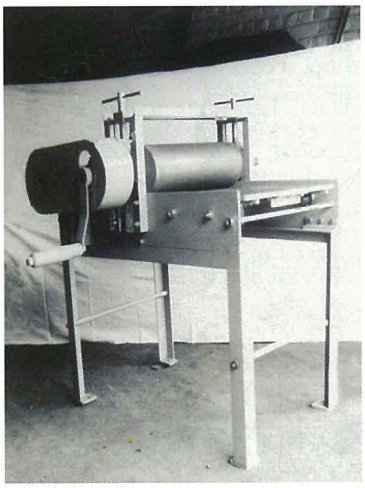
Machines in the Service of Artists

Sandhya Bordewekar draws our attention to the significant contribution made by an inventive engineering workshop initiative to the growth of printmaking in India.

Most print reproductions, popular in India till the 1950s, were lithographs – the country did not have too many presses designed to produce etchings, woodcuts, and linocuts in those days. Dilip Patel's Ravi Engineering Works is a workshop located in the congested Nagarwada area, Baroda. This was where India's first etching press was painstakingly built in 1967, by Dilip's father, Bharatbhai Patel, under Jyoti Bhatt's supervision. In 1966, Bhatt was at the Pratt Institute, New York, where he had the chance to make a number of etched plates and get them printed. The authorities at the Institute, well aware that etching presses were unavailable in India, were so struck by his commitment and flair for printmaking, that they offered him one press *gratis* to take back home at the end of his stint. However, the harsh custom duties those days made it impossible for Bhatt to accept the gift. Instead, he made meticulous drawings, from every possible angle, of the press he was most comfortable working with, and brought them with him.



The first Etching Press to be built in India at Ravi Engineering Works, Baroda. *Photograph courtesy Jyoti Bhatt.*

In Baroda, Jyoti Bhatt's neighbour, Bharatbhai Patel, a music aficionado and Sanskrit scholar, ran a modest engineering workshop. Bhatt showed him the drawings he had made and asked him if he could manufacture a press like that. Bharatbhai agreed and estimated the manufacturing cost at Rs. 3,000/-. It took nearly a year to build it. Bharatbhai could construct the outer shell of the press based on the drawings; the machinery that ran the press however was enclosed inside – Bhatt had not been able to examine it to capture it in his drawings. Assembling the innards was tricky as Bharatbhai had to work the mechanism out himself, based on the artist's descriptions of its working. On completion, it cost a total of Rs. 6,000/- to build the press but since he had estimated it at Rs.3,000/-, that was the amount he accepted from Bhatt.

As this was the first indigenously manufactured etching press, Bhatt presented the first print he made on it to Bharatbhai, as a token of his appreciation. This print still occupies pride of place in Dilip's office at Ravi Engineering Works. The press was installed at Jyoti Bhatt's house, and the artist worked on it for a number of years. A couple of years later, Bhatt was visited by printmakers, Fritz Eichenberg and Michael Ponce de Leon from Pratt. Both Eichenberg and Ponce de Leon worked on this

The first print made at the Etching Press. The print was made by Jyoti Bhatt and later presented to the late Bharatbhai Patel.

locally-made press and were delighted with the trial prints they made. Early last year, Bhatt gifted the press to Kashinath Salve's artists' studio at Grant Road, Mumbai, where, in the future, many more printmakers will continue to use it.

Jyoti Bhatt's example was followed by many other artists: etching presses were ordered by artists like Gulammohammed Sheikh (he too donated his press to Chhaap Printmaking Workshop, a couple of years back), Jayant Parikh, Naina Dalal, Lalitha Lajmi, Prayag Jha, Pandurang Deodhar, Rini Dhumal, and Amit Ambalal, amongst others. Art institutions such as the Faculty of Fine Arts, Baroda, Bharat Bhavan, Bhopal, C. N. Vidyalaya Art School, Ahmedabad, Goa College of Art, Lawrence School, Sanawar, Lalit Kala Akademi, New Delhi, Chamrajendra Academy of Fine Arts, Mysore, Institute of Fine Arts, Trichur, Fine Arts Department, Patiala, Norbulingka Institute, Dharamshala, D. C. Patel School of Architecture, Vallabh Vidyanagar, Assam Fine Arts and Crafts Society, Guwahati, and others also had etching presses made to order. Today, more than sixty etching presses from Ravi Engineering Works are in operation all over India.

"With each model we built, we improved on a number of details from the original design to facilitate the ease of operation and improve printing quality," says Dilip. One significant design improvement was the replacement of the old chain drive with a geared drive – this facilitated operations, making them smoother and faster. The second change that Dilip is still in the process of incorporating is replacing the 150 kg iron printing bed with an 8 kg bed made of long-lasting composite material. Over time, the older iron bed would bend with use and would lose the flatness required of an efficient press. The new composite material is elastic enough to bend with pressure and spring back to its original shape once the printing pressure is removed. At the moment, his etching presses are available in bed-size 18 x 36 inches and 24 x 48 inches, and are equipped to print woodcuts as well.

Working with artists has made Dilip sensitive to a number of engineering solutions that the process of art-creation demands. He designed a Triple Roller Mill that simplified the effort required to grind inks – otherwise a time-consuming and labour-intensive process. He also designed a Clay Sheet Moulding Machine (a slab roller) for muralists, ceramists, and studio potters. One of these pieces can be found at the Fine Arts Faculty, Baroda; his rollers were also ordered by Sukhdev Rathod, the artist, and by Flame, the ceramics workshop at Auroville. It was at Vinod Daroz's behest that Dilip designed a firing kiln for Space artists' studios, and on ceramicist Jyotsna Bhatt's recommendation, his kick-wheels were installed at the ceramics/pottery studio at the Faculty. Dilip is currently in the process of making electronically controlled kick-wheels designed to give studio potters more control. He recently restored a British-made cast iron lithography press, belonging to the Faculty of Fine Arts, and got it into perfect working condition.