Lithography v. Letter-Press in India
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Part II: Lithography and the Vernacular Book

Part I of this article (1) concluded with the earliest known contact between the Indian population and lithography. That was a request to the Government Press at Bombay to lithograph an edition of Sa'di's *Gulistan* in Persian and Gujarati, made in or around 1825 and probably by a group of Parsees. As far as has been ascertained, that request was not satisfied, but from this false start lithography was within a few decades to assume an important position within publishing in South Asia as a whole, and a paramount one across much of northern India. In the sub-continent, the new technique quickly passed into the mainstream of book-production, in contrast to Europe where during its early years lithography remained on the fringes of publishing, resorted to only when letter-press failed either on economic grounds or through problems of text-configuration. Although lithography's initial popularity in India may have been due to reasons of practicality, its enduring appeal among the indigenous population was due to more profound cultural questions of textual acceptability and the aesthetic of the printed book.

Taking the practicalities first, the use of lithography would never have become widespread at all if a local source of stones suitable for the technique had not been found - it was both time-consuming and expensive to import them from Europe. But this problem was overcome almost immediately when the right type of porous limestone was discovered at Kurnool in the Bellary district of Madras Presidency (modern Andhra Pradesh) in 1826. Not only was there a very plentiful supply (over 100 stones, for instance, were dispatched to Bombay and Poona in 1830 alone (2)) but the Kurnool stones were locally considered to be superior in quality to those imported from Europe, being both much denser and finer-grained.

By contrast with Europe, in India lithography did not have to contend with three and a half centuries of printing in the letter-press tradition. By the 1820s the development of types in Indian scripts was still essentially in its infancy, and even where founts had been developed there was only limited availability. Indian type-foundering had begun as far back as the 1560s when Jesuits at Goa produced Ethiopic, Tamil and Konkani founts, but subsequent
development was spasmodic rather than sustained. A century later, the Propaganda Fide Press in Rome had expanded its range of exotic type-faces to include various South Asian scripts such as Nagari and Tibetan. By 1715 the Lutheran missionaries at Tranquebar, south of Madras, had established a foundry to produce smaller Tamil types in order to save on that ever-precious commodity, good printing paper. A further spurt to the development of Indian type-faces came at the end of the eighteenth century, both in India itself and in Europe, in response to the growing economic and administrative interests of the English East India Company. The need to print official regulations in the local vernaculars as well as English provided a direct stimulus to type-founding in Indian scripts -- Bengali, Nastaliq and Devanagari at Calcutta, and Marathi, Gujarati and Malayalam founts at Bombay had all been developed by the 1790s. In England founts were cast both by engaged amateurs such as Sir Charles Wilkins’ Devanagari, and by professional type-founders such as Vincent Figgin’s magnificent Telugu for the East India Company in 1803, following on the cruder results of Joseph Jackson in Bengali and Nagari. The wave of evangelical missionary enterprise in the sub-continent in the early nineteenth century gave renewed impetus to type development, spearheaded by the achievements of the Serampore Mission Press in Bengal which pioneered founts in a number of scripts such as Oriya, Burmese and Gurmukhi.

When lithography reached India in 1822, it was first used for map-making but its special applicability to Indian scripts was immediately recognised. Any script at all, even the most cursive such as Kaithi or Modi which posed intrinsic problems for the type-designer and type-founder, could be brought within the realm of print. The only limitation on the lithographic process was finding someone capable of writing neatly and clearly what was wanted in the particular script required. Rind, who introduced lithography to India, stressed the importance of employing good writers at almost any price. Lithography avoided many of the practical difficulties associated with letter-press, not least the tendency of the rather large early Indian typefaces to 'devour' too much printing paper. Witness the many years of painstaking effort by the professional type-founder John Lawson at Serampore to miniaturize founts in the wake of the disastrous printing-office fire of 1812. (Apart from saving paper, smaller types were always being sought by the missionaries in order that truly portable editions of the Scriptures could be distributed.) With lithography the size or style of handwriting was instantly adjustable, whereas with type there was the bother of selecting sorts from different cases according to fount size. Mixing different scripts within a single page of text was again simple with lithography but a complex operation in
Title-page to an edition of the *Sujanacarita*. Note the 'reverse script' effect with the main title and the general manuscript 'feel' of the design with floral motifs and arabesques.
type-setting. The word 'amateur' occurs quite frequently in discussion of lithography (and is epitomized in the Indian context by Sir Charles D'Oyly's famous Behar Amateur Lithographic Press at Patna), and this emphasizes another of its key advantages as a printing technique. It was far simpler and quicker to master than typography; it was less cumbersome and more portable involving less equipment; and it was cheaper, appealing therefore to the amateur or small-scale operator in particular.

Lithography very quickly expanded the horizons of print in India: it embraced a broader range of scripts and therefore languages and potentially also therefore wider audiences. Nevertheless its use for Indian languages remained patchy, which is not easy to explain. It became the printing process par excellence of the Muslim population but in other areas it was hardly used at all. Perhaps in languages such as Tamil and Bengali where a tradition of typography, albeit limited, had been established by the 1820s, lithography did not present obvious advantages. It is nonetheless surprising that Bengali, potentially one of the most calligraphic of Indian scripts, did not use lithography more. Indeed, the only instances encountered in a quick search were a collection of Bengali songs lithographed at Jodhpur in Rajasthan and a Bengali primer lithographed at Lahore - in both instances, no doubt, the local unavailability of Bengali types was the determining factor.

For letter-press printing, the script problem was not simply confined to the unavailability or limited supply of the requisite types. It was also a question of how effective the printed typefaces were in terms of legibility, i.e., acceptability to the reader's eye. The standardization of orthography which type-design imposed tended to distance the script from the reader, especially when that standardization was imposed by foreign missionaries working from a European perspective. This was a problem which had continually beset missionaries printing in India and had led many, beginning with the Tranquebar Lutherans in the early eighteenth century, to circulate Christian texts incised on palm-leaves using native scribes to copy them out using a traditional stylus. This practice was still continuing a century later, with the Baptists at Cuttuck in Orissa, for instance, as reported by the Reverend Amos Sutton in the 1830s: "We have had some thousand copies of an excellent tract called 'The Jewel Mine of Salvation' written out on the tall [i.e. talipat palm] leaf and distributed. This method has the advantage of being easily understood; for the natives are not used to a printed character" (3). The Serampore missionaries recognized this script problem which surfaced more than once in the course of their 'market research' on their Biblical translations, soliciting
testimonials from pundits, traders and others visiting the Calcutta area. They were aware, for instance, that they must print the Hindi New Testament in Kaithi, "far more read in some parts of the country than the Deva-Naguree itself", if they were to reach "the trading part of the community" (4). When the Bikaneri New Testament was printed in Devanagari, it was reported that it would only be read by the "Jainas and those alone who know that character...but all ranks will understand it" (5).

Overall, however, the missionaries did not make as much use of lithography (which posed none of the script-related problems of letter-press) as might have been expected. They used it very extensively indeed for printing tracts, such as the American Presbyterians at Ludhiana and Allahabad, or the Basel Mission at Mangalore, but they hardly used lithography at all for printing the Bible or portions of it. This is curious and only a tentative explanation is offered here. Perhaps the missionaries considered, as was said in Europe, that a lithographed book lacked the visual authority of the letter-press printed page and that therefore the Bible's impact as text might be diminished, devalued, or even undermined by the use of lithography. Compared to letter-press, lithography might give an air of impermanence, of the everyday, which was totally inappropriate for a message of eternal truth. In India, however, the reverse was true. It was the letter-press printed page which lacked visual authority, being totally alien to traditional Indian book-production. It was still the manuscript which was vested with visual and cultural authority and this was the key to lithography's rapid acceptance and lasting appeal, particularly though not exclusively among the Muslim communities in India, with their emphasis upon the hand-written work in its highest artistic expression, calligraphy.

It has been said that "the end of the traditions of manuscript production and illustration in the 19th century [was] caused by the twin modern invention of the printing press and the camera" (6). However, as in many other cultures both European and Asian, the manuscript tradition did not immediately die out with the advent of printing. It was the arrival of lithography, more than typography, which introduced the concept of printing as an alternative method of book production to the traditional patrons of the manuscript scribes - rulers and their courtiers, rich merchants and religious institutions, etc. It is quite clear from a number of lithographed editions that copying was done from actual manuscripts to produce in effect a facsimile. Over and above this, there was very frequently a conscious attempt to imitate the layout of the manuscript page with rubrication of the text, illuminated headpiece, etc. It would not be
surprising to discover that lithographic writers were drawn from the traditional scribal castes - the Hindu kayasth and the Muslim katib - but this has yet to be verified. The new technique was a link with the past, combining the cultural authority of the manuscript with the technical advantage of rapid duplication. Lithography made the printed book no longer an alien artefact but something visually more familiar and therefore culturally more acceptable. In short, through lithography the mass-produced manuscript was a paradox realized.

Lithography undoubtedly stimulated the production of religious literature both Hindu and Muslim, and this made a great impression upon Christian missionaries operating in northern India in particular. Many of the aesthetic concerns of the book as a physical object surfaced during the Punjab Missionary Conference at Lahore in the early 1860s. Initially many missionaries had been deceived by the apparent eagerness with which Indians seized their printed books: "With the exception of now and then a proud, self-important Brahman, they are ready to tear us in pieces in order to get them" (7). This eagerness was often not so much thirst for the Word of God as curiosity towards the printed book as an alien cultural object or, more mundanely, the tempting prospect of a free gift of paper. At the Lahore conference some missionaries such as the Reverend J.H. Budden of the London Missionary Society at Almora argued that "European printing, and European wood-cuts and engravings, are unobjectionable, and even desirable" (8), presumably for their edifying qualities. Other, more experienced, voices, however, such as that of the Reverend John Newton from the American Presbyterian Mission, Lahore, realized that the missionaries must reconsider their whole approach to printing and publishing if they were to reach their audience effectively, particularly the Muslims. A more sophisticated, subversive tactic was called for. The holy text needed to be presented in a physical form to which the Indians would be more receptive, and this meant borrowing from and copying the oriental or Islamic book.

