

Mechanicalcutta

Industrialisation, new media in the 19th century

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Clean streets, garbage-less, lit by rows of gaslight,
The full moon has come out, it's no longer night.

Flour mills, jute mills, cloth and brick mills,
Machines that dig out water and make landfills,
Elephantine machines make a road a day,
Pranam at the feet of machines,
Town and country – have become twins.

Kolkata Barnan

These lines from the pen of a nineteenth-century poet Rupchand Pakshi (1814-?) describe the city of Calcutta as a city of machines. The growth of the city as an economic and political centre in the heyday of the East India Company is implicitly connected to the advent of Industrialisation in the last quarter of the 19th century, and its impact on colonial Bengal's cultural, social and political life. The expansion of the 'informal empire' of trade, investment and influence resulted to a large extent in pushing forward the frontiers of political involvement. This last meant the introduction of a network of transport and communications to ensure a smooth flow of raw materials, investments in industries to process the raw materials into commodities, and the establishment of institutions of administration, commerce and education.

Calcutta's geographical position was largely favourable to a brisk trade in cotton, silk and sugar. The growth of English businesses, educational institutions and offices brought along their added mechanisations that radically altered the "structure and organisation of occupations" in the traditional economy, although this modernisation "is an artificial graft on the body of the traditional economy [rather] than a metamorphosis of the latter through its own innate compulsions".¹ By the 1880s, Bengal had been industrialised to a large extent and over 20 percent of its workforce was engaged in making and selling industrial goods. Calcutta, by virtue of being at the centre of this 'informal empire', saw the fruits of industrialisations – her first printing press, her first steamer, her first motorcar were important cultural markers of the age. Nineteenth-century Calcutta was also marked to a large extent by the industrialisation of cultural expressions. Books, handwritten and illustrated on palm leaves, now gave way to print ones. *Palkis* and horse-drawn carriages were no longer in

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use; bicycles, trams and steam engines changed the face of transportation.

The shift in taste that followed the introduction of some of these mechanical innovations in the middle ranks of the populace and the market opportunities that opened up is a fascinating history of how the colonised mastered some of these 'alien technologies' and how often imitation gave way to invention to foster a new sense of national identity. New media such as print books, newspapers and the theatre were marked by multi-applicability and accessibility for all; theoretically, anyone could buy a book or a newspaper. But at the same time only a handful of the urban elite could access them. The rate of growth of literacy among Hindu and Muslim males was slow during the years 1881-1891 and the Census of 1901 reported that "the slow rate of increase in the total number of literate persons in the city is partly to be accounted for by the fact that there is annually an increasing admixture of illiterate immigrants, who are attracted to Calcutta by a higher rate of wages and find employment as artisans, menial servants and labourers".²

The spread of the written word through the early printing presses in the city introduced a new hierarchy amongst common people. The literate and the semi-literate were held in awe by the unlettered members of the city, the "artisans, menial servants and labourers". Although the habit "of listening to the reading out (by literate neighbours) of books, scriptures or mythological stories [was] fairly widespread in Bengal",³ the low literacy level created a new pecking order as far as the new media were concerned.

In 1860 Calcutta, nearly thirty-six people out of every thousand died of cholera, *kalazar* and malaria. In the Chowringhee area, where most Europeans lived, there were plenty of reserved ponds and freshwater lakes. The rest of the population, however, lived on stagnant pond water or wells. In the reminiscences of Mahendranath Dutta (*Kolikatar Puratan Kahini O Pratha*) we learn that before the advent of tap water their house boasted of three wells. Apart from that, many houses would have a 'water room' where huge earthen jugs would be filled with water from the Ganga (Hoogly) that would be used for



drinking and worship because of the belief that Ganga water was free from all impurities. During the years after the Mutiny, the English started to seriously plan clean drinking water for the city. By 1870, a water treatment plant at Palta and two pumping stations in Tala and Wellington Square were established, supplying water to predominantly European areas. Throughout the city four hundred odd taps, iron columns with lion heads, supplied water to the rest. In the beginning there was enormous resistance to tap water because it was considered 'impure', and orthodox Hindu women, particularly widows, refused to touch it, because according to some, taps sported leather washers.⁴ As this satirical poem from *Sulabh Samachar* (1870) makes clear, the resistance to this new invention was also against the levelling of a society that had its hierarchies clearly marked out. The real impact of urban water supply was to break class barriers and create a society where seemingly the rich and the poor would be the same, although in effect it was not so. Urbanisation brought along its own dialectics where new classes came into being – those who enjoyed accessibility to these new forms of media and those who belonged to the periphery.

