

The power of persuasion

The Indian Constitution is unique in listing, among fundamental duties, the duty of each citizen “to develop the scientific temper, humanism and the spirit of inquiry and reform” (Article 51A). Jawaharlal Nehru was the first to use the expression “scientific temper”, which he described with his usual lucidity in *The Discovery of India* (while also quoting Blaise Pascal on the limits of reason). And yet, decades later, superstitious practices abound in India, including among the highly educated.

Superstition exists

India may be unusual in the degree and variety of superstitious practices, even among the educated, but superstition exists everywhere. In his recent Editorial page article, “[Science should have the last word](#)” (*The Hindu*, February 17), Professor Jayant V. Narlikar, cosmologist and a life-long advocate for rationality, cites Czech astronomer Jiří Grygar’s observation that though the Soviets suppressed superstitious ideas in then-Czechoslovakia during the occupation, superstition arose again in the “free-thinking”, post-Soviet days. Superstition never went away: people just hesitated to discuss it in public.

Similarly, China suppressed superstition and occult practices during Mao Zedong’s rule. But after the economic reforms and relative openness that began in the late 1970s, superstition reportedly made a comeback, with even top party officials consulting soothsayers on their fortunes. In India, the rationalist movements of Periyar and others have barely made a dent. No country, no matter its scientific prowess, has conquered superstition.

On the positive side, internationally, increasing numbers of people live happily without need for superstition. The most appalling beliefs and rituals have largely been eradicated the world over — such as blood-letting in medicine to human sacrifice, and in India, practices such as sati. This is due to the efforts put in by social reform campaigners, education and empowerment (of women in particular). Yet, surviving superstitions can be dangerous too, for example when they contradict medical advice.

Explaining it

Why is it so hard to remove superstitions? Fundamentally, a belief may be difficult to shake off simply because of deep-seated habituation. In his memoir *Surely You’re Joking, Mr. Feynman!*, the physicist Richard P. Feynman wrote about being hypnotised voluntarily (hypnosis is always voluntary) on stage, doing what was asked, and thinking to himself that he was just agreeing to everything to not “disturb the situation”. Finally, the hypnotist announced that Feynman would not go straight back to his chair but would walk all around the room first. Feynman decided that this was ridiculous; he would walk straight back to his seat. “But then,” he said, “an annoying feeling came over me: I felt so uncomfortable that I couldn’t continue. I walked all the way around the hall.”

We have all had such “uncomfortable feelings” when trying to do something differently, even if it seems to be logically better: whether it’s a long-standing kitchen practice, or an entrenched approach to classroom teaching, or something else in daily life. Perhaps we are all hypnotised by our previous experiences, and superstition, in particular, is a form of deep-seated hypnosis that is very hard to undo. It is undone only when the harm is clear and evident, as in the medieval practices alluded to earlier. Such beliefs are strengthened by a confirmation bias (giving

importance to facts that agree with our preconceptions and ignoring others) and other logical holes. Recent research even shows how seeing the same evidence can simultaneously strengthen oppositely-held beliefs (a phenomenon called Bayesian belief polarