound lock along the navigable Lea at this date, and was to remain so until the 1760s. When the pound lock was first built in 1658 a toll of 6d was agreed, but in 1668 this had been increased to 1/- when Byde agreed to rebuild it. However after further disputes in 1674 Byde, who had become an MP for Hertford in 1673, agreed to waive his rights to collect a toll, and the pound lock remained toll-free until the following century: Hertford Record Office, Borough of Hertford Records, Vol. 20 fo. 490, Vol 21. fo. 49, Vol. 39 fos. 22, 31

24 Black Ditch is another branch of the Lea between Hertford and Ware (see n on Figure 1). One of the improvements implemented during the late Tudor period was that for the first time since the early medieval period the river was made navigable between Hertford and Ware. The route chosen was down Black Ditch into Manifold Ditch and down to Ware. Thus for this short period both Black

Ditch and Manifold Ditch were recognised as the navigable channel of the river Lea. During the winter of 1594–5 the mouth of Black Ditch was blocked up on the orders of Thomas Fanshawe, and though some limited movement of craft may have been possible between Hertford and Ware after that, it was not until the improvement scheme of the Interregnum that the larger barges could move regularly between the two towns: Fairclough, 'The River Lea 1571–1767' pp. 55–56, 155–57

25 In 1766 John Smeaton reported there was a fall of 111 ft. from Hertford to Bow Lock: *Reports of the late John Smeaton FRS* (3 vols., London, 1812), ii, 155–63

26 40 miles is far too long for the navigable river. An accurate survey made in 1741 and used by Smeaton and Yeoman in 1767 shows that the navigable river from Hertford to Bow Lock was 31 miles, and Ware is a couple of miles downstream from Hertford. It was the circuitous contour built New River which was nearly 40 miles long.

27 sasse (*OED*) an obscure word for a lock or sluice, also spelt soss

28 sharp (*OED*) 'A shoal in a river-bed'. Obscure, rare. The example cited in the dictionary is from 1776

29 This refers to Waltham Turnpike. Turnpike was the term used along the pre-canalised Lea for a flash lock built specifically to improve the navigation, as opposed to the flash locks erected within private fisheries, ostensibly to enhance the catch, but really to take advantage of customary toll rights: For a fuller discussion of terminology and construction: Fairclough, 'Navigation Devices along the River Lea, 1600–1767', *Transactions of the Newcomen Society*, forthcoming.

30 During the first half of the century the capacity of barges had probably been 8–10 tons, and were this size during the Interregnum. This comment by Murray and Wren about recent expansion is confirmed by later references, to 19 barges carrying an average of 160 quarters each in 1681, to 200 quarters being carried in 1683, and calculations in 1698 which assumed that barges carried 30 tons: Hertford Record Office, Borough of Hertford Records, vol. 39 fo. 1, Hobday Papers, copy of 'Articles of ye Bargemasters and Maulsters . . . before Chief Justices Jeffereyes and Justice Withens'; City of London Record Office, Repertories 98 fo. 246

31 gunpowder

32 Measurements taken by Dr Desaguliers in August 1736 show that the New River Company were extracting about 2,100–2,400 Tun of water an hour from the Lea compared to 200 Tun an hour that Desaguliers estimated was the amount allowed by a strict interpretation of the 1669 decision. He later revised this estimate downwards, to 90 tuns an hour. All the evidence suggests that such an increase in intake had been effected definitely about 1707, and there is good reason to suspect that the New River Company had begun taking more water soon after the 1669 decision had been made. By the 1730s the bargemen were no longer intent on restricting the intake by the Company, rather they negotiated a settlement whereby the Company acquired a legal right to this extra water in return for an annual rental payment. This income was sufficient to maintain and effect minor improvement to the existing flash lock navigation: *Commons Journals*, Vol. XXIII, pp. 99, 294–5: Fairclough, 'The River Lea 1571–1767', pp. 290–306

33 *Gentleman's Magazine*, Vol. XXIII, London 1753, pp. 114–6

34 For a discussion of the nature of the flash lock navigation and the conflicting interests of the various parties along the river: Fairclough: 'The River Lea before 1767: An adequate flash lock navigation', *The Journal of Transport History*, Third Series, Vol. 10 No. 2, September 1989, pp. 128–44.

35 For a preliminary discussion on the role of a Commission of Sewers supervising a river navigation, an unusual situation as the general practice was to supercede

their authority as part of any improvement scheme: Fairclough, 'The River Lea 1571-1767', pp. 116-53, 308-14

36 For instance, see records of the Commissioners of Sewers appointed in 1719 and 1740: London Borough of Enfield, 'River Lee, Book of Sewers in the Years 1719 & 1720'; PRO, Rail 845/53

37 W. T. Jackman, *Development of Transportation in Modern England*, Frank Cass, London 1966 3rd edition, pp. 156-210; T. S. Willan, *River Navigation in England 1600-1750*, Frank Cass, London 1964 2nd edition, and numerous articles cited in 1966 edition of Jackman; A. W. Skempton, 'Canals and river navigation before 1750' in C. Singer et al, editors, *A History of Technology*, Oxford University Press, 8 volumes, Oxford 1954-74, Vol. III, pp. 438-70; Skempton, 'Engineering on the English river navigations to 1760' in M. Baldwin, A. Burton, editors, *Canals: A New Look*, Phillimore, Chichester 1984, pp. 23-44

38 House of Lords Record Office, petition of Lord Mayor of the City of London, 30 May 1739; Lincoln's Inn Library, MP 103 fo. 241. John Hore was called as a witness before the House of Lords in 1739 when it was minuted that he had 'lately surveyed the River Lee'. No other record of this survey has been discovered, but since all his other work on navigation involved either lateral canals or canalisation it may be that he advocated the alternative and more ambitious scheme for the Lea that was definitely under discussion: Lords Journals, Vol. XXV, p. 309; Skempton, 'Engineering on English River Navigations'; Willan, 'The Navigation of the Thames and Kennet 1600-1750', *Berkshire Archaeological Journal*, Vol. XL, 1936, pp. 146-56; J.Boyes, R. Russell, *Canals of Eastern England*, David & Charles, Newton Abbot 1977, p. 63; M. Handford, *The Stroudwater Canal*, Alan Sutton, Gloucester 1979, pp. 57-66

39 The trends discussed in this paragraph are beginning to be dealt with more fully: Fairclough, 'Early Gunpowder Production at Waltham', *Essex Journal*, Vol, 20 No. 1, Spring 1985, pp. 11-16; ibid, 'Temple Mills as an Industrial site in the seventeenth century', *Essex Archaeology and History*, Vol. 22, 1991, pp. 115-21; ibid, 'Mills and Ferries along the lower Lea', *Essex Archaeology and History*, Vol. 23, 1992, forthcoming, pp. 57-66

40 PRO, PC 2/69, 14 July 1681

Acknowledgements

I'd like to thank Professor Rudden for providing me with a copy of Mylne's copy of the report, and for his assistance in getting me access to the private archives of the Thames Water Authority; and Mr. Damonsing of the Thames Water Authority for his courtesy when I consulted these archives.

JOHN HADLEY: We regret to record the sudden death of our member John Hadley of Godmanchester on 1 February 1993. His passionate interest in local history included studies of railway history. He was a great expert on the Abbots Ripton Disaster and published on this subject in the *Journal*. Many members will recall the visit to the scene on the occasion of the AGM at Huntingdon in 1986.

The Decline of the Derby Canal: a Case Study in Independent Ownership and Decline

BY JOSEPH BOUGHEY

This article considers the history of a small independent canal undertaking during the period of its decline in the present century. It examines the changing motives of the canal owners towards their assets, indicates the consequences for the Canal itself, and concludes by noting some implications for general canal history.

Before the Twentieth Century

The early history of the canal must first be sketched.[1] The Derby Canal was essentially built to supply the town of Derby with general merchandise and, more particularly, with coal from mines to the north.

There were three lines. The Little Eaton Branch provided much of the coal traffic, originating in the Denby Collieries and brought to the canal via the Little Eaton Gangway—a tramroad. The line to Sandiacre communicated with the independent Erewash Canal, which gave access to the Derbyshire coalfield, the Trent and the line south via the Soar to London. The Swarkestone line also gave access to the Soar and Trent, via the Trent & Mersey Canal, which was railway-owned, but maintained to reasonable standards. The Trent & Mersey also provided traffics to Merseyside and the Birmingham area.

There was also a minor private branch by Siddals Road, which did not belong to the DCCo; in November 1914, the manager sought to identify its owner in order to get it cleaned out. There were further basins in Derby, at The Morledge and at Exeter Street.

Railway competition in the nineteenth century removed much long distance traffic, and by the end of the 19th century most traffic was short-haul. There was a very limited through traffic between Sandiacre and Swarkestone; this amounted to 7,859 tons out of a total of 75,403 tons in 1893, and was down to 2,960 tons out of 82,200 tons in 1898.[2]

General merchandise came mostly to the Canal Company's own warehouses in Siddals Road and the former Bridgewater Trustees warehouse at Morledge. On the canal banks, there was a gasworks in the south part of Derby, and to the east, around Spondon, sites for chemical works. Of these, Leech Neal & Co, pigment manufacturers, had begun in 1864 at City Road, Derby, on a location close to the River Derwent, connected to the Canal by a small branch known as the 'Cut'. Early in the 20th century this firm relocated at a site in Spondon which was connected to both railway and canal facilities. It carried acid in its own tank boats, mainly from South Staffordshire.

Despite its proximity to the major railway centre of Derby, the Derby Canal Company (henceforth—DCCo) had remained independent. It was a weak company, described in 1908 by the clerk to the neighbouring Loughborough and Erewash Navigations, as

> Too apathetic about traffic; the reason probably being that traffic had not paid! . . . They have shown great keenness and desire to get traffic, but I think they now feel they cannot get it.[3]

Toll revenue had greatly declined by this time, from £2,014 in 1886 to £969 in 1906. Tonnages had collapsed since 1898, to about 36,000 tons in 1905. The main coal traffic, from the Little Eaton line, ceased in 1908; toll revenue then fell to £656 in 1909, and steadily declined to £512 in 1913. Profitability was assured only by rents from water sales and properties, which increased between 1888 and 1898 from £1,110 to £1,518.

After 1908, coal was supplied to Derby from pits on the Erewash, Nottingham and Cromford Canals. In November 1911 the DCCo considered closure of the disused Little Eaton Branch above the Destructor Works, below which Derby Corporation loaded manure onto boats for distribution to local farmers.

Wartime Attempts at Revival

In 1914 attempts were made to revive trade on the Canal, in the somewhat optimistic period which followed the Royal Commission of 1906–10. Traders suggested that traffic could be greatly increased if the Canal was repaired and dredged to allow more fully loaded boats to pass. The Company bought a second maintenance boat, provided new top gates for Sandiacre Bottom Lock, and began repairs to the Aqueduct near the Long Bridge at Derby.

During 1914, the DCCo sought to increase long distance traffic by interesting traders in opening a depot at Derby. The Trent Navigation Company (henceforth—TNC), keen to secure traffics to Derby, agreed to consider opening a depot in Derby after the opening of their new depot in Nottingham, if dredging was completed.

Traffic from and to Liverpool and Manchester was monopolised by J. W. Gandy, a carrier who also acted as a salt merchant with a wharf at the Morledge in Derby. His monopoly was derived from an old agreement giving him exclusive rights over carrying between Preston Brook and Derby. The amounts involved were small—4,617 tons in 1905, mostly exchanged with Liverpool.[4] In the same year the total traffic exchanged with the Trent & Mersey Canal at Swarkestone was 6,843 tons, including local traffics and those routed from the Birmingham area.

The Anderton Company, carrying on the Trent & Mersey, declined to interfere with the trade of an 'old friend', while there were no suitable backloads. Fellows Morton & Clayton (henceforth—FMC), already trading on the Derby Canal from London, Birmingham and Nottingham, was reluctant to open a depot without the northern traffic. As Gandy's agreement was found to hold no legal force, FMC agreed to open a depot if and when Gandy's traffic ceased. In 1917 Gandy abandoned carrying, and FMC then took over his warehouse at The Morledge.

The DCCo responded to complaints about the Canal's condition from existing traders, such as Leech Neal & Co, whose Spondon works had opened about 1910. General weed clearance and dredging were promised in July 1914 after complaints that the Swarkestone Branch needed dredging and that their acid boats could not turn at their works basin.

The DCCo considered assisting the new Crown Glass Company in providing a Wharf on the disused Little Eaton Branch, by dredging and building a retaining wall for a wharf. The rest of the branch was badly weeded, with public health complaints by October 1914, and at least one bridge considered unsafe. The Gangways site had been offered to the Nottinghamshire & Derbyshire Tramways Co in 1915, for a Derby—Ripley electric tramway, without success.

Problems in Wartime

War further reduced trade, although some minor traffics resulted, such as sugar to G. Austin & Co, wholesale grocers, who became long term customers, albeit later by

road. Specially reduced terms brought a new FMC traffic in haricot beans for storage.

General toll increases in 1917 caused a stoppage to the trade in pipes from Stanton, diverted by FMC to the Erewash and Trent. FMC complained for a time that the level of tolls prevented their carrying from London or Nottingham to Derby.

While the construction of the British Cellulose Co's works at Spondon brought short term traffics in contractors' materials, that company decided to await the outcome of the Departmental Inquiry (which was to report in 1921) before investing in traffic facilities. Although the Inquiry did encourage improvements to the Trent Navigation below Nottingham, all waterborne traffic had ceased by December 1918.

Toll records indicate that the DCCo was affected by the same catastrophic disruptions to trade, labour shortages, rising costs and falling revenues which affected all but the strongest canal companies between 1914 and the early 1920's:—

TABLE 1 TOLL INCOME—Years ending April 1900–1922

Year	Income (£)	Year	Income (£)	Year	Income (£)
1900	1,169	1910	516	1921	175
1901	1,157	1911	557	1922	176
1902	1,138	1912	525		
1903	1,214	1913	512		
1904	1,171	1914	447		
1905	1,058	1915	402		
1906	969	1916	301		
1907	991	1917	583		
1908	992				
1909	656				

Note: Income details for 1918–20 are not available
These statistics indicate that trade, far from reviving, had collapsed after a brief wartime revival in 1917.

Traffic and Decline in the 1920's

The TNC ceased to carry on the Canal in 1920, although it continued to forward goods to Derby by road. A much smaller loss was that of J. L. Cowlishaw in 1921; he had operated three wide boats from a wharf at Long Eaton on the Erewash Canal, which closed about the same time.[5]

When the Derby Sanitary Authority withdrew its manure boats at the end of 1926, this left only three major traders on the Canal. These included Leech Neal & Co and Midland Tar Distillers, serving the works at Spondon on the Sandiacre line. Fellows Morton & Clayton was left as the only general carrier to Derby.

