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The Relevance of Lab Studies and STS in a Changed Universe? A Response to Kant's
Review of *Instrumental Lives*

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I started to first think of my response to Vivek Kant’s review (Kant 2020) of *Instrumental Lives* about 15 days ago. Some ideas and lines of thought were beginning to emerge when other more important things took over—another editing deadline about to be missed, some student’s assignments that needed checking, some administrative work in the department, some unscheduled travel that came up without warning—and the writing was shelved for the moment. James Collier (the SERRC editor) had in any case given me till about the 2nd half of April to send in my response and that seemed like a lot of time still available. I’ll pick up the threads, I thought to myself, in due course and when I’m a little more settled.

This brief note of context is extremely important because the response I would have written 15 days ago, had I managed to do it then, would have been completely different from the one I am writing today, the 26th of March 2020. It would not be an exaggeration to say that the world has changed dramatically and like it has never happened before in the two weeks that have just gone by. 15 days ago I was at the Indian Institute of Technology Bombay, in a space thriving and buzzing with human activity—thousands of students attending classes, the nearly 700 faculty members running up and down for lectures, for labs, for meetings and for just about anything else, canteens and messes operating full steam, social, cultural and academic life (of course) running full blast in the green and spacious campus of this six decade old institution.

Today, the institute is in lock-down mode. Teaching has been suspended, the labs and the classrooms have been shut, thousands of students have gone home, food messes are running only at bare minimum. The current academic session is for all practical purposes over (summer vacations have been called a six weeks early) and no one has an idea of what happens next. I am myself far away from campus, 700 kilometres away in the city of Hyderabad. I had come to visit family for the weekend of March 14-15 and have not been able to get back. And two days ago, Prime Minister Narendra Modi ordered for the entire country to be in lockdown for another three weeks.

Not just India, the entire world is in the grip of an unprecedented crisis; the coronavirus has stalled the operations of our species and our systems in a manner that has barely ever happened in history. And no one knows where we will be even a few weeks from now, let alone a few years. Like Mihir Sharma (2020), writing about the situation in India concluded “the India that emerges at the other end of these three weeks will be irrevocably changed.”

On Kant’s Review

Let me return to the point I made a little earlier—about the nature of my response to Kant’s review of *Instrumental Lives* in a pre- and a post- corona world. And for this I’d like to go back to *Instrumental Lives* to a crucial point I made there about jugaad and technological jugaad, which Kant identifies as the ‘lynchpin’ (Kant 2020, 9) in my explanation of scientific practice and contextual instrument making in India:

It would be relevant to mention here, at the very beginning, that almost no conversation on innovation in India, particularly in the upper half of the country, can happen without a reference to jugaad. It is a term that is as often maligned as it is used with pride and it tends, therefore, to effectively sidetrack discussions on invention, innovation and creativity. It was for precisely these reasons that I had made a conscious decision when I began my research project in 2010 to *not* engage with jugaad at the outset and see where the discussions and learnings around innovation take me. As it turned out, and not unexpectedly I might say in retrospect, there can be no escaping jugaad. One might want to give it a miss, but it will not allow itself to be overlooked. I tried and, to put it very simply, failed. And failed quickly. I may dare say that no research, discussion or deliberation on innovation in an Indian context can afford to ignore this jugaad, not even in the context of a modern scientific laboratory (Sekhsaria 2019, 29).

The analogy is perhaps evident here. Just like a discussion on innovation in India, even if in the context of a modern scientific laboratory, cannot escape jugaad, can we have any discussion at all today without a reference to the corona virus?

There is loads of commentary (Harari 2020; Murphy 2020; Rasheed 2020) and more emerging with every passing day, on how the current moment brought upon by this virus will irrevocably change (has already changed, in fact,) the political, economic, administrative and social systems that have constituted our world thus far. It is going to be a new world and we don't have a faintest idea of what it will be.

What is very interesting also in the discussions in the current moment is how the central question is a posed as scientific and a technological one. What is the corona virus and how does one tackle the havoc brought about by it has been constructed, one might argue, primarily as a technoscientific question? What is the nature of the virus? Why has it spread so fast? What is the solution to it? Physical distancing (what was erroneously called social distancing earlier (Gale 2020)) and washing hands with soap regularly is the best way of dealing with the problem. All eyes are on labs and scientific institutions to provide us some explanations, in helping us make sense of a world gone topsy-turvy, in perhaps finding some solutions to the madness that has engulfed us—in developing testing kits that will detect the virus faster and more effectively, in intermediate offerings that will de-activate the enemy and in developing a vaccine that will rid us of this scourge (Cooper 2020; Zimmer 2020). A new equation might even be emerging in the relationship between science and religion (Lebo 2020; Nidheesh 2020).

The Future of the Scientific Laboratory

The question I'm thinking about in this context of a completely changed world, is about the future of the scientific laboratory, of science and technology, and of the scientific institution (Kupferschmidt 2020; Paul and Hegde 2020). *Instrumental Lives* offer a subtitle that states quite explicitly, 'a biography of an Indian laboratory'. The book has, as Kant also affirms,

interesting lessons and insights into the operation of science in contemporary India. It is a relatively uncommon account because ethnographies of labs and the scientists who people these labs have not been written of the large science and technology establishment in India. One of my pleas at the end of the book was for more such ethnographies of laboratories, more stories to understand the ‘nuts and bolts’ of Indian science.

The thought before me at the moment is ‘now what?’ What is the relevance anymore of the story in *Instrumental Lives* if science and the laboratory of the future from here on are going to be completely different beasts? How will society and the scientific establishment deal with it? How will the history of science deal with it? It has great potential for Science and Technology Studies (STS), but how will STS deal with this?

In a situation of normal science, *Instrumental Lives*, could have been a mirror to the recent past; the present and the future could have seen a lit bit of themselves. That might still be the case, but what will change now with so much complexity and multiple phase shifts added on? A scientific revolution has happened/ is happening that is completely different from what Kuhn (1962) had discussed. Science and the scientific system may have broken from its past in the current moment in a manner that has no precedence in the history of science. This is a new paradigm and a newer kind of paradigm as well. Also, a newer kind of paradigm shift.

All of this has a bearing here because as I mentioned, my response to Kant’s review would have been different two weeks ago. I am confident, similarly, that Kant’s review would have been different if it had been written today. *Instrumental Lives* offers, I think, a fleeting glimpse of the world as we knew it. It’s like a window to look through into that past. You open the book and enter that world (like one does with any other book). What if were to sit inside the book and use the same window, but look in the other direction. 15 days ago you would have seen another world. 15 days ago you would have seen another book as well.

Texts and narratives have a huge capacity to transform and trans-mutate, to talk to and of the times in which we engage with them. *Instrumental Lives* was researched, conceived and articulated in a different era (or so it seems in this current moment) and so was Kant’s review. It might be an unfair ask, but what if he were to review the book once again today? It would be his reflection on the book for sure, but what will be equally if not more interesting are his ruminations about the uncertain present that we presently occupy and a completely unknown future that lies ahead for us.

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