Motorcar, water tap, are unloosening bonds,
Kaliyuga is near, my brethrens,
 The poor, the ignorant, the labourer,
 The worker drink this water,
 The king and his subjects have
 Been made the same by this water.

The city's relationship with urbanisation that had begun with its first roads (Circular Road built in 1742) and gaslights (in 1857) was well under way.

Calcutta's first steamer was not used for transporting passengers or material but for dredging soil from the river Hoogly, and the first steamer used as a ferry was the *Diana* in 1823. One important Calcutta resident who realised the potential of the steam ship was Dwarkanath Tagore (1794-1846). He had a long-standing business relationship with the British and had been deeply influenced by the processes of industrialisation. In his lifetime he was to witness the whole of the country coming under British rule. The Calcutta he knew was already on the road to urbanisation with splendid palaces mushrooming not only in the European areas but in the native part of the city as well, with Dwarkanath's own house at Jorasanko. His Carr, Tagore & Co. was among the first large-scale entrepreneurial ventures by a Bengali that had business interests in such diverse products as coal-mining, indigo and tea production, as well as steam ships.⁵ Dwarkanath was an active patron of the Calcutta Steam Tug Association, to help promote navigation from the dangerous mouth of the Hoogly to Calcutta, and the Steam Ferry Bridge Company which was to provide necessary communication between the two banks of the river. His first visit to Britain in 1842 was accomplished halfway on his own steamer, *India*, that took him sailing to the Suez.

Dwarkanath's grandson Jyotirindranath Tagore (1849-1925) reflected that same vision and interest in technology. Jyotirindranath's first steamer was called *Sarajini*. He owned four other ships that plied between Khulna and Barisal and directly competed with a British company called Flotilla. This competition fuelled the already charged atmosphere in Bengal with ideas of *swadeshi*, and helped create public opinion to resist British companies and their products. Jyotirindranath has himself left an account of this: "Every day at the crack of dawn

our ship carried passengers from here to Khulna. The Flotilla Company's ship also left at the same time. To prevent the passengers from taking the Flotilla ship, a band of school-boys and gentlemen got up at four in the morning and waited at the jetty with enthusiasm and if anyone went towards our competitor's ship they immediately prevailed upon them to change their minds, sometimes cajoling them with extremely humble pleas" (*Barisaler Patra*, 1895). Ultimately, however, the British won and Jyotirindranath was forced to sell his company. This *swadeshi* endeavour was remarkable as Rabindranath, his younger brother, has explained: "The people of the country worked their pens and their tongues, but they had never worked a ship before – perhaps that had been a source of dissatisfaction in his mind... The desire to run a ship with *swadeshi* effort suddenly made him buy an empty hull once, but that was soon filled, not with engine and cabins but with debts and despair" (*Jibansmriti*, 1912).

Chandidas's Uncle has devised a grand machine:
They've praised it the highest terms wherever it's been seen.

I've been to see the contrivance – it's quickly understood.
Just handle it five hours or so, you'll get its hang for good.
But words can scarce describe the work the learned world has praised:
It's fixed on your shoulder, with a rod in front upraised,
And there you hang the kind of food you find the most enticing –
A pie or pasty, fry or roll, or cake with almond icing.
The mind aspires to reach the food, the lips move forth to swallow,
The dainty flies before your gaze, and you performe must follow.
Thus spurred along by gluttony, you walk without a heed:
The more you see the dangling bait, the more your turn of speed.
The Inventor, Sukumar Ray (trans. Sukanta Chaudhuri)

