Che Southern Portion of the Dottinghamshire and Derbyshire Coalfield and the Development of Cransport before 1850.

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CONOMIC historians leave no doubt as to their opinions of the importance of the coal industry in the development of transport in Great Britain. One writer has said "Coal started the canal system, and coal produced the railways."¹ A similar opinion is that of Mantoux, expressed in his volume on "The Industrial Revolution in the Eighteenth Century "; " The more we study in detail the history of communication by water in England, the more do we realise how closely it was interwoven with the history of coal."2 Writing of the canal system in 1830, another historian remarks, "From the first, coal transport had been a dominant factor in the canal movement."3 Quotations of this nature could be multiplied almost indefinitely. But the generalisations of historians on the history of the whole country sometimes prove incorrect when applied to particular localities. One of the most important functions of local history research is to examine the general statements made by historians in the light of local evidence. When this principle is applied to the effect of the Nottinghamshire and Derbyshire coal industry on the development of

¹ Lilian Knowles, The Industrial and Commercial Revolutions in Great Britain during the Nineteenth Century, p. 261.

² p. 126.

⁸ J. H. Clapham, An Economic History of Modern Britain; The Early Railway Age, p. 78.

transport, the result is to confirm and even to extend the findings recorded above.

There is satisfactory evidence that coal was worked in the southern portion of the visible coalfield at least as early as the thirteenth century.¹ From the end of the sixteenth century onwards there was an increasing trade with counties to the south and the east.² In Nottinghamshire itself, as wood became scarce, coal was consumed in larger quantities for domestic purposes.³ Even before the industrial revolution, coal was used in such industries as glass making, brewing and lime burning.⁴ With the coming of machinery the demand for coal increased rapidly in both counties. In the early nineteenth century Derbyshire ironworks consumed large quantities, and in both Nottinghamshire and Derbyshire the employment of steam engines gave further impetus to the coal trade.⁵ As early as 1605 a scheme was drawn up to supply London with Wollaton coal.⁶ This and several later projects failed and not until the fifties of the nineteenth century, when railways had become established, was a satisfactory footing gained in the London market.⁷

When the coal industry of Nottinghamshire and Derbyshire first began to seek markets beyond the immediate locality, the means of transport to be employed were naturally those already in existence. If it is true that the stone for the building of Wollaton Hall 1580-88 was obtained from Ancaster in Lincolnshire, in exchange for

⁴ Wollaton Hall MSS., pp. 500-1; V.C.H. Notts; V.C.H. Derbyshire.

 5 Glover, History of the County of Derby, 1829, p. 230; Ashton and Sykes, The Coal Industry of the Eighteenth Century, p. 237.;

⁶ Wollaton Hall MSS., p. 171.

⁷ Clapham, An Economic History of Modern Britain, 1850-1886.

¹ Articles on Coal in V.C.H. Notts., Vol. II and Derbyshire, Vol. II; J. D. Chambers, Nottinghamshire in the Eighteenth Century, p. 88.

² Historical MSS. Commission; Report on MSS. of Lord Middleton preserved at Wollaton Hall, passim. Nef.; The Rise of the British Coal Industry, pp. 57-60.

³ Deering, History of Nottingham, quoted by A. Stapleton, Notts. Caves and Notts. Coal.

coal, pack horses were probably used to convey both stone and coal.¹ But the chief method of transporting coal was by boat down the Trent. It is clear from the Wollaton MSS, that Wollaton coal reached Newark and Gainsborough by the river from the end of the sixteenth century onwards, and it was via the Trent to Hull and then by sea that coal was to be conveyed to London, if the 1605 project materialised. Sir Percival Willoughby of Wollaton Hall had ten boats engaged in the trade on the Trent: "The John; The William; The Constance; The Anne; The Trinitie; The Grace of God; The Speedwell; The Bartholmew; the keele in John Jervis' hands; The Henry Maria." These boats required at least four feet of water. That this river trade was properly organised and not left to chance, is shown by an agreement between Sir Percival Willoughby and Robert Fosbrooke. Houses and buildings for storing coal were already in existence or were to be erected "at the rail end," at Trent Bridge, and at Newark. The rails at Wollaton to which reference has just been made, constitute one of the earliest examples of an important method of conveying coal from the colliery to the waterway. This method later became very common and eventually led to the development of the modern railway with its steam locomotives.²

