

FOSTERING SCIENTIFIC TEMPER IN INDIAN SOCIETY:

ROLE OF KSSP & CONFERENCES

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ABSTRACT

Scientific temper is the spirit of science. Often the scientific perspective is stressed much leaving out the temper part which is the state of mind causing the scientific discoveries from the annals of mind. Scientific temper in India dates back to Vedic age. The scientific temper before the Nehruvian age is often referred as the inclination of scientific mind towards science. The conferences on scientific temper have elaborated on urgent need for improving scientific temper among common masses. Kerala SastraSahityaParishad is a People's Science Movement of Kerala with motto science for social revolution. To create scientist out of Indian society there must be a focus on underlying inquisitive nature of man which transcends beyond castes and creed. The paper focuses on scientific temper in India as Nehruji envisioned and also transact upon the role played by various conferences and KSSP in fostering scientific temper among Indians and also suggests some strategies for inculcating scientific temper at various levels of education.

KEYWORDS: Scientific Temper, Palampur Declaration, KSSP

INTRODUCTION

Scientific temper is the spirit of science. Science is the intellectual and practical activity encompassing the systematic study of the structure and behaviour of the physical and natural world through observation and experiment. The word scientific is activity relating to, or exhibiting the methods or principles of science. A person with right scientific temper has inquisitive and creative views of everything with a scientific frame of mind. Scientific temper involves the application of logic and the avoidance of bias and preconceived notions. Often the scientific perspective is stressed much leaving out the temper part which is the state of mind causing the scientific discoveries from the annals of mind.

SCIENTIFIC TEMPER IN INDIA

Scientific temper in India dates back to Vedic age. The Upanishads which are described to hold the essence of Vedas contain scripts which directly indicate to the cultivation of scientifically leaning mind. Men are advised to avoid the company of those who do not encourage the scientists and also scientific outlook in society [**Rig-Veda 5-74-3; 3-35-5**]. In the book 'The Discovery of India' Nehruji stresses the need for scientific temper as, "is the scientific approach, the adventurous and yet critical temper of science, the search for truth and new knowledge, the refusal to accept anything without testing and trial, the capacity to change previous conclusions in the face of new evidence, the reliance on observed fact and not on pre-conceived theory, the hard discipline of the mind—all this is necessary, not merely for the application of science but for life itself and the solution of its many problems." [**Jawaharlal Nehru, 1946**]. He was one of the first men to use the word scientific temper.

The difficulty in dealing with the term scientific temper in Indian society lies in the fact that it is surrounded by the ideas of 'scientific temper' finds its parallel in expressions such as 'democracy', 'citizenship', 'community', 'fraternity', 'culture', 'tradition', 'heritage', 'spirituality', etc. The nebulous and overarching character of such notions makes it difficult to circumscribe these into straight jacketed definitions, which are independent of variations in time and space. As social, cultural or economic parameters on time-space curve change, meanings of these notions, within intellectual discourse as well as for common public, also change. [Gauhar R, 2013].

The scientific temper before the Nehruvian age is often referred as the inclination of scientific mind towards science. There are many contributors to the instilling of scientific temper among Indians starting from the Rishis of Vedic age called the 'Rudrais', 'Adityas'. [Sablok, 2001] It is often believed that Aryans invaded India but alternate belief of them moving into India in search of a place to fulfill their scientific experiences still holds good. The Arab traders took basics of many sciences from India into the western world. Scientific temper was again activated by the coming of British into India. The British set up schools to imbibe western thoughts into Indian mind but unknowingly triggered the scientific temper in Indians by transferring the scientific methods of the west. The ordinary people benefited from the scientific discoveries. Major contributors to perpetuate scientific temper included people from political, social and scientific spectrum. Some of the noteworthy names are Raja Ram Mohan Roy, C. V Raman, S.N Bose, M.N Saha, Birbal Sahni, Homi J Babha, Bhatnagar, Mahalanobis etc.

