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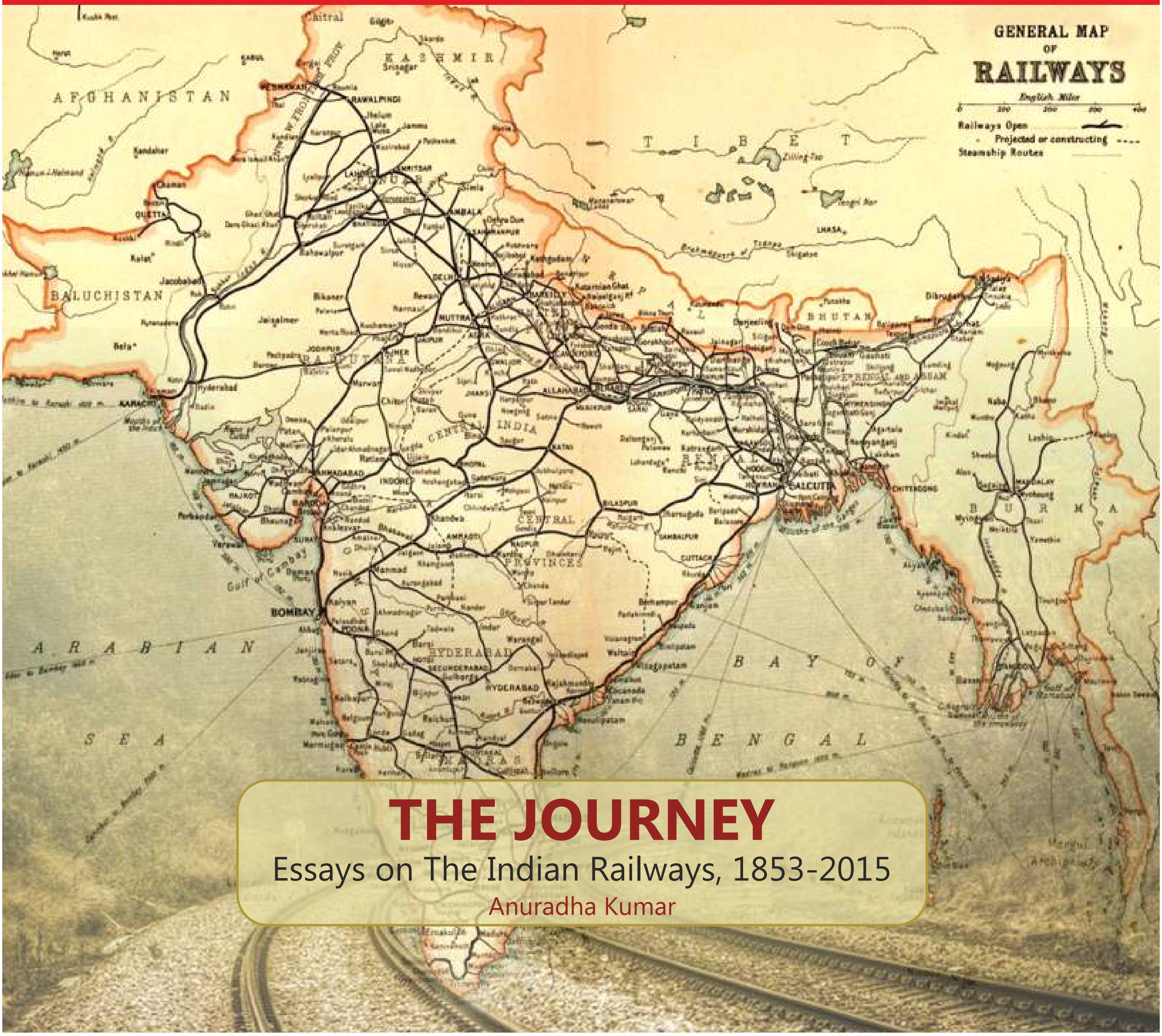

THE JOURNEY

Essays on The Indian Railways, 1853-2015

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The Coming of the Railways

An Introduction

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In the beginning, there was a village. It was one of those places where adventures, as a rule, did not happen. Bullock carts ambled in slowly, bringing merchants and goods from the outside world. That, perhaps, is what gives an idea of time passing—not in the cyclical way that agricultural seasons dictate, but as linear movement. But, on a day that could belong to any year, in this world of the 19th century, something different happens.