The next table indicates the nature of traffics, for one short period where full details are available:—

TABLE 2 TRAFFICS AND TRADERS 1924-1926

Year Ending September:

		1924		*1925*		*1926*	
Trader	*Traffic*	*Boats*	*Tons*	*Boats*	*Tons*	*Boats*	*Tons*
FMC (a)	Various	78	1,576	150	2,721	107	1,906
FMC	Tubes	21	330	24	542	27	588
Leech Neal	Acid	49	888	35	629	69	1,255
MTD	Tar	181	3,333	160	2,902	147	2,565
Derby S A(b)	Manure	26	312	14	168	20	240
T. Bonsor	Coal	27	742	15	446	20	191
J. & G. Moore	Coke	35	1,015	11	206	—	—
H. & L. Sharp	Slag	49	1,142	5	125	12	200
Sundry	Slag	—	—	2	51	1	25
Salt boats	Salt	14	272	6	122	17	340
TOTALS		480	9,610	422	7,912	420	7,410

Notes:
(a) Sugar and tinned goods
(b) Derby Sanitary Authority

Of these, Leech Neal's traffic had declined from 3,033 tons in 1920.

The minor traffics came from the Erewash Canal. Sharp's were stone merchants, with two boats, delivering stone from Mountsorrel to Long Eaton UDC and Stanton until 1936; slag was probably a back load from Stanton. Their Derby wharf had its own basins in Exeter Street. Bonsor delivered coal from a wharf at Gallows Inn Lock, Ilkeston, and would deliver coal and coke to Harrington Mill, above Long Eaton Lock on the Erewash Canal, until 1940.[6] Bonsor would be the only one of the minor traders to be consulted in March 1927.

In revenue terms this toll income was insignificant, as Table 3 shows:—

TABLE 3 REVENUE—DERBY CANAL BRANCHES—1925 (£ rounded up)

Line	*Tolls*	*Property Rents*	*Water Rents*	*Wayleaves*
Sandiacre	74	683	828	158
Swarkestone	64	566	60	205
Little Eaton	3	84	—	27
TOTALS	141	1,332	888	390

GRAND TOTAL:— Revenue £2,751 Expenditure £1,571

By 1926 the DCCo viewed traffic revenue as 'practically negligible', and as annual maintenance costs were more than 10 times the annual toll revenue, decided to pursue the closure of the Canal by Warrant.

Transport and Urban Redevelopment

One reason for the Canal's decline was competition from road transport. Goods warehoused at Derby for forwarding south or east of the town could just as well be warehoused at Nottingham and then taken by road, rather than pass through more waterways and then be transhipped to road at Derby. The short distance traffics were affected by the greater flexibility of road vehicles; for coal merchants, for instance, the vehicles used for distributing coal could also be used to collect it.

The DCCo's warehouses became more valuable for roadborne storage, or redevelopment for non-waterways purposes, than for canal service. A further exacerbation was the break in boat gauge, especially at Nottingham, where transhipments to narrow boats were necessary, despite the Derby Canal's nominal broad gauge.

The proximity of the Canal to highways in Derby, such as Nottingham Road, and to the Midland Railway, made it a physical barrier to development. As early as 1915 Derby Corporation favoured the Canal's closure, with a firm plan in 1923 to develop a new industrial area east and south of the Canal, at the River Lands sites.

The 1923 plan would necessitate the Canal's closure. Flood prevention works for this area would involve the removal of the Long Bridge, carrying the Canal over the Derwent. While the Canal's site could be used for a new access road, the biggest problem was the need to take a highway under the Midland Railway, which crossed the Canal at Five Arches Bridge. A crossing for a navigable canal could not be incorporated in this access.

While the Corporation soon rejected this plan, one alderman who sought to revive the scheme penned a persuasive article in February 1926 in which he asserted that it was an 'open secret' that the DCCo wished to be rid of the navigation.

Another length which blocked redevelopment in Derby was the Derwent Branch, known as the 'Cut'. This was the main feeder to the Canal and, while traffic to the Derwent had ceased from 1923, it was retained to permit Derby Corporation dredgers to enter the Derwent. The bridge carrying Derwent Street was humpbacked, and the Corporation wished to lower this.

First Attempts at Closure

The closure proposal was assisted by contact with the Great Western Railway, which was seeking to close its Kennet & Avon Canal. In March 1930 the GWR wrote to advise that it had been unable to abandon its Canal because of opposition from local authorities and landowners, not over navigation, but over the future of the canal site. It was to take some forty years for the DCCo to finally agree terms with Derby Corporation and Derbyshire County Council.

Early in 1927 the DCCo sought the views of traders over the closure of the whole Canal. While FMC and the Stanton Ironworks Co opposed on principle, Midland Tar Distillers wished to retain an alternative to the railway. In March the DCCo decided to limit closure to the Little Eaton section. Lengthy negotiations began, and by November 1930 the DCCo sought alternative grounds to close this and also the 'Cut'. Objections to the latter plan came from the TNC and Derby Corporation.

The closure of the 'Cut' had to be set aside on legal grounds, but, following further negotiations and another application, a Warrant of Abandonment for the Little Eaton line was granted on 4th July 1935. The length within Derby was conveyed to Derby Corporation and the upper part to the County Council for road widening.

Traffics into the 1930's

Traffic revived slightly on the rest of the Canal in the late 1920's, partly due to traffic diversions while extensive repairs to Sawley Lock, on the Trent, were carried out. From 1929 the three main traders were joined by the Erewash Canal Carrying Co (henceforth—ECCCo), taking coal from the Derbyshire pits via Sandiacre to Borrowash, and to Spondon from March 1933.

While the Erewash Canal had faced similar problems to the Derby, it did have a direct colliery wharf at Shipley; the major ironworks at Stanton; and regular local traffics to Leicester and Loughborough. From the early 1920's its owners made significant efforts to attract new traffics, with some success. Toll concessions in 1923 brought a very small traffic in bricks onto the Derby Canal. As private carriers were losing heart, the Erewash Canal Company formed a carrying subsidiary in 1925, whose trade built steadily from 13,088 tons in 1927 to 20,182 tons in 1930.[7] The DCCo took no such initiative, although potential traffic was much more limited than on the Erewash.

Table 4 indicates traffic fluctuations from 1926 to 1936:—

TABLE 4 TOLLS AND TONNAGES 1926–1936

Year ending April	Tolls (£)	Tons	Boats	*Year ending* April	Tolls (£)	Tons	Boats
1926	131	8,041	445	1932	77	5,320	310
1927	102	6,476	355	1933	38	2,554	163
1928	126	8,426	462	1934	88	5,434	328
1929	182	11,144	598	1935	93	5,670	339
1930	140	9,503	515	1936	81	4,890	279
1931	104	6,946	392				

An instance of the substitution of road for canal transport arose in November 1929, when the DCCo instructed its road carrier to collect 100 cases of corned beef from Horninglow Canal Wharf, on the Trent & Mersey Canal in Burton, by then rarely in use. The DCCo did not make use of their own waterway to transport the cargo to their own canalside warehouse at Morledge.

Oxo Ltd became a major customer of the DCCo, but only to use their warehouse for roadborne storage. While some canalborne salt still arrived in 1930, much came from Sandbach by rail. Sugar from Fairies Ltd of Liverpool was delivered to the Morledge mainly by lorry, although FMC occasionally brought loads, as in February 1931.

FMC did carry sugar regularly by canal from London, along with goods such as woodpulp, flour, grain and china clay. A return load was pipes from Stanton through the canal to Birmingham, still passing in 1930. For a period in Summer 1931 the latter was carried by T. & S. Element of Oldbury.[8] Liverpool traffics, mostly transhipped at Preston Brook, were mostly lost to road competition before those from London and Birmingham.

In 1931 the DCCo handled some enquiries about prospective traffics. Thomas Clayton (Oldbury) Ltd sought the rates on gas tar from Swarkestone to Spondon and from the Derby Gas Company. John Harker Ltd was dissuaded against carrying petrol from Sandiacre to Spondon in wide craft, while FMC enquired about fuel oil on the same route.

Another Move for Abandonment

The DCCo decided to seek the closure of the Sandiacre Branch in February 1937, when only about 2 boats per day were using it, albeit to significant canalside users at Spondon and Borrowash. Derby Corporation proposed to widen Nottingham Road; but while the Canal was unaffected, if its site was incorporated, land with a good road frontage could be sold. In March the four traders were approached; of these, FMC expressed disapproval, while the TNC wrote to insist that it be kept informed.

On 28th September 1937 the DCCo held a meeting with all the traders, plus the TNC. Midland Tar Distillers stressed that fully loaded boats could not use the Canal; it had sent 2,700 tons that year by rail which would otherwise have gone by boat. Leech Neal claimed that conditions had been bad for 35 years, and that the DCCo had driven traffic away.

Competition with road transport was also blamed. FMC admitted that much of its traffic was now forwarded by road, while the ECCCo complained that it had been forced to forward 11,444 tons by road in the last 5 years, such as an order for steel from Leicester to Derby. The TNC asserted that the canal tolls equalled the total cost of road transport.

Whilst all the traders blamed the Canal's condition for the limited traffic, none could give assurances of increased traffic if the Canal were dredged. In October the DCCo secured estimates for dredging of £15,000, plus the cost of tipping. After discussions with Derby Corporation, the DCCCo decided in June 1938 to apply for a Warrant.

Decline and Decay

Although FMC had been informed that there were no plans to close the Swarkestone Branch, the last traffic into Derby passed in November 1938. As a result of this loss of business, the DCCo sold their delivery lorry in 1939, agreeing to hire one should any future need arose. In February 1938, it had informed a Wisbech canning firm, interested in warehousing at Derby, that waterborne use was 'now largely superseded'.

The Sandiacre Branch was also deteriorating badly; in Summer 1938, the Derby—Spondon length, out of use for 14 months, was too badly silted for an inspection boat to pass. In December, following another Corporation proposal in September for the closure of the 'Cut', the DCCo instructed surveyors to consider the implications of closure for drainage and water sales.

The latter was pertinent, given that the DCCo's largest water sales customer was the London Midland and Scottish Railway at Toton Sidings, just beyond the Canal at Sandiacre. In January 1939 the LMSR took a seven year lease, with an option to break on two years notice should the Canal be closed.

The end of the Swarkestone line traffic prompted the DCCo in March 1939 to consider closing the whole canal, but as it appeared that the Company might have to be liquidated if the whole Canal was closed, an application for the Sandiacre Branch only was submitted.

By August, 18 objections had been received, some over water rights, others based on loss of trade or property value, and others on amenity issues. At the end of 1939 it was decided to suspend the closure application during wartime.

Terminal Decline 1937–1946

Table 5 below shows the final decline in traffics, most marked from 1943:

TABLE 5 TOLLS AND TONNAGES 1937–1946

Year ending April	Tolls (£)	Tons	Boats	*Year ending* April	Tolls (£)	Tons	Boats
1937	59	3,633	216	1942	52	3,325	172
1938	55	3,389	196	1943	19	1,259	70
1939	52	3,280	192	1944	18	1,040	58
1940	58	3,706	204	1945	3	172	10
1941	59	3,712	192	1946	1	66	4

The final traffic through Derby, from the Gas Works to Midland Tar Distillers, passed in Summer 1937. Leech Neal & Co's last recorded traffic was in waste acid from Swarkestone to Spondon in January 1935; three old Leech Neal 'barges' were removed from Spondon early in 1944.

There was never much interest in pleasure traffic, although in December 1931 the DCCo helped G. H. Stevens of Darley Abbey to move a pleasure boat onto the Derwent, arranging for a Leech Neal boat to tow it from Fradley. One late visitor, admitted rather doubtfully at a toll of 10s (50p), was J. C. Carr Ellison of Northumberland, a visitor to many waterways by pleasure boat in the 1930's. He travelled the full length of the canal both in September 1934 and in June 1937. In June 1938 the DCCo supplied particulars to the Motor Boats Association, stressing the problems with weeds on the Sandiacre line. During 1939, the level of the Swarkestone Branch was lowered by 9 ins, amid some unease, with stop planks inserted at Swarkestone Junction.

Problems with the final traffic on the Sandiacre line to Spondon and Borrowash reflect the poor state of the DCCo. As early as July 1939 the ECCCo had complained about the Canal and claimed compensation. In July 1940 its successor, the Grand Union Canal Carrying Co (henceforth—GUCCCo), complained about water levels to the Ministry of War Transport, alleging that a large traffic from the Derbyshire coalfields was being lost. The DCCo blamed heavy weed growth and the drawing of water at mills upstream on the Derwent. It also alleged that boatmen had left paddles up. The latter complaint about the treatment of the Canal by ECCCo boatmen echoed one of February 1935, whereby boatmen were accused of using horses to pull open the new top gates at Sandiacre Bottom Lock against the head of water.

Under pressure from the Ministry, quotations for dredging the Sandiacre line were sought, including one from the Grand Union Canal Company. A March 1941 report on dredging estimated the cost of dredging the 9 miles to Derby at £8,700. Invitations to quote for dredging the whole canal were met by a refusal from a DCCo Committee member, a contractor from Duffield, in the absence of a dredging tip and labour. Some weed clearance was carried out near Sandiacre, and in November the DCCo decided to try to keep the Canal open rather than seek abandonment.

A GUCCCo proposal in February 1941 to load and deliver 50 ton loads of pig iron from Derby was rejected as impractical; by then even 10 ton loads would have great difficulty in getting through. In September 1942 the DCCo bluntly warned the GUCCCo that with one employee dead and one sick, no-one was available to carry out repairs, so that any carriers must proceed at their own risk.

Minimal maintenance did continue. A breach at Borrowash was repaired roughly in October, with some clearance of the Swarkestone length near Siddals Road in 1943. In July 1943 the Manager stated that the Canal had deteriorated rapidly over the previous four years, with both branches now 'in a deplorable state, and practically unnavigable.' As the main priority was then seen to maintain water supplies to Toton, much weed cutting in the Sandiacre line followed. Some lock gates on the Swarkestone line were gradually repaired, with one set replaced by May 1944.

While traffic to Borrowash continued, the GUCCCo was advised against carrying over the summer due to the poor water levels, and traffic to ICI at Spondon was suspended for most of 1943. In October the GUCCCo pressed for the dredging of wharves at both points, suggesting that they do this themselves with a small mechanical dredger from Loughborough. The DCCo declined this offer, but soon allowed the GUCCCo to repair the lock gates at Sandiacre to maintain water levels, at the DCCo's expense. The GUCCCo continued to press for dredging; the wharf at Borrowash was cleared in March 1944, following complaints that boats could not get close to it and coal was being dropped into the Canal.

During the same period there was a breach in the Sinfin Moor embankment which, though repaired, showed the banks to be in such a condition that the canal was permanently stanked off at Swarkestone. A leak at the end of the Long Bridge was deliberately left unrepaired.

While traffic was sporadic after June 1944, occasional loads continued to Spondon until June 8th 1945, and to Borrowash on the 14th. One of the final traffic repairs concerned the old breach at Borrowash Bottom Lock, which was further repaired in May 1945. Dredging and weed clearance continued in order to supply Toton, although the water supply position was described as grave in June.

Alternative Futures

In October 1945 the DCCo declined to resume the application to close the Sandiacre line; in February 1946 it formed a Sub-Committee to consider the closure of the whole Canal; this reported in April 1946.

