

Title: The Scientific Temper

Author(s): Gita Chadha

Source: Economic and Political Weekly (Engage), Vol. 60, Issue No. 38, 20 Sep, 2025.

ISSN (Online): 2349-8846

Published by: Economic and Political Weekly (Engage)

Article URL: /engage/article/scientific-temper

Author(s) Affiliation: Gita Chadha (gita.chadha@apu.edu.in) is a professor at Azim Premji University, Bengaluru, and an honorary senior fellow at the Archives at NCBS, Bengaluru

Articles published in EPW Engage are web exclusive.

The Scientific Temper

Gita Chadha



The ultimate purposes of man (sic) may be said to be to gain knowledge, to realise truth, to appreciate goodness and beauty. The scientific method of objective inquiry is not applicable to all these, and much that is vital in life seems to lie beyond its scope—the sensitiveness to art and poetry, the emotion that beauty produces, the inner recognition of goodness. The botanist and zoologist may be wholly lacking in love for humanity. But even when we go to the regions beyond the reach of the scientific method and visit the mountain tops where philosophy dwells and high emotions fill us, or gaze at the immensity beyond, that approach and temper are still necessary.

— Jawaharlal Nehru (Nehru 1946)

The Pause

The “scientific temper,” a term popularised by Jawaharlal Nehru in the post-independence Indian context, is embedded within the constitutional morality of India. Though criticised for its scientism (Nandy 1981; Chadha and Thomas 2022), it is an important idea that has evolved in Indian democracy and needs to be continuously repurposed.

While the idea of the scientific temper may be traced back to 19th-century Europe, it took on various forms of assertion in the rationalist movement, even in India [1]. While science and technology became the big tools of development in India, scientific temper became an intellectual tool of Indian modernity that was used to specifically target beliefs and practices that were perceived as inhuman ways of tradition, largely as irrational and superstitious. This scientific move, in fact, undercut the possibility of looking for and developing immanent critiques of these beliefs and practices from the ecosystems they are rooted in. Over a period, scientific temper became a narrow one-way translation of the dictum “science for society,” an aspirational mindset for several middle-class Marxists, liberals, and rationalists in the shaping of the modern Indian nation state. However, in the Nehruvian vision, dear to many of us, the idea of the scientific temper has a wider ethical, moral, and aesthetic potential that can go beyond the scientific method itself and, at times, even stand in opposition to the latter. On the scientific method, Nehru seems to suggest that not only does it operate within limits, but it can also take us away from the “ultimate purpose” of man. The scientific temper and approach, on the contrary, he suggests, might be emancipatory in unique ways. And that is what we must excavate. Interestingly, even if the constitution does not talk about a philosophical wholeness of human experience, or our epistemic and existential quest for truth, goodness, and beauty as Nehru does, it sets out a citizenry duty towards the pursuit of a scientific temper. Having worked in the field of Critical Science Studies and having been a critic of the original idea of the scientific temper and its scientific avatar, I find myself pausing today—in a neo-liberal right-wing world—to reflect upon the possibility of using the principles of the scientific temper to reimagine and repurpose it. What would this reimagination look like particularly to the world of science? What would the moral rhetoric look like to the academic world? What can the directions of the practice of repurposing be to the world at large?

Repurposing

Let me start by saying that in this pause—to imagine a different purpose for science—I see a performance of my constitutional duty “to develop scientific temper, humanism and the spirit of inquiry and reform” (National Portal of India [nd]). Of course, these are not edicts unique to science, nor to modernity and not to rationalism either. Having said that, to pursue this constitutional duty, I submit that the idea of the scientific temper requires to be, one, rescued from a narrow scientism, which was the project of the orthodox left and the liberal rationalists, and two, to be informed by the insights of the field of Critical Science Studies as it has developed. While the integration of academic silos is a significant move in the fulfilment of a Nehruvian vision of wholeness in the pursuit of truth, good, and beauty, the role of Critical Science Studies, a field that developed from the 1960s onwards in the pursuit of this vision cannot be underestimated. Critical Science Studies not only plays a vital role in reforming the nature and culture of modern Western science but also points out the failure of the scientific temper as an idea.

Drawing upon impulses and insights from across the silos to critically examine modern science and its institutions while simultaneously excavating the wider principles contained in the idea of the scientific temper is an important task of the day. This is especially needed in the contemporary world, where science and technology, divested of humanism, have become tools of nation states and market economies, of war and greed. The idea of scientific temper has become “thin,” and is used to serve only a narrow scientific worldview. The idea of the scientific temper, I submit, must be repurposed to serve the ideals of moral reasoning based not only on thought but also affect. It must be deployed to reshape a democratic, inclusive, and plural public sphere. For this it is important to “thicken” the idea of the scientific temper. This thickness must draw from an interdisciplinary academic field like Critical Science Studies that is grounded in movements of social justice. Though this field has been ridden with polemical debates that have surfaced in every decade or so in India—the most recent being the Sokal Affair [2] of the late 1990s—it has contributed to the development of “the spirit of inquiry and reform,” particularly directed towards science. The Sokal Affair, which happened after the advent of the neoliberal economy and before the rise of the political right, polarised the discourse around science on axes

of left and liberal politics, science and anti-science positions, and between scientists and social scientists. Stepping out of the polemics, I identify here three directions—of rhetoric and pragmatics—in Critical Science Studies, representational, epistemological, and integrative, that I think align towards a repurposing of the idea and practice of the scientific temper.