The advent of printing presses not only resulted in a change in the form but also in the content that went inside the two covers of a book. This is best seen in the works of Upendrakishore Ray (1863-1915), and Sukumar Ray (1887-1923). The nonsense verse of Sukumar Ray gives ample testimony to the influence machines played in his own life. The father-and-son duo symbolised the way mechanisation was changing the culture of the city. Both shared an interest in new inventions and wrote numerous essays for young readers explaining scientific phenomena as well as the natural world. Both had done pioneering work in the technology of printing. Their essays on print technology as well as on astronomy, physics, biology and technology show a clear relation between the promotion of a spirit of scientific enquiry and the advent of print technology. Upendrakishore's *Sekaler Katha* (a detailed description of prehistoric species) and Sukumar's essays *Shanir Deshey* (about Saturn) or *Bhui-fhor* (about metro rails) are essays that promote a rational view of the world and were the result of strides in technology and science that were the spirit of the times.

The medium of print changed the way they wrote about the world. Their narratives were beautifully extended by illustrations that were often executed by them, and then print-

ed at their own printing press, U Ray Co., established in 1895. Between 1897 and 1912 Upendrakishore published a number of articles in the *Penrose Pictorial Annual* on process cameras that were used to create half-tone blocks. He invented a “screen adjustment indicator” which, he suggested, might make people “take more kindly to half-tone photography”. The editor of *Penrose* acknowledged that “Mr. Ray... has reasoned out for himself the problems of half-tone work in a remarkably successful manner”.⁶ The revolution that Upendrakishore initiated in Bengali book illustration was a culmination of the tradition that had started with Gangakishore Bhattacharya’s (publisher) *Oonoodah Mongul* (1816), the first illustrated book in Bengali. Like Jyotirindranath before him, Upendrakishore lived in Calcutta and had come under the influence of the reformist *Brahmo* movement. Both belonged to well off *zamindar* families and both exhibited the courage and aspirations of visionaries. The easy way in which they wandered through the terrains of the new media was remarkable, as in the case of Jyotirindranath who was a popular dramatist and composer as well as an exceptionally skilled artist whose forte was the portrait.

Bengal’s printing industry had begun in 1778 with English owned presses that employed traditional artisans like ironsmiths, silver and goldsmiths as well as carpenters and carvers as printing assistants and draughtsmen. The import of labour from old professions to the new medium was accomplished over a number of years. The Bengali artisans were required to learn the new technology, and thus to put traditional knowledge to new use. More importantly, as colonial subjects, they were constantly viewing a vast number of art objects that were trickling into Bengal with the establishment of a sizeable European settlement in Calcutta. These etchings, engravings as well as paintings must have created a great impression on their minds, so that an art historian has correctly claimed that much more than any direct influence by any single European artist, printmaking in Bengal was largely a result of indirect influences.⁷

John Lawson, the first European printmaker to use wood engravings and woodcuts was associated with the Serampore Mission Press run by William Carey from 1812-1816. Carey’s press gave new direction to the development of Bengali prose and the man who helped cast the first chiselled Bengali type was Panchanan Karmakar. His son-in-law Manohar Mistry is credited with carving the complete scripts of fifteen Oriental languages, including Chinese. Manohar established his own printing press and his son Krishnachandra took over the Chandrodaya Press on his father’s death. Krishnachandra was an enthusiast for the new medium and exhibited a great deal of inventiveness in its use when he began to publish “almanacs in a special style and books and pictures of various kinds in English, Bengali and Devanagari alphabets”. Krishnachandra’s almanac *Natun Panjika* began with a circulation of four to five thousand copies and mainly catered to a rural population. He was the first in a long line of printmakers who was self-taught, and until the introduction of the half-tone process block for letterpress used for printing of designs and images by Upendrakishore in 1903, its importance remained unabated.

By the second half of the 19th century, the new book publishing industry was growing at an enormous rate due to growing demands. The expansion of Calcutta as a centre of trade and administration was also responsible for the growth of a class of petty administrators, small traders, agents, retailers and workers in the new civic and commercial

bodies. The demand for printed books grew with the rising number of this new urban bourgeoisie. A huge number of publishers and presses came into being in Calcutta, particularly around the area of Battala (in the northern part of the city). Books printed here were cheaply produced and cheaply priced, catering to the entire range of semi-literate and neo-literate masses. They formed an integral part of the early expressions of the new medium and were an important source of subaltern culture. The golden age of the Battala press was from 1840 to 1865, and these publications had an important role in transforming the orality of Bengali cultural tradition to a literary one.⁸ The Battala area extended from Kumartuli, Ahiritola, Simla, Baghbazaar as far north as the Maniktala canal. This part of the city already had a sizeable population with the mansions of Raja Nabakrishna Deb, Ramdulal Dey, and the houses of other smaller and bigger gentries. The first public theatres of the city also began in this part of Calcutta. Bazaars and hutments, where the poor of the city lived, surrounded the palatial mansions of the very rich. The Battala press was just as vibrant as the city that gave it birth.

The Battala books (around 322 titles appeared in 1857 alone, the year of the Mutiny) offered in popular styles stories of romance, like *Vidya* and *Sundar*, as well as religious texts, biographies, satirical sketches about contemporary topics, farces, mysteries and erotica, and were illustrated mostly with woodcuts. It is notable that the printing press changed not only the cultural content of the literary medium but also the form of many of the traditional entertainments. The *jatras* and the *khemta* dances, the *panchali's* new emphasis on spectacles and elaborate music can be directly traced to the influence of the Battala books.⁹ This change also caused the books to be misinterpreted among the English educationists and reformers who saw no merit in these publications as they were "filthy and polluting". This antagonism spread even to upper-class Bengalis, so much so that Amritlal Basu had to comment in his biography (*Amritlal Bosur Smriti O Atmasmriti*): "O, learned men, where would be your Bengali knowledge, Bengali literature, language, religion, Bengali prose and poetry if the Battala books didn't sell *Ramayana* and *Mahabharat* in fourteen annas!".

The Battala audiences of artisans, daily-wage earners and industrial workers who had settled for a livelihood in the city harboured a class animosity towards the English-educated *bhadralok*. The satire found in many Battala farces were a critique of urban elite Bengalis who had been co-opted: the *zamindars*, the East India Company agents and traders, the *dewans* and *baniyas* who had made a fortune in the last century, as well as various middle-class professionals and government servants. These delicious farcical sketches held up a mirror to contemporary society, poking fun at the preposterous ways of the *babus* and *bibis* and their anglicised self-projections (*Premar Lukochuri*, *Pash Kara Maag*, amongst other titles). A close parallel to the satirical sketches of the Battala books were Kaliprasanna Sinha's *Hutom Pechar Naksha* (1868), Bhabanicharan Bandopadhyay's *Naba Babu Bilas* and *Naba Bibi Bilas* (1825 and 1832) and Pyarichand Mitra's *Alaler Gharer Dulal* (1858). These satirical writings were by a section of nineteenth-century Calcutta "*bhadraloks* that came closest to the culture of the city's lower orders".¹⁰ It would perhaps not be remiss to suggest that the former were influenced by the popular urban imagery of the Battala books just as these literary works spawned numerous imitations among the latter. In the second



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edition of *Hutom*, Kaliprasanna remarked: "The Battala presses have come out with about 200 cheap books in imitation of *Hutom's* sketches".¹¹ This is a clear example of the multiplicity of the new medium where both high and popular literatures forged a close link through the advent of print.

The new class of *babus* and their hangers-on had an ostentatious lifestyle, which craved newer entertainment. Under Western influence, they slowly began to reject traditional entertainments and to take an interest in the theatre, imitating the patrons and the playhouses of the European quarters. This new interest was reflected in the numerous advertisements for plays that the Battala artists engraved, designing handbills and posters as well as the furled up theatre curtain which the Battala artists used to frame their woodcuts.

The growth of the *Sadharan Rangalay* or the Public Theatre in Calcutta can be traced to the complex cultural relationship between the colonists and western-educated urban Bengalis. English education had thrown open the doors of social, economic and cultural emancipation to this new class of *nabyashikshita*, and one of the ways in which colonised Bengalis could become Macaulay's 'anglicised subjects' was to emulate the Europeans in their theatre. Western playhouses like the Calcutta Theatre, the Chowringhee Theatre and the Sans Souci Theatre (all in the 'white' part of town) had sensitised the native population to aspects of British theatricals. Amateur performances of Western classics were presented in the sprawling houses of the *zamindars*, and the elite flocked to them as theatre came to be increasingly seen as an edifying and fruitful pastime. Some of these early amateur theatres were the Belgachia Theatre (of Raja Ishwarchandra Singha) and the Pathuriaghata Theatre (of Jyotindramohun Thakur).