The coal trade down the Trent seems to have encouraged river traffic of other kinds. London goods for Lenton Fair were, on one occasion, at least, a return freight from Gainsborough.³ In 1620 the justices of Nottinghamshire reported that Nottingham needed no storehouse for corn, since other counties who sent up the Trent for coals brought in corn whenever it was needed.⁴ The suggestion

¹ Wollaton Hall MSS., p. 566.

² Ibid., pp. 169-179. For the early use of rails, see also Ashton and Sykes, p. 63.

³ Wollaton MSS., p. 175.

⁴ S.P. Dom. Jas. I, cxiii, 22 quoted by V.C.H. Notts., Vol. II, p. 327.

contained in this last sentence, that the Willoughby boats were not the only ones engaged in the transport of coal, is supported by a reference in a letter from Robert Fosbrooke to Sir Percival Willoughby, dated 20 January 1610, to a rival who carried more coal to Newark than Fosbrooke did.¹

Written between 1724 and 1726, Defoe's "Tour through England and Wales" gives a description of the traffic on the River Trent during the early part of the eighteenth century.

"The Trent is navigable by ships of good burthen as high as Gainsborough which is near 40 miles from the Humber by the river. The barges without the help of locks or stops go as high as Nottingham, and farther by the help of art, to Burton upon Trent in Staffordshire. The stream is full, the channel deep and safe, and the tide flows up a great way between Gainsborough and Newark."

According to Defoe, iron, block tin, salt, hops, grocery, dyers' wares, wine, oil, tar, hemp and flax were carried up the Trent, and lead, coal wood, corn and large quantities of cheese from Cheshire, Warwickshire and Staffordshire, in the opposite direction.² Deering, writing in the middle of the century also refers to the coal traffic by water from Nottingham down the River Trent.³

However extensive the coal traffic on the River Trent, there must have been many districts too far from a navigable river to be able to obtain an adequate supply of coal. Some towns usually supplied with coal by water, occasionally found themselves without in winter, as the following passage from an anyonymous historian of Nottingham shows. In defence of what Camden called

 1 Defoe, A Tour through England and Wales. Everyman's Library, Vol. II, pp. 140-1.

² Ibid., p. 145.

³ Deering, History of Nottingham, quoted by A. Stapleton, Notts. Caves and Notts. Coal, p. 56.



Note.—How far Chapman's Survey may be relied upon is doubtful. It seems certain that he made no attempt to show all the pits on the Derbyshire side of the border. Further criticism is contained in the text.

"stinking pit coal" as a domestic fuel the writer says:-

"I could name some Towns myself of no mean note, who remote from ye Coale Mines, and trusting to be served with Fewel by Water, when some Frosty Winters have shut up those Passages, the People have been constrained to burn Stools, Chairs, Formes, and Bed stockes for want of Fewel."¹

The destruction of large numbers of trees in Sherwood Forest during the Commonwealth, and especially after the Restoration, gave coal a distinct advantage over its rivals wood and charcoal. Camden in 1610 commented upon the store of wood provided by Sherwood Forest, but Deering in the middle of the next century stated that "since the almost universal destruction of wood in the Forest," coal had become the only fuel used in the country immediately around Nottingham.²

The deficiencies of river transport, and the growing demand for coal in the eighteenth century are shown by the impetus which the coal trade gave to the construction of turnpike roads and canals. The turnpike system reached Nottinghamshire at the end of the first quarter of the eighteenth century. Between 1740 and 1765 considerable development had taken place, including the construction of a number of roads leading westwards from Mansfield, Worksop, and Nottingham to the coalmining areas of the Erewash Valley and South Yorkshire. From 1765 to 1790 there was a little more advance on the coalfield. The application made to Parliament in 1764 for the making of a turnpike road from Nottingham, through Ilkeston to Belper Lane End, was supported by the "Manufacturers and Artificers of the Town of Nottingham on behalf of the Poor Manufacturers and Artificers owing to the high price of coal. Petitions from Newark,

² Ibid., p. 56.*

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¹ Quoted by A. Stapleton, Nottm. Coal and Notts. Coal, pp. 51-52. The date of the passage is 1641. The complete work of the anonymous historian is to be seen in the Transactions of the Thoroton Society, 1898.

Bingham and the Vale of Belvoir in favour of the bill were presented in the hope of lowering the price of coal in those districts. In April 1764 the bill with slight modifications became an act. The connection of the coal trade with the turnpike roads is further seen in the specially easy rates allowed for coal by several trusts in Nottinghamshire.¹ On the map of Derbyshire in Glover's History of the County of Derby (1829), numbers of turnpike roads are marked on the exposed coalfield of that county.

It is almost impossible to over emphasise the importance of the coal trade's effect upon the development of the canal system. The first canal connected with the southern portion of the exposed coalfield of Nottinghamshire and Derbyshire was the Grand Trunk Canal planned by Brindley to effect a union between the rivers Trent and Mersey. Collieries communicated with the canal by means of pre-locomotive railways at various points along its course, and coal as may be imagined was one of the chief commodities transported. For the construction of the Erewash Canal the owners of coal mines along the of Nottinghamshire and Derbyshire were borders responsible, and when the Nutbrook Canal was opened (The Act had been obtained in 1793), coal and limestone were the principal and almost the only articles conveyed upon it. An important canal was the Cromford Canal opened in 1793. Out of 325,000 tons of commodities carried on this canal in 1828, 230,000 tons were coal, a proportion which needs no comment. With the object of supplying the town of Derby with coal and other goods, an act was obtained in 1703 for the making of the Derby Canal.² A year previous to this a similar act had been passed for the making and maintaining of a canal from the Cromford Canal to the Town of Nottingham, a

¹ A. Cossons, The Turnpike Roads of Nottinghamshire. Historical Association Leaflet No. 97, pp. 8-18 and p. 23.

² Glover, History of the County of Derby, 1829, Vol. I, pp. 261-270.

waterway opened in 1802 and known as the Nottingham Canal. In the preamble, the transport of coal is indicated as the chief object, other goods, apparently of secondary importance, being mentioned separately. Permission was granted for the construction of railways leading to the canal.¹

The network of canals and tributary pre-locomotive railways which covered the Erewash Valley may be seen on Sanderson's Survey of Twenty Miles round Mansfield made 1835. Most of these early railways were comparatively short, and were constructed to convey coal, and sometimes other commodities, from the place where they were extracted to a canal. Two, however, need special mention as they were made with the idea of reaching markets considerable distances away overland. These railways are the Pinxton to Mansfield Railway completed about 1819 and the Cromford and High Peak Railway, more commonly called the High Peak Railway, opened in 1830. As the railways joined the Cromford Canal at opposite ends, when completed they formed a continuous line, or at least a connected line, from Mansfield in Nottinghamshire to Whalev Bridge on the western border of Derbyshire and beyond.

From Pinxton wharf iron wagons were drawn by horses as far as Kirkby Summit, and thence by their own weight they travelled down to Mansfield, horses afterwards pulling the returning wagons to the summit again. The speed of the wagons as they went down the slope was controlled by blocking the wheels with pieces of wood. According to White's Directory of 1832, one horse could draw on the railroad as much as five horses on a common road. By far the most important commodity carried was again—coal. Glover's History of the County of Derby, states that 294,679 tons were conveyed along the railroad from 1819 to 1826, and of these 227,692 tons

¹ There is a copy of this act in the Reference Library, Nottingham.

