

women took place in the nineteenth century and continued till the middle of the next century. This was not only in terms of suffrage but also in other respects like the right to employment. For example, in France married women did not have the right to employment without their husbands' permission as late as 1965! Yet another issue is environmentalism. This has become a serious issue as the earth's regenerative capacity is exceeded by the demands on its resources by about 20 per cent. As for nuclear pacifism, the destructive capacity of nuclear weapons has immeasurably increased since the days of Hiroshima and Nagasaki. At the end Reddy discusses globalisation and the asymmetry, and concludes, "Owing to the invention of weapons of mass destruction since World War II, we can be bold enough to say that the principle of fraternity has become more urgent than those of liberty and equality, although the latter two principles remain just as important" (p. 255).

These are the principal contents of the book. It is a neat summary of historical developments and great pains have been taken to write it. But it has some flaws. There is a serious printing mistake on p. 49. Reddy talks about the Franco-Russian War (1870-71). For 'Russian' one has to read 'Prussian'. On p. 107 he has put the cart before the horse when he says that the American War of Independence was inspired by the French Revolution. There is a factual mistake on p. 156 when he writes, "After he (Subhas Chandra Bose) refused selection to the prestigious Indian Civil Service, he joined the Congress party to advance the cause of freedom struggle" (p. 156). In fact, he resigned from the ICS to join the Congress. Then on p. 159 he says that Ashok Mehta was "primarily responsible" for the devaluation of the rupee in 1966 which is not correct. Again, he makes a sweeping statement on p. 163, "With the exception of Gandhiji, nobody can grow taller than Ambedkar in the history of modern India." His remark that Joan of Arc was of "low-class" is also not in a good taste.

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Aparajith Ramnath, *The Birth of an Indian Profession: Engineers, Industry, and the State 1900-47*, Oxford University Press, New Delhi, 2017, pp. 266, Price ₹ 895/-.

There are only a handful of books on technocrats. Hence, this book covers an almost virgin field. Engineers in public works, railways and private industry are covered and their changing profile discussed. The transformation took place mainly owing to two reasons, i.e., growth of industries (especially the inter-war period) and Indianization of employment.

Till the late nineteenth and early twentieth centuries, the engineering profession in India was dominated by expatriate British engineers employed in public works, military and railways. Large scale private industry with the

engineers associated with it played a secondary role. Thereafter it expanded, diversified and was increasingly Indianized. The Institution of Engineers (India) was established in 1920 and it began to grow. Like its counterparts abroad, it monitored the qualifications, performance and conduct of its members, while providing a forum for them to exchange ideas on technical subjects. Its membership was distributed among the local centres, presumably on the basis of the place of residence of the members. These centres organized their own lectures, paper discussions and visits to engineering works, apart from the activities of the Institution as a whole. Yet, a kind of racialism prevailed and the suitability of Indian engineers for responsible positions was doubted.

The author then discusses engineers in the public works. The latter were dominated by the Europeans around 1900, but by the eve of the World War II, the share of the Indians in their elite service was over 50 per cent. This was notwithstanding the opposition of public men in England who viewed the European engineers as a bulwark against the threat of lowered standards which they thought would accompany Indianization. The author points out, "Such views held sway in spite of the difficulty of attracting British recruits to India after World War I, and the acknowledged quality of the Indian engineering colleges from which the Indian members of ISE were drawn" (p. 133).

He talks about the organization of the engineering services. In the inter-war period their structure underwent changes. First, differences in the prestige and terms of employment between the imperial and provincial engineers caused dissatisfaction in the latter. There was an increasing demand for the Indianization of public services at the political level. Third, the constitutional reforms of 1919 and 1935 changed the relationship between the PWD and the central and provincial governments which necessitated restructuring of the engineering services.

He then passes on to the discussion of the railways. There was a strong military presence in the railways as it was in the public works which was non-Indian. These engineers occupied higher positions vis-à-vis the Indians. There was a vast difference in the facilities extended to the two. Discrimination between the Indians and Europeans prevailed not only in terms of salaries and positions, but also in other respects. For example, Europeans enjoyed a number of privileges like paid passages to England, and arrangements for European officers and their families to be attended by European doctors. There were separate clubs and recreation centres for Europeans and Anglo-Indians on the one hand, and Indians on the other. Such differences continued till the eve of 1947. Towards the fag end, the employment of Indians to senior positions did increase but it was due to external factors, i.e., the depression and the World War II. Accounting for it, the author says, "The most likely explanation for this is that civil engineering was considered the department with the greatest responsibility (most of the top management were drawn from this department), and hence the one for which Indians were least fitted, given the prevailing conceptions of their character and abilities" (p. 180). He concludes this chapter by saying, "Thus, security concerns, coupled with fears of inefficiency in the running of the service and a negative view

of Indians' aptitude and capabilities, made the authorities cautious in undertaking the Indianization of engineering and other technical jobs in the railways" (*Ibid.*).

The last chapter deals with the Tata Iron and Steel Works. The earlier accounts are primarily of engineering positions in government departments whereas here it is discussed exclusively with reference to the private sector. The author makes a comparative sketch of the process of Indianization in this case and in the public works. He says, "In this private company owned entirely by Indian capital, Indianization was mainly an internally driven process. Political demands for Indianization played a minor and indirect role here, whereas in the case of public works and railways, public opinion and the continuous pressure applied by Indian legislators were crucial drivers of Indianization" (p. 185). With the extension of the works, the labour requirements increased correspondingly and Indian hands were cheaper than the foreign hands. Therefore, the company recruited from the growing band of Indian engineers and metallurgists who had begun to travel abroad on their own initiative for training. These students had turned to foreign countries as the existing education system in India was weighted too far in favour of literary and philosophical studies to the neglect of those of a more practical character. There is also an account of the contribution of Jamshedpur Technical Institute in this respect. Its graduates replaced foreign employees at the middle and higher levels in the works. The unique feature of its curriculum was that it was a combination of theoretical learning and practical experience.

Overall, the book covers a new ground and is a refreshing study. It is a painstakingly done job. It is based on both published and unpublished material found in different depositories. Besides, electronic resources have been used to the optimum. Records in the Tata Central Archives, Pune perhaps could have yielded additional information. Nevertheless, the book is a useful reading.

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