This Sub-Committee's view was that the increasing size of craft could only provide the Canal with limited traffic, unless it was reconstructed to take larger craft of 100–120 tons. For the Sandiacre line, this would cost £100,000, requiring an income of £10,500 p.a. to secure a minimum return. At a toll of 8d per ton, this would require an annual tonnage of 315,000 tons.

Trade on the adjacent waterways gave little cause for optimism. After the war, Trent & Mersey traffic was reduced to some FMC trade towards Nottingham while most local coal wharves on the Erewash Canal had closed, along with the main loading point at Shipley from 1942.[9] Both canals would be devoid of traffic by 1953.

In April 1942 the Trent Navigation Company had prepared a plan to enlarge and extend the Trent upstream to Tamworth. It envisaged the amalgamation and improvement of adjoining waterways, to provide feeders to this waterway.[10] The TNC's long term opposition to the closure of the Derby Canal may be partly attributed to the loss of a potential feeder route. The scheme proposed the enlargement of the Erewash Canal to Stanton for 100 ton barges, and perhaps the Derby could have followed had its track been preserved.

A scheme of similar import had been proposed by the Grand Union Canal Company in 1942, to enlarge their London line north to Stanton on the Erewash Canal, with depots for roadborne distribution on the latter.[11]

While wartime enlargement schemes were to be suspended until after nationalisation, both suggested some future for the Derby Canal. Against these remote possibilities of enlargement and revival, Derby Corporation supported closure in order to widen Nottingham Road from Derwent Street to Stores Road, and Siddals Road to Five Arches Bridge.

The DCCo perceived that greater value and scope lay in the redevelopment of the canal site than even the water sales revenues, and it decided to apply for a Warrant for full abandonment.

Objections, Negotiations and Closure

Early in 1946 the TNC had decided not to object to the renewed application for the Sandiacre line closure, having consulted bye-traders on the Trent who proved indifferent to the proposal. However, following the application for full abandonment in September, it approached the DCCo, seeking a long lease of the navigation, with an option to purchase. While the DCCo refused to withdraw the application, it was prepared to negotiate a lease of the canal itself. However, by the end of 1946, it was clear that the TNC would be nationalised, and this made further negotiations an irrelevance.

By February 1947, 18 objections had been received, including two from canalside industries—ICI and the Derby Gas Light & Coke Company. ICI viewed the closure as premature, given that new policies might emerge after nationalisation. The Derby Gas Light & Coke Co's objection was similar. However, a complication was that its

Chairman, B. A. Mallender, was also a director of the Derby Canal Company. Bizarrely, he had approved the renewal of the prewar Sandiacre application in October 1945, but opposed full closure in April 1946, on the grounds that the Canal had traffic potential. He resigned in June to lead a campaign against closure.

The Inland Waterways Association, just formed, became involved in this campaign. Its most tangible manoeuvre was a token delivery of coal by a National Coal Board boat for Spondon. It found the locks at Sandiacre padlocked, and delivered the cargo by road, debiting the DCCo with the additional cost. Next, *Cressy*, owned by author and IWA co-founder Tom Rolt, sought entry to the canal, to be refused as the canal was in poor condition. An attempt to involve the Ministry of War Transport was deflected by the DCCo's claim to be investigating the costs of restoration.[12]

In April 1947 the DCCo had its property assets valued and considered whether it should seek a Warrant or promote a Private Bill. Against the costs of the latter was set the costs of compensating objectors, and the value to be realised by the closure of the canal and the re-use of its track. It was proposed to sell all of the property to the Corporation. The cost of re-opening, including new terminal facilities, was now put at £100,000.

An alternative was to sell the canal itself but retain the properties. The British Transport Commission, now owners of the adjacent waterways, was approached in April 1948 by the DCCo's Parliamentary agents with a view to a sale for figure of £70,500 including costs. The main component in this sum was the capital value of water rents, placed at £82,500. Against this was the deduction of capitalised maintenance expenditure, set at £33,624. Only the operational properties would be transferred, leaving the DCCo with urban investment properties valued at about £64,000.

The Docks and Inland Waterways Executive (henceforth DIWE) canvassed potential customers, finding only ICI at Spondon, which would be prepared to pay tolls of £58 p.a. The gas works was now using the railway, while general merchandise for Derby was being roaded from Shardlow and Nottingham. By May 1949 the DIWE had decided that the price was excessive; the estimated maintenance expenditure covered an unnavigable canal only, and was therefore seriously underestimated, while there was no allowance for the costs of restoration.

A lower counter-offer was therefore made. While negotiations were still proceeding in September 1949, the DIWE's own review of its existing waterways would then suggest that acquisition was not desirable.[13]

A lengthy process of negotiation followed, mainly with Derby Corporation. Although some hand dredging continued up to 1949, by 1948 the DCCo had made paddle gear at the locks inoperable, and by 1955 some sections were dry. The Inland Waterways Association made further attempts to seek the revival of the canal, noting an offer of 600 tons per annum traffic in 1956, and fostering a short-lived restoration campaign in 1957.[14] By 1961 much of the canal was dry, but the IWA Midlands Branch launched a new campaign, forming the Derby Canal Restoration Committee, partly modelled on the successful campaign to revive the Stratford Canal.[15] This was unsuccessful, and after negotiations for transfer to the Corporation were complete, a Warrant was finally granted in 1965. Very little trace of the canal now remains inside Derby, with only the filled-in track outside. A fragment at Swarkestone is in use as moorings, and there have been proposals to dig out the track, part of which is a public walkway, towards Shelton.

Some Concluding Observations

In itself, the later history of the Derby Canal is merely a parochial matter, but its history reflected various features which illustrate themes in national waterways history.

The first concerns the monopolistic agreement with J. W. Gandy, part of a familiar arrangement under which many canal owners agreed to limit competition between carriers. FMC were carrying extensively between Liverpool and Nottingham while the agreement with Gandy was in force, and it is interesting to speculate how traffics to Derby might have developed had FMC been allowed to open a depot much earlier. The effects of these restrictive agreements were to provide security for carriers to effect long term investment in terminal facilities and boats, but they stifled incentives to develop new traffics through competition.

A second feature is that of the cumbersome processes involved in closing obsolete routes. The Warrant procedure perhaps protected the public interest from rash or harsh decisions, but it also inhibited the exercise of commercial judgement as to the future of waterways like the Derby Canal.

The justification for such delays is retrospective. Many disused waterways could await retention or restoration for amentity use due to the delays caused by the statutory provisions over closure and standards of maintenance. The Derby Canal was not saved for future amenity use, unlike several of Britain's waterways, such as the Kennet & Avon Canal.

Nationalisation also led unwittingly to the preservation of many waterways. Waterways which remained independent, such as the Stroudwater and Rochdale Canals, tended to follow the same cycle of traffic rundown, poor maintenance, and growing dependence on rents from property and water. The DCCo directors probably began to write off the transport future of their Canal as early as the 1890's, when the limited profitability of the Canal was contrasted with the surplus on the associated properties. State ownership prevented this commercial logic from prevailing, by placing the decisions to close or retain in the public domain.

Given the collapse in carrying on the smaller canals which took place from the first world war onwards, it is likely that had they been left in private hands—a fate which would obey commercial logic—most would have been neglected, run down and closed, possibly with the insolvency of their owners. Although the Derby Canal was exceptionally strategically placed for urban redevelopment—as a search for its line will reveal—other waterways owners might well have looked to the redevelopment potential of the sites of their waterways.

The Derby Canal case finally provides a commentary on the question of railway domination. The railway ownership of canals was often seen as a major cause of their decline, but in the Derby case it was the presence of railway competition, especially in the coal trade, which damaged the Canal's traffic. As with many other waterways in the interwar period, the growth of road transport damaged both short-haul movements and long distance traffics which depended on forwarding or collection by road. For the latter, road transport widened the areas of distribution and made it easier to move to waterside depots away from Derby. Eventually, even canal carriers, including FMC, TNC and the ECCCo, would use road transport in order to secure carrying contracts. This pattern would be followed into the postwar period, when many former canal carriers became road haulage concerns.

NOTES

Much of this account is based on Derby Canal Company records deposited in the Derby Library at Irongate, Derby. These records are in an uncatalogued state, and I am especially grateful for the assistance of staff at the Library. Detailed references to this collection have not been given. Other research has been carried out at the Public Record Office in Kew, Birmingham Reference Library and at Manchester City Archives.

1 For a general account, see Hadfield C., *Canals of the East Midlands*, David and Charles, Newton Abbot, 1966
2 See *Canal Returns*, 1898
3 Evidence of G. H. Woolley to Royal Commission on Canals and Inland Navigations of the United Kingdom, 38299
4 Details of Gandy's traffic from the Bridgewater Canal to Derby are in uncatalogued papers at Manchester Central Library Archives, relating to the Bridgewater Canal, entitled *Tolls and freight, 1894–1922*
5 See article by Ike Argent in Navigation, May 1965
6 *Ibid.*
7 See RAIL 828/4 on Erewash Canal Company
8 It is believed that one destination for these pipe traffics was the new housing estate above Perry Barr Locks on the Tame Valley Canal, via the Ogley Locks section of the Wyrley & Essington Canal—one of the last through traffics on that length. Information from Tom Foxon
9 Stevenson P. and Argent I., 'Shipley Wharf', in Erewash Canal Preservation and Development Association, *The Erewash Canal: A Cruising and Walking Guide*, nd (c. 1979)
10 MT 52/126 and RAIL 879/15 deal with this proposal
11 MT 52/123 deals with this proposal
12 IWA Bulletin 14, 1948
13 BTC Supporting Papers, AN 85/2, and DIWE Minutes, AN 77/1
14 IWA Bulletins 50, April 1956, and 53, February 1957
15 IWA Bulletins 64, June 1961, and 69, November 1963

A Yorkshire Horse

BY RICHARD DAGLISH

An early photograph?

My interest in early steam railway locomotives was kindled by a faked photograph in a typescript book of notes on my family's history, compiled by a great-aunt. The snapshot purported to show a locomotive built in 1812 by my ancestor Robert Daglish for John Clarke's Orrell Colliery, near Wigan. In fact it was of a model made over a century later by a retired miner, as will be described later.

Memoir

Daglish was a member of the Institution of Civil Engineers and, after his death late in 1865, their published 'Proceedings' included a memoir, from which the following is an extract.[1]

> MR. ROBERT DAGLISH was born on the 21st December 1779. He settled at Wigan in the year 1804, as Engineer to Lord Balcarres, the father of the present Earl, where he managed for his lordship the engineering establishment now known as the Haigh Foundry and Brock Mill Forge. He there constructed the Arley colliery engine, and many other pumping, winding and blast engines, which were celebrated in their day as improved and efficient machines. After some years' experience at these works, Mr Daglish took the management of the Orrell Colliery, near Wigan, and whilst there he constructed the railway in connection with it. He at once appreciated and applied to this railway the then novel invention of the locomotive steam engine of Mr John Blenkinsop of

> Leeds, in which the power was applied by means of a large cog-wheel working into a rack laid down beside the ordinary line. By arrangement with the patentee, Mr Daglish constructed a locomotive of this description in the year 1812, and started it on the railway in 1813. It was known as the *Yorkshire Horse*, and was long looked upon with interest by all concerned in the advancement of engineering science. Under Mr Daglish's management, the Orrell Colliery became a most successful undertaking, and 'Orrell coal' in that district has become the equivalent for the 'Wallsend' of the north.

The employer

The Lindsay family, Earls of Balcarres, owned estates in Scotland and had acquired the Haigh estate, near Wigan, when Alexander, the sixth Earl, married the heiress to this Haigh estate which had belonged to the old-established Lancashire family of Bradshaigh. Alexander had served in the army with distinction during a period of continuous threat of invasion by the French. He commanded the forces in Jersey, holding the rank of Major-General, and from 1794 to 1801 served as Governor of Jamaica. He then returned to his Lancashire property which at the time of his marriage he had found in a sad state: the house in ruins, the coal mines abandoned and the farmlands in decay. He had put plans in hand to exploit the potential wealth of the estate; these included the setting up of an iron furnace at Leyland Mill with the Brock Mill Forge on the bank of the river Douglas and close to the new Leeds & Liverpool Canal. A partnership between the Earl, his brother James Lindsay and a local ironfounder James Corbett was struck in 1788. Lindsay, who had acquired wide experience during service with the East India Company, had to shoulder much of the responsibility for the works after Corbett's death and by 1790 'The Hon Robert Lindsay & Co' were advertising their services in a Liverpool newspaper[2]: 'Having engaged Engineers and able workmen, they are enabled to undertake the complete construction of Fire Engines of every kind.' Lindsay seems to have withdrawn from active participation soon afterwards, not wishing to be tied to Haigh. Other managers were appointed, but a study of the Ironworks by Alan Birch contains no reference to Daglish as a manager, even though Birch had access to the Earl's family and estate papers.[3] Birch does, however, include the following passage:

> Nevertheless, there was associated with the firm one engineer who must have brought some profit to the concern. This was Robert Daglish (1777-1865), who settled with a relative at Wigan as engineer to the works. Perhaps under his management the engineering side flourished. Certainly the elder Daglish showed considerable skill as a mechanic. It was at Haigh foundry that the first Lancashire locomotive was constructed, this being the *Walking Horse*,[4] made on the model of Blenkinsop's *Yorkshire Horse* which worked at the Middleton Colliery near Leeds. This was the beginning, it appears, of a successful venture in locomotive building, which continued until 1856 . . .

A note of the wages paid at the foundry during 1808 names John Daglish senr and Robert Daglish under the heading of 'carpenters and engineers'.[5] I suspect that John senior was the father of Robert. This John earned £1 16s 0d for 12 days work at three shillings. Robert had 3, at 5 shillings a day. Of the thirty-three men listed for the 'casting concern', including moulders, blacksmiths and boilermakers, the total of 33 men's wages for two weeks came to £70.15s 0d. The highest rate per day was 5s (Robert and two others); the lowest was 10d. Robert's exact employment is thus difficult to define, as is the timing of his departure from Haigh and his engagement at the Orrell Colliery.

Colliery Manager

In 1789 John Clark, a Liverpool banker, entered into partnership with William Roscoe, also of Liverpool, and two local coalmasters to work collieries at Gathurst, near Orrell. Clarke and Roscoe, with others, took leases from landowners in the area and in the early years of the 19th century had extensive interests. Mr Donald Anderson of Parbold, who has researched and written extensively about the industry, puts Daglish's employment by Clarke as his manager as 'about 1810'.

As Anderson states[6], although the colliery was going well, calamity overtook the banking side of Clarke's business early in 1816. The bank failed, and all Clarke's estates were put up for sale, including coal offices at the Liverpool terminus of the Leeds & Liverpool Canal and his house Orrell Mount.[7] The coal business was carried on under Daglish's management, the profits eventually liquidating all Clarke's debts. Clarke died in 1821; his vault at UpHolland is on the opposite side of the chancel to that of his manager Robert Daglish.

