

BOOK REVIEW

Technology and the Raj, by Roy McLeod and Deepak Kumar (eds),
Sage Publications, New Delhi, 1995, pp.340, Price : Rs. 365.00

The book is a careful compilation of papers presented in an international seminar intended for international consumption. Right from the Preface, the bias of the editors becomes obvious. It boldly proclaims that 'today, the language of imperialism and colonialism implies far more than the forcible projection of the political and economic interests of one power into the sovereign domain of another.' The language has only become more clever and sophisticated. As the editors go on, 'far deeper, more complex and more enduring are the relationships between nations that have experienced the historical impetus of European expansion.' The story has now taken the binary form of the hammer and the anvil. Concerned scholars are often deluded by such tentative titles like the *Tentacles of Technology* used by Headrick which basically deals with the technological conquest of the occupied by the occupier or more bluntly, the non-west by the west. The rhetoric is repeated in the subtitle, *Western technology and Technical transfers to India, 1700-1947* meaning western technological hegemony and the receiver's void in the field since the time of Aurangzeb. The most objectionable word is 'technological transfer' instead of its forcible importation and supplanting of indigenous technology. It is a pity that such a book has been edited by a hegemonist and his Indian subaltern. There is, however, mention of development of metropolitan science through the

practice of colonial science and a skilful use of crude indigenous technology for metropolitan needs but these are palliatives. The linguistic device becomes clear when India is described as 'the sounding board for western scientific theories and there is a stifled sigh for Indian obscurantism as a hurdle for evolving a nationalist independent science and technology and the civilising mission to find out 'to what extent did the Raj provide the principles and precepts, if not always the encouragement which enabled India to complete a process of technological transition from empire to commonwealth.' This is paternalism and condescension on core and even forgetful of the fact that the Commonwealth is not common wealth and there is no use harnessing that dead horse. Have you ever heard a clever phrase like 'transition to India' instead of the appropriate preposition 'in'? There is no further need to mince matters. Yet one cannot but react to such revolting statements of the Introduction as the following : 'In pre-British India, the process was definitely slow. Although not primitive, it certainly was no match to what was happening in Europe. The whole technological process was skill and craft-oriented; the output was excellent (for example, in steel and textile) but limited to local markets.' 'Not only the 'European travellers who visited India during the eighteenth century were wonder-struck by some Indian products,' even T.H.

Holland, Chairman of the Industrial Commission (1916-18) made the candid observation that 'at a time when the West of Europe the birthplace of the modern industrial system, was inhabited by uncivilised tribes, India was famous for the wealth of her rulers and for the high artistic skill of craftsmen. And even at a much later period when merchant adventurers from the west made their first appearance in India, the industrial development of this country was at any rate not inferior to that of the more advanced European nations. The high quality of the native-made iron, the early anticipation of the processes now employed in Europe for the manufacture of high class steels and the artistic products in copper and brass gave India at one time a prominent position in the metallurgical world.' Let it be reinforced by R.M. Martin's evidence before the Parliamentary Enquiry Committee in 1840 : 'I do not agree that India is an agricultural country. India is as much a manufacturing country as agricultural and he who would seek to reduce her to the position of an agricultural country seeks to lower her in the scale of civilisation. I do not suppose that India is to become the agricultural farm of England. She is a manufacturing country, her manufactures of various descriptions have existed for ages and have never been able to be competed with by any nation whenever fair play has been given to them. I speak not now of her Dacca muslins and her Cashmere shawls but of various articles which she has manufactured in a manner superior to any part of the world. To reduce her now to an agricultural country would be an injustice to India.' This injustice is still sought to be legitimised

by the editors by the sophistry that the empire was the nursery of indigenous industries. It was backward because it was not labour-saving but labour-intensive. This is a wrong economic equation. In a populous country, the latter should be the strategy for utilisation of human resources and not the western capital-intensive technology to bolster capitalist exploitation by converting technology into powerful engine of oppression. But for the contingency of the two world wars, no encouragement was given to indigenous industries.

