

Scientific Temper and Superstitions: Debating the Twain in Our Daily Lives

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ABSTRACT

Scientific Temper is one of the most important terms often debated upon in academic discourses in India. It has been reflected in policy initiatives starting from the Science Policy Resolution 1958 to Science, Technology and Innovation Policy, 2013. Fostering scientific temper is one of our Fundamental Duties enshrined in our Constitution. On the other hand, superstitious beliefs are deeply rooted in our society which we witness in everyday life. Time and again scholars have suggested promotion of scientific temper for 'logical thinking and reasoning'. This paper argues how scientific temper can be an antidote for superstitious beliefs prevalent in our society. The critical issue discussed is not the extreme contradiction between scientific temper and superstitions, but whether or say to what extent can scientific temper influence reasoning to counter check superstitious beliefs.

Keywords: Scientific Temper, India, Superstitious, Beliefs, Logical Thinking and Reasoning.

Introduction

The role of reasoning as an identity of Indians was a subject well-discussed in Amartya Sen's *Argumentative Indian*. Reasoning is a part of 'scientific temper', superstitious beliefs go against reasoning. The word 'scientific temper' is not new to Indians, at least methodologically, however, we are not free from superstitious beliefs; hence, they clash with one another time and again.

The word 'Scientific Temper' was first used by Jawaharlal Nehru in his autobiography, *Discovery of India* in 1946. Nehru reiterated the necessity of creating a scientifically minded society

in various forums, particularly in his address to scientists (Mahanti, 2013). For him scientific temper was the temper of free man and '*should be a way of life, a process of thinking, method of acting and associating with fellowmen*'. Nehru did not only mean to promote science and its applications but also of solutions that could solve the problems of our country — scientific approach should be an integral part of our social interactions.

In Amartya Sen's words arguments, disputation, questions and dialogues — key to developing a scientific temper — have been an integral part of Indian ideological tradition since the Upanishadic and Mahabharata times (Sen, 2005). Even Buddha in Kalma Sutra states, '*Believe nothing merely because you have been told it or because you yourself imagined it; do not believe what your teacher tells merely out of respect for the teacher. But whatsoever, after due examination and analysis, you find to be conducive to the good, the benefit, the welfare of all beings that doctrine believe and cling to, and take it as your guide.*' (Ross, 1966). This could mean 'scientific temper' was an inherent part of India dominated by the application of logic and the avoidance of bias and preconceived notions. It was a way of life, a process of thinking, a method of acting and associating with fellow men.

The fundamental feature of scientific temper was 'the spirit of enquiry and acceptance of the right to question and to be questioned'. In a boarder framework, scientific temper should be the basis of our knowledge gathering. The Scientific Policy Resolution (SPR) of the Government of India, adopted by both the Houses of Parliament in 1958, reflected the national aspiration based on Nehru's concept of scientific temper. Scientific Policy Resolution was an expression of India's political leaders' faith in science and the role technology could play in national development.

Subodh Mahanti (2013) emphasizes the notion of 'scientific temper' in the Indian context, and talks about the nuances of how this concept has been developed. For him scientific temper remains indefinable even today, irrespective of the fact that there is remarkable growth in our country's economy through science and technology. It is not an easy task for the society to evolve through the medium of scientific enquiry as it cannot be

achieved merely by making people aware of the concept. It will be achieved only through a democratic political process. Dhar (2009) argues scientific temperament or temper (scientific attitude) is characterized by the following traits: 1. Healthy skepticism, 2. Universalism, 3. Freedom from prejudice or bias, 4. Objectivity, 5. Open mindedness and humility, 6. Willingness to suspend judgment without sufficient evidence, 7. Rationality, and 8. Perseverance — positive approach to failure.

The fundamental feature of scientific temper is ‘the spirit of enquiry and acceptance of the right to question and to be questioned’. It was incorporated in the Fundamental Duties through the 42nd Amendment (1976), one of our Fundamental Duties which encourages, ‘to develop the scientific temper, humanism and the spirit of the spirit of enquiry and reform.’

Scientific temper is not free from critiques, time and again it has been brought under the scanner from various groups. Ashis Nandy (1990), a noted intellectual has called for a ‘humanistic’ as opposed to a ‘scientific temper’. However, Nehru did not position ‘humanistic temper’ against ‘scientific temper’. For Nehru, although scientific temper was based on rationality, it was not independent of humanism. Nehru himself was aware of the limits of science.

On the other hand, there has been strong criticism with regard to radical science which comes from those who tend to preserve science, one such supporter of science has been the orthodox left. The left has been critical of the elitist agenda of modern science and its class structure, however, its opinion of science has largely been scientific (Ganesh and Thakkar, 2005).

Superstitious Practices & Scientific Temper: Against each other?