In 1812 there was a ready market for coal in South Lancashire with the expansion of industry: spinning and weaving, salt and chemicals. Keen competition on the price of coal had already spurred men to great deeds such as the development of canal systems. Years of war in Europe had taken their toll in the price of fodder for horses, in the supply of animals, and of men. In the coalfields steam power had been successfully used for winding and pumping for many years but steam locomotion was in its infancy.

Locomotives

At Middleton Colliery, near Leeds, a coal viewer named John Blenkinsop had patented his form of locomotive in 1811 (no. 3431), and in conjunction with the engineers Murray, Fenton and Wood, built their pioneer engine and put it to work in 1812. Word of its success in hauling coal from the pit head to Leeds spread rapidly and before long Blenkinsop was in negotiation with others who sought to use his patent. Daglish was one of those to take up the rights, on behalf of John Clarke who appears to have declined to pay the sum asked by Blenkinsop for exclusive rights within Lancashire. Years later Daglish wrote his account of the operation of his own locomotive, but did not say whether it was called the *Yorkshire Horse* or *Walking Horse*. Others who wrote about his engine gave one name or the other. 'Yorkshire' no doubt derived from the Middleton origin of Blenkinsop's version. It is interesting that Blenkinsop, Daglish and George Stephenson were all Northumbrians by birth.

The Archives Department of Leeds City Council holds some papers relevant to Blenkinsop and the Middleton Colliery locomotive, including a report book which contains copies of letters.[8] On 25 January 1813 Blenkinsop wrote to Mr W Bevan Jun, M/s Lockwood & Co., Morriston, Swansea, with an estimate of the savings obtainable by operating a locomotive in place of sixteen horses and eight men, and giving specifications for rails etc. He wrote to Bevan again on 10 March in greater detail, and offered to meet him in Swansea; this refers to Mr Alex Ruby of 'Lenilly near Swansea', with whom Blenkinsop appears to have been dealing over another engine.

There are references in the report book to his experience with locomotives at Middleton and Kenton, and copies of correspondence with interested parties elsewhere. In one of his letters Blenkinsop confirms that his locomotives (which in places he describes as 'steam machines') could travel on public roads from London to Edinburgh, but points out the inconvenience of going through large towns.

The Middleton report book includes the copy of a letter from Blenkinsop to John Clarke at Liverpool.[9] The first sentence is about the expense of 'laying road' [i.e. rail]. It continues:

> In conversation with Mr Holding and Mr Dagleish [sic] I stated I had proposed terms to you for the adoption of my invention at your works and if you thought the premium too much I would accommodate you at one of your concerns for merely an acknowledgement you surely cannot have made the proposal of £500 for the whole county of Lancaster with any serious expectation of my accepting it—that I shall certainly never do, but with a view to its adoption upon your own works, I will wait upon you at Wigan or Liverpool any day the latter part of this week or the beginning of next if you drop me a line to say what day suits your convenience.
> I am sir your humble servt John Blenkinsop 22 Feby 1813

A year later, a letter from John Blenkinsop to its editor appeared in the *Monthly Magazine* for March 1814. After a description of the locomotive at Middleton the final paragraph reads:

> Any gentleman wishing to see the performance of the steam carriage will be much gratified by visiting Middleton Colliery, Leeds, Yorkshire; Orrell Colliery, Wigan, Lancashire; or Kenton and Coxlodge Collieries, Near Newcastle-upon-Tyne, where they are daily at work.

Ten years on

An article in a weekly magazine, typical of its time, shows that even ten years later the Blenkinsop/Daglish locomotive was something of a wonder. Its patentee's vision of a wider application than colliery hauling had by now been taken up by others. *The Kaleidoscope, or Literary and Scientific Mirror*[10] printed a front page article headed 'Representation of the steam-carriage at Middleton, near Leeds' which gives an engraving of a locomotive, with toothed drive-wheel and the rail fitted with cogs. The remainder of the page and two-thirds of the next are devoted to a description of the steam-carriage at Middleton and refer to the third edition of 'a small volume entitled *Observations on a general Iron Rail-way*'. No credit is given, however, to Thomas Gray, its author. The article quotes from the Liverpool Mercury of 3 July 1812—ten years earlier—which itself had quoted the Leeds Mercury, but no date is shown for this latter item. There is a full account of the experiment of the 'machine' contructed by Fenton, Murray and Wood, under the direction of John Blenkinsop, the patentee.

The final paragraphs of the Kaleidoscope's article read as follows, under the cross-heading 'The Walking Horse':

> The following description of another machine cannot be introduced more appropriately, than on the present occasion:
> The engine which conveys coals from the Orrell pits drags twenty waggons, each containing upwards of a ton. The people in the neighbourhood emphatically call it the 'walking horse', and certainly, from the description of a friend, it bears no little resemblance to a living animal. The engine being on the high pressure principle, the superabundant steam is emitted at each stroke with a noise something similar to the hard breathing or snorting of a horse—the escaping steam representing the breath of his nostrils, and the deception altogether aided by the regular motion of the engine-beam, and the rapidity of motion which precludes minute observation. In the ascent, the rate is about four miles an hour, and, on level ground, from five to six.

The following week's edition of the Kaleidoscope included a letter to the editor from Benjamin Hick, himself an engineer of repute, who wrote from the Union Foundry, Bolton, on 30 September 1822:

STEAM CARRIAGES

Sir, In consequence of the great inaccuracy of the concluding paragraph of your 'Scientific Records' of last week, I take the liberty to send you the following short but *correct* description of the machine which your friend calls the 'Walking Horse'; though with what greater correctness the resemblance of an animal can be traced in it than in the one you have described in the neighbourhood of Leeds, I am at a loss to conjecture; as it is similar in principle to that, as well as to many others which are at work in many other parts of the kingdom; and as the subject of Steam-engine Rail-ways for the general conveyance of goods at present occupies so much of the public attention, particularly in this neighbourhood, it will not be uninteresting to its advocates, to be in possession of the fact that not the slightest accident has occurred during the whole time this mode of drawing coal-waggons has been adopted at the Orrell Colliery, near Wigan, where there are three travelling steam-engines. Two* of these have been regularly at work for upwards of eight years; one of which is used to convey the coals up an inclined rail-way, half a mile in length, and varying in ascent from seven-eighths to one inch per yard. It draws, at one time, twelve waggons of fully three tons each, at the rate of three miles per hour, besides its own weight, which, when at work, is six and a half tons, and would draw ninety tons at the same speed on a level road. (Mr Daglish, at the colliery states, they occasionally run it from four to five miles per hour, and that one engine performs the work which formerly required fourteen horses.) When it arrives at the summit, the waggons are disengaged, and it returns with the same number of empty ones previously brought by the other engine, which now takes them forward, down a similar incline of about the same length, towards the canal [Leeds & Liverpool], where the coals are put into vessels. These engines are on the high pressure principle requiring no water for condensation (the steam acting by its elasticity in proportion as it exceeds that of the atmosphere) and perform their work at three miles per hour, when the pressure is equal to thirty-two pounds per square inch. Each Engine has two cylinders, eight inches diameter, with metallic pistons that require no packing, the rods of which are attached by cross-bars and connecting rods, to cranks placed at right angles with each other, to allow the full effect of the action of one at its greatest horizontal length of lever, when the other is passing the top or bottom centre, where, of course, it can have no power in propelling the engine; no *beam* or fly wheel is used, the shafts on which the cranks are fastened have each a small pinion working into a spur wheel on another shaft passing under the engine framing, on one end of which is a wheel, with cogs of a coarse pitch working into the cogs on one side of the rail-way, similar to the engraving in your last number.

*By having a spare Engine, a great convenience is obtained in allowing the boilers to be regularly cleaned, and their alternate use allows them to be kept in complete repair.

Gray's 'Observations' included the graphic description of the Orrell locomotive quoted by the Kaleidoscope. He refers to it as being known locally as the 'Walking Horse' or 'Yorkshire Horse'

More detail of Daglish's locomotive can be found in the manuscript 'Specifications and Estimates', the Commonplace Book of William Radford, which is in the Lancashire County Record Office, Preston, and includes the following in which the original spelling is retained:[11]

Questions answered relative to Locomotive Engines, railways &c at Orrell colliery near Wigan, Lancashire, Feby. 1825 by Robt Daglish.
1st. A wrought Iron steam boiler (oval) 9 feet long 4 feet 3 inches high, and 3

feet 2 inches wide. Plates ½ in thick (double stiched) with a ⅜ in thick tube through it 2 feet 3 in. diameter placed 3 in. from the bottoms, with a wrot Iron chimney 20 in. diameter at bottom, 16 inches at Top, and 14 feet high—two steam cylinders 8 in. diamr. with metallic pistons—stroke 2 feet, making from 40 to 50 per minute, when the engine will travel at a rate of from 3 to 4 miles per hour.

2nd. The Safety valve weighted from 30 to 32 pounds per square inch, predominating or exceeding that of the atmosphere, which is equal to a 14 horse engine (though only called an 8 horse power); consumes when in action 140 lbs of coal per hour—to 15 cwt in 12 hours, and will evaporate 420 gallons of water in the same time. Brass feed pump 2 in diamr—stroke 4 in; weight of the engine upon 4 wheels 5 tons 4 cwt, water 16 = 6 tons. Carriage wheels 3 feet diamr—4¼ in broad on the rim. Bearing on the rail 2¼ in.

3rd. Carriage wheels 7f 2in centre and centre, total length of oak frame 16 feet. 12 in deep by 5½ in thick.

4th. Width of railway 4 feet inside, carriage wheels geared to 3 ft 11⅞ in outside of flanges, two fast and two loose, at opposite angles; with good bearings of 10 in. bored through the naves ¼ inch thick conical, the journals of the axletrees 3¼ inch dia.working on a brass step of 5 inch bearing.

5th. Dimensions of a coal waggon, length and width at top 7f 6 in by 3f 6 in—length and width at bottom 6½f by 2f 10 in. and 3 ft 10 in high with axletrees 2¾ octagon—journals 2½ diar, bearing 3½ in; and upwards, with a square end staked fast in the wheel. Total weight 22 cwt (called a long ton) and will hold 2 tons of coals of 120 lbs per cwt, and when well filled will hold 45 cwt. Wheels 3 feet diamr. with 6 crooked arms therein, and placed 3 f 6 in centre and centre—Ten of which are drawn up an altitude of 1 inch to a yard—say 10 loaded.

6th. Wagons 3 Tons each = 30; Engine 6 tons = 36 tons, at a rate of from 2 to 3 miles per hour; and will travel on a level railway with 30 waggons 3 tons each. Engine 6 ton = 96 tons in the whole at a rate of 3 miles per hour; in both cases the safety valve the same (i.e.) 32 lbs per square inch. The engine will travel 30 miles in 12 hours including stoppages for watering &c.

7th. Saving compared to horses is in some measure regulated by the price of oats and hay—say when the former is at 4/- per bushel and the latter at £5 per ton, in that case each engine will save upwards of £400 per annum—together £800 but when oats are at 3/- per bushel and hay at £4 per ton—the saving is then reduced to £300 for each engine—together £600 per annum.

Cost of railway

Cog rails 4 feet long weighs 78 lbs
plain do do 66
Cog pedestals 18 lbs plain do.12 lbs 30

174 = to 130 lbs per yard of road

	£	s	d
= 103 tons 3 cwt per mile at £12 per ton:	1225	16	0
2640 stone sleepers from 2 f 6 in to 3 feet square 8 in thick @8d	88	0	0
Preparing the road in a favourable situation £60—Laying do £50	110	0	0
10560 Bolts and cotters 2 lbs ea at 4d per lb	352	0	0
	£1775	16	0

for one mile of steam carriage railway complete—wear and tear of do per annum £40—for rails pedestals stones bolts wages &c &c

8th. Expence of working, taking care of waggons &c—one engine @£20 per week = £50 per ann. [sic] Two boys at 9/- per week each = £46.16 per ann.

Wear and tear of Engine carriage wheels & oil; &c £60—Cost of Engine with metallic piston &c complete 400 guineas.

Radford was born at Salford, Lancs in 1817 and was articled to a firm of engineers. He appears to have borrowed a number of specifications, estimates and observations concerning bridges, canals, aqueducts, roads and railway structures from a firm of surveyors, and copied them out for his own edification. His notes on canals include estimates for alternative routes of the Lancaster Canal, and John Rennie's specification for the Lune Aqueduct of 1793.

The Record Office's Report for 1975 includes the following passage:

> William Radford's early professional life was to be actively concerned with railways and it is interesting to find in his commonplace book not only specifications for a mainline engine and carriage (for the Great Western[12]) but a detailed description by Robert Daglish, manager of the Orrell Collieries, of the geared locomotives which he had introduced there as early as 1812. Built at the Haigh Foundry, Wigan, to Blenkinsop's patent, the YORKSHIRE HORSE of 1812 and its two successors propelled themselves along by means of cogs cast on the outside of the rails.

Radford worked overseas on early railways and in 1850 set up as a civil engineer and surveyor in Manchester. He was soon to be given county appointments as Bridgemaster and Surveyor of County Bridges, with responsibility for Amounderness Hundred in 1851 and for Leyland and Salford Hundreds in 1852. He remained occupied with roads and bridges until his death at the age of 80, in 1897.

Daglish's own version

Wigan's Record Office at Leigh has the original of the following letter written on 1st April 1856 to a Mr Jones, Plasterer, etc, 34 Mount Pleasant, Liverpool:

Orrell Cottage,
near Wigan,
Lancashire

Dear Sir,

I only returned from the North of England last night, when I found your letter of the 25th ult., with not a few others, on important business, [which] is the reason of my not replying to yours ere this respecting the first application of Locomotive Engines in Lancashire.

I made the first in this County in 1812, & put it on an extensive colliery, under my direction, into full action, at the beginning of 1813, which was nearly two years before Mr Geo Stephenson made a Locomotive Engine in Northumberland.

The first do do [locomotive engines] were not put into full action on the Liverpool and Manchester Railway until the year of 1829 & 1830, which was upwards of sixteen years after I made the first in this district, & on being found to answer so well, & caused a saving of nearly £500 per annum compared with the use of Horses, Drivers, etc., so that I had other two at work before the end of 1816, and had them in use for upwards of 36 years, when I finished the colliery on which they were applied, so that I think you fully entitled to any Wager (or Bet) you may have ventured on that affair.

I am, My Dear Sir, Yours, cordially, Robert Daglish, Senr. P.S. Be good enough [to] acknowledge the receipt of this at an early convenience, & say (whether or not) it meets your views & answers your purpose.

[note added in pencil, in different handwriting] N.B. I worked two of my Locomotive Engines on a cog railway by which the resistance was obtained, & one of them by adhesion produced between the surface of the rail & the periphery of the driving wheels.

The letter is in a very neat hand and there is much underlining of words for emphasis, not reproduced here. Robert was about 77 years old at the time.

