

David Arnold, *Everyday Technology: Machines and the Making of India's Modernity*

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The way innocuous utensils are arranged or used in a kitchen can say as much about a household and its members as the more decorative furnishings spread out in the drawing room, if not more. David Arnold seeks to make a similar point about India's engagement with technology and modernity: He argues that a study of "everyday" technologies like typewriters, bicycles, sewing machines, and rice mills will be at least as illuminating as the continued focus on "big" technologies like railways, telegraphs, electricity, and large irrigation systems. In this well-researched work, Arnold brings to the table a rich array of sources—encompassing archival materials (including vintage photographs), novels, newspapers/magazines, and his own photography. Armed with these, he engages with a wide range of scholarly writing, from social construction of technology to the imagination of self, other, and nationhood; adds his own original insights; and presents a finely woven narrative that highlights the mutually constitutive roles played by everyday technologies, their promoters and users, and their socio-cultural-economic goals and aspirations—all of which are punctuated by colonial and nationalist elements.

The book has two central messages. One is that, although most of these technologies or their parts were imported until about the 1950s, it was not a case of simple transfer of technology. Rather, the technologies assumed their own values and meanings in the local context and significantly altered social, economic, and cultural equations among Indians, and between India and the colonial state. The transfer process also allowed significant space for indigenous creativity, and a sense of ownership in the areas of assembling and marketing, and in deploying the technologies in more ways than one. Second, all of these had a lasting impact on India's postindependence engagement with technology—particularly as a foundation for many later enterprises. In pursuing these arguments, the author underlines the curious intersections of race, class, gender, colonial policies, and nationalistic expressions.

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The sewing machine was initially intended to be marketed in India only to the English households, reflecting the overall prejudicial view that Indians were not intellectually fit enough to acquire and handle modern technologies. High cost was also a prohibitive factor. Yet by some ingenious marketing methods developed by a local entrepreneur the machine slowly but steadily found its way into the local households, acquired either by the traditional tailors themselves or by their patrons. But its success and spread hinged on various other factors, like transformations—under Western influence—in the local dressing culture and the novelties of the colonial state like uniforms for personnel in the police, municipal, tram, railways, and other such services. Most important, unlike in cases where the arrival of the machine displaces women from some of their traditional roles/jobs, here women found new opportunities of gainful employment while also satisfying the traditional “ideal” of being within the household.

Mobility being a crucial factor in the running of a vast colonial state, the bicycle provided a big opportunity especially in postal and medical services and in security and policing (where, however, it had mixed results). It was also a fad among the Englishmen in India to own bicycles and belong to bicycle clubs. However, bikes were not beyond the reach of Indians for their own personal use and pleasure. In fact, with the arrival of automobiles, colonial officials above particular ranks (with a tinge of race/class consciousness) no longer wanted to be seen on bicycles. Among ordinary Indians, though, the popularity of the bicycle rose steadily, aided by the establishment of local companies to assemble bicycles and by bikes’ increasing affordability. The assembly of bikes (though parts were imported) and the active participation in their marketing contributed to the sense that bicycles belonged in India. Also, a homegrown touch was seen in the various uses the basic technology was put to in different locales. Indians’ supposed inability to handle this particular technology was a recurring theme, especially in the context of new roads and increasing traffic: the arrival of more modes of transport forced the state to intervene in the use of bicycles. Not much is said about the gender angle of this technology except for a few references to the less common use of bicycles by Indian women, and the argument “made mostly by men” that cycling might rupture the hymen, thus affecting women’s marriage prospects (85).

The advent of rice mills was the most contentious of the technologies discussed in the book. For one, it was seen as an unwelcome invasion into the idyllic countryside. Second, it was accused of throwing numerous women—who did the pounding by traditional methods—out of a job. Most important, the milling and the polishing (by which the nutritious pericarp is lost) was seen as a potent cause for loss of nutrition and for beriberi, due to the loss of vitamin B1. The rice mills invited a range of nationalist critiques, including that of Mahatma Gandhi. But in the midst of all these, the technology gained widespread acceptance: several Indian entrepreneurs set up rice mills and made considerable profits, which fed into investments in other technologies like bus transport service or into big charities. From a different point of view, the mills were seen as liberating for women, reducing drudgery and making rice available in a cheaper, easier way. The rice mills were sites of industrial accidents and exploitation, but the colonial state, in the name of *laissez-faire*, hesitated to intervene until it was forced to, at times of severe food crisis.

One wonders at first whether the typewriter can be put in the same league as the other technologies discussed in the book. Unlike the other three, in the case of the

typewriter there was no particular sense of ownership. As the author acknowledges, the prime site of typewriters was still the office—as in government administration, business houses, and plantations. Hence the users of typewriters mostly did not own them and, more importantly, did not use them for *their* work or something that was close to their heart, as for instance in cycling. Even in the case of rice mills, which were owned only by a few people, common folk took their own rice for processing and thus there was some kind of attachment. Yet despite these major differences, the example of the typewriter—clearly an instrument of everyday use—helps the author to explicate in newer ways some of the issues discussed above. Race showed its face again in the colonial preference for European and Eurasian women typists, based in some cases on considerations of confidentiality but also, more generally, on a negative view of Indians' ability to handle modern technology. Given that the job of typist required a certain amount of personal rapport with the boss, it was not a particularly easy one for Indian women to go to. Even non-Indian women employed as typists were sometimes suspected of licentiousness. The increasing identification of the job with women and the changing social norms, however, eventually led to many Indian women being employed as typists.

An important point highlighted throughout the work is that the machines discussed above were not solely of British make; they included many US, German, and Japanese brands as well. This is one reason he invites us to see the flow of these technologies beyond mere British commercial calculations, although it was Britain's *laissez-faire* policy that opened avenues for non-British brands. Also, these were technologies that did not need much state intervention, unlike, for example, railways. Nevertheless, these technologies served to perpetrate some of the colonial and racial prejudices and to convey, both openly and tacitly, messages of presumed superiority and inferiority. Likewise, they were channels through which Indians could show their love and hate, their technical and managerial skills, and their abilities to adapt, adopt, and interrogate. This book will succeed in making the reader appreciate these "socio-technical" processes.

However, there are a few gray areas, ranging from the very nomenclature to some of the promises made in the beginning. If the author wants to use the phrase *everyday technology* to underline the users' day-to-day intimacy with it (as he certainly does here), then the phrase would encompass even the supposedly big technologies such as trams and railways, both for those who used them for traveling daily to work or for those who just worked in such enterprises. Even the rice mill in this selection, though "bigger" than the rest in terms of the size and space occupied, was still a small technology—in fact, far less complicated than the typewriter. Thus *Small Technologies* (or another term to that effect) would have been a more appropriate title for the book, as it particularly seeks to posit itself against the excessive focus on big technologies.

Also, the introduction promises too much with regard to the elucidation of the subaltern aspects of the whole engagement. These pages do not offer as much exposition of subalternity as one would have wanted. Of course there are numerous references to ordinary people's use of some of these technologies, and there are interesting allusions to longing and loss—but they are mostly anecdotal or cited from novels, though they are not entirely fictional. A more broad-based empirical treatment of the subaltern angle—beyond the anecdotal—would have made the work richer.

In sum, with this pathbreaking work David Arnold has certainly opened a fertile area for further research whereby the very idea of everyday-ness can be further problematized, the subaltern can be heard more, and other technologies can be made to tell other stories.

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