Armies of men arrive and begin to work long hours in the sun, placing wooden blocks, and filling them with stone pellets and laying over these with iron rails. People, who gather to watch, see lines appearing and then moving away. For days the work seems unending. Some begin to say that the line actually started a long way off and would go on, beyond the village. For now, it stretches on for a distance far longer than anyone can see and, somewhere on the far horizon, the lines seem to meet.

The lines were for something called a train, they are told. But the villagers do not know what it really is, and it will be years before they will finally see one. When that day comes, they hear it first: A long whistle and then, later, a plume of black smoke that comes dancing towards them in the sky. The train brings in travelling merchants, vendors, singers, artisans and new products. It takes people and things away too. People realized that journeys need no longer take indefinite time and they could travel from village to town with greater ease. Yet, when they returned, they found their own villages too had changed in certain ways. The railways were a herald of change—the 'pre-eminent symbol of global transformation in the 19th century', as Kenneth Pomeranz puts it. With their arrival, a new era of communications had begun.

Communications are always cumulative. Even a small road can make a difference; the railways much more so. It was Robert Luis Stevenson who persuaded the tribal chiefs of Samoa, in the Pacific, to cut a road through the wilderness. This road was later named the 'Road of Gratitude', in memory of Stevenson. When it was inaugurated in October 1894, Stevenson said, 'Our road is not built to last a thousand years, yet in a sense it is. When a road is once built, it is a strange thing how it collects traffic, how every year it goes on, more and more people are found to walk

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thereon, and others are raised up to repair and perpetuate it, and keep it alive.' (Stevenson in Eugene Weber)

I

The Debate at the Beginning

The story of the Indian railways has always begun with a date: 16 April 1853, the day the first train set off carrying 400 passengers, covering the distance of 34 km from Boribunder, near Fort, Bombay, to Thane in an hour and fifteen minutes.

The railways soon spread, thickening their network across India over the years. The lines moved inland from the ports at so rapid a pace that between 1860 and 1920, 1007 new kilometers were added each year. By the early 1900s, India had the fourth largest national rail network in the world—55,753 km in 1913. Between 1853 and 1900, the railways' annual earnings rose from Rs. 49,000 to Rs. 1,645 lakh. Today, the Indian railways have a track mileage of 63,000 km, with the capacity to carry eleven million passengers every day in 11,000 trains.

The story, though, of the railways in India is not one of linear progression. Like a spider's web, this story has many strands, each one with a different beginning, each one with different actors and motivations.

The Liverpool and Manchester Railway (L&MR) opened in Britain in September 1830. It operated steam locomotives and was the world's first inter-city passenger railway. The L&MR also helped provide faster transportation of raw materials and finished goods between the port of Liverpool and the textile mills in Manchester and nearby areas. This provided the stimulus to increase the number of train lines, and soon the railways spread like wildfire across England. The same commercial zeal moved different merchant groups in England to begin lobbying for trains in India.

Some of these groups hoped to promote the interests of British trade and manufacture. There were pressure groups speaking up for the British railways and opportunities that railways in India would bring. Even among these many groups, there were persons who changed their support and loyalty from one group to another as and when it appeared in their interests to do so. There were also people in the government who thought the railways would help not only trade but also the administration of a huge region and make it more accessible for the military (Macpherson).