Let us now turn to the papers in the volume. Inkster shows that government-induces railways in India was an ambitious technology project undertaken with specific aims and with imported men and material. It could not graduate into a technology system as it was a case of wholesale import, limited local participation and practically no spin offs. It became a technology regime where the Tatas could fabricate the railways in Bombay and a Bengali entrepreneur actually ran a railway company in Bengal in the late 19th century. It was not a technology project for the spread of S & T. Railways were colonial tentacles for the extraction of rural surplus of the hinterland. Why then dilute this enclavement by the sobriquet, technology transfer? It ensured India's relative technological backwardness and not any imperatives.

In R.J. Henry's paper, this dualism is again rampant. Sugar and cotton plantations were time-honoured modes of social production in U.P. which took care

of irrigation ripped it open for nucleated, selfish capitalist gain. It both created and magnified the problem and was the real culprit patronised by the government and not the social and ecological factors which are cited as impediments in the path of new technology. One has to rail at this alleged civilising mission of western capitalism and disinterested technological improvement per se. Henry blames this hypocrisy on the Agriculture Department but subconsciously (or consciously?) soaks up the same in his account of agricultural technology in U.P.

Nasir Tyabji's account of oilseed industrialisation is an empirical story of what really happened with regard to groundnut and coconut industries. He, however, uses the same jargons, new pressing technology and chemical treatment demanded by the Swadeshi test innovations which were encouraged by the government during World War I for resource mobilisation but later abandoned in search of greater profitability through promotion of the export sector and neglect of the domestic sector.

S. Ambirajan discusses technical education as a tool of empire for ruthless exploitation. Limited engineering education was imparted to find cogs in the wheel of this pressing machine and not for technology transfer for global welfare. But then, he waters this argument down to bureaucratic momentum and chance which stood in the way of progress to suit the cosmopolitan project of the book.

In part II concerning transport and

communication, more such exercises are summoned in one place. Satpal Sangwan's account of Indian shipping of wood and sail and its drowning by British obstructionist policy rather than the advent of steam and iron should have emphasised the role of British monopoly of carrying trade which crippled the sailing nation of the enormous coastal belt of the subcontinent. Dwarkanath Tagore's experiment of steamship navigation failed because of unequal partnership though he took western technology and Indianised it.

Saroj Ghose has given an account of the coming of telegraph communication. This was a new western technology pioneered by O'Shaughnessy. It was developed precisely for the sake of the empire and its military despatches and maintenance. But much of this success also owes to the collaborative genius of Shibchandra Nandy who has not been given due weightage by Ghose.

Ian Derbyshire harps on railways as the mother industry which, however, failed to become the fire-breathing holy cow. Instead it became the unholy infrastructure for perfecting British railway technology for global use. Here, in India, ancillary industries failed to pick up. Call it colonial India which lagged behind Russia, Australia and Japan ruled by the railway magnates in British who did not even allow introduction of new technologies in a battle of omission and commissions.

The same causes apply to PWD construction works and the resultant technology fared better in the interest of

the Raj Juggernaut and the pacification programme but improvements were few and far between.

Irfan Habib (Jr) concedes that the use of S&T rather than transfer lay behind colonial cupidity. No national industrial education was allowed to gather moss. A scientific base would be converted by the Indian middle class into a national forum. But this could not ultimately be prevented. Jagadish Sinha continues this dialogue between science and nationalism. National scientific aspirations from Malviya to Nehru have been summoned to historicise nationalist strategy. However, Gandhi-Nehru hiatus over mechanisation has been over-emphasised. Gandhi was philosophically opposed to mechanical civilisation but practically sorted out the problems of Sarabhai, Bajaj and Birla and asked them to be trustees of the people. Nehru ushered in the giganticism of the

industrial west with all its poison and pollution without even questioning the merit of such compradorism.

Dinesh Abrol highlights the populists, a very wrong phrase to designate scientists like Meghnad Saha who wanted to harness science for nation-building purpose. He calls the other group cosmopolitan with Nehru as the prophet who touted for technology transfer. V.V. Krishna draws attention to over-bureaucratisation and centralisation at the CSIR in the hands of the cosmopolitan group who have been duly over-powered by the MNCs.

Finally, it must be noted that some of the writers should be spared the stigma that attaches, to the glib talk of technology and its attendant culture transfers which are but euphemisms for converting India into an industrial global village.

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