

The origins of railway enterprise: the Stockton and Darlington Railway, 1821–1863

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1 The Stockton and Darlington Railway in economic and business history

Every fifty years since it opened in 1825 the Stockton and Darlington Railway has been celebrated publicly as the pioneer of all subsequent railway development – ‘the starting point of the vast network of lines which covered a considerable portion of the globe,’¹ and as the harbinger of a technological revolution by virtue of its employment of locomotive haulage. The sesquicentenary in 1975 was marked by extensive local celebrations, exhibitions, the issue of special postage stamps, and, most impressive of all, the inauguration of the National Railway Museum at York as a fitting memorial to the event. It is true that commercial considerations loomed large on these occasions – the desire for advertisement and preferment on the part of the sponsoring North Eastern Railway in 1875 and the succeeding London and North Eastern Railway in 1925, and the expectation of enhanced revenues from tourism in 1975. Yet it was obvious that all three events were marked by considerable feelings of local pride in what was regarded as an outstanding commercial and technological achievement sufficiently impressive to have given south Durham, and Darlington and Shildon in particular, an established place in the history of human progress.

In stark contrast to popular perceptions have been the views of economic historians, ever mindful of the need to clothe their accounts of transport development with restraint and objectivity. In the sober light of historical analysis the Stockton and Darlington Railway has been accorded little more than a precursory role in the inauguration of the ‘Railway Age’.² Contrary to popular belief it was not the first railway to receive parliamentary sanction.³ It was not even the first public railway⁴ or, indeed, the first to employ steam locomotives commercially.⁵ More specifically, in comparison with the Liverpool and Manchester Railway which opted from the outset of operations in 1830 for complete mechanical traction under the control of a board of directors, the Stockton and Darlington Company’s combination of horses and stationary engines, with an apparently minimal commitment to locomotives, together with the leasing of the line to contractors for the conveyance of passengers (until 1833), lends further support to its detractors. It is also the case that the founders of the earlier company had strictly



1 Corporate seal of the Stockton and Darlington Railway Company. The literal translation of the motto means 'At Private Risk for Public Service'.

limited objectives: the Stockton and Darlington Railway was to be a coal line serving a small number of landsale collieries in the south-west of County Durham with the shipment of other minerals such as limestone, and the carriage of passengers in particular, very much as afterthoughts.

This book modifies the scholarly consensus in several important respects. In the first instance, although the Quaker founders of the company possessed a shrewd sense of immediate *possibility* and little sense of *direction* the latter developed rapidly once the construction phase had begun. By 1823 the company's management committee had perceived the desirability of locomotive traction and in the following year its leading members provided the bulk of the finance for the establishment of the world's first locomotive building enterprise – Robert Stephenson and Co. of Newcastle upon Tyne. Contemporaneous with this was the creation of George Stephenson and Co. as a surveying organisation, initially under Stockton and Darlington auspices, for the planning of railways elsewhere in the UK. After the opening of

its line in 1825 the Stockton and Darlington Company provided an invaluable testing ground for the technical development of locomotives such that by 1828 the company's own engineering staff, led by the highly talented Timothy Hackworth, had produced a powerful short-haul engine which was to resolve the management committee's doubts as to the reliability of locomotive haulage, and in the immediate setting its cost effectiveness. This is not to suggest that Hackworth's endeavours proved decisive in the contemporary national debate on the merits of locomotive power. The Liverpool and Manchester Company's decision to convene the Rainhill Trials in 1829 was symptomatic of a continuing concern with the weight of locomotives in relation to the available materials for the construction of the permanent way and their steaming capacity in differing traffic conditions. It is not coincidental, however, that a Stephenson-designed engine, drawing on the accumulated experience of the Stockton and Darlington Company, proved to be the successful entrant. In the Stockton and Darlington context, moreover, the decision to phase out horse haulage after 1828 was to prove critical in ensuring the company's subsequent commercial success.

Although the early progress of railway technology must be an important ingredient in the study of an innovatory company in a new sector of the economy the principal object of this study is to establish the Stockton and Darlington Company's claim to recognition as a significant element in the maturing phase of British industrialisation after 1830. Small though the company may have been in relation to the trunk lines constructed in the later 1830s and 1840s, its evolving network came to occupy a position of vital strategic importance in the development of a new and highly concentrated industrial district. By the time of the opening of the railway in 1825 the Stockton and Darlington management committee had begun to broaden its original self-limiting conception of a landsale mineral line to include a coastal trade in coal via the Tees in direct competition with long-established interests on the Tyne and Wear. During the final stages of construction of their line the Stockton and Darlington proprietors had come to appreciate that the innovation of the public joint stock railway, in resolving the problem of wayleaves and in offering a potentially cheap and efficient means of bulk mineral transport, would lower the costs of entry for new firms into the colliery business. Their expectations proved correct: the railway precipitated the expansion of the Auckland coalfield after 1825 and provided local colliery entrepreneurs with a competitive edge over their northern rivals in the coastal trade thereby destabilising the Tyne and Wear 'Limitation of the Vend' agreement for the supply of coal to the London market. By the end of the 1830s the Stockton and Darlington Railway was firmly established as the 'fuel artery' for south Durham and north-east Yorkshire: the Tees coal trade was booming and with it the newly established urban

