



Scientific Temper

Our Long Romance with Reason

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Scientific temper is a constitutional calling. Tucked away in Article 51A of our Constitution, among the fundamental duties of every citizen, is an important directive: “to develop the scientific temper, humanism and the spirit of inquiry and reform.” The linking of these three values is not accidental. These three ideas are intertwined. A scientific temper without humanism may become cold technocracy; humanism without inquiry can become sentimental. And you cannot reform society without both. The curiosity to understand ‘why things are the way they are’, our ability not to confuse ‘what is’ with ‘what ought to be’, and the compassion to imagine they could be better, lie at the heart of reform. This triad forms the moral and intellectual foundation of a democratic society.

What Exactly is Scientific Temper?

The phrase itself has two parts: science and temper. Science here does not merely refer to laboratories, equations, or natural sciences. It signifies a method of understanding the world. A rational, evidence-based process through which we seek to know both nature and society. Scientific thinking is not limited to physics or biology; it also applies to social issues, public policy, and everyday choices.

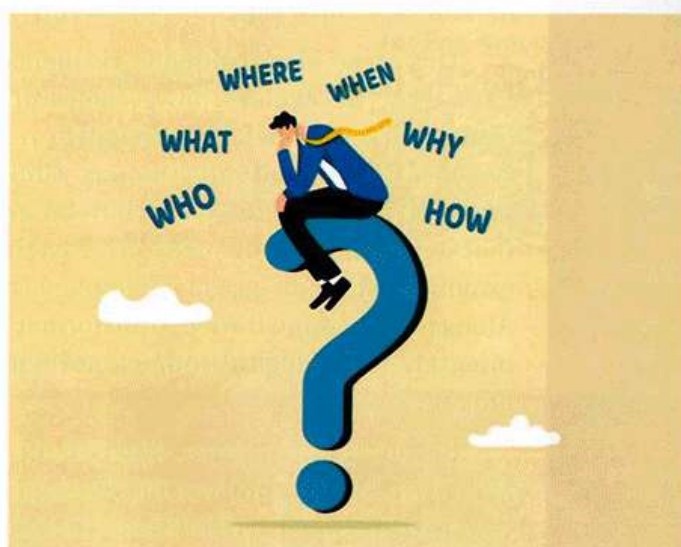
The word temper refers to a mental disposition, an outlook, or an attitude that influences how we think and

act. It also means worldview and the habits of mind that guide how we evaluate claims, beliefs, and arguments. When these two ideas come together, scientific temper becomes a way of thinking and living: questioning, testing evidence, remaining open to correction, and rejecting claims based solely on authority.

In other words, scientific temper is less about what we know and more about how we think.

Science as a Way of Life

In modern India, the idea of scientific temper is often linked to Jawaharlal Nehru. Writing in *The Discovery of India*, he described scientific temper as “a



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way of life, a process of thinking, a method of acting, and associating with our fellowmen." He regarded scientific temper as a critical approach to truth, a willingness to test ideas, to rely on observed facts rather than preconceived notions, and to revise conclusions when the evidence requires. For him, this discipline of the mind was not confined to laboratories; it was crucial for solving the problems of life and society.

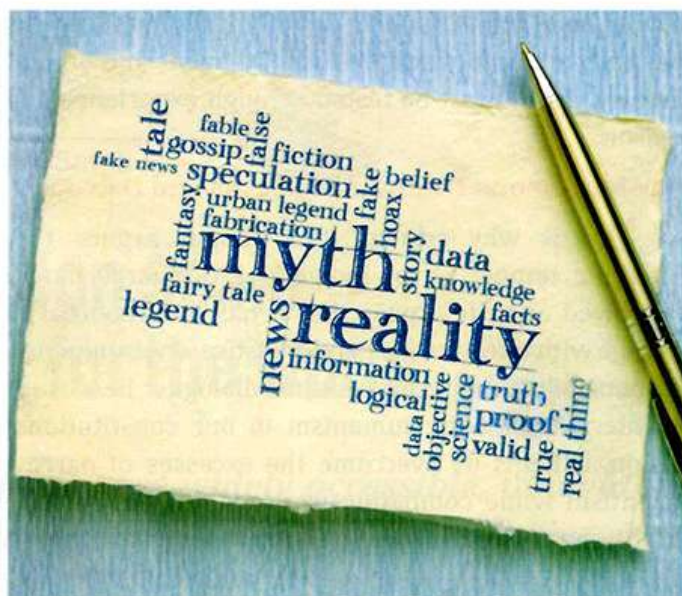
Nehru believed that the scientific temper reflected the outlook of a free individual. A society that values evidence and rational inquiry also values intellectual freedom. Without that freedom, both science and democracy are stifled. Nehru recognised that science cannot answer everything; the beauty of art, the emotion of poetry, and the mystery of love lie beyond its reach. Yet, even when we reach the realm of philosophy and are filled with strong emotions, he argued, the scientific approach and mindset remain essential. For Nehru, India's challenge after independence was clear: to master modern science and cultivate a scientific outlook so that the country could progress economically and socially. Scientific temper, therefore, was both a cultural ideal and a developmental necessity.

National Ethos

Although Nehru popularised the phrase, he did not originate the idea. It permeated the freedom struggle, especially among those who believed that political freedom meant little without social emancipation. Consider Bhagat Singh. In his prison essay *Why I am an Atheist*, he powerfully discussed the need to challenge every part of the old faith. "Any man who stands for progress has to criticise, disbelieve, and challenge every item of the old faith," he declared. "Item by item, he has to reason out every nook and corner of the prevailing faith."