The following, also in the Wigan Record Office, is from the same address and dated as above; it is in the same hand as the main part of the letter:

TO ALL WHOM IT MAY CONCERN

This is to certify that I made the first Locomotive Engine in Lancashire in the year of 1812, & put it into action the beginning of 1813 on an extensive colliery, under my direction, belonging the late John Clarke Esq., in the township of Orrell, near Wigan, for the conveyance of coal, &c., by trains of wagons, from his colliery near Orrell Mount to the Leeds & Liverpool canal, which was upwards of sixteen years before any Locomotive engines were put fairly into action on the Liverpool & Manchester Railway.

Robt. Daglish, Senr....., M.& C.E. [sic]

The photograph

In the early 1960s two local historians[14] came across a photograph which they hoped would prove to be of Daglish's locomotive. Their enquiries revealed that it was of a model made by a retired miner, Mr Eli Banks in the late 1930s. The model was based on drawings of the original Blenkinsop locomotive but photographed against a reconstruction of a viaduct with a background of the park at Winstanley Hall where the 'Yorkshire Horse' had been worked a century earlier.

The model has survived, and is at the Miners' Convalescent Home, North Promenade, Blackpool. In 1975 Mr D. G. Slater of Standish near Wigan told me that Mr Banks who made the model was a founder-member of the Wigan & District Model Engineering Society and presented it to the Home. Originally arranged for coin-in-the-slot operation, the mechanism is no longer operable.

End of the Yorkshire horse

Mr Donald Anderson[15] quotes one Joseph Hilton who described the fate of the original Daglish locomotive. Hilton was born in 1849 and 80 years later said that the engine part of the Yorkshire Horse had been fixed up in the colliery stables for hay cutting and mixing provender; it passed away under the demolishers' hammer at the closing down of the collieries in the early 1920s.

Conclusion

Robert Daglish was early in the field of steam locomotive building and operation. The Memoir quoted above refers to work on the Newcastle & Carlisle Railway; he had at least a hand in the survey for the Bolton & Leigh Railway in 1827 despite some reported differences of opinion with the great George Stephenson.[16] In 1834 his entry for an improved form of 'railway bars' [rails] won him the premium offered in a public competition by the Directors of the London & Birmingham Railway Company.[17] He was consulted by a number of railway concerns both in the United Kingdom and overseas, as was recounted in the Memoir. Despite his evident skil and contemporary reputation, it seems strange that he had no entry in the Rainhill Trials which were held only a few miles from his home and workplace. Although he acquired an interest in the St Helens Foundry, also conveniently placed for the Trials, previously owned by the Watson family, it appears to have been his son,

Robert Daglish junior, who built up this business over some 50 years. The many accomplishments of Robert senior extended beyond those listed in the Memoir: his name appears on the face of two surviving 'miners' dials', survey instruments used in collieries. He surveyed estates and coalfields; he managed collieries; he lived for 88 years; his marriage lasted for 47 and he fathered seven children, of whom five lived to adulthood. The house he built, Orrell Lodge, still stands. However, his name appears mainly in the footnotes of history and, sadly, his family which is also mine, has kept no papers.

REFERENCES

1 Minutes: Proceedings of the Institution of Civil Engineers, Vol. 26 (1866/7)
2 I have not traced the source of this reference
3 Alan Birch MA: *The Haigh Ironworks 1789-1856*, bulletin no 35 of the John Rylands University Library of Manchester
4 *Walking Horse* and *Yorkshire Horse* appear to have been used indiscriminately
5 Crawford Muniments; John Rylands University Library of Manchester
6 D Anderson: *The Wigan Coalfield, Lancashire, 1740-1850* Moorland Publishing Co., Buxton
7 ibid
8 Leeds City Archives: *Blenkinsop report book*, acc 1546
9 ibid.
10 *Monthly Magazine*, vol xxxvii (1814), p 394
11 *Kaleidoscope or Literary & Scientific Mirror*, No 117 NS, Vol III, 1822
12 *The Commonplace Book of William Radford MICE*, Lancashire County Record Office Ref QAR5/39
13 Gooch's *Firefly* class of express passenger engines, *ibid*
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A Wirral Power Struggle

BY T. B. MAUND

In 1900, when electrification was seen as a means of rescuing the Mersey Railway from Receivership, the adjoining Wirral Railway gave serious consideration to electrification. The two lines met at Birkenhead Park station which was jointly owned and a high proportion of the Wirral's traffic on the West Kirby and New Brighton lines transferred to and from the Mersey.

Powers[1] were obtained to work the railway by electricity either separately or jointly with the Mersey company; provision was made for joint ownership of power stations, subject to agreement between the two companies and a body corporate, the *Mersey and Wirral Electrical Joint Committee* which was to be established to control power generation. Land for sub-stations was designated at three points (1) between Birkenhead Docks goods and Bidston station (2) on the triangular piece of ground at Seacombe Junction and (3) at Meols station.

The Mersey in its Act of 1900[2] acquired powers to create a *Mersey and Wirral Committee*, comprising three directors of each company with an alternating chairman. There was to be no casting vote and voting was to be by companies, not individuals. This body was intended to manage a joint undertaking. The existing body of the same name was retitled the *Birkenhead Park Station Committee*.

The Mersey Railway's power generation equipment was designed to supply current to the Wirral but, whereas the former's complete system was worked by electricity from 3 May 1903, the Wirral, advised with some optimism by S. B. Cottrell, manager of the Liverpool Overhead Railway which already had ten years' experience of electric working, continued to talk but did nothing.

At the half-yearly meeting in May 1908, the Wirral's chairman, T. H. Jackson said 'In our opinion, it was necessary to prepare ourselves for such an eventuality and we have been very carefully watching the results of electric working in this country. I do not think that anyone can say that such a result is satisfactory from an investor's point of view even when large populations exist at each end of the line as well as at intermediate places and as the population at one end of our line is very small (some 12,000), it is evident that before electric working becomes commercially possible there must be cheaper installation and the working expenses must be covered . . .' The real problem was money as there was little hope of the Wirral raising the £225,000 estimated cost of electrification.

Matters were left in abeyance until the 1930s by which time the Wirral had become part of the LMS. The population of the Wirral towns had increased enormously and electrification of the line and through running with the still independent Mersey Railway, appeared to be a viable proposition. A scheme was drawn up under the government loan guarantee legislation[3] and detailed planning was put in hand in 1935.

The LMS invited tenders for the supply of electricity for the Wirral line. Liverpool Corporation quoted £2-15-0d (£2.75) per kW per annum and .182d (.076p) per unit at 11,000v AC, 50 cycles, the supply not to exceed 4,000 kW. Birkenhead Corporation quoted £3-1-10d (£3.09) per kW and .20d (.83p) per unit, the supply to be 6,600v, 3-phase, 50 cycles. The LMS asked Birkenhead for an 11,000v supply but they were not in a position to supply it.

The Liverpool supply was to be delivered from Harrington Street sub-station in the city centre to a site leased from the Mersey Railway at James Street station and then taken through the Mersey Railway tunnel by LMS cables to Birkenhead North for an annual wayleave of £50.

The Liverpool quotation for a 4,000 kW supply was cheaper than Birkenhead Corporation paid the Central Electricity Board for a 17,000 kW supply so, naturally the LMS was anxious to use this source. However, the Electricity (Supply) Act, 1926 protected the rights of electricity suppliers within their areas and the point of delivery, Birkenhead North, was very clearly a long way outside Liverpool's supply area. Liverpool Corporation therefore made application to the Minister of Transport in terms of Sec. 47 of the Electricity (Supply) Act, 1926 for his consent for the supply to be given by Liverpool Corporation. Section 47 permitted power to be supplied outside the normal area of supply if current was being provided for haulage or traction within the area of supply. Current for the former L&Y electrified lines in Liverpool was generated by the railway company's Formby Power Station so Liverpool Corporation was not supplying any traction current to the LMS. The applicants relied, therefore, on a very wide interpretation of the term 'haulage', quoting particulars of various capstans and traversers at Great Howard Street, Sandon Dock, Edge Hill, Stanley, Bank Hall Loco and Garston which were powered by municipal current (see Appendix).

The wagon movements facilitated by this equipment fell within the general railway use of the word 'haulage' but it seems unlikely that Parliament had anticipated such an interpretation.

Birkenhead Corporation applied for a Court Order restraining Liverpool Corporation from supplying current to the Wirral line. A ministerial Inquiry was held on 20th October 1936 and the Minister, no doubt mindful of the much lower cost of the Liverpool current, gave his consent on 1 February 1937. The Birkenhead action therefore failed and twin supply cables were duly laid through the tunnel to Birkenhead, the line being opened for through electric traffic on 14 March 1938.

APPENDIX

ELECTRICAL EQUIPMENT POWERED BY LIVERPOOL CORPORATION SUPPLY

As listed for application for traction current supply for Wirral Section 1936[4].

GT. HOWARD ST.	1 × 15 hp capstan for hauling empty and loaded wagons for sugar traffic to and from Tate & Lyle's delivery conveyor.
	2 × 60 hp wagon hoists used for lifting loaded wagons from the railway line on one level to the railway line on another.
SANDON DOCK	1 × 15 hp capstan for hauling empty and loaded wagons for general merchandise in the vicinity of the warehouse.
	1 × 15 hp traverser used for transferring empty and loaded wagons from former L&Y section of the LMS to the former Midland section of the LMS.
	1 × 5 hp traverser used for transferring empty and loaded wagons from one track to another for positioning against the quay.
GARSTON	2 × 30 hp capstans used for moving banana traffic to and from ships.
EDGE HILL	1 × 50 hp traverser used to move wagons laterally.
	2 × 27 hp capstans used for hauling empty and loaded wagons from sidings into the warehouse and vice versa.
EDGE HILL LOCO	1 × 15 hp capstan for moving empty and loaded coal wagons
STANLEY	3 × 15 hp capstans for hauling empty and loaded wagons for meat traffic between Dock Railway and Liverpool Corporation Abattoir.
BANK HILL LOCO	1 × 15 hp capstan for hauling empty and loaded coal wagons.

Capstans used for 30–50 ft movements.

NOTES

1 Wirral Railway Act, 1900.
2 Mersey Railway Act, 1900.
3 Railways (Agreement) Act, 1935.
4 From Counsel's brief in Birkenhead Town Clerk's files, Wirral Borough Libraries.

Labour Relations on the Inland Waterways: 1840–1945

BY WENDY FREER

The 1990 bibliography of transport history published in the November 1991 (Vol. XXX p. 305) issue of the *Journal* contained a reference to the canal boatmen's strike of 1923, which it described as 'one of the few examples of a strike on British canals'. In fact, there were more strikes among inland boatmen than seems to be commonly supposed—at least twelve in the last two decades of the nineteenth century,[1] twenty six between 1900 and 1920, and a further thirty during the remaining inter-war years.[2] Six of the strikes in the period 1920 to 1938 were concerned solely with Midland canal boatmen. However, it must be admitted that about two thirds of the other disputes were, primarily at least, concerned with flatmen, lightermen and tugmen.

Some boatmen became union members, particularly the fly-boatmen on the larger northern canals. A few slow-boatmen joined such organisations as the Waterside and Riverside Labourers' Union, the Upper Mersey Watermen and Porters' Association, and the Dock, Wharf, Riverside, and General Labourers' Union. However, many who joined around the time of the great dock strike of 1889 later drifted away and the vast majority remained outside the organised labour movement.[3] Not until after the First World War did the Dock, Wharf, Riverside, and General Labourers' Union, later the Transport and General Workers' Union, begin to extend a significant influence throughout the canal carrying industry.[4]

It seems fair to say then, that despite some tendency to become involved in industrial unrest, boatmen were relatively unmilitant. Why was this so? Did canal boatmen really have so little to complain about? When C. F. Jones, the managing director of Fellows Morton & Clayton, appeared before a government committee in 1920s he declared, 'the workers on canal boats are contented, absolutely contented.' 'Well they are the only people in the world who are!' came the reply from one of the committee. Of course, the real reasons why boatmen (and women) remained relatively uninvolved in the labour movement are complex and cannot be fully analysed here. However, one important aspect of this issue is the relationship between men and employers. In short, what sort of 'bosses' did canal boat owners make? It is with this question that this article is concerned.

One feels that one would not have liked to work for the carrying company of John Crowley who told a Select Committee in 1841, 'I do not apprehend the Sunday is a necessary Time for resting, having that Rest from Labour for the Men every Night'.[6] However, such remarks have to be set within the context of the generally accepted working conditions of the time. Other employers showed a more paternal concern for their men. Richard Heath of Stourport stated that where young men in his employ showed themselves to be of good character he would help them with loans of money for the purchase of a horse.[7] (Boatmen were often expected to provide their own horses. Heath himself claimed to employ some men who owned as many as three horses worth a total of about sixty pounds). Joseph Baxendale of Pickfords & Company recounted how he was in the habit of opening savings accounts for boatmen and claimed that he always ensured that 'whatever Evil they committed the total Amount of their Savings, whatever Property they had in the Savings Banks, was paid over to them so as to give them a Confidence'.[8]

Of course, one would expect employers appearing before parliamentary committees to try to represent themselves in a favourable light. However, long service and loyalty to an employer, both signs of good labour relations, are said to have been

common amongst boating people. Although there is little evidence relating to individually named employers, two witnesses to the 1841 Select Committee on Sunday Trading[9] testified to the fact that boat captains often served the same company for twenty years or more. Rundle, the captain of a Grand Junction Canal Company fly-boat claimed in 1858 to have served Pickfords for most of his fifty years on the canal[10] and references to the retirement of elderly boatmen after whole lifetimes of service to the company are quite common in the minute books of the Shropshire Union Canal Company.[11]

Carrying companies were not known for their generous provision of employee welfare but something about the nature of the relationship between employer and employee can be discerned from the treatment of the latter by the former at times of hardship. In 1879 the Shropshire Union Canal Company made advances of pay to its boatmen during frost, although these had to be repaid out of future earnings,[12] and by the 1880s the Trent Navigation Company was paying its boatmen one pound a week during frost stoppages.[13] During the twentieth century, such provision became more common. Even the owners of the Paddington refuse boats, who were frequently berated during the 1920s by the Chief Canal Boat Inspector for completely neglecting the welfare of their labour force, were said to help boatmen over hard times such as frost and drought.[14] There are also frequent references in the Shropshire Union Canal Company Board minutes to elderly and infirm boatmen being granted a small pension at a time when no company pension scheme existed.[15]

Even where good industrial relations did exist, disputes arose, but it is significant that the boatmen were not treated as harshly as they might have been. When a strike of Shropshire Union Canal Company employees broke out among railway men, shore staff, and canal boatmen on 26th September 1919, the company did not turn the strikers out of their boats where these were also family homes but instead brought in open railway boats to try to keep traffic moving. Horses were fed and looked after during the strike, sometimes by the strikers, which suggests relations between employer and employee were not too bitter even during disputes.[16]

The Grand Union Canal Carrying Company, founded in the early 1930s, appears to have been a model employer. John Miller, the chairman of the parent Grand Union Canal Company, had a very enterprising and progressive approach towards management. The company set up its own industrial relations machinery in the form of a conciliation board during the 1930s[17] although this became redundant when National and Regional Joint Councils for the Inland Waterways Industry were established in 1943.[18] The company also tried to incorporate improvements to the cabin accommodation in the design of new boats and envisaged a time when modernisation of the canal carrying system would eliminate the need for family labour.[19]

The company took a particular interest in the welfare of the boat people during the Second World War and this was noted and commended by officials of the Ministry of Health.[20] The company were the only carriers to introduce schemes to supplement boatmen's rations with 'packed foods'[21] and extra tea and sugar was supplied free of charge.[22] Dried milk and vitamin supplements were distributed through its depôts[23] and the company helped employees obtain travellers' vouchers for medical treatment and other welfare entitlements.[24] The company paid a small honorarium to Sister Mary Ward at Braunston for her medical services to boat people, the only carrier to do so, and contributed between 50 and 100 per cent to the men's Hospital Fund subscriptions.[25]

On the face of it, relations between boatmen and employers were worse in the larger companies employing men on large boats and fly-boats and it was among such companies that the majority of unionised men were to be found. Witnesses before the Royal Commission on Labour in 1893 complained about Sunday working with-

out extra pay and the length of hours which men were required to work without rest. Several labour representatives testified that it was a common thing for such boatmen to work one hundred hours per week and up to seventy hours without proper rest.[26] William Speed of the Upper Mersey Watermen and Porters' Association gave the following account of the sort of hours boatmen were expected to work in 1893;[27]

> I commenced to work at seven o'clock on the Wednesday morning. That was the time turned out. We were at the graving dock. We worked there till half past five at night. Then we had to go down to the warehouse and we commenced to load at a quarter to seven. We finished loading at a little after half past eleven. It was half past twelve before we got down the two locks and at one o'clock the ebb of that tide came and we went down to Liverpool and discharged cargo the next day . . . It was nine when we got alongside. I had to go to the office, then to look after the boats to discharge the cargo. At three o'clock we were discharged at Alexander Dock. We had to come back from there to Cornstone and we commenced to load again at a quarter to seven at night and we finished at half past two in the morning and at about a quarter to three we were going back again to Runcorn. We had to navigate to Runcorn and it was seven o'clock on Friday night when we finished work. That was from Wednesday morning . . . I had not any sleep.