Thus there were different groups, a diverse range of opinions, and discordant views as well. And in the government, the final arbiter, there were always too many voices speaking – whether the East India Company (EIC) in India, its Court of Directors in London or the Board of Control

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that was the Parliamentary body exercising control over the EIC. The EIC had, over the last eight decades, found itself the unlikely ruler of most of India. Though it had lost its trading privileges in India it was still accountable to the government. At the same time it zealously guarded its turf against outside interests, especially those of trade.

Countering the impatience of many groups, there were those who advocated caution, for things in India were very different from England. India, though larger, was industrially more backward. There were a few trading communities along the seacoasts, while the interiors were dominated by agriculture. Long distance trade was confined to luxury items. And, though there was traffic, both pilgrim and trade, it was not enough to merit a railway line. Some influential members of the government were against the very notion of railways in India. Others pleaded for state intervention and wanted 'experimental' lines in each presidency to be run on a trial basis, to test the efficacy of the railways. Much of the initial dithering was thus over the necessity of introducing railways and the expenditure such massive public work projects in India would incur. It would be difficult to raise funds. There were some who advocated other public works, such as canals and roads. There were anachronistic proposals as well—a railroad drawn by horses was suggested for Madras in the 1830s!

In the course of time, three main groups who were interested in the Indian railway project emerged. They were the trade and business groups in the United Kingdom, the Indian Government (the EIC and later the British crown) and the investors or the shareholders (Macpherson 1955).

Merchants and Traders

The large British merchant houses trading in East Asia, and the smaller British merchant firms in the Indian port towns who worked in tandem with them, were the key groups interested in the introduction of railways in India. British merchants and manufacturers who were chiefly into consumer goods, especially cutlery, hardware and cotton textiles, were concerned with finding a market for their products. For these groups, especially those with interests in cotton textiles in Manchester and Glasgow, India's potential as a source of raw material and as a market for British manufactures seemed limitless. They cited statistics available in the 1840s and 1850s to show that Brazil, which was not even a British colony, bought ten times as much British goods per capita as did Britain's greatest colony, India.

Through the 1840s, 80 per cent of British raw cotton came from America; only 13 per cent was from India. John Chapman, the promoter who spoke eloquently about a line linking Bombay to the cotton producing areas of the Deccan in his book *Cotton and Commerce in India* (1842), stressed at length that poor communications were the cause of India's lack of importance as an exporter of raw cotton. According to him, problems arising from the existing land revenue system, the absence of State aid, the general poverty of cultivators and the coarse and inferior

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quality of the Surat variety of cotton could all be addressed by a good communication system. Writing in the 1840s, Chapman wrote that distances from the inland cotton areas to the ports were great. Bullock carts could travel only about sixteen km a day; navigable rivers were few; pack transport exposed the cotton to vagaries of the weather. Thus began the pressure for cotton railways that eventually led to the Government sanction and guarantee of the Great Indian Peninsula Railway (GIPR) in 1849 (Macpherson 1955; Thorner 1955).

The plea for railways morphed into an effective public demandled by John Chapman and Robert Stephenson and other promoters like them. They petitioned, sustained debates and carried appeals over years, working in trying situations with the difficult task of convincing those who mattered.

Besides the immediate intent of commerce, promoters were motivated by a variety of personal reasons. Stephenson had a vision of connecting Europe to India through a railroad network, while Chapman wrote voluminously on improving India's cotton cultivation and the conditions of Indian agriculture. He was an inventor who had worked on lace producing machinery as well as on a prototype of a flying machine. He did not shy away from expressing radical political opinions, arguing in a piece written in the 1840s that the age of the empire was an outdated concept.

But it was a thankless and time consuming task. The promoters were at the mercy of the Board of Control, the Secretary of State for India and the Court of Directors for approval for any railway venture in India.

Empire to manage

The EIC, as rulers in India now, had an empire to manage. The British ruling classes were familiar with the diverse economic, political and social conditions that existed in different regions of the Indian subcontinent. The doctrine of laissez-faire prevailed in these times and yet utilitarianism, which meant governing for the greater public good, also had its adherents.

Among the more cautious, especially those in charge of the Indian administration, was the awareness that funds for railways would be difficult to come by. Indeed in those early years, it was not the railways but the gains from the opium trade that attracted many. Shipbuilders were keen to invest in the opium trade. In his novel *River of Smoke*, Amitav Ghosh narrates the story of Bahram Modi who hoped to convince his father-in-law to diversify from his ship-building business to the lucrative opium trade.

> Listen sassraji, he had said. I know you and your family are committed to manufacturing and engineering. But look at the world around us; look at how it is changing. Today the biggest profits don't come from selling useful things: quite the opposite. The profits come from selling things that are not of any real use... Opium is just like that. It is completely useless unless you're

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> sick, but still people want it. And it is such a thing that once people start using it they can’t stop; the market just gets larger and larger. That is why the British are trying to take over the trade and keep it to themselves. Fortunately in the Bombay Presidency they have not succeeded in turning it into a monopoly, so what is the harm in making some money from it?

However, around 1858, when the British Crown took over the administration of India following the Revolt of 1857, railways, that had already been introduction in India, increasingly became the favoured mode of transport for many administrators and military men. Railways were the means to secure Britain’s position in India and to prevent further rebellions. Many referred to the railways’ capability of transporting soldiers quickly and more easily than had been previously possible. The Anglo-Sikh wars of the 1840s had exposed the disadvantages of poor communications. It was argued that railways, by improving efficiency, would reduce military expenditure, which in I856-7 accounted for £24 million of a total government outlay of £31 million (Macpherson 1955).

Welfare was another motive that played a crucial part. Railways, the government was urged, would serve as a valuable instrument in improving Indian social conditions, spreading Western civilization and the ‘elevation of a backward people’. 'They will lead', wrote Dalhousie in the Minute of 1853, a key document in the formulation of the Indian railway policy, 'to some similar progress in social improvement that has marked the introduction of improved communications in various Kingdoms of the Western World'. India's progress seemed assured if it adopted British methods and the British way of life, and the railways would in turn introduce 'English arts, English men and English opinions'. Education would spread, the caste system would collapse in the intimacy of travelling in third- class carriages and, most importantly, railways would achieve 'the prevention of local famine and the uniform dispersion of food'. In 1853, Karl Marx also wrote on the transformative power of the railways and how the self-sufficient isolated Indian village would inevitably see changes once the railways appeared (Marx in New York Post, 1853) : Changes that would begin with the assured movement of goods and people, and would include over time, the dissemination of new ideas and thoughts.

The government was also anxious to encourage the railways for commercial reasons. Trunk routes, Dalhousie had written in 1853, 'should be chosen according to the extent of political and commercial advantages which they are calculated to afford'. The East Indian Railway (EIR) did not take the shortest and most effective military course to the North-West, but followed existing trade routes to the Ganges at Rajmahal, where the coal was—fuel costs mattered to railway working costs. The objective of the GIPR was to penetrate the cotton regions of the Deccan. Salt and coal were the other products that influenced railway construction. Special branch lines to the salt districts were sanctioned by the government, and in 1872 it built a railway from Lahore to the salt-pans at Sambhar Lake.

However there were instances in which the government did not allow merchant capitalists to dictate terms. For instance, when supplies of cotton dried up during the American Civil War, the Lancashire cotton manufacturing district suffered a distinct slowdown, prompting British

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businessmen to look to India for cotton supplies. In 1861, when the railways were already operational in India, Manchester textile interests requested that the State raise a loan for more railways in India, but despite these representations, the government's financial difficulties at the time prevented the 'guaranteeing' of any new companies.

