“Domesticating Modern Science: A Social history of Science & Culture in Colonial India”, by Dhruv Raina & S. Irfan Habib, Tulika Books, Rs. 425/- (2004).(pp 233, x).

“Dar Bab Mirage”(On Mirages), “ Mirkh Sitare ke Bayan” (Description of Mars),and “Dar Bab Roshni Ke” (Description of Light). These were some of the articles written by an exceptional man in an Urdu newspaper in Delhi between 1845 and 1852. The author of these and many similar popular science articles was a teacher of mathematics at the Delhi College and a remarkable man by any standards. Ramchandra not only wrote seminal works in mathematics (including a book on the method of finding maxima and minima of functions using algebra) but also was a passionate populariser of science.

The mid and late nineteenth century was a time when the British Empire in India had been consolidated. This change had brought about profound changes in the intellectual landscape especially in Delhi (the seat of the ancient regime) and Calcutta, the emerging metropolitan capital of the Empire in India. The ideology of the empire was by and large that of modernity. And science (and its concomitant rationality) was among the primary weapons of this new intellectual offensive. Needless to say, the contact between tradition and this new-found modernity was extremely interesting.

The book under review is a collection of essays which seeks to examine various aspects of this cultural offensive during the late nineteenth and early twentieth centuries. The first three essays focus on the work of Ramchandra at Delhi. Here was an exceptionally brilliant man whose life and work can throw some light on how the native intellectual elite grappled with the issue of science.

In 1843, a Vernacular translation Society was set up at Delhi College with the purpose of translating books from English into the vernacular (in this case mostly Urdu). It was under the society that Ramchandra started a newspaper in which he wrote a regular column on science. Later, he also started an Urdu weekly which carried articles on science and technology. In the field of mathematics, he wrote a treatise on the use of algebra to determine the extrema of functions. This work was appreciated by the leading British mathematician of that time, Augustus De Morgan and because of his efforts was published in England. From the times of Bhaskara, Algebra had always been a strong point of Indian mathematicians and it was interesting that Ramchandra sought to use algebra to tackle problems which were usually solved using the relatively recent methods of calculus.

The fourth essay, curiously titled “ Copernicus, Columbus, Colonialism and the role of Science in nineteenth century India” deals with how the intellectual elite in the country sought to understand science and explore its use in the social development of India. Here the scene is mostly in Calcutta which had seen a

tremendous growth in education and was not only the political but also the intellectual capital of the Empire. Raja Rammonhun Roy, Mahindralal Sircar, P.C. Ray among others set up many societies and wrote extensively on the issue of science and culture during these times.

The next four essays elaborate on this theme. From a very interesting essay on how the journal of the Dawn Society grappled with various issues to an investigation of the role of the Bengali bhadralok and its perceptions of science and technology, these essays bring out the crystallization of new concerns among the elite regarding scientific education and its role in development of the nation.

The last essay is along somewhat different lines. It investigates the very interesting theme of Science and the University in independent India. Our country boasts of the third largest scientific and technical manpower base in the world. And yet, study after study demonstrates the by and large poor quality of scientific output from our institutions. There are any number of reasons for this lack of quality (a handful of IITs and other institutions notwithstanding)- a scientific bureaucracy which promotes gerontocracy, lack of funding and many others. But to my mind, the single most important reason for the low quality of our scientific output is the caste system which prevails in Indian Science. The twice-born of Indian science are the research institutes which function like ivory towers and are pampered with world class facilities. The untouchables in this are the 225 odd universities which are starved of resources. Quality science is supposed to be done at the research institutes while the universities should serve as degree-granting institutions. Unfortunately, the scientific elite forgets a simple fact that ultimately it is the Universities which are going to produce the scientists who will do science!

This curious institutional dichotomy in Indian Science has its genesis in the years immediately before and after independence. If one were to crudely personify the two mindsets, it would be Bhabha as the votary of Institute based science against the great physicist M.N. Saha who wanted science to be done in Universities. Saha lost to the more suave Bhabha and we are still paying the price.

In 1855, Ramchandra wrote an interesting book “Bhoot Nihang” in which discussed the prevalent superstitions and tried to debunk them. I do not know how succesgful his efforts were. But in this age of milk-drinking-ganeshas, we certainly need more such works. Sadly, the mass media as well as the intellectual elite in our country seems to have washed their hands off this. The number of column inches devoted to science in a whole year is possibly less than the space detailing the latest exploits of the denizens of Bollywood. Hopefully, more work like the one under review would spur some latter day Ramchandra to take up the unfinished agenda again.

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November 2004