One might expect a union leader to exaggerate the harshness of working conditions but there were several other witnesses to support his claims. Boatmen, particularly in the Mersey district, had asked employers to grant the men six hours rest after every period of thirty six hours work, but most had refused to do so.[28] Employers were said to regard the men as being entirely at their disposal day and night, for 364 days a year.[29]

Other employers exploited boatmen in ways similar to those of the butties in the mining industry as this account from a Lincolnshire Keelman shows:[30]

> It is a common thing for the keeper of a public-house to combine with his business of publican that of a broker for canal boats and other river craft, with the result that the waterman who can empty the greatest number of pint pots down his throat in a given time, or who is the most successful in running up a score at the brokers' swipe shop, is also the most successful in obtaining a remunerative cargo; and it sometimes happens that if the broker is not a publican himself, he is in league with someone else who is and there is an understanding between them to fleece the keelman as long as he has a shot left in his locker. Now I believe there is a law prohibiting the payment of wages in a public house; why not also make it illegal to pay freight in a public house?

Michael Maloney, representing the Dock, Wharf, Riverside, and General Labourers Union in the Goole district[31] claimed that boatmen were unfairly treated by employers over cargo handling. He complained that men were held to account for goods but could not keep a proper tally while they were being loaded as they had themselves to work. If they were a bag or two short when they got to Leeds they were made to pay for it, whereas if they were a bag or two over, the company took the extra and did not allow it to compensate for the times when they were short. He quoted the case of a boatman, who, finding himself one bag over had kept the extra to make up the cargo on some future occasion when he found himself short. This came to the notice of his employers and he was accused of stealing it.

There were also accounts of bad employers who tried to avoid complying with the requirements of the Canal Boats Acts of 1877 and 1884[32] which laid down regulations governing the sanitary conditions on board boats used as dwellings. One witness claimed in 1893 that some firms used to[33]

blackmail their men on every opportunity and told the men openly that if the sanitary authorities compelled them to cause their cabins to be painted as required by the Canal Boats Act, the firm would deduct the cost of painting from the men's share of freight.

Llewellyn, the Chief Canal Boat Inspector, alleged in 1929 that some refuse boat-owners, realizing that there was no Canal Boat Inspector in the Kensington district, had sent their worst boats to Harrow Road instead of Paddington to avoid prosecution.[34]

One should, however, guard against drawing the conclusion from this evidence that boatmen in the slow trade were relatively content whilst their colleagues in the fly trade and on larger boats suffered harsh and unfair conditions imposed by tyrannical employers. To some extent it must be the case that the latter complained more simply because, by belonging to a trade organisation, they had the means to do so. However, in small family carrying concerns it was easier for good labour relations to be fostered through close personal interest and long association. John Griffith and Samuel Barlow were two such firms where the employers themselves had been ordinary boatmen and could relate more easily to the needs of the labour force. The Grand Union Canal Carrying Company was said in 1943 to have an official who 'travelled up and down the cut and understood the men's point of view'.[35] Given the minimal recruitment of outside labour—many boat families having been in the trade for several generations—the exclusiveness of the boating community and the attitude of the general population towards them, one would expect strong loyalties to develop between the boat people themselves and between them and any reasonable employer.

On balance it seems that, as one might expect, there were good and bad employers amongst all sections of the trade. Perhaps the most remarkable thing is that there were many good employers at all considering the lack of social and industrial legislation governing the canal trade. Canal boat work never came within the jurisdiction of any specific factory or workshop legislation. The Canal Boats Acts of 1877 and 1884 laid down regulations about the cleanliness and fittings of the cabin and limited the number of people allowed to sleep in it but the standards laid down were fairly low and the regulations were never updated, not even when the Canal Boats Acts were incorporated into the Public Health Act of 1936. There was nothing to limit hours of work or to regulate other aspects of working conditions, not even for women, children and young persons. The degree to which the working lives of boat people were made tolerable and reasonable depended very much upon the 'boss' and where he turned out to be harsh and tyrannical or even merely indifferent, there was little scope for redress for the unfortunate boater.

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Observations on the State of The River Trent and The Proposed Canal from Shardlow to Nottingham.

BY PETER STEVENSON

In the *Canals* section of the Nottinghamshire Records Office subject index there is a reference (CP5/7/105) to a fragmented copy of a pamphlet which had subsequently been used as a wrapper for *Mr. Maltby's Will, Dated 25 February 1797*. The document occupies both sides of a single solicitor's brief sized sheet and is badly damaged along its upper edge, rendering up to ten lines of the text on each folio, including the introductory dedication, incomplete. As no other copy of the pamphlet seems to be known, the surviving text might be regarded as of some importance, throwing as it does more light upon the Trent Navigation proprietors' defence of their waterway in the face of a competing proposal to establish a parallel canal from Derwent Mouth to Nottingham Trent Bridge during the Parliamentary Session of 1793. How fortunate therefore that the calendering archivist should recognise this wrapper as an item worthy of preservation and indexing in its own right.

Much improvement had already been accomplished under an Act of 1783 and the pamphlet is concerned to inform those interested in such matters of the sums invested by the proprietors of the river navigation. The Trent Canal bill was withdrawn from Parliament in May 1793 upon condition that a thorough survey should be made of the river as a preliminary to legislation by the Navigation proprietors

themselves to obtain further improvements. William Jessop and Robert Whitworth recommended various cuts and locks, including that from Beeston into the Nottingham Canal at Lenton, at an estimated cost of £12,776 exclusive of the price of the Act (obtained in 1794) and the expenses of the canal promoters, which the proprietors of the Navigation had agreed to pay. For a fuller treatment of this episode and of the events leading up to it, readers should refer to *The Canals of the East Midlands*, by Charles Hadfield, published by David & Charles of Newton Abbot in 1966 and, in a revised edition, in 1970, at pp. 42-46 and 74 et seq.

> Many Applications have appeared for some time [past] misrepresenting several Facts relating to the Trent Navigation Company, as [well as] the State of the Improvements of the Navigation on that River, all tending to prejudice the Public against it, and thereon [confound] an Application to Parliament, for what is very improperly termed an Improvement of it; it may not be unseasonable to put the Public in possession of a few Facts relative to the obtaining the present Trent Navigation Act:—the Improvement of the Navigation made in Consequence of it—the state of the Company's Revenue—and the further probable Improvements to be made under the powers of the present Act.
>
> In the year 1781, Mr. Dadford, by Order of some Gentlemen principally Proprietors of the Grand Trunk Canal, made a Survey of the River Trent, and gave to the Public a Plan and Estimate for its Improvement—by deepening the Bed of the River by means of Wears, and avoiding a few of the principal Shoals and most dangerous parts of it, by side Cuts. In Consequence of this Survey a Bill was introduced into Parliament in the Spring 1782, which for many weighty Reasons, was opposed by the Land-owners, who, on Agreement of its being withdrawn, engaged to introduce one the next Sessions, themselves. Accordingly in the Summer 1782 they employed Mr. Jessop to make a Survey, Plan, and Estimate, for such an Improvement as he should think would be of the most general public Utility. During the Course of the Summer Mr. Jessop produced a Report of his Survey, which at a very numerous general Meeting was approved of, and a Bill in Consequence was Ordered to be brought into Parliement the next Sessions. The River had hitherto been in its natural State unimproved by Art and the Barges drawn by Men only, the Navigators not being empowered to hale with Horses.
>
> When the Bill was brought forward in the Spring 1783, a Dispute arose between the Gentlemen who introduced it, and those who promoted the Bill the preceding Year about the depth of Water, and a few side Cuts, which the Owners of Lands through which the Cuts were proposed to pass, objected to.
>
> The disputed Points, after a long time spent, and a great Expence incurred, were adjusted, and the present Act passed: And the Improvements required by it, have since been carried into Execution. If a doubt should remain on this point, Reference may be had to Mr. Smith's Survey made in July last, compared with those made in September, 1782, and July, 1786, all which are published and may be seen at one View.
>
> It will be [ ]
> ready exec[ ]
> the Plan orig[ ] th[ ] men who n[ ]
> forward the ne[ ]eme, which would make all the [ ] between Cavendish Bridge and Nottingham Bridge entirely useless; as [ ] not touch the B[ ] the River for the whole extent: and which is intended be made f[ ] feet depth of Water, to carry decked Vessels. And what further they have still in View for making a Similar and corresponding Navigation between Nottingham Trent Bridge and Gainsbro', (for without such an one the proposed Scheme can

be of little or no utility) the Public, from the different and contradictory Accounts of it, are totally unable to judge.

At the Annual General Assembly of the Proprietors of the River Trent Navigation in September, 1790, Mr. Sparrow, after reprobating the Impovements made in the Navigation, and even the Plan itself, proposed that a Navigation should be made from Cavendish Bridge to Gainsbro' 4 Feet deep. The Proprietors present, though of Opinion that the Plan would not be of general Utility, ordered their Engineer Mr. Jessop to take Mr. Sparrow's Proposal into Consideration, and report his Opinion thereon at the next General Meeting, which he did. But Mr. Jessop's Report not being favourable to Mr. Sparrow's Ideas, he, in Conjunction with some other Gentlemen, has brought forward the present Scheme of improving the *Navigation* by abandoning it totally.—And to make the present Proprietors, what they deem a sufficient Indemnification, they propose to secure to them their Dividends of 7 per cent, which they now Share by Virtue of the present Act.

But to shew the great Liberality and Disinterestedness of this Proposal in a proper Light, it is necessary that the Public should be informed that the Revenue of the Trent Navigation Company from the Tolls in the year 1792, was 3844*l* 10*s* 7*s*. And there is no reason to expect that they will be less in future. Their Proposal, therefore, may fairly be interpreted thus:—We will secure to you your 7 percent, per Annum, viz. 910*l*, the Interest of 13000*l*, the Original Subscription; in Consideration of which, we will take from you whatever Water may be necessary for the supply of our new Canal, and make what use we think proper of the Residue of your Revenue, which is 23 4*l* 10*s* 7*d* per annum.

It is proper likewise that the Public should be informed that since the Commencement of the Improvements there has been expended on the River Navigation

	18817	2	5
Exclusive of, For Surveyors and obtaining the Act,	4872	5	11
For Dividend paid	6763	0	0
For Rent of Haling Path,	808	2	1
For Salaries,	3752	1	1
For incidental Expenses,	1281	3	8
	£36293	15	3½

Some five lines of the next paragraph are entirely lost, other than an odd word or two which are wholly insufficient to indicate the tenor of the remainder of this section.

The [ ] through whose Property the proposed Canal is to pass, mu[ ] very materially interested in it, from the great Injury they must [ ] the many disagreeable Circumstances that must arise from it.

Even the *Navigators*, who, if any set of Men could have been supposed friendly to the plan, one would have imagined it must have been they; but we find *their Sentiments* in general very averse to it:—being of Opinion from experiencing the great Improvements making annually in the Navigation, that the Surplus of the Revenue, judiciously expended, will in a few Years, put it into such a State as, all Circumstances taken into Consideration, will be of the most general Public Utility.

If to all these Reasons for opposing the proposed new Canal, is added the Resolution of the special General Assembly of the Proprietors of the River Trent Navigation, held on the 8th day of February last, to employ some able Engineer, along with Mr. Jessop their own Engineer, to survey the River, and report

their Opinion on the best Mode of improving it, for the most general Public Utility;—and on the supposition that the Improvements recommended cannot be effected by the powers of the present Act, to apply for the further necessary Powers the next Sessions of Parliament:—the whole Country, from Cavendish Bridge to Gainsbro' must be stimulated, not only *generally* but *unanimously* to oppose it, and the more when they reflect that at present all Kinds of Merchandize are carried up from Gainsbro' to Shardlow for eight Shillings a Ton, freight and Tonage, (being seventy-two Miles;) and are carried down the River at a much less Expence: and it does not appear probable that they can be carried *upon any Canal*, at the same Expence for the like Distance.

Book Reviews

THE LIGHT RAILWAY KING OF THE NORTH, A. L. Barnett, 112 pp, 70 photo illus, 14 maps, card covers. RCHS 1992, ISBN 0 901461 15 6, £11.95.

This is a little gem of a book. It is so refreshing to find a work of railway history which makes a genuine contribution to knowledge, but this is most certainly one.

Sebastian Meyer is not a name that readily trips off the tongue of the railway enthusiast, but he is revealed here as an entrepreneur of minor lines well worthy of comparison with the far better known Colonel Stephens. London born in 1856, his first railway connection was as a junior clerk at Paddington. In 1881 he went north as Assistant Secretary of the Hull & Barnsley, and in 1883 was appointed Secretary of the East & West Yorkshire Union Railways. He moved to York in 1893, and then began twenty years of varied association with a variety of light railways, mostly in west and south Yorkshire and north Lincolnshire. His longest association—46 years— was with the North Sunderland Railway: many of the others were early taken over by major companies to become parts of their networks.