settlement of Middlesbrough – founded in 1831 as a deep-water coaling port by leading financial interests in the Stockton and Darlington Company. In 1841 the same interests opened the extensive Middlesbrough Docks as a major addition to the already considerable infrastructure investment in coal drops and Tees navigation facilities. The Docks were absorbed formally by the Stockton and Darlington Company in 1849, a date which marks the onset of a renewed upsurge in the rate of economic development of the Tees and upper Wear valley districts. After 1850 Teesside rapidly outgrew the limits set by exclusive concentration on the coal trade as a result of the exploitation of the recently discovered iron ore deposits of Cleveland. By 1870 the district was the most important iron-producing centre in the world, an achievement which had been facilitated in large measure by a Stockton and Darlington rail network which was deliberately designed for the bulk transshipment of coal, coke, limestone, and ironstone. The point to be made in this context is that the district of south Durham and north-east Yorkshire, poorly endowed with navigable rivers and with a terrain inimical to the construction of canals, gained immense advantages from investment in railways. As such, the Stockton and Darlington Company provides a classic example in the UK context of the concept of innovational ‘indispensability’ in an area where waterways were not a feasible alternative to rail transport.⁶ The railway widened markets, changed the structure of costs and prices for commodity inputs and outputs and in so doing made a largely autonomous contribution to regional economic growth. Economic historians should therefore bear in mind that the experience of north-east England as a distinctive region is highly untypical of the rest of the UK in terms of the applications of social savings analysis to transport innovation.⁷

The industrial development of the Tees and upper Wear valleys under the impetus of railway expansion serves also to illuminate the ongoing debate among economic historians between those who have espoused the need for a regional perspective on Britain’s early industrialisation in the face of the aggregative approach adopted by the new macro-economic school of quantitative historians.⁸ Industrialisation during the first half of the nineteenth century was a distinctly regional phenomenon. As E. A. Wrigley commented in the early 1960s, ‘industrial growth [before 1850] was essentially a local rather than a national affair. In this regard it is perhaps unnecessarily inexact to talk of England and the continent rather than, say, of Lancashire and the Valley of the Sambre-Meuse. Each country was made up of a number of regional economies.’⁹ This disaggregated approach was subsequently adopted by Sidney Pollard in his penetrating analysis of European industrialisation, with an explanatory framework grounded in regions reaching across geographical borders. On the specific subject of railways Pollard observed that in marked contrast to the Continental Euro-

pean experience railway development in Britain did not lead to significant changes in the country's economic geography.

That had been fixed by coal, and while the railways here and there extended the workable parts of coalfields as in South-West Durham, the East Midlands, or the Scottish Lowlands . . . they did not call into being a major industrial region that had not existed before. Only in the second half [of the nineteenth century] were they instrumental in developing mineral areas, such as Tees-side and Furness, and in locating ports and seaside holiday resorts.¹⁰

The fact remains that as a distinctive region the north-east of England had emerged as 'a powerful force in the British economy' long before the end of the seventeenth century. As Neil Evans has pointed out, 'By the reign of Charles I one Tyneside pit could probably have produced the entire output of Henry VIII's reign. Coal was increasingly mined in response to the phenomenal growth of London, and the gentry of the north-east flourished as a particularly market-oriented group in an increasingly commercialised society.'¹¹ The coal-based development of the north-east economy has received insufficient attention in the historiography of British industrialisation. At the regional level the main focus of attention has been on Lancashire, hardly surprising in the light of the explosive market growth of the cotton textile industry and accompanying supply-side changes.¹² Yet it is salutary to remember that the north-east coal industry experienced substantial growth of output during the eighteenth and early nineteenth centuries. Between 1700 and 1830 production quintupled from an overwhelmingly dominant base figure at the same time as the industry experienced ongoing technological change. Diminishing returns which followed in the wake of the deepening of mines were contained by steam pumping and winding. Coalmining, moreover, is as much a 'transport' as a productive industry¹³ and well before the end of the eighteenth century the banks of the Tyne and Wear had given birth to a network of waggonways – the forerunners of nineteenth-century railway technology. As Professor Flinn remarked, the Durham sea-coal industry, 'Despite its antiquity was . . . still vigorous enough to trigger off both a mining and a transport revolution.'¹⁴ It is therefore this regional dimension which provides the broad contextual framework for analysing the economic significance of the Stockton and Darlington Railway.