After the Nehruvian age the debates on scientific Temper went on for decades and also led to establishment of laboratories and higher chairs of education in India. The adoption of scientific policy resolution[1958], Establishment of National Council of Science and Technology Communication (NCSTC), Council of Scientific and Industrial Research[CSIR], National Institute of Science Communication and Information Resources (NISCAIR), National Council of Science Museums (NCSM), IITs, TIFR, CSSR etc. came as an aftermath of the think tank of the Indian science on scientific temper. Scientific temper can bring about change in positive direction when it affects the masses.

ROLE OF KSSP IN PROMOTING SCIENTIFIC TEMPER

In India scientific temper was fostered by Kerala Sastra Sahitya Parishad which envisioned fostering scientific temper through books and periodicals in science. Kerala Sastra Sahitya Parishad is a People's Science Movement of Kerala, India. Founded in 1962 as first forum for science writers in the local language but soon realized that publication to be not just enough to bring science nearer to common man because only a minority of the society enjoyed the advancements in science. Hence in 1972 it reinstated its motto as "Science for Social Revolution" to become a People's Science Movement. KSSP has evolved as educative organization stirring up people to be constructive, in areas like environment, health, education, energy, literacy, micro planning and development in general to instill the scientific temper. The aims of KSSP are,

- Popularize science and scientific outlook among the people.
- Develop a sense of optimism in them, instill in them a sense of self -confidence that they can change the world and can build a better tomorrow.
- Expose and oppose the abuse of scientific knowledge detrimental to the interests of the majority.
- Expose and oppose the abuse of environment.

- Propose and help implement, alternative modes for development, with emphasis on equity and sustainability.
- Carry out R&D work to transform lab technologies in to mass technologies

KSSP helps people to educate themselves and analyse social issues critically for the betterment of the society. [KSSP, 2008] Along with Bharath GyanVigansamithi, a public funded organisation is formed basically for the propagation of literacy and scientific temper among the masses, KSSP has invoked active participation of people to evaporate the superstitions and false beliefs from the society via its centers located in all major districts of Kerala. The establishment of All India Peoples Science Network (AIPSN) a network of science organizations, basically a people's science movement, working in all states with social outlook has brought common mass nearer to science through the use of ICT and is leading people in the positive inculcation of scientific temper.

ROLE OF CONFERENCES ON SCIENTIFIC TEMPER IN PROMOTING SCIENTIFIC TEMPER IN INDIA

The conferences held in India on scientific temper are 'The statement on scientific temper' 1981 through which M.N Haskar thought would bring about a discussion on scientific temper for a second renaissance in the country through active participation of people. The policy brought about wide opposition as it,

- Gave importance to method of science than doing science,
- Indian tradition of past was completely thought as falsehood,
- Statement moved away from the common man's thought of a scientific society.
- Urban centered western development was held high in the declaration.

The defects of declaration lit up a mass protest against it through media without understanding the spirit of the declaration for scientific temper. This sprung up an active debate on imbuing scientific observation into minds of men which culminated as Palampur declaration 2011. The Palampur declaration opens with panditji's ideas of scientific temper and states "India became the first country to include in its Constitution 'Scientific Temper with humanism' as a fundamental duty of all citizens of the country [Article 51-A(h)] in 1976 .The declaration moves further viewing 'The statement of scientific temper' 1981 in a new light and asserts scientific temper in essence to be 'humanity's assertion of being in charge of its destiny and not a passive victim of malevolence of stars' by defining it as a scientific method cutting across disciplines. The declaration further focuses on societal attitude on scientific innovation and views necessity of a radical change in science and technology to be in par with the world. It declares scientific temper to be essentially a world-view, an outlook, enabling ordinary citizens to choose efficient and reliable knowledge while making decisions in their individual and social domains. It is not the content or extent of knowledge base of one or other domain of science that a citizen acquires, but rather the pursuit of rational enquiry, which is the hallmark of scientific temper. The scientific temper has to come out of religio-centric ideologies. The declaration calls upon to strengthen science and technology through developing scientific temper. The declaration gives a few strategies to develop scientific temper they are

- To make relevant scientifically generated latest information available to the common citizen.
- To curb use of religious symbols in public offices.
- A national monitoring system to continually monitor unscientific content from spreading in society.

