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Traditional spirit of science offers much for Asian century

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A scientist performing chemical tests at a research and development centre in Gurgaon, India. The spirit of science, says the writer, is public, subjecting scientific claims to public deliberation and examination. Thus, transparency and debate are two key elements of the scientific process. PHOTO: BLOOMBERG

As a student of engineering at the Indian Institute of Technology in the mid-1990s, I read Bertolt Brecht's Galileo Galilei as part of the curriculum in the humanities and social sciences.

The life story of the great Renaissance scientist made a deep impression on me. The spirit of science reflected a powerful force that could fundamentally alter how we see the world, achieved through observation, reflection and continued questioning on the basis of evidence.

Galileo's story cultivated in me a critical lens that pushed me to examine my deeply held beliefs through engagement with evidence. Later, as a social scientist, the body of work I would develop on the dialogue between culture and ways of knowing in health and well-being, drew its inspiration from this spirit of always questioning and going back to the evidence, however incomplete or uncertain.

To question means to hold our existing values and beliefs to scrutiny. The spirit of science is also public, subjecting scientific claims to public deliberation and examination. Thus, transparency and debate are two key elements of the scientific process.

Consider, however, the conflicts of interest from industry-based research in the biotech and medical industries, where evidence for solutions and side effects is generated by scientists paid for by the industry.

Questions of ethics raised by these conflicts of interest need to be subjected to public scrutiny.

Similarly, peer review processes that serve as the gold standard for scientific publishing need to be scrutinised, with the links of power and the implications of funding flows closely examined.

However, I find the critical spirit of science missing from conversations on science.

Rather than create a space for questioning assumptions and beliefs on the basis of evidence, the language of science is used to foreclose conversations, or to push a narrow idea of development.

This seems to be the case across many nations in Asia, where the teaching of science and technology has been reduced to the teaching of the skills, without careful attention being paid to the teaching of scientific inquiry.

Increasingly, across much of Asia, arguments about visions of science-based development are offered on the principles of economic growth, without creating spaces for critical conversations on the claims, the side effects of proposed solutions, and the implications.

In India, for instance, this spirit of science has been increasingly decoupled from teaching and research on science.

Treating science simply as a skill to be mastered disengages it from the underlying philosophical questions of science.

Increasingly, across much of Asia, arguments about visions of science-based development are offered on the principles of economic growth, without creating spaces for conversations on the claims, the side effects of proposed solutions, and the implications.

Take the argument about technological progress brought about by the building of large dams as instruments of development.

For many national governments committed to a narrow idea of development, the language of science is carelessly used to project a modernist policy framework, without really offering the space for national public conversations on the evidence being presented.

Critical conversations on environmental impact, the impact on livelihoods and communities, and displacement are either not held, or held behind closed doors in opaque processes that are not accessible to the public, or are not open to evidence-based public debate and deliberation.

The spirit of science that captured the imaginations of great Asian thinkers in the 1940s, 1950s and 1960s was deeply committed to reason. For Sir J.C. Ghosh, founder of the first Indian Institute of Technology, it served as the fulcrum for training what he envisioned to be the best minds of India and drivers of India's development.

I am struck by the ascendance of ideology-driven science in India, where the national scientific agenda has recently become wrapped up with demonstrating the wonders of ancient India.

The Vedic science movement in India, for instance, has taken a foothold in dominant scientific institutions, committed to digging up evidence to articulate the narrative of an ancient India that was a repository of scientific knowledge in this world view.

To examine closely the knowledge that was generated in ancient India, and to document its rightful place in the history of science and technology, is a vital and much-needed endeavour.

The initiative to revive Nalanda University, the oldest university in the world, is an excellent example of creating spaces for ways of knowing that respect the ancient traditions of India and Asia.

As depicted in the credo that guided Nalanda, a search for reason through deliberation and openness to difference are the anchors for such conversations with the past, rather than a narrow ideological commitment to arriving at a foreclosed conclusion.

Unfortunately, in an ideologically driven framework of science that is committed to a narrow vision of science attached to a preconfigured end, there is little room for reason and argument. In such a world view, parochial commitments to a narrowly conceived understanding of the world take precedence.

As we participate across Asia in conversations on the Asian century, the spirit of science offers us an invaluable framework for conversations anchored in reason, transparency and deliberation in the continued search for evidence.

This spirit of science, aligned with the articulations of reason in Asian thought as embodied in the imaginations of Nalanda, offers invaluable entry points to the constructions of an Asian century.

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