The reaction of an Indian reader to a Christian book was vividly summarized by the Reverend C.W. Forman, also of the American Presbyterian Mission, Lahore: "On receiving an Urdu book, one of the first things which strikes the recipient, is the European style of binding; the next, is the name on the back in Roman letters. He opens the book, and finds in the back part of it an English title-page. It has been printed with Arabic or Persian type - which he can with difficulty read; whilst diacritical marks, which he does not at all understand, are scattered over its pages. Moreover, the title of the work is repeated at the head of each page - which every native reads as a part of the
An illustrated page from the **Brajabilasa**. Both the boldness of the image and the way text and drawing are integrated are typical of 19th-century Indian lithographed books.
text, - thus obscuring its meaning. If our object had been to deter the people from reading our books, we could scarcely have devised means more likely to succeed... I would have our books made so much more attractive; and besides, some who are now ashamed to be seen with a Christian book in their hands, (because every passer-by can see at a glance what is a Christian book), would then read them, without fear of being called Christians" (9). Others such as the Reverend H.E. Perkins of the Church Missionary Society put it more patronizingly but reached the same conclusion: "Instead of the flowery title-page, the limp cover, and the running oblique gloss, of a genuine native work, we have had the stiffly formal, straight lines, the rigid binding, and the cut-and-dried appearance which a severe Anglo-Saxon taste has conventionally taught us to deem beautiful. It may be said, that this is but a very small matter; and so it is: but if we are to catch with guile the unconverted, and allure from mischievous idleness our Native converts, we must stoop to their notion of things, and not force them up to our own" (10).

On the use of lithography specifically, some were reluctant to accept it as tantamount to pandering to oriental standards but nevertheless saw it as a necessary temporary expedient until such time as the Indians could be weaned entirely from their own 'inferior' writing systems and were 'civilized' enough to adopt the Roman alphabet. Thus the Reverend J.S. Woodise of the American Presbyterian Mission, Kapurthala: "The vernacular characters are not adapted to the progressive spirit of the age. As the native mind begins to rise to the level of western civilization, it will demand a literature co-extensive with its new wants. This can never be furnished in any of the barbarous characters now in use. We have been told ... that no type can be formed which will enable them to print books in the Persian character. They must all be lithographed. This fact in itself demonstrates, the Persian character could never meet the wants of an enlightened People. ... It is impossible that such a cumbersome, impractical, and illegible character should ever find acceptance, where another, so superior as the Roman, was available" (11).

Newton, by contrast, appreciated that lithography provided the cultural link with the manuscript tradition which Christianity could adopt for its own purposes: "It would be wise to take the costly and highly-esteemed manuscripts as models for imitation. The illumination so much admired in these to print books in the Persian character. They must all be lithographed. This fact can be easily and cheaply imitated by the lithographic process" (12). A whole range of visual effects was possible with lithography which typography was not flexible enough to embrace. These cannot all be illustrated
here but a few may be mentioned. A line of text need not be of itself demonstrates, that the Persian character could never meet the wants of an enlightened people ... It is impossible that such a cumbersome, impractical, and illegible straight as letter-press demanded; it could be angled in any direction or twisted round on itself in a circle. Figures such as mathematical symbols and geometrical or astronomical diagrams could easily be incorporated into running text, as seen in the early use of lithography to provide basic education materials. The appearance of the script could be manipulated to give the letters a three-dimensional look or to create 'reverse script' in white on a black background, as seen on many lithographed title-pages. Many effects were drawn directly from the manuscript tradition: the decorated title-page with arabesques or other familiar motifs, the illuminated head-piece to the first page of text, rubricating and indenting the verses, etc., etc.

Lithography's greatest advantage was in allowing complete integration of text and illustration. This the Indian scribes seemed to have seized on with enthusiasm, judging by the boldness and freedom with which they exploited its possibilities. The formality of European engravings was replaced by illustrations drawing on popular Indian painting traditions, creating a cultural continuity between the temple mural, the manuscript and the printed book. The result was the creation of books with a quite distinctive 'atmosphere' or 'feel' to them, unmistakably the product of an Indian rather than a European aesthetic. Lithography proved itself both a conservative and a progressive force: conservative in the sense that it made the printed book acceptable within a cultural continuum; progressive in that it accelerated the process by which printing was taken up by the Indian population.
Notes


4. Seventh memoir respecting the translations of the Sacred Scriptures into the languages of India, conducted by the brethren at Serampore. London, [1822], p. 4-5.

5. Tenth memoir respecting the translations of the Sacred Scriptures into the oriental languages, by the Serampore brethren. Liverpool [etc.], 1834, p. 53.


8. Report of the Punjab Missionary Conference held at Lahore in December and January, 1862-63. Lodiana, 1863, p. 269. I am grateful to Donald Clay Johnson for drawing my attention to this item in the Ames Library at the University of Minnesota.


10. Ibid., p. 277.

11. Ibid., p. 289.

12. Ibid., p. 283.