- Urges government to begin a television channel dedicated to the spread of scientific temper
- Science communication activities mandated in the government agencies should focus more on rationality, inquiry and method apart from content.
- Scientist and scientific institutions to become dearer to public by becoming transparent.

[Palampur Declaration, 2011]

It calls upon people to stand vanguard of scientific temper. A international conference later held in unison with CSIR, NISCAIR in 2012 reiterated the Palampur declaration. All the declarations stress the fact that scientific temper gains importance when it can unite masses for development of science and technology for the welfare of human race.

SCIENTIFIC TEMPER AND INDIAN SOCIETY

The scientific temper in Indian society can be molded when children are given training in scientific methods at a younger age. The development of child as a mature human being in society is only possible when cognition processes underlying scientific temper and societal thoughts are taken care of. Today's science can't go beyond a few number of why's asked by the common man in India irrespective of discipline. With the maturing child the scientific temper in him should also mature. To create scientist out of Indian society there must be a focus on underlying inquisitive nature of human race which transcends beyond castes and creed. Scientific temper is propelled only when society is made to make a move in the positive direction. The scientific temper in Indian society if of a negative nature would bring about catastrophic consequences in society.

The conflict between scientific temper and our contemporary political culture in India has to be delineated for the welfare of the society. Scientific temper can meaningfully develop only when superstitions and traditions in society rooted in irrationality are removed from the core of the society. [Haksar P. N, 1980] The internal pluralism and external receptivity which are characteristics of a society developing its scientific temper needs to be maintained. The Indian society must improvise its stands on religiosity and ethnicity to go hand in hand with the modern world order which needs to be based on scientific temper. The science relied on senses can be effective only when it can cater to needs of common man even in the course of satisfying an industrial society. The psychological and philosophical routes of Indian mind can be channelized to develop scientific temper in Indian society. The scientific temper and society can't stand its own if mans scientific nature is underpinned. The temperament for discoveries can only come up in Indian society when an accurate social development is made encompassing the rich and poor. Societies over the world must provide funding to nurture scientific temper.

Societal focus must shift from irrelevant ethos to a view of world as a global village where nations must help each other to enrich scientific temper of their citizens. Only when common masses are connected each other can the envisaged perspectives of society and scientific temper move together.

STRATEGIES TO DEVELOP SCIENTIFIC TEMPER IN INDIA

The following strategies may be adopted to cater the scientific needs and improvement the scientific temper in India

- At elementary stage children must be provided with books to increase scientific curiosity which would in turn cater scientific temper
- Serendipity in science must be stressed at primary level.
- Training of scientific temper through questioning should start at elementary level.
- Critical analysis of scientific facts must be done through debates at all levels of education
- Dedicated scientists must be encouraged through incentives.
- Ensure proper revision of curriculum to fall in par with international standards.
- Technologically scientific instruments must be used at a maximum level.
- Young scientists need to be trained well in scientific methods holding on to values appreciable by society.
- At higher levels of education more books are to be translated to local language.
- Documentation of scientific research in all disciplines must be fastened.
- Public private partnership in the scientific arena is to be encouraged.
- Indigenous knowledge among people must be consolidated.
- Bring up a chair to monitor growth of scientific temper among citizen.
- The visionaries of all scientific discipline need to be given platforms for interaction with common mass.
- A separate room set aside in every educative agency for retired scientist to limit loss of knowledge from the scientific spectrum.
- Developing tools to foster the scientific temper based on principles of science must be undertaken
- Public need must be taken care of in policy making
- Organization of symposia, science clubs and conscientization programmes to be made a continuous affair.
- Indological study chairs must be established at higher education level
- Exchange programmes for school children must be increased

CONCLUSIONS

The scientific temper in India has grown from rudimentary inclination to science to level where active participation from the side of people is envisaged. Scientific temper in India has withstood invasions and defective policies on Indian political spectrum. The conferences on scientific temper have elaborated on urgent need for improving scientific temper among common masses. Scientific temper is a frame of mind which a person carries with him when he enters the laboratory for scientific experience. [Jahangir Dhar, 2013]. The future of country lies in giving prime importance for developing scientific temper in society and thereby increasing the scientific culture of the country.

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