were coal. These large quantities supplied, not only Mansfield, but also a large district to the east, for farmers sent wagons to Mansfield for coal, lime and stone. After the opening of the railroad the price of coal per ton is said to have fallen from IO/- to I3/-, to about 8/- to $8/6.^1$

The Cromford and High Peak Railway was a combination of inclined planes, up which wagons were pulled by stationary steam engines, and level stretches upon which locomotives or horses could be used. The aim of the railway as stated in the act authorising its construction was "to open up a more easy and commodious communication between the agricultural and mineral counties of Derby, Nottingham and Leicester and other eastern and southern counties, and the great manufacturing towns of Stockport and Manchester . . . " and " to facilitate the conveyance of coal, iron, lime, corn and minerals and other commodities."2 Writing about a year before the opening of the railway, Glover suggested that one of the advantages of the railway would be a supply of coal at a much cheaper rate to the districts through which the railway passed. He saw as a more distant object, a connection with Liverpool providing a more direct route for cotton, groceries, etc., than the circuitous route then followed from Liverpool to the counties of Derby and Nottingham.³

From the Cromford and High Peak Railway it is a short step to the modern railway represented by the Midland Counties Railway. The opening of the railway from Swannington to Leicester in July 1832 threatened the coal trade of the Nottinghamshire and Derbyshire border with Leicester. Meeting at the Sun Inn, East-

¹Glover, History of the County of Derby, 1829, Vol. I, p. 268; V.C.H. Notts., Vol. II, p. 329; White's Directory of Nottingham, 1832.

² Abstracts of Acts relating to the Cromford and High Peak Railway in Journal of the Derbyshire Archaeological and Natural Hist. Soc., 1934, p. 40. There is a second paper in this volume on the working of the railway.

³ Glover, Vol. I, pp. 259-60.

wood, as was their weekly custom, the coal owners resolved to construct a railway to connect their collieries with the town mentioned, and supported their resolution with promises of money. The scheme which came before Parliament in November 1833 planned a railway connecting the towns of Leicester, Nottingham and Derby with one another and with London, joining the London and Birmingham Railway at Rugby. A branch line was to be made up the Erewash Valley, terminating at the Pinxton end of the Pinxton to Mansfield railroad, but this part of the scheme had to be abandoned to secure the main bill. On the 30th May 1839 the first train travelled from Nottingham to Derby, and in 1840 the main line from Trent, via Leicester to Rugby, was opened.¹ The possibility of a line along the Erewash valley was again considered soon afterwards. In 1845 the Erewash Valley Railway Act was passed, and in 1846 an act empowered the Midland Railway Company, which had agreed to purchase the Erewash Valley Railway, to make several branches from it to certain collieries in the neighbourhood.² The next year the railway reached Mansfield.³

How the trade of the southern portion of the Nottinghamshire and Derbyshire visible coalfield led to the development of river traffic down the Trent, to the making of turnpike roads, to the construction of canals and tributary railroads, and to the building of railways proper has now been described. Before this paper is concluded reference must be made to the contribution which the coal industry made to the solving of technical problems of railway construction. Derbyshire had its share of the experiments in the making of flanged wheels

¹ Mellors, In and About Nottinghamshire, pp. 462-464, quoting The Midland Railway; Its rise and progress by F. S. Williams.

² An Act to empower the Midland Rly. Co. to make several branches from the Erewash Valley Railway, 16 July, 1846. Copy in Reference Lib., Nottm.

³ V.C.H. Notts., Vol. II, p. 329.

and flanged rails, and it is claimed that many early railway devices were first tried underground in coal mines.¹

I must express my thanks to my colleague Mr. S. Gunby of the Cottesmere School, Nottingham, for drawing the map showing pre-locomotive railways in the Erewash Valley, and for giving valuable assistance with the second map. To Mr. A. Cassons I am grateful for permission to make use of the map in his Historical Association Leaflet on "The Turnpike Roads of Nottinghamshire."

¹ For some of these, see Glover, Vol. I, p. 261.