Nevertheless, for all the government's espousal of strategic motives, no purely military railway was built until the 1870s. In 1868, there was a proposal to extend the Delhi-Lahore line to Peshawar to strengthen the defenses of the North-West Frontier against external aggression. Dalhousie always believed that Russia posed a major threat to India. The army wanted to extend this line on the existing 5 feet 6 inch wide gauge, but Governor General Lord Mayo and others favoured the metre gauge on the grounds of economy. In the end, defense needs and the fear of Russia triumphed over economy and financial considerations, and the wide gauge line was sanctioned.

Motives of strategy and defense continued to be of significance even later. The Khyber railway was constructed as late as 1925. As Paul Theroux(2006) writes in *The Great Railway Bazaar:*

> It is an engineering marvel. It has thirty-four tunnels, ninety-two bridges and culverts and climbs to 3600 feet. The train is well-guarded, on bluffs above the track, in little garrisons and pillboxes,the Khyber rifles stand sentry duty, staring blankly at the plummeting blue-black ravines on Afghanistan's inhospitable edge.

Social, political, strategic, commercial and financial factors determined the actions of the Indian Government. The railways and their arrival were a careful balancing act between the interests of economy and administration.

Doubts and Hesitations

While promoters, merchants and manufacturers, missionaries and administrators all favoured the building of railways in India for different reasons, the authorities displayed a marked hesitation in taking a quick decision. This can partly be traced to events and policies that followed the early introduction of the railways in England. The promoters of railways in England were authorized by the Private Acts of Parliament to raise capital for a specific project. Under these Acts, landowners could be compelled to sell their land to the promoters. The Acts also allowed promoters to determine freight rates, though they were not permitted to declare an annual dividend exceeding 10 per cent. The absence of government control led railway promoters in Britain to construct lines in a haphazard manner. The experiences drawn from the setting up of the railways in England made both the British cabinet and the Parliament quite cautious about railways in British India (Thorner 1951).

There were other obstacles to unaided investment in India, such as distances and the lack of local knowledge. There were also issues of internal conflicts—the revolt of 1857 had recently been

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quelled. The financial difficulties of the Indian Government and the poverty of the Indian people discouraged potential investors. The construction of lines involved a large capital outlay and the gestation period before any profits could be earned was likely to be long.

In the age of laissez-faire capitalism, the state hesitated to involve itself directly in railway construction. After the railway mania had subsided in England, private investors were unwilling to invest in railways in India. The EIC's charter debarred it from raising funds for railway construction in India, and from 1858, when the British Crown took over administration of the country, to the 1870s, the government did not directly construct railway lines, even in the interests of the military. Finally, the State was persuaded to agree to a 'guarantee' that led to the introduction of railways in India.

Addressing the guarantee question

In the late 1840s, after protracted debate, the concept of a guarantee was accepted by the government, both in India and in London. It was hoped at first that free land and prospective profits would be enough to attract promoters for the railways in India, but, from the beginning, companies demanded greater protection for their investment, which finally the guarantee provided. And the guarantee remained, with a brief exception between 1860 and 1862, a permanent feature of British railway construction in India. The guarantee was an assurance of returns (5 per cent) on the investment made, in return for which British investors, mainly the middle classes, provided capital for the early Indian railways.

Between 1845 and 1875, British companies invested approximately £95 million in Indian guaranteed railways (Macpherson). 'The Public' in 1848 reported that the GIPR Company, 'will definitely not invest in Indian railways at anything less than a complete guarantee of 5 per cent'. The promoters admitted that although they themselves did not doubt the profitability of their ventures, the investors had qualms and insisted upon a guarantee on the interest.

Dalhousie and others also believed that aiding British investment in this manner would encourage, 'a more extensive employment of similar capital and similar efforts hereafter in connection with the products and trade of India'. The 'native gentry' would be given 'an opportunity and inducement to invest their capital'. However, the capital raised by Indians was small, and was mainly from merchant investors from Bombay and Calcutta. As seen in Vishnu Godshe Vershaikar's account of his travels during the revolt of 1857, the landed aristocracy who largely derived their wealth from land, believed more in hoarding wealth, spending on ostentatious living and building palatial houses, temples and other places of worship than in investment. If the economy had been less agricultural, and there had been savings enough to invest in infrastructure, so-called 'native' investment in the railways could perhaps have had a favourable impact on the country. However the few native investors who did provide capital

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came from the port towns and were mainly traders, and other businessmen who had interests firmly tied to the colonial economy.