In their amateur theatricals, actors and directors mainly chose to stage adaptations of Sanskrit plays, farces, or a few scenes from Western classics like Shakespeare. The following reminiscence of a performance of *Ratnavali* about "The graceful stage, the superb sceneries, the stirring orchestra, the gorgeous dresses... suited to the taste of an advanced age",¹² suggest that their performance style and stage were derived from Western playhouses. Like the Belgachia nobility, other *zamindars* took a keen interest in drama by holding performances in their houses to "afford a rare and rich treat to the elite of our Calcutta society, from the Viceroy down to the latest newcomer".

Theatre was a new medium in that it involved the import of a new technology – the proscenium stage, the emphasis on illusionism/realism that meant elaborate stage settings, the introduction of actresses on the public stage; all these were radical departures from traditional modes of performance. Under the influence of this new technology, the form as well the content of theatrical presentations changed. The early dramatic performances were the *jatras*, the half-*akhrai* and the *kabi-gaan*. The new theatre brought in Western classics, pantomimes and 'opera'-style musicals. Where the content remained the same, as in plays with mythological themes, the use of technology gave a new lease of life to the old subject. The new medium explored the possibilities of using varied ways of presentation and one of the ways in which European playhouses could be emulated was to hire actresses. They were women who came from the red-light districts of the city, daughters of prostitutes who looked at theatre as an alternative livelihood. The raging debate that took

place about this highlighted the ambiguous tone of the theatre people. Even Amrital Basu, who trained many of the actresses, was hesitant and expressed his doubts whether they would be able to do “justice to the roles of superior women”. In order to change the early antipathy of common people to the theatre as a place of licentiousness and exhibitionism for the rich, celebrity endorsements were necessary. The noted religious reformer Sri Ramakrishna was an ardent fan of the theatre and often termed it an important instrument of *Lokshikshya* or public education. His admiration for the famous actress Binodini playing the role of Chaitanya in the religious play *Chaitanya Leela* (1884) was important in helping the theatre gain acceptability among the masses.¹³

A few advertisements from the second half of the 19th century amply demonstrate the far-reaching influence of machines on stage. The Bengal Theatre, the Great National Theatre and the Star Theatre had experimented with elaborate stage settings, and from the 1870s onwards (when theatre went public) they staged plays that were innovative in their treatment of mythology and history. In 1877, the National Theatre advertised in *The Statesman* a revival of *Vidyasundar*, a popular romance that had been made immortal by the Battala press. This is a clear example of the move of content from one medium to another that mechanisation of cultural expressions made possible. The Battala press had also cashed in on contemporary scandals like the adultery of Elokeshi with a priest that spawned numerous titles in prose and verse as well as a popular play called *Mohantor Ei ki Kaj?* (by Lakshminarayan Das) that was Bengal Theatre’s first commercial success.

This Evening
 Saturday, the 14th April, 1877
 Revival of the WELLKNOWN OPERA
 VIDYASOONDARA
 FULL GRAND PANTOMIME IN TWO ACTS
 Fisherman and Genii
 The grand illumination Sceneries

The Bengal Theatre was responsible for showing “A Live Railway Train on the stage” for its play *Uvai Sankat* in 1876. The mechanical innovations of the Star Theatre were even more spectacular. Under the able stewardship of Girish Ghosh, theatre actor, manager and playwright, it staged a series of mythological plays that became extremely popular due to the use of technological marvels. The plays performed were *Dakshya Yajna*, *Dhruvacharitra* and *Nala Damayanti*, all in 1883. For the first play, the *Indian Daily News* advertised that it would comprise of a “wonderful Illusion by an Amateur Electrician: Innumerable ghosts going round in the air”. In *Dhruvacharitra*, staged in October, the same newspaper carried an advertisement that ran thus:

GRAND SCENERIES
 Lightning, Thunder and Rain
 By the aid of Mechanics and Science.