Superstition is based on belief systems and belief systems are structures of norms that are interrelated and vary primarily in the degree on which they are systemic. What is systemic in the belief system is the interrelation between several beliefs. Belief systems are the stories we tell ourselves to define our personal sense of reality.

Anthropologist Claude Levi-Strauss (1963) states, superstitions and belief in magic '*are so frequent and so widespread that we should ask ourselves if we are not confronted with a permanent and universal form of thought.*'

Religious beliefs and superstitions are deeply rooted in our society. They hinder our critical thinking and rational decision making process. They guide us at every stage of life. Superstitions emerged to overcome certain problems in the daily life of the common people. But they have managed to prevail in all the sections of the society. It is blindly followed in traditional society where religion and caste are quite dominant. Lack of knowledge about our surroundings is the biggest reason for the development of superstitions. If our common sense fails to explain any particular phenomenon then superstitious beliefs fill the gap and it becomes common practice.

Superstitions in India can be categorized in many ways varying from luck, auspiciousness, ghosts, supernatural beings, animals, witchcraft, sexuality and reproduction. They often destroy our social fabric and create hurdles in development. Sociologist Max Weber (1930) studied Indian religion and society and found that this society inclines towards 'outwardly' approach. Outwardly because they believe this world is not real, this is illusion and *Maya*. Such fundamental beliefs become a basis for superstitious beliefs. They suppress critical questioning of scriptures.

There are many superstitious beliefs prevalent in India. It is believed that if three lizards come towards you, it is indication of wedlock but if four or more lizards come towards you, it is a sign of future death. To see a peacock before a journey is considered auspicious. It is considered inauspicious to sweep the floor at night. It is believed that looking in a broken mirror may bring bad luck. Breaking glasses are bad omen. People do not have a shave, haircut or cut their nails on Tuesday, Thursday or Saturday believing it brings bad luck. In Indian culture, one rupee note or coin is considered as auspicious; on any auspicious occasion a one rupee note or coin is additionally given with bigger notes like Rs 50, 100, 500 and 1000. There is a traditional belief among the Hindus that hanging lemon and chilly on the front door saves them from evil-spirit. Number seven is

considered as a magical number, it is believed to bring happiness and prosperity at home and in business. If someone is heading for some important work and a black cat crosses his/her way then it is considered as a bad omen. Bad eye (*nazar lagana*) is one of the most common superstitious beliefs among the people. Peepal Tree is considered as the home of evil-spirits and ghosts. It is restricted to go near Peepal tree during night. There is a belief that during eclipse eating and drinking should be avoided. Pregnant women are not allowed to go out of home during the eclipse.

Furthermore, this country has witnessed the growth of numerous self-styled fake godmen or charismatic leaders. They are known by different names such as *swami*, *baba*, *guru*, *tantrik*, *fakir* etc. Some of them have built large pan-Indian or international networks. Their success has been credited to the use of mass media and public relations techniques. They confidently claim to have magical powers to perform miracles and act like experts in giving spiritual advice. It is not a recent phenomenon that 24x7 astrology channels advertise and sell products promising cures for all kinds of diseases and personal problems of the customers, the genuineness of which is very doubtful.

The nature of superstitions in age-old society was different from today's modern society. In earlier society, superstitions existed because of lack of knowledge about our surrounding environment, now it exists because of our ignorance and lack of critical thinking. There were many mysteries that were beyond common sense. So people started following superstitions to overcome puzzles and ambiguity in life. As knowledge grew overtime, human beings solved the puzzles of life, but superstitious beliefs are still dominant in our modern society.

Our traditional culture is also responsible for promoting superstitions in our society. There have been elements of orthodoxy which forbid our society to question our traditional culture, belief and knowledge. This is the biggest fault of our society that it continues to propagate with the younger generation. They never teach the succeeding generation to form

their own ideas and question the established facts. In fact, it becomes a practice in most Indian households for the children to follow their elders in their occupation as well as their social outlook and behaviour. It was seen as a taboo, a wrong practice and as a notion of disrespect to ask the elders or challenge the *panchayat* or the king or the priest (Saxena, 2014: 133). Hence, the ethos of rational inquiry should be promoted. It creates an open society which becomes a basis for advancement and development.

Bhushan R (1985) investigated certain psychological correlates of belief in superstitions and observed superstitions are widespread even among college students. Significant differences were found regarding beliefs in superstitions — female college students (especially from the Arts stream) were significantly more superstitious than their male colleagues and students from science stream. Personality and attitudinal factors were closely related to superstitious beliefs. Factors like intolerance, ambiguity, neuroticism, authoritarianism and religiosity were positively related to superstition, while extraversion had no significant relationship with it.