First, a scientific temper from the perspective of Critical Science Studies would propel us to examine the question of representation: who gets to do science and who does not? Second, the scientific temper would encourage introspection and looking inward to ask: who are our scientific heroes, who are the role models, why do upper caste heterosexual men dominate our scientific institutions? How would an Ambedkarite view on casteism in science inform the aspiration of humanism? How do we evaluate power and privilege, and how do we make space for the marginalised groups to not only enter science but also to stay there? Would not the scientific temper require us to both step out of and look within scientific cultures that are casteist, patriarchal, and homophobic? Is it not important for us to move slowly in the direction of affirmative action and not leave everything to the weak idea of merit? A related and important question to ask is: Will bringing diverse groups into doing science help us in doing science differently? What do we need to do to ensure that outcome? Also, how do we ensure the participation of indigenous groups and communities in shaping cosmologies of the future? Without essentialising these, should we not resist evaluating them on the standards of modern western science? A framework from Critical Science Studies would argue that for that to happen, we need to move away onto a second direction, an epistemological one, that of putting the scientific method itself under self-scrutiny. If we use the scientific temper as a tool, a method, a principle to examine the methodological assumptions of the method of science, what would it tell us? Probably that the scientific method is not as “objective” and as “universal” and as “neutral” as it is made out to be? Does the scientific method really reflect the “order of nature”? Must it? Or is it, like most other human pursuits, as determined by subjectivity, particularity, and positionality of persons and cultures? Most informed commentaries and studies would suggest that the truth lies somewhere in between these two positions. For instance, feminists in critical science studies demonstrate that while the human body is real and provides us a sense of the “order of nature,” they argue that the “facts” around the gendered body are selectively normalised and

stabilised through and by culture. So, are women biologically weaker, are they naturally disadvantaged in the story of evolution, do their brains show marked differences that can explain the ability or inability to do things? Or, for instance, there is the question of ethics. Let us say that scientific research leads us to discovering the gene that determines sexuality. Do we really need to pursue that course of research, knowing very well the consequences of such knowledge in patriarchal and homophobic worlds? Or should we leave these worlds to change on their own as we pursue our knowledge, without care? What is our moral responsibility as citizens? These are the kind of questions that lead us to making choices on what kind of science we want to pursue, which methods of science we want to use, and how much of science should be allowed to dictate our lives. In fact, as Nehru says in the introductory quote above, what would it mean to carry a scientific temper into our ethical and aesthetic engagements? Let us chart this into a third direction: an integration of science and faith that will help us from the virulent religious fundamentalism of our times. Is it possible to craft shared spaces between the two that will help us uphold the highest “purpose of man” that Nehru envisions? We know that modern science and religion were separated at birth. While this might have been a historical condition and consequence in Western Europe, is this a universal fact or phenomenon? Does this separation hold true in human experience? Have not science and faith coexisted in myriad fashions in non-Western civilisations? Or even in western civilisations, not just in the profane fashion in which scientists compartmentalise and practice both, but in a profound sense, where one can examine the other? Without entering identity politics, does not the scientific temper urge us to decolonise the binary and separation of religion and science? For instance, do we not need to demonstrate how critical and discursive practices have not only existed but also thrived in religious traditions? And do we not need to use the emancipatory potential with traditions and practices of faith along with science to counter religious, political, and social orthodoxy and authority? A repurposed scientific temper would improve our understanding of shared spaces between science and religion/faith and help us fulfil our constitutional duty towards the scientific temper.

Note of Hope

Almost five decades since the term entered our constitution, it might be worthy to begin reimagining the idea of the scientific temper. With the rise of the global capitalist right in the

millennium and a virulent form of cultural nationalism in India, it is becoming urgent to reclaim, reinvent, reimagine, and repurpose all tools of emancipation. Scientific temper is an important one—historically and empirically. It becomes important to dig deeper and to excavate the core moral vision in the scientific temper, with the hope of making a different world, a less dystopian world, a world where no one is killed for their ideas, their beliefs. Because hope, in the sense used by Baldwin, is what we must give our children [3].

Endnotes:

[1] Works of the Indian Rationalist Movement can be found on the Federation of Indian Rationalist Associations (FIRA) at <https://fira.org.in/>.

[2] The compilation of debates published in *EPW Engage* titled “Culturalist Critiques of Modern Science and a Debate in the late 1990s”: <https://www.epw.in/engage/discussion/culturalist-critiques-modern-science-and-debate>.

[3] The original interview cannot be traced, but here is the snippet published on *The Society Pages* where James Baldwin says the line during an interview: <https://thesocietypages.org/socimages/2014/12/04/james-baldwin-resistance-is-our-only-hope/>.

References:

Chadha, Gita and Renny Thomas (eds) (2022): “Introduction: Methodological Diversity: Seeking Disciplinary Narrations,” *Mapping Scientific Method: Disciplinary Narrations*, India: Routledge, pp 1–37.

Nandy, Ashis (1981): “Counterstatement on Humanistic Temper,” *Centre for Studies of Developing Societies*, Delhi.

National Portal of India (nd): “The Constitution (Forty-Second Amendment) Act, 1976,” Government of India, <https://www.india.gov.in/my-government/constitution-india/amendments/constitution-india-forty-second-amendment-act-1976>

Nehru, Jawaharlal (2004): *The Discovery of India*, India: Penguin Books.