York became his home in more senses than one. He joined the City Council in 1902, became Sheriff and only declined the post of Lord Mayor through ill-health. The picture emerges of a restless and energetic man: 'no sooner had he finished with one project than he must take up another in its place'. He was involved with the Cawood, Wistow, & Selby Light Railway, the Dearne Valley, the Axholme Light Railways, the Tickhill Light Railway and the North Lindsey Light Railways, all at the apogee of railway impact serving a variety of local agricultural and mineral needs. He had other business interests too, most notably the Wensleydale Pure Milk Society.

Summary is simple, but to piece together both the portrait of the man and the detailed and often convoluted history of the companies with which he was associated, Dr Barnett has had to delve through an immense range of original sources as frustrating in their omissions as in what they reveal. The wealth of detail is a tribute to scholarship, and it gives a very real flavour of the business relationships of the period.

Meyer left York in 1920 but was learning Greek at 70 and at 82 won first prize with a composition for the harp at the Swaledale Tournament of Song! A devout Quaker from 1899, he died at the age of 90 in 1946. Only fragments of his railways survive—but one fragment is now part of the East Coast Main Line electrification.

Railway history needs far more studies of those who created it: the real regret is that so few have Dr Barnett's determination to pursue their subjects through the scattered and fragmentary records that remain. Meyer, at least, now has a worthy record. The Society is to be congratulated on publishing this book.

ALLAN PATMORE

THE GREAT DAYS OF THE SOUTHERN RAILWAY, Patrick Whitehouse and David St John Thomas, 208 pp, numerous monochrome and colour illustrations, boards. David St John Thomas, Nairn IV12 4HU, ISBN 0 946537 72 0, £19.95.

First, both by virtue of its text and its pictures, this is a most enjoyable book. Production is excellent, with high quality paper which does justice to the many fine illustrations, both black and white and coloured. Contemplating the way in which present production costs virtually rule out the publication of traditional railway history books as a commercial enterprise, hopefully this new approach will finance print runs up to a point at which publication becomes feasible. Even with this in mind one suspects that much of the work that went into this book reflects a love of railways rather than the financial reward.

However our members will rightly be seeking description and comment rather than expressions of appreciation. There is no such thing as an unprejudiced review and the present reviewer is biassed in that much of the history engenders personal nostalgia. To begin with, this book is in the new style introduced with the '150' series; a patchwork rather than a systematic history, with a stress upon steam locomotives. This is reflected in the choice of illustrations, most of which show trains, in many cases steam hauled passenger trains. The Southern did gain most of its revenue carrying passengers, but not with steam traction. Many of the views were taken after 1947 but apart from details of livery could have been taken in Southern Railway days. In a mere 25 years the main impact of the Southern was on rolling stock rather than infrastructure. Nevertheless they did build some new stations and signal boxes and they spread the products of Exmouth Junction concrete works all over the system, apart from their signal posts for which even more economical material was used. There are not many pictures of people at work, or of the places in which they worked, such as the mansion at Deepdene. Probably most readers would prefer a view of a 'Lord Nelson' to one of Deepdene.

The book is enriched by a good index but the method of acknowledgment makes it difficult to link photographs with photographers or pieces with authors. Perhaps this is deliberate, as we are told the main chapters are 'based on material supplied' by authors. The degree of accuracy is very high. The inevitable printer's errors are very few and not significant e.g. some confusion of L and L1 classes. The date given for the construction of the Lewisham and Nunhead loop is incorrect and there is a misleading statement about a ferry boat. The new boat delivered for use on the Lymington to Yarmouth route in 1938 was nearer to instant disaster than instant success, so much so that the next boat, in 1948 reverted to paddle wheels. However the 1938 vessel was a delayed success, operating very well after the Voith-Schneider propellors received attention from German engineers after the end of the war. There are other points—Folkestone Central did not have two island platforms in the 1950's and it was not the roof of Charing Cross Hotel which fell in. These blemishes are insignificant when compared with the historical value of some of the pieces such as the account of the operation following the Dunkirk evacuation.

It was the right time to produce this book, when it was still possible to consult such people as Frank Knight, Patrick Stevenson and Bert Hooker. Documents are invaluable but so is the testimony of people who remember. This not traditional railway history but the railway history is there and it is to be recommended to members. EDWIN COURSE

THE WREXHAM, MOLD & CONNAH'S QUAY RAILWAY, INCLUDING THE BUCKLEY RAILWAY, James I. C. Boyd, 352 pp, 216 × 155 mm, 120 b & w illus, 78 maps, over 30 line drawings, copy documents, etc., boards. The Oakwood Press, 1991. ISBN 0 85361 417 2, £25.

James Boyd is well-known for his fine histories of Welsh narrow-gauge railways. This time his subject is a standard-gauge line and he has treated it with his customary thoroughness. It is pleasing that the publisher has had the courage to produce a well-researched company history in the traditional style. However, a work of this size needs more than a 2-page index, and more pages at the beginning and end would have avoided the cramped layout.

The WM&CQR is usually regarded as a decrepit railway, captured by the GCR in 1905, thus ultimately forming an incongruous Welsh arm of the LNER. This book reveals that although straitened, the WM&CQR was an amibitious company, promoting railways in all directions. Although many of its projects were unsuccessful, its aggressiveness spurred a reluctant GWR into increasing its own local facilities,— and into fighting back, in conjunction with the LNWR. It appears that their joint line through Ffrith was a white elephant designed to stifle the WM&CQR westward, and their opposition to schemes for a Dee bridge or tunnel frustrated the WM&CQR's dream of reaching Birkenhead. Thus Watkin was initially regarded as a saviour, not a predator. His company effectively took control of the WM&CQR in 1890 when it acquired a major shareholding. Had it remained truly independent, it is unlikely that the WM&CQR would have over-committed itself. It did not totter into bankruptcy; it was pushed.

Heavy industries of North Wales looked to the sea for transporting their products. Horse tramroads linked several ports on the Dee with industrial premises around Buckley. The LNWR Mold branch skirted this area, but seemed irrelevant. Eventually local manufacturers formed the Buckley Railway, a steam worked line to Connah's Quay, the Deeside port least troubled by winds and tides. Its cheap construction and steep grades deterred some firms from forsaking the tramroads and later caused the WM&CQR to obtain an easier route to the docks. The book treats in depth each tramroad and reputed tramroad, followed by the Buckley Railway and its branches. The intricate WM&CQR story is told chronologically to 1905, with subsequent events mentioned briefly. All branches are fully covered. A further hundred pages are devoted to route descriptions, timetables, locomotives, signalling and several appendices. A hazard of this region is the number of locations with similar names, and different titles for the same place. Thus Hope Exchange station, sometimes called Hope Junction, was not the original Hope Junction which apparently closed when Hope Exchange opened in February 1868 (although it reopened in 1877 named Penyffordd). Neither of these Hope stations is the present Hope (Village) station.

A lavish provision of maps supplements the text and explains tramroad routes, detailed layouts and plans of proposed extensions. Over 100 photographs aptly convey the atmosphere of the railway and its surroundings. This is a major work showing new light on an interesting railway, its antecedents and its industries.

ALLAN BRACKENBURY

THE LISTOWEL & BALLYBUNION RAILWAY, compiled by Michael Foster and incorporating the original booklet by the late A. T. Newham. 112 pp, 48 b & w photos and numerous drawings, maps and plans, card covers. Oakwood Press, PO Box 122, Headington, Oxford, 1989, reprinted 1992. ISBN 0 85361 376 1, £5.95.

When the Limerick & Kerry Railway was opened between Newcastle West and Tralee, with a station at Listowel, the Parish Priest and some influential residents of Ballybunion, a small coastal resort 9 miles to the west, looked for means of constructing a branch from Listowel, but they all appeared to be too expensive for the anticipated traffic. At about this time a monorail system invented by a Frenchman, Charles Lartigue, was the subject of an exhibition in London in 1886; it was claimed

that it would be much cheaper to construct than an ordinary light railway and the Listowel & Ballybunion promoters were persuaded to adopt it, although it had obvious operating disadvantages.

This new compilation by Michael Foster starts with a chapter entitled 'Setting the Scene' which consists mostly of a reprint of a booklet entitled 'The Lartigue Elevated Single Line Railway' (pp 7–42 in the book) explaining the details and referring to the very few examples of its adoption in France. The remainder of Chapter 1 (pp 42–47) is presumably a reprint of Chapter 1 of A. T. Newham's *Listowel & Ballybunion Railway* (Oakwood Press 1967), although there is nothing, not even a paragraph heading, to say so. This deals with the earlier abortive schemes for light railways to serve Ballybunion, the adoption of the Lartigue system and the opening of the line in 1888. This is followed by the remainder of Newham's book, consisting of four chapters on the permanent way, the locomotives, carriages, wagons and stations, the operation of the line and events from 1888 to 1924, when the line was closed. The book concludes with a 7-page feasibility report on the possibility of rebuilding the line as it used to be.

The book is copiously illustrated and the numerous black and white photographs are well reproduced, giving a good idea of what the railway and its trains used to look like when working. HILARY TRICKETT

THE LLANELLY & MYNYDD MAWR RAILWAY, M. R. C. Price, 176 pp, 220 mm x 155 mm, 101 photo illus, 14 maps, plans and gradient profiles, seven appendices, timetables, original document reproductions, index, boards. Oakwood Press 1992, ISBN 0 85361 423 7, £13.50.

In this volume, the latest in the Oakwood Library of Railway History, the author has with skill and competence covered the history of one of the lesser South Wales railways. Most importantly he has set the L&MMR history firstly in the context of the constantly changing economic climate of the nineteenth and twentieth century coal and iron industries, with all its violent fluctuations, and secondly has related the L&MMR story not only to that of its predecessor, the Carmarthenshire Railway, but also its railway contemporaries. Strangely none of these became rivals, nor would it appear were there attempts by the GWR or LNWR to work, lease, operate, absorb or purchase this doughty little line, a situation perhaps unique in the annals of South Wales railway history.

Beginning with the appearance of Alexander Raby in the Llanelly area, the author charts the rise and fall of the Carmarthenshire Railway, which accurately reflected Raby's personal fortunes. The emergence of the L&MMR, some three decades after the demise of the Carmarthenshire, together with its relationship with the Waddell family, a complex story covering three generations, is lucidly described. As contractor, operator and major shareholder John Waddell & Sons built, operated, financed and guided the fortunes of the L&MMR from its inception to absorption by the GWR, and this work, perhaps for the first time, acknowledges the debt owed to them in the industrial and railway development of South Wales.

As with many railway histories there are gaps in the official records, and the period before 1923 has now largely passed beyond memory. We are left with many intriguing questions for which the author has gallantly attempted to supply answers, whilst rightly stressing their speculative nature. Oh! to know if the L&MMR and the GWR Mountain branch did connect at or near Old Cross Hands colliery, and were the coaches described on p 101 from the BP&GVR. Alas we may never know.

All railway history publications can be enhanced or marred by their diagrams or maps, and in this area lies the book's one fault. The mixing in a single diagram of features that are not contemporary is at least irritating and at worst confusing. How-

ever the reproduction on p 12 of the 'Intended Plan of the Carmarthenshire Railway 1801' at less than full page thus making features, even with a magnfiying glass, difficult to identify, is inexcusable. Surely two pages could have been found by the publisher for this map, which to the best of the reviewer's knowledge has not previously been published.

The author however is to be congratulated for clearly and accurately filling an important gap in the railway literature of South Wales, with what in this reviewer's opinion is his best work. JAMES PAGE

BRANCH LINES AROUND MARCH, Vic Mitchell, Keith Smith, Christopher Awdry & Allan Mott, 96 pp, 120 photos, numerous maps and plans, Boards, Middleton Press, Midhurst, West Sussex, ISBN 1 873793 09 X, £8.95.

It is in dispute whether March or Ely is the coldest station in the country to wait for a train. But not in dispute is the past importance, present decline and continuing interest of March (and Whitemoor Yard) and the lines radiating from it. This study, in what is now becoming the well known standard format from the Middleton Press, is a worthy contribution to the series. The piece about each station and public siding is accompanied by the appropriate OS plan showing the layout. The choice of photos and the reproduction are both excellent, though perhaps there might have been a few more taken in the Grouping Era (after all there is the Ian C. Allen collection) and rather less of the 1950-60 period, though of course by now this too is historical. The book is an excellent introduction to an area by no means widely known.

H. P. WHITE

THE INDUSTRIAL RAILWAYS OF THE WIGAN COALFIELD: Part One, West and South of Wigan, C. H. A. Townley, F. D. Smith and J. A. Peden, 271 pp, numerous black and white photo. illus and maps, boards. Runpast Publishing, 10, Kingscote Grove, Cheltenham, Glos. GL51 6JX, 1991. ISBN 1 870754 18 2, £20.

This is not a book to be run past, if you see a copy run to it at once with cheque book at the ready. It is not to be rushed through and then consigned to the bookshelf. It has taken about forty years to produce. More than once the authors refer to notes of conversations about former working practices with colliers already long retired in the 1950s. It is a book to be taken slowly and thoughtfully. It should be placed in the ready reference section of the bookcase, immediately to hand.

It is pleasant to find authors who admit to having failed to provide an answer to an obvious question. When they have speculated on an ambiguity they say they are guessing from available evidence and sometimes suggest alternative hypothesis. The work is fully referenced to its sources; even the introduction, which sets out the background to coal mining in Lancashire and describes the principal sources of information, has 18 references.

The title of the book is a modest understatement. Certainly it is about the industrial railways that connected coal mine, quarry or brick works with canal or main line railway but Chapter 2, the longest in the book, catalogues the development of the canal and LNW, L&Y and GC railway system in the area. The historical essay is followed by chronological tables of railway openings and closures. Each of the remaining 13 chapters takes a particular small area and fully describes all that is known about the collieries and other works and their connections, from horse-drawn tramways to the River Douglas and Leeds and Liverpool Canal in the 1770s through the efficient steam worked networks of the nineteenth century to closure and demolition in our own times. A series of maps shows the districts at twenty or thirty year intervals from the 1840s to about 1920, enabling the development of the rail systems to be easily followed. Although the maps are excellently drawn they are placed some-

what randomly throughout the book and without a listing. In later chapters it can be frustrating thumbing back through the book to find the correct map on which to check some item. Each chapter ends with a locomotive summary as in IRS publications.

Highly recommended to all interested in canals, railways and industrial history and archaeology. A. M. JERVIS

THOMAS TELFORD'S AQUEDUCTS ON THE SHROPSHIRE UNION CANAL, Ron Quenby, 126 pages with 53 photographs and one map, soft cover. Published by Swan Hill Press of Shrewsbury, ISBN 1853102466, Price £9.95.

One soon senses that this noble work is very much a labour of love and must have taken many years to research. The result, however, is pleasing as the Author has adopted a style which commends itself to a non technically minded person. For the subject matter is examined in great depth without distracting from the story line very much in the manner of LTC Rolt.

In essence the book takes each aqueduct from its inception through all its maintenance problems to the present day interspersed with extracts from letters etc. The map, although accurately drawn and containing the right information, is nevertheless too small and could easily have been made larger and therefore more readable. Throughout the book there is a good selection of prints, paintings and photographs of the Telford structures which show how little change there has been since they were constructed. A complete list of these as an appendix would have been useful, but as would be expected there are copious notes, a useful index and a bibliography.