The experience of the Stockton and Darlington Company thus serves to illuminate some recent and ongoing debates in economic history. It also sheds considerable light on issues of direct relevance to business historians. Modern transaction costs theory, for example, insofar as it relates to the coordination and allocation of resources, suggests that the efficiency of firms can be enhanced by internalising such costs.¹⁵ As the history of the Stockton and Darlington Company reveals, however, transaction costs arising from

market uncertainties can be reduced by external networks. This is exemplified in the case of the Stockton and Darlington Company by its record of capital formation. In this respect the company was unique in the history of UK railway enterprise as a public joint stock concern which was, in effect, a close family partnership. Throughout its existence as an independent entity the company relied heavily upon the Society of Friends for its capital and borrowing requirements. This had been a notable feature of the enterprise at the time of its inauguration in 1821, but by the mid-1840s the pattern of share ownership had come to be concentrated in the hands of the Quaker Pease family of Darlington which by virtue of its extensive intermarriage with a number of Britain's leading Quaker business dynasties was able to tap a private, nation-wide capital market. This aspect of the history of the Stockton and Darlington Railway has been touched upon by other economic historians and in an earlier monograph by the present writer.¹⁶ What it reveals is that the company's investment strategy came to be dominated increasingly after 1830 by the brothers Joseph and Henry Pease, both of whom epitomised the thrusting urban-manufacturing-industrial interest which was to transform the economy and society of Britain during the course of the nineteenth century. The ascendancy of the Peases and their immediate Quaker associates was assured as they became major traffic senders on the Stockton and Darlington network following their own extensive investment in local mineral development and the docking and associated urban facilities of Middlesbrough. It would be true to say that the expansion of the Stockton and Darlington Company was never at any time constrained by lack of financial resources. It is impossible, therefore, to examine the capital structure and investment strategy of the company without taking account of kinship ties of unusual strength and geographical dispersion.¹⁷

In terms of business organisation the Stockton and Darlington Company provides some pointed contrasts to the managerial structures adopted by later trunk line companies founded in the 1840s and 1850s. To the end of its independent existence the company's management committee remained committed to the principle of subcontracting in numerous aspects of operations. The subcontracting of locomotive repairs and servicing, and the maintenance of the permanent way, for example, rendered the boundaries of the firm indistinct. In this respect the Stockton and Darlington Company occupies an unusual position in British business history. It was innovative and profitable and helped to propel regional economic growth in the maturing phase of Britain's industrialisation. Yet in its managerial procedures it was antediluvian, looking back to precedents set in the canal era of the eighteenth century.

Subcontracting may have set the Stockton and Darlington Company

apart from the internalising strategies of larger contemporary enterprises. It did, however, conform to practice elsewhere in floating nominally independent concerns as a means of reinforcing its hold on the mineral traffic of south-west Durham and north-east Yorkshire. A cursory examination of this structure would suggest excessive fragmentation of control leading to increasing inefficiency rather than sophistication in the managerial process. It is important to note, however, that there was, in reality, a substantial degree of overlap between the directorates of associated companies, with a central core drawn from the Pease family. This ensured continuity of decision-making throughout the Stockton and Darlington Company's independent existence. The disadvantage of such a structure was that the fortunes of the company were subject to the Peases' overwhelming determination to exert a form of autocratic control over localised mineral traffic movements. In their anxiety to destroy, or at least limit the threat of, competition, the Pease brothers led the Stockton and Darlington Company into a series of unsound speculations in the early 1840s which were to endanger its financial solvency during the commercial crisis of 1847-8.

The importance of this book lies in the fact that comparatively little is known about British industrial enterprise in the first half of the nineteenth century. As far as the Stockton and Darlington Company is concerned its experience indicates that in the immediate context of railway development it provided two invaluable sources of inspiration and guidance for subsequent railway promoters. In the first instance, it demonstrated the efficacy of steam locomotion *per se* but in so doing highlighted the need for high-quality construction techniques in the laying of the permanent way when the available materials were of poor or inconsistent quality. Secondly, its early commercial success encouraged other promoters, not least the merchants of Liverpool and Manchester, to proceed with their own schemes. In this respect, however, the Stockton and Darlington Company's experience was misleading. It was conceived and operated as a mineral line in a district where a cost-reducing transport innovation would have maximum impact. It therefore provided few lessons for the promoters of trunk lines whose primary interest was in the carriage of light freight and passengers.

Similar considerations apply to the analyses of modern economic historians: in giving birth to a new industrial district based upon the exploitation of bulk raw materials the Stockton and Darlington Railway underlines the fact that in the context of the ongoing social savings controversy, the disputed 'axiom of indispensibility' holds fast for the growth-inducing effects of an innovation in a region where there was no effective substitute in the form of navigable waterways. As a contribution to business history the book provides a case study of the role of the individual entrepreneur in determining commercial strategy. As the dominant managerial element the

Peases were undoubtedly advantaged by the network of Quaker financial relationships that they were able to exploit. As entrepreneurs they were also lucky, as evidenced by the timely discovery of ironstone deposits which were fortuitously located in relation to other key industrial raw materials. But whilst it is true that luck can be as important as sound commercial judgement in determining the fortunes of business enterprise the Peases consistently revealed themselves as dynamic, forceful, and innovative Schumpeterian-style entrepreneurs. Nowhere was this more evident than in their investment strategy after 1850 when they took the lead in projecting a succession of strategically located new lines. The effect was to lay the basis for the emergence of Teesside as an outstanding centre for the production of iron manufactures and also to pave the way for a most lucrative merger with the North Eastern Railway Company in 1863.