The Making of an Indian STM

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‘Technological Jugaad’ as a Culture of Innovation

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Abstract: This article is an historical account of the making of one of the earliest Scanning Tunneling Microscopes (STM) in India at the University of Pune. The article discusses some of the innovative methods the scientists used in overcoming resource constraints and also at the same time working with collaborators and ‘other ways’ of knowing and doing things, even as the research and outcomes were at the cutting edge of modern science.

Using the case of the making of the STM, the article conceptualizes and characterizes a culture of locally embedded and influenced innovation that is called ‘Technological Jugaad’. It discusses some of the critiques and questions related to this form of innovation and instrument making.

Finally, the article compares Technological Jugaad to other cultures of innovation such at ‘bricolage’ and user-driven innovation to make the case for the de-centring of innovation cultures as also the de-centred nature of the cultures of innovation.