This is a bargain of a book deserving of a place on any canal enthusiast's bookshelf. HUGH J. COMPTON

THE MIDDLEWICH LETTERS—Carriers Mail on the Trent & Mersey Canal in 1846, Graham Moss, 52 pages with 52 photographs and one map, Published by Postal History Society of Lancashire & Cheshire of 146 Chapel Road, OLDHAM, Lancashire OL8 4QJ. POA.

An unusual little booklet produced on A4 sheets all photocopied including the letters. Like the railways in the 20th centuary, the canals operated a letter mail system which was permitted within the terms of the 1837 Act. For the author has gone to great lengths to explain how water transport operated at Wharfinger level whether it be with a carrier or a merchant. Indeed one can sense the element of frustration under which trade was carried out before the arrival of the telephone. For cases highlighed range from goods which have gone astray to children being sent to join their parents. The Fly-boat system for the conveyance of small lots had by this time passed its zenith, but the day to day operations are well documented by extracts from correspondence sent by carriers such as the Anderton Boat co, Sutton & Co and Pickfords.

All in all it can be said that the Author has, from a post office angle, given an interesting insight into how canal trade was carried out in the 1840's.
HUGH J. COMPTON

IRELAND'S ROYAL CANAL 1789-1992, Ruth Delaney, 216 pp, numerous photo illus, endpaper maps, plans, boards. Lilliput Press, 4, Rosemount Terrace, Arbour Hill, Dublin 7, Ireland 1992. ISBN 0 946640 92 0, IR£14.95.

Having written the history of the Grand Canal (published in 1973) the author has now produced a similar work on Ireland's other waterway linking Liffey with Shannon—the Royal Canal. The subject has been covered briefly in two of her pre-

vious books but is now dealt with in much greater detail. The first chapter, entitled 'The Royal Route' describes a trip the author made throughout the length of the canal in 1955 and was the last boat to go through on an official pass before the canal was closed to navigation a few years after.

The next chapter commences the history of the waterway, from the early efforts to establish internal navigations in Ireland, through the schemes to link Dublin with the River Shannon, the creation of the Grand Canal and the formation of the Royal Canal Company. This last was set up in part to convey coal from the Lough Allen/ Arigna coal mines to Dublin, a traffic which was destined not to materialise.

Subsequent chapters recount the construction, financial problems, operations, railway influence, the Midland Great Western Railway having taken over the company in order to facilitate its own construction, and ultimate decline under railway ownership.

The final chapter, 'A New Life' explains how the Royal Canal Amenity Group was formed with a view to restoration, and tells of the progress to date in this connection. At the time of publication the section from Dublin to Mullingar, with the exception of the link to the River Liffey, is virtually complete. An interesting point made in this chapter is that in 1986 the Royal, along with the other canals, was transferred to the Office of Public Works. So for the first time all canals are under a single authority, a state of affairs recommended by numerous commissions and inquiries over the years, nothing having been done in the past.

This is a splendid book, fully maintaining the author's usual high standards and is highly recommended to all who are interested in transport in Ireland. Your reviewer's only regret is the absence of a large map of the undertaking, but unfortunately, doubtless due to costs, the day of the large folding map in such books is long past. NEIL PITTS

CANAL COINS: INLAND WATERWAY TOKENS, MEDALS, BADGES AND BUTTONS, Stanley Holland, 71 pp, numerous illustrations, card covers. M & M Baldwin, Cleobury Mortimer, Nr. Kidderminster, Worcs. DY14 8BY. 1992. ISBN 0 947712 18 6, £5.00 or by post £5.50.

This little work is concerned with 'collectables'. Trade tokens were used as a medium of exchange, owing to inadequate supplies of small regal coinage, until 1818 when issue as currency was finally prohibited. The most important examples are attractive in themselves, illustrating various canal features of historical interest; in a foreward Charles Hadfield stresses how they can bring the past to life. Other tokens, tickets etc. are described, followed by chapters on British and Overseas medals, badges and buttons, while a final chapter suggests how to go about buying specimens, appendices summarising current market values. The photographs are mostly adequate although some are too small and indistinct.

This is the first book on the subject known to the reviewer; it forms an excellent introduction, quite distinct from Dennis Hadley's *Waterways Heraldry* (BWB, 1977) which deals with Company Seals, analogous in character but not 'collectable'. EDWIN SHEARING

THE TEN-MILE MAPS OF THE ORDNANCE SURVEYS, Roger Hellyer, 202 pp, 16 diagrams & maps, card covers. The Charles Close Society, c/o The Map Library, British Library Reference Division, Great Russell Street, London WC1 3DG, ISBN 1 870598 12 1, £17.95 inc. p&p.

This is a learned treatise which for the first time comprehensively describes every map of Great Britain and Ireland at a scale of 10 miles to one inch (changed to

1:625000 in 1942), produced both by the Ordnance Survey and other publishers. The first map, published in 1817, was used as an index for larger scale maps and this practice generally continued throughout the centruy; it was not until 1926 that the Ordnance Survey started the extensive use of this scale to produce specialised maps e.g. topographical, land utilisation, population etc.

To the railway historian the interest lies in the tabulation of the changes in the state of the railways in successive editions between 1839 and 1893, to which the author has given opening dates carefully culled from a fairly full list of recent railways in histories. Railway lines were mapped from Acts of Parliament and therefore some alignments have later proved to be incorrect, a practice the Ordnance Survey has not dared to follow since early this century. For instance the Penarth line was drawn in the 1841 edition; efforts were made to delete it in the 1843 edition for the author states 'Faint traces of the Penarth branch remain'. This branch was in the Taff Vale Act of 1836 but was not opened until 1859, whence it re-appears in the 1861 edition.

MICHAEL H. COBB

SHORTER REVIEWS

A PROPER COMMUNICATION—John Smeaton and the building of the Forth & Clyde Canal, 6 pp, Scottish Record Office, HM General Register House, Edinburgh EH1 3YY. Free of charge.

This little booklet was produced in connection with an exhibition on the building of the Forth and Clyde Canal to mark the bicentenary of the death of John Smeaton. The exhibition was held in Edinburgh during 1992. The booklet contains a brief outline history of the concept and construction of the canal, together with a list of documents and other material on John Smeaton and the Forth and Clyde Canal held in the Scottish Record Office. There is also a bibliography.

ON MIDLAND LINES, D. Huntriss, 80 pp, profusely illustrated, boards. Ian Allan 1992, £9.95.

This book consists almost entirely of pictures, all in colour, taken on a wide range of lines on former MR routes during the 1950s and 1960s. They are largely of trains, often in scenic settings, with the inevitable exhaust of hard working engines prominent. There is a number of shots at stations and sheds, and one or two on industrial premises. The view of the C&HPR on p 41 is somewhat out of place. The caption states that the C&HP was vested in the MR in 1871, whereas it was leased to the LNWR in 1862 and some years later amalgamated with that concern, which was the MR's deadly enemy. The photographs have been taken by a variety of leading photographers and are well produced.

A REGIONAL HISTORY OF THE RAILWAYS OF GREAT BRITAIN: Volume 15 North of Scotland, J. Thomas and D. Turnock, 336 pp, 44 photo illus, 5 maps in text, folding map, reproductions of timetables, boards, D. St. John Thomas, Nairn, 1993. £19.95.

This is the second edition of the final volume in the Regional History series. The first edition was reviewed in the November 1989 Journal. The present edition is practically indentical as regards content, text, maps, photos and even the colour illustration on the dust jacket. Most of the minor typographical errors mentioned in the earlier review have been corrected and there are numerous additions to the bibliography. The inevitable increase in price is in keeping with the present level of book prices and it remains very good value.

THE FIVE MINUTE CROSSING: THE TILBURY-GRAVESEND FERRIES, J. M. Ormston, 44 pp, 26 pen & ink illus, 2 maps. Card covers. Published by Thurrock Local History Society, 1992 and obtainable from J. Webb, 10, Woodview, Grays Thurrock, Essex RM17 5TF £2 inc. p&p.

This booklet covers a subject not previously attempted. A brief history of the centuries old crossing shows railway involvement from 1856 which ultimately made it Sealink's shortest service. Attention is then turned to the ships which have been employed, most of which are illustrated by the author's sketches. The story is brought up-to-date with the sale to the present operator and the replacing of the last remaining BR built vessel by a new locally constructed catamaran. Whilst recommended at the price an opportunity for a more detailed study has been missed as the author clearly knows his facts. It has however been produced at low cost for the general reader and local sale and much of consequence has therefore been omitted. Perhaps the author may be persuaded to produce an in-depth study with photographs, many of which are available, and acquaint his readers with details of some of the ships sold for further service. This would obviously increase the price but would be more satisfying to the historian.

SHORT WALKS FROM THE FURNESS LINE, 24 pp, symbols and maps. Published by Regional Railways, Manchester and Lancashire County Council with information from the Furness Line Marketing Group. Free of charge.

Correspondence

General Pasley

Sir—As Harry Paar indicates in his brief biography of General Pasley on p 26, March 1993 issue, the General had a varied career but he omits that he was appointed Director of the RE Establishment at Chatham in 1812. In 1838 he became very interested in diving and decided that not only would the Royal Engineers have a diving unit but that he at the age of 58 and with one arm missing should be among the first to learn the technique. He dived later in the year in connection with the wrecks of the *William* and *Glenmorgan* off West Tilbury in the Thames. For his work in connection with this operation he was awarded the Freedom of the City of London and was presented with a gold medal by the Lord Mayor. Meanwhile General Sir Frederic Smith had been appointed the first Inspector-general of Railways. Then in 1841 in an administrative reshuffle their appointments were reversed Smith going to Chatham and Pasley to Railways. Following the announcement it is recorded that Pasley spent his time studying books on railways implying that this was a new field for him. Because of a further reshuffle in 1846 and differences of opinion with his superiors he resigned as Inspector-general and left the service.

JOHN H. BOYES

Screens for horses

Sir—In his most interesting article on Ingatestone, Harry Parr refers to the provision of screens to prevent horses from being frightened. Although not my own subject area, whilst researching over the years I have come across frequent such references in the Board of Trade reports (MT6 at Kew). Certainly in the 1870's there was frequent cause for the Inspectors to make judgements as to whether or not they were

necessary and the latest reference I have noted is for 1891 on the PD&SW Jcn Rly. There may of course be later ones and I mention the above only for what it is worth. Perhaps a member could say when the practice finally died out. TONY COOKE

When is a station . . .

Sir—It is a good thing that there is an exception to prove the rule stated by Michael Robbins on p 3 of March 1993. Dovey Junction would not qualify as a station, because it has no public road access. Yet in its heyday, with two loops, sidings, a large refreshment room and two big signal gantries, it could not have been dubbed a Halt. R. W. KIDNER

Railways and Music

Sir—At the risk of unreasonably extending the theme initiated by Philip Scowcroft, Railways and Music; who can doubt that Franz Schubert actually wrote the last movement of his Symphony No 9 in C major on a train?

Composed in the late 20s of the 19th century at the time of growing excitement at the coming of the railway, the music is remarkable imitative prognostication of the journeys yet to be made in bogie coaches on 60ft long rails all over Britain. It evokes the diddle-e-da long before the rails or even the carriages were invented, as one proceeds at a cracking pace, whistling and blasting through short tunnels, over bridges, stations and cuttings; over points, crossings and embankments, to come to a majestic halt, with brakes applied, just before the buffer stops, at what must have been a very important terminal station. In the hands of a good conductor, the train can attain a speed as high as 68 mph. JOHN SEARSON

Sir—What about railways and canals and music?

I suspect we all know of the North American ditty in which the recent widow of a riverboat man, following a mishap with a boiler, informs her children 'Your next Papa is going to be a railroad man'.

Heard recently on BBC Radio Two, origin unknown, a Formbyesque composition entitled 'The Wigan Boat Express' the destination of which was Wigan Pier, where else you may ask! P. JUSTIN McCARTHY

Birkenhead Docks Station

Sir—I am a new member of the Railway and Canal Historical Society and my current interests are the history of the Birkenhead and Wirral Railways. I recently purchased a copy of the booklet *Chronology of the Railways of Lancashire and Cheshire* which I have found quite useful though I have detected an error which I thought should be brought to your attention as, at some future time, a reprint may be considered.

Under the heading of *Wirral Railway* on page 19 it is stated that the extension to the new Birkenhead Docks station was opened on 1st April 1878. This is not so, the extension being, in fact, Railway No. 1 of the Seacombe, Hoylake and Deeside Railway Act of 1886 which was opened with other extensions on 2nd January 1888. What happened on 1st April 1878 was that the line at the original Docks Station was joined with that of the Mersey Docks and Harbour Board, the short link having been authorised by the Hoylake and Birkenhead Rail and Tramway Company's Act of 1873. This was the first connection with any other railway though its use was restricted by the hostile attitude of the Dock Board.

The new Docks station is the present Birkenhead North and to date I have been unable to trace the date on which it was renamed; this was, I believe, post-grouping. T. B. MAUND

Airey/RCH Maps

Sir—I refer to the Schedule of Airey/RCH Maps prepared by David Garnett, the last revision of which appeared in this Journal in November 1985 (vol 28, no 6, p 262). I have seen since then the following maps:

1) London, July 1876;
2) Manchester, 1886;
3) Lancashire, 1897.

The latter is of particular interest as it is one of a very small group of maps from what I shall call the take-over period after January 1895 when the Railway Clearing House acquired the maps business from John Airey and before his name had completely removed from everything.

This gives rise to the following changes to the above schedule:

1) Delete text of Note J and substitute: Dated July 1876.
2) Add X on the line for Manchester at 1886.
3) Add X on the line for Lancashire at 1897 IN THE COLUMNS HEADED 'SEE NOTE C'

D. A. WRIGHT (OXFORDSHIRE)

Errata

Vol. 31, March 1993

p. 38 l.9—'Ian Allen Ltd' should of course be 'Ian Allan Ltd'.
p. 42 l.13 from bottom—for 'Prices' read 'Publisher'.
p. 43 l.6—should be LINDISFARNE

The Light Railway King of the North

Dr Arthur Barnett has notified the following corrigenda to his book, published by the Society in 1992:

p. 52 fig. 34: the train is eastbound.
p. 69 fig. 55: the location is Swinefleet.
p. 96 fig. 79: the buildings in the background are part of the Appleby-Frodingham Works, not Lysaght's.
p. 109 fourth paragraph: *Up* and *Down* should be transposed.
p. 111: R. W. Kidner was not, of course, the author of *Locomotives of the LNER*.
Key to maps: the thick solid lines indicate railways authorised and built; the dotted lines railways authorised but not built; and the dashed lines railways proposed but not authorised.

All copy for the November 1993 *Journal* should be with the Editor by 6 August 1993 and must conform to the Society's style-sheet. The Editor will supply potential contributors with a copy on receipt of a 8½" × 6" stamped and addressed envelope.

Original typescripts and other 'copy', maps, diagrams and photos, of published articles will not be returned unless requested by Contributors.

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