Nala Damayanti staged in December was advertised as “Baboo G.C. Ghosh’s New/MYTHOLOGICAL DRAMA/NALADAMAYANTI/FULL OF INCIDENTS, EVENTS/Love, Humour, Pathos,

Songs/By a Mysterious Scientific process/Fairies will appear from within the petals/Of a Small Lotus". The *Indian Daily News* marvelled at this exhibition of "THE PHOTO-ELECTRIC LOTUS/Never before exhibited on any stage/THE MECHANICAL GOLDEN BIRD, GRAND AND ROMANTIC". In 1884, the Star Theatre performed *Kamalay Kamini* for which the advertisement read "Grand Spectacular and Romantic Play/Scenes, Mechanism, and Scientific Appliances/SHIP IN STORM, SUN RISES AT SEA/Grand Transformation Scene/DIORAMA/Chandi and Padma in the air without the aid of/wire, string or any other support/Magical Protean Performance/Instantaneous Transformation from Chandi/to Kali and old woman to Chandi".¹⁴ In 1881, *The Statesman* praised the National Theatre by saying "the native stage has made rapid improvements in scenic arrangement and mechanical effects". It is interesting to note that all these plays using mechanical effects were mythological in nature, and magical effects made the myths more real to the people.

The conventions of mechanical contraptions, illusionist techniques, the use of light and sound were all a part of the need to present the new medium as a creator of magic in the popular imagination. The public playhouses thus attracted huge audiences, both native and European, who flocked to see the night-long performances. The prices of tickets for the second class fell from eight *annas* in 1873 to as low as one *anna* in 1890. From being only an elite pastime, theatre became an integral part of Calcutta's urban cultural scene.

All translations by the author except where otherwise stated.

NOTES

1. Nirmala Bannerjee, "Working Women in Colonial Bengal" in *Recasting Women: Essays in Colonial History*, Kumkum Sangari and Sudesh Vaid eds. (Delhi: Kali for Women, rpt. 1999), 270-1.
2. *Census of India*, Vol. VII (1901), 57.
3. Sumanta Bannerjee, *The Parlour and the Street: Elite and Popular Culture in Nineteenth Century Calcutta* (Calcutta: Seagull Books, 1989), 122.
4. Radhaprasad Gupta, *Kolkatar Firiwalak Dak ar Rashtar Awaj* (Calcutta: Ananda Publishers, 1984), 45.
5. Other businessmen who had gained prominence during this time were Motilal Sheel, Anandamohun Pal, Ramdulal Dey. See Atul Sur, *Kolkatar Chalchitra* (Calcutta: Sahityalok, 1992).
6. Siddhartha Ghosh, *Kaler Sahar Kolkata* (Calcutta: Ananda Publishers, 1991), 228.
7. See Pranabranjan Ray, "Printmaking by Woodblock up to 1901: A Social and Technological History" in *Woodcut Prints of Nineteenth Century Calcutta*, Ashit Paul ed. (Calcutta: Seagull Books, 1983), 89.
8. Sumanta Bannerjee, *Unish Sataker Kolkatar Anya Sanskrita O Sahitya* (Calcutta: Anushtup, 1999), 54.
9. Sumanta Bannerjee, *The Parlour and the Street*, 140.
10. *Ibid.* 178.
11. *Ibid.* 179.
12. Gour Das Basak, "Reminiscences of Michael Madhusudan Dutta" quoted in Kiranchandra Dutta, *Bangiya Natyashalar Itihaas*, Prabhat Kumar Das ed. (Calcutta: West Bengal Theatre Academy, 1996), 33.
13. See Sumit Sarkar, "Ramakrishna and the Calcutta of His Times" in *The Calcutta Psyche* (India International Centre Quarterly, 1991).
14. All these advertisements are quoted in *Source Materials for the History of the Bengali Theatre 1872-1900*, Vol. I, Shankar Bhattacharya ed. (Calcutta: West Bengal State Book Board, 1982).