MIRACLES and divine revelations—stories of them abound across cultures and societies. Most of us have been privy to many such stories as part of our growing up. We may have believed in some of them and questioned the veracity of others.

Welcome to the world of ‘scientific temper’ that questions every belief that is not backed by evidence, that cannot be verified with facts. More than 2500 years ago Gautama Buddha led us into this world through his preaching, urging people not to believe in anything without due evidence.

Thirty years ago, in 1981, independent India released the first document articulating the need to inculcate the values of scientific temper in the Indian society to rid the country of its socio-economic ills at that time. It was named the ‘Statement on Scientific Temper’.

Between June 15 and 17 this year, scientists from all over India congregated for a national workshop in Palampur in the hilly state of Himachal Pradesh to review the statement released in 1981 and work out strategies to spread the spirit of scientific temper in the country. The “National Workshop on Scientific Temper” was organized by the National Institute of Science Communication And Information Resources (NISCAIR), CSIR, in collaboration with Vigyan Prasar and the Institute of Himalayan Bioresource Technology (IHBT), Palampur, CSIR.

People’s Science

In this age of boom of the news industry when one witnesses the use of a plethora of novel techniques to influence public opinion, the draft of the reviewed statement emphasized on the proactive use of various forms of mass media to spread scientific understanding among the public.

Given the inadequate coverage of science in popular media, a government-funded television channel dedicated for the purpose was recommended at this workshop. The channel should be geared towards removing the unscientific ideologies that govern the lives of cultural subgroups and discriminations they face due to barriers that exist between them and the policymaker—one of the main objectives specified in the draft.

The government-funded channel found a backing in the words of science journalist Dr R. Ramachandran from Frontline. He also underlined the necessity of more science magazines supported by public institutions to make for the lack of science news in commercial media, which believes that such news does not sell and leaves them in the cold in the rat race for grabbing public attention.

But, generating the interest of the public also depends on how attractive a subject like science can be made to the public and communications consultant K.P. Madhu described varied methods for bringing this about. Just as science can be popularized through the use of mass media, misuse of the media spreading wrong information can be equally damaging. Former editor of Science Reporter, Mr Biman Basu, cautioned against promotion of unscientific temper by a section of the media.

Without the right strategies to spread the spirit of scientific temper, the draft cautions against a situation in which scientific progress outstrips scientific understanding, putting citizens increasingly reliant on science and technology, but ignorant of its workings, at a disadvantage.

In order to avoid such a situation, science and society should evolve together, said Prof E. Haribabu from the University of Hyderabad who explained how participatory innovations and participatory plant breeding contributed towards...
The importance of developing technologies that empower people and science policies towards that end was also stressed by Dr Dinesh Abrol of the National Institute of Science Technology and Development Studies (NISTADS) and Dr Subodh Mahanti of Vigyan Prasar. Such efforts require increased involvement of the common people in discussions on science and scientific temper and Dr J.S. Pillai, scientist at NISCAIR underscored ways of doing so.

However, awareness generation should not only be confined to the media and to dialogues with the public. Even in this age of cynicism, common people still look up to scientists, teachers and government officials as icons. So it is important that these sections of society set the right examples for people to follow.

**Training the Icons**

The workshop highlighted that in order to ensure this, the spirit of scientific temper needs to be inculcated within the government and scientific community so that they do not set bad examples by supporting those who go against it and promote beliefs that are not supported by evidence. The workshop discussed the need to chalk out obligations that leaders in the society need to fulfill to carry out their duty of developing a spirit of scientific temper as enlisted in the Indian constitution.

Dr P.S. Ahuja, Director-IHBT

Er Anuj Sinha, Honorary Director-Vigyan Prasar

Prof. Annadurai pointed out that the scientific temper created by the mission led to Chandrayaan-II being approved in two months, a process that had taken four years for Chandrayaan-I.
To map out strategies to spread scientific temper among different sections of society—one of the major objectives of the statement—one needs to know the current state of scientific temper among them.

Survey Necessary

This calls for a national survey for measuring scientific temper in the country. Emphasizing this need, Gauhar Raza, scientist at NISCAIR said, “We need to measure the scientific temper existing in different parts of the country and among different groups in order to make strategies for propagating it to the different parts of the country.”

Elaborating on the methods to be adopted to carry out the survey, Dr Surjit Singh from NISCAIR talked about how culture, education and sociological aspects influence scientific temper among common people while Dr P.V.S. Kumar, scientist at NISCAIR, deliberated on the efforts that have already been made to study it.

Though the quantity and quality of how India performs on this score is yet to be measured, throughout the deliberations, scientists underlined instances that showed a lack of scientific temper in the country.

Prof. M. Annadurai, director of the Chandrayaan Mission, in his inspiring lecture on the last day of the workshop underscored how the Chandrayaan Mission along with other breakthrough technological missions like the launch of several INSAT satellites had played a major role in boosting scientific temper in the country. “Not only has the mission brought about significant technological spinoffs, it has jettisoned the country to become one of the few with successful moon missions and placed India in a position where its achievements in space research are regarded all over the world with respect,” he elaborated.

He stressed that not only did the mission achieve the difficult task of finding water on the moon, but also brought about technological outputs that will benefit the people at the grassroots in several ways and create scientific temper among them. “It was also an iconic mission that can reverse the trend among young people being drawn away from the world of science,” he added.

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Ms Neerja Bhatnagar of Action Aid talked about lack of scientific temper leading to decline of child sex ratio in the country and appealed to the scientific community to find ways to inculcate the spirit of scientific temper among people in the grassroots.

Dr Ram Puniyani, former professor at IIT Mumbai, emphasized that marginalization of women through religious hierarchies in society is largely responsible for several irrational acts justified by means that are totally unscientific in nature. He advocated steps to discourage such irrational hierarchies in society to propagate scientific temper in society.

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