Between 1845 and 1849, after protracted negotiations, contracts were signed that assured complete safety to the shareholders. Among the shareholders, the middle classes that included widows, barristers, clergymen, spinsters, bankers, and retired army officers, dominated. Large subscribers to the debenture issues were banks and insurance companies. Everybody wanted a steady and safe return rather than doubtful prospects of high profits"I care nothing about the line or what is done with the money, so only that it is spent to secure 5 per cent to the shareholders", maintained a proprietor. Daniel Thorner added, "The guarantee at once provided for the needs of this class of investor and enabled India to acquire capital for its railways at relatively low rates". The railway companies in turn found little difficulty in raising capital easily once its principal and interest were guaranteed by the State. The companies faced difficulty in raising funds on only two occasions, in 1861 and 1866. The government immediately stepped in to infuse necessary funds so that even a temporary cessation of work did not happen.

In 1849, the promoters representing the companies, the cabinet and the EIC reached an agreement on the terms of construction for the first two 'experimental' railways in India—even then no one was certain about the viability of the railways. One line was to run a short distance in a northwesterly direction from Calcutta toward the Burdwan coal fields; the other line was to run in a northeasterly direction out of Bombay toward the cotton fields of the Deccan. The documents thus drafted served as a model for other contracts under which the chief railway trunk lines of India were built.

1. *Reliance on private enterprise***.** The capital for these Indian railways was to be raised by private companies incorporated in the United Kingdom. These companies undertook to build the railways and then operate them for a period up to ninety-nine years. The government of India retained the option of purchasing the railways from the private companies after twenty-five years elapsed (Daniel Thorner).

2. *Underwriting of the companies by the state not just of the guarantee but also in the event of a loss***.** To encourage private British capitalists to invest their money in Indian railways, the government of India agreed to certain financial obligations that devolved upon the taxpayers of India, but not of Britain. Salient amongst these obligations—to come into effect on the opening to traffic of each railway—were that the government would make a contribution every year to each railway that failed to earn 5 per cent of capital invested; the contribution was to be sufficient to enable the companies to pay a 5 per cent dividend; the contribution was in no instance to be more than 5 per cent of each company's capital. Should the companies operate at a net loss (in which event, the government's 5 per cent contribution would not be enough to assure an annual 5 per cent profit), they were to concede an unconditional right to hand their enterprises over at any time to the

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government of India. All they had to do was to give the government one year's notice, at the end of which time they would get back their capital in full (Daniel Thorner).

3. *Government of India supervision of railway operation and policy*. In return for its aid to the railway companies, the Government of India reserved for itself extensive powers over the railways, such as direction of line, type of construction, mode of operation and policies regarding rates and fares. The government oversaw almost every aspect of construction. Its engineers were authorized to ratify every phase of construction, which often led to friction and delays. The Indian government decided the alignment of routes and the width of gauges. Its endorsement was necessary for the raising and the expenditure of capital; and the very assurance of the guarantee was essential to attract private funds.