Fostering Scientific Temper to Counter Superstitions

Superstitions are born out of ignorance of how Nature functions. Science is devoted to the unraveling of the mysteries of Nature. As one particular mystery is solved, we should expect the superstition based on it to vanish. But, this has not happened in practice because of lack of scientific outlook in the typical human being (Narlikar, 2003). While we live in a scientific age, there should be evidences of scientific temper in the people, community, and society as a whole.

It has been argued that such knowledge helps in protection of our environment and promotes awareness of climate change as it widens the scope for conservation and protection through a knowledge of the environment. For instance, in some societies, there is a superstitious belief of ‘tree-worship’. However, if necessity arises people do not hesitate to chop it down. In such cases, scientific temper will act like an agent that encourages critical thinking which will help in conservation of nature. Even

scientists who practice science do not necessarily have scientific temper. Scientific temper does not lead to liberalism or liberal intellectualism *per se*, but it helps a person to train oneself with the tools required for liberal thinking (Saxena, 2014). The most important of these tools is having an open mind and unbiased point of view.

In the recent past, Raja Rammohan Roy (1772-1823) contributed significantly towards India's transition to modernity. Roy's social reforms in the eighteenth and nineteenth centuries narrowed the gap in attitude towards science and technology between India and Europe (Narlikar, 2003:88). Roy paved the way for creating the need for a rational outlook on several occasions through his social reforms. Likewise, Rajendralal Mitra (1822/23-1891), the first modern Indologist of Indian origin and a key figure in the Bengal Renaissance, took on the baton for promoting social reforms through rational thought (Mitra, 1978). Rajendralal Mitra was the first Indian '*to challenge the sanctity of tradition, break away from its entangling meshes and establish the need for scientific objectivity in Indian historical thinking*' (Saraswati, 1978).

Raza *et al.*, (2005) in the study 'Channels of Information and Public Understanding of Science' where public understanding of science surveys were carried out in India, suggest that the migration of people from rural areas to urban centers causes a cognitive void. In a rural cultural environment, traditional belief systems, and in turn religious worldviews, are transmitted to new generations through strong interpersonal interaction. Raja (2015) in his study 'Scientific Temper: An Arena of Contestation in a Globalised World' found that due to changes in cultural settings, in urban areas the interpersonal communication between generations is reduced considerably and thus the process of transmission of traditional ideas gets disrupted.

After Nehru, there has been a consistent approach to foster scientific temper in our society. The Nehru Centre, Bombay issued a document titled 'A Statement of Scientific Temper' on 19th July 1981 with an aim to generate a nationwide discussion and to create a movement for the much needed second

renaissance in the country. In 2011, an attempt was made to revisit the 1981 Statement of Scientific Temper. The document was prepared as the ‘Scientific Temper Statement Revised-2011: The Palampur Declaration’. It asserts that the tradition of skepticism and humanism is not new to Indian intellectual discourse and goes back to antiquity. The statement emphasizes the fact that science has made it possible to understand life, mind and universe without taking recourse to supernatural and revealed knowledge. Moreover, scientific knowledge is universal (Mahanti, 2013).

Likewise, the Science, Technology and Innovation Policy 2013 also emphasized on promoting the spread of scientific temper amongst all sections of society and to enhance skills for applications of science among the youth from all social strata. It also seeks to position India among the top five global scientific powers by 2020. Interestingly, the Indian National Science Congress 2014 annual session theme was ‘Fostering Scientific Temper’.

Scientific temper offers solutions and counter arguments which should be promoted in our society. This would bring about rationality and critical thinking. Recommendations for promotion of scientific temper should be part of our school curriculum syllabus. From the nascent stage, if school children are taught to embrace the rational approach in their lives then it will definitely encourage critical thinking in them. The educated parents should encourage their children to think critically. They should not impose their superstitious beliefs on their children. Parents should provide their children an environment for free expression, questioning and democratic atmosphere at home. There is a need to ask for ‘evidence or proof’ so as to develop a critical mindset and counter superstitious beliefs.

Conclusion

This may not be a concern for many people whether or not ‘superstitious belief’ is a product of Indian culture. However, narration of mythical stories has been the part of our culture, but there has been little or no prevalence of stories that promote scientific reasoning, critical thinking and counter superstitious

beliefs. Hence, stories that promote rationality or at least creation of spaces for dialogues should be encouraged. Those who think ‘blind-beliefs’ should be eradicated must know that spread of education and knowledge is one of the ways to untangle the puzzled events.

Scientific temper develops analytical ability, reasoning and aptitudes. It encourages scientific explanation and validation of truth. There are many facets of education, for many of us getting jobs is considered as the ultimate goal of education and this is where the problem lies. Perhaps this is the reason why dogmatic beliefs are held even by educated people. The spirit of enquiry should be encouraged as questioning catalyses critical thinking, and critical thinking leads to innovation and problem solving ability.

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