



JAHNAVI PHALKEY

Founding Director, Science Gallery Bengaluru, India

Dr. Jahnavi Phalkey is a highly accomplished historian of science and technology, filmmaker, and curator. She is currently the Founding Director of Science Gallery Bengaluru. Dr. Phalkey did her B.A. at Elphinstone College and got her M.A. from Bombay University with a gold medal (1995). After an M.Sc. in the Politics of Asia and Africa (1996) from the School of Oriental and African Studies, University of London, she completed her Ph.D. in the History of Science and Technology from the Georgia Institute of Technology (2007). Jahnavi Phalkey

was formerly Senior Lecturer in History of Science and Technology at King's College London (2011 – 2018) and a Fellow at the Wissenschaftskolleg zu Berlin (2013-14) and has held numerous other visiting appointments and fellowships. Her major work is the celebrated book, *Atomic State: Big Science in Twentieth Century India* (2013) She is also the co-editor of *Key Concepts in Modern Indian Studies* (2015) and the director of the documentary film *Cyclotron* (2020).

HUMANITIES

The Infosys Prize 2023 in Humanities is awarded to the historian Dr. Jahnavi Phalkey for her brilliant and granular insights into the individual, institutional, and material histories of scientific research in modern India. Her book *Atomic State* (Permanent Black, 2013) and many articles insightfully braid the global history of science, especially nuclear science, with the anthropology of the postcolonial state to illuminate rich and textured histories of the everyday lives of science in India.

SCOPE AND IMPACT OF WORK

Dr. Jahnavi Phalkey's history of nuclear science research in twentieth-century India has creatively extended the scope of the global history of science to postcolonial contexts. It has productively shifted attention beyond the atomic bomb as a moment of postcolonial arrival for nation-states like India and Pakistan to reveal the complex institutional and material edifice of nuclear science research, and scientific research more broadly. The quality of her archival knowledge and research on these subjects is without peer. Her brilliant anthropology of science has emphasized the need to see the history of science as much a history of scientific ideas, as one of power, practice, and the nation-state. Dr. Phalkey's ongoing scholarship also emphasizes that the trajectories of the natural sciences, social sciences and humanities—from physics and nuclear science to the development of statistics and sampling, and the vocabularies therein—are an inextricably joint narrative of individual genius, institutional structures, and state policy; and she extends her canvas, in comparativist vein, from India to China.

Jahnavi Phalkey has skilfully marshalled these insights from her monograph and scholarly articles to boldly and passionately reimagine spaces and modes through which science can be communicated with the wider public. Her documentary film *Cyclotron* (2020) tells the story of the longest-running particle accelerator in India and the scientists who have worked with it. Underlying the creative exhibitions and activities she has organized as the Founding Director

of Science Gallery Bengaluru is the vision of explaining to the wider public how complex science works. This vision sees the dissemination of science and the humanities together in order to critically root the histories and contemporary everyday practice of science and rationality in empirical practice and theoretical rigor, at a time when they are under obscurantist threat everywhere.

CITATION BY THE JURY

The Infosys Prize 2023 in Humanities is awarded to Dr. Jahnavi Phalkey for her brilliant insights into the individual, institutional, and material histories of scientific research in modern India. Her book *Atomic State: Big Science in Twentieth Century India* (Permanent Black, 2013), on the rise of nuclear science research in India, tells a deeply researched, methodologically innovative, and passionate story of institutions, individuals, and the state. It highlights how people, instruments, and ideas across local, national and transnational flows developed the edifice of scientific research in twentieth-century India. Dr. Phalkey skillfully braids the global history of science with the anthropology of the postcolonial state to reveal textured histories and everyday lives of science in postcolonial countries like India. Her revealingly granular scholarship illuminates the interface between technology, bureaucracy, educational policy and equitable access, revealing both macro and micro processes of knowledge production.



My warm congratulations to Jahnavi Phalkey for winning the Infosys Prize 2023 in Humanities, awarded to her for her brilliant history of the making of nuclear science in modern India that brings together individual narratives of ambition, effort, failure, and resilience with the institutional structures and state policy in which they are necessarily embedded; and critically excavates the human and material realm within which the history and contemporary practice of scientific research has taken place in India. Her pathbreaking scholarship is absolutely essential reading for scholars of knowledge production in India and beyond.

Akeel Bilgrami



SCIENCE DOES NOT HAPPEN IN ISOLATION

British India was partitioned in 1947 and new India's leadership in politics, industry and science looked for ways to shape a modern nation. India's independence came two years after the first use of atomic weapons towards the end of World War II. Many of us saw in the film *Oppenheimer* how cutting-edge research and state power was tightly knit together in the Manhattan Project. This changed the scale and budgets at which scientific research could be conducted. Another such moment was the launch of Sputnik by the Soviet Union in 1957—10 years after Indian Independence—which accelerated the race for cutting-edge dual-use technologies between the two superpowers. It is, therefore, of enormous significance that a new Indian state was being created in this time. Scientific research came to be deeply implicated in the making of state structures and, therefore, of defining state capacity in free India.

Dr. Jahnvi Phalkey is a historian of science. Her seminal book *Atomic State* traces the beginnings of experimental nuclear physics in India. How did India come to have infrastructures that could contribute towards nuclear capability? Was this trajectory inevitable? What were the motivations of those who pursued (or not) this goal? Who were the people involved in the unfolding of this history? What was happening in the world at large at the time?

Three eminent physicists Meghnad Saha, Chandrashekhara Venkata Raman and Homi Bhabha—and their students and colleagues—tried to build capacity for nuclear physics research in three laboratories—then in Calcutta, Bangalore and Bombay. This was a moment of transitions: of India from imperial rule to political independence; of experimental physics from tabletop small science to large systems and big science; and, finally, a world order that transitioned from European imperialism to the Cold War between two new super-powers—the United States and the Soviet Union.

Twenty-five years after the end of imperial rule, India became the first developing country to create a nuclear research infrastructure capable of developing a nuclear program with the peaceful nuclear explosions in Pokhran. Dr. Phalkey tells us how this became possible, why this was not inevitable, and why this came to be seen as necessary. She has used extensive archival research, ethnography, image archives, and studied the technology to write this history.

In a similar vein, in her documentary film *Cyclotron*, Dr. Phalkey tells the history of the world's oldest particle accelerator—an extraordinary machine and its ordinary story! The cyclotron was built in 1936 at the University of Rochester, New York. It was decommissioned and shipped to India in 1967 where it continues to function at the Panjab University, Chandigarh. The film is the story of science under constraints, science as a social enterprise as told through the humdrum of a life in experimental science.

At a moment when we celebrate the information technology revolution and the accomplishments of the Indian space program, it is imperative that citizens and new generations of scientists understand how and why science and engineering have grown in specific ways in India. History of science may provide a perspective to scientists and engineers about the developments in their own discipline. Equally, it may help them contextualize their place as knowledge-makers whose work has consequences for the world at large.