The outline of contracts was as follows:

a. The government provided land, works, stations and other conveniences.
b. It determined the route or direction and also had powers to alter or limit both.
c. It certified the necessity and expediency of all work.
d. It provided for the payment into the treasury and for the withdrawal of the capital (in London) with the rate of exchange of capital transactions between England and India placed at 1s.10 s per rupee (shillings and pence sterling to the 'Company Rupee').
e. The government would have control and superintendence of the company.
f. Accounts were to be submitted to the government.
g. The government provided for payment into treasury of gross receipts at such times and in such manner as the government would direct and for money being drawn for purposes sanctioned by the government.
h. It provided for half-yearly payment of interest by the government in London at the rate of 5 per cent per annum on the capital paid into the treasury throughout the term of ninety-nine years.
i. It provided for payment of interest at the above rate and throughout the said term on capital in excess of the sum stated in contract which may be required to complete the line.
j. If net receipts were more than the guaranteed return, the government received half of all surplus profits and company shareholders received the other half. After the interest payments were paid, the company would receive all profits.
k. Government troops and post were to be conveyed free of charge.
l. At the expiration of lease, all land and buildings were to become the property of the government.
m. The Government also retained the right to purchase private railways after twenty-five or fifty years. The contracts stipulated that the Government had to announce the repurchase within six months after the 25th year or the 50th year of the original contract.

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('Outline' from *Railway Construction in India*, volume 1, ICHR)

The apprehensions evinced by the railway companies on raising their own capital were fully justified by the realized returns. In no case did the profits of any company reach the guaranteed 5 per cent before I866-7. Only the EIR generated some profits. Later companies almost always demanded a guarantee, without which they refused to set up lines. By 1883-84, the state had incurred a net loss of £596,100 on account of the railways. The low expected and realized remuneration from this field of investment was the main reason why speculative, risk-taking capitalists avoided it.

Indeed, for many decades, the railway companies operating in India did not pay their way, becoming a serious drain on the finances of the Government of India.

Interestingly, the rate at which passenger traffic gained acceptance was surprising. The fare in the ordinary third class carriage on the Indian line was, for instance, lower than the excursion line going to Brighton, the British seaside town, the latter till then being the cheapest line in Britain. There was a fourth class carriage on the Bombay lines of the Great India Peninsular which was still cheaper. This bore the most unexpected results. When railways were first proposed for India, policy makers were confident that they would have to depend on returns almost entirely on freight charges derived from transporting goods, as it was felt that Indians would not take to the train easily. As it turned out, this assumption was incorrect. Travelling by rail became a passion for the lower classes. The rail broke the strength of caste, and a Brahmin of the purest descent, who would have considered it the greatest act of pollution to come in contact with a man of lower caste, was seen on several instances sitting alongside him in a third-class carriage, in order to save money. Nine-tenths of the passengers, therefore, travelled in the third class, and it was their patronage that generated most of the revenue for the early railways; a feature that continues till the present day, with almost unviable economic consequences for the railways as fares remain low, and are kept at these levels, by the political class.

But rates and fares were arbitrarily structured, and between 1850-1900, operational inefficiency meant that the Indian Government had to advance to the railway companies a sum of £50 million, to enable them to pay their shareholders the promised returns. Understandably, except for the shareholders, virtually no one acquainted with railway matters was pleased with the manner in which the railways functioned. Apart from the issue of lack of profitability (which was largely true up to 1900), there were concerns regarding the poor quality of the freight service, the rates and fares policy, the failure to develop industries in India capable of meeting needs of railway equipment and stores, the exclusion of Indians from executive posts on railways during their first seventy-five years of operation, and the fact that, despite the spread of railway network, several parts of the country were still without any railway service whatsoever.

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By 1900, 70 per cent of India's railways needed subsidies to ensure their 5 per cent return. Most lines earned less than 3.5 per cent (Pomeranz and Topik 2006). In the early 1880s, only two lines were responsible for 56 per cent of the railways earnings in India (EIR and GIPR).

In 1921, the committee set up to inquire into the management, finance, control and organization of India's railways, chaired by William Acworth, calculated that the Government of India (GOI) suffered a net loss of £52 million through guarantee payments or £1.25 million per annum in the four decades leading up to 1914. Only in 1877-78 was the government's railway account in some credit. This state of profitability did not change until after 1900. Subsequently, amounts were recouped—£45 million by 1918—and the government's share of excess railway profits came to form an increasingly important source of state revenue.

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