For Bhagat Singh, blind faith was dangerous because it dulls the brain and makes a person reactionary. He believed that if ancient faith cannot withstand the onslaught of reason, it must crumble, clearing space for a new philosophy. Only beliefs that survive rational scrutiny deserve acceptance.

Similarly, several leaders of the freedom movement saw the need for scientific thinking for social reform. The critique of caste hierarchy, the demand for gender equality, and the call for modern education all demanded questioning inherited authority. It is in this spirit that Swami Vivekananda boldly declared, "I would rather see every one of you rank atheists than superstitious fools, for the atheist is alive and you can



make something out of him. But if superstition enters, the brain is gone, the brain is softening, degradation has seized upon the life."

Thus, for national leaders and social reformers, science and modern industry were tools of progress. Still, more importantly, they believed reason itself was an instrument of liberation.

The Buddha's Charter of Free Inquiry

The debate on scientific temper arose partly in response to colonial claims that Indians lacked rationality or the ability to self-govern. Nationalists countered this by emphasising India's rational intellectual traditions. The most compelling evidence comes from the Buddha himself, in a discourse delivered over 2,500 years ago to the people of Kesaputta (the modern-day Kesariya in Bihar).

According to the story, the Buddha arrived in the town of Kesaputta, where the residents were confused. Many teachers passed through their town, each proclaiming his doctrine and criticising others. The people asked the Buddha how they could know which teaching was true. Whom should they believe? Who spoke the truth and who spoke falsehood?

The Buddha's response was revolutionary. He did not ask them to accept his word. Instead, he advised them not to accept claims merely because they are repeated, traditional, written in scripture, supported by logic, or taught by respected teachers.

What should they do then? The Buddha advised them to test things for themselves. When you know for certain that certain things lead to harm and suffering, abandon them. When you are sure that certain things

lead to benefit and happiness, embrace them. This was basically a call for independent judgment and critical inquiry. Truth must be tested through experience and reason.

Our Indigenous Tradition of Reason and Debate

This is why scholar P.V.S. Kumar argues that scientific temper is an indigenous discourse, not a borrowed one. He argues that it has the potential to engage with questions of gender justice, environmental responsibility, and cross-cultural dialogue. Because it is intertwined with humanism in our constitutional vision, it helps us overcome the excesses of narrow scientism while combating irrational and oppressive traditional mentalities.

Similarly, economist Amartya Sen has pointed out that viewing Indian traditions as entirely religious, anti-scientific, or uncritical is an oversimplification. Philosophical debates, heterodox schools of thought, and traditions of dialogue have long shaped the subcontinent's intellectual landscape.

Consider how ancient Indian scientists and philosophers approached blind beliefs. The Buddhist physician and philosopher Nāgārjuna, writing in the 4th-5th century, challenged blind belief. The orthodox schools had elevated scriptural texts (*shabda pramana*) as a valid source of knowledge to be blindly followed. But Nāgārjuna asked a penetrating question: testimony is simply what someone has said. It can be based on direct observation, inference, or mere belief. Why should we accept testimony/scripture based on mere belief without any observational or inferential evidence? He said, *shabda*, based solely on belief rather than evidence, is unacceptable.

Such arguments show that Indian philosophical traditions seriously engaged with questions about evidence, authority, and rational justification, notions central to scientific thinking. The materialist *Charvaka* school rejected all supernaturalism. Buddhist logicians refined the arts of debate and reasoning. The *Niti Shastra* tradition of governance in public life evolved rules that are acceptable to everyone, regardless of faith. As the Telugu text *Sakala-Niti-sammata* states, such knowledge should have "equal circulation everywhere like a coin with the stamp of the Sultan."

Private Belief, Public Reason

How can we turn this rich heritage into a practical philosophy for today? The late rationalist Narendra Dabholkar provided a beautifully simple framework.

He used the analogy of four roads to illustrate the scientific approach to belief.

Imagine asking someone how to reach a town called Armori. One person says he heard about the route from a passerby two months ago. Another says a friend travelled that way last month. A third says he himself went there four days ago. A fourth says he saw the route in a dream six months earlier. Whose advice would you trust? Dabholkar's answer was straightforward: belief should be proportional to evidence. The more reliable the evidence, the greater the confidence we place in it. This principle, he argued, forms the core of the scientific attitude. We use this reasoning in our daily lives without thinking about it.

Yet scientific temper does not demand the elimination of personal beliefs. In a plural society, individuals may hold diverse spiritual or philosophical views. The crucial distinction lies between private belief and public reasoning. Every person is free to hold whatever beliefs they wish in private. That is the essence of freedom. But when beliefs seek to enter the public sphere, to shape policy, to determine laws, or to affect the rights of others, they must be tested against reason and evidence.

Dr Ambedkar understood this deeply. He saw how caste had 'killed the public spirit' and made 'public opinion impossible,' because loyalty was restricted to one's own caste rather than extended to the larger society. He emphasised that a just society requires the guidance of *prajna* (rational understanding) alongside compassion and equality. He argued that without reason, even noble intentions may produce harmful outcomes.

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Scientific temper, then, is not about being a scientist; it is a civic habit. It is the thread that connects the Buddha's advice to the *Kalamas* (the community lived in Kesaputta), Nāgārjuna's critique of blind belief, Bhagat Singh's revolutionary zeal, Nehru's modernisation vision, and Ambedkar's quest for a just society. It calls for intellectual freedom, logical argument, and respect for evidence. It is the spirit that refuses to accept suffering as fate, that questions inequality, and that constantly seeks a better, more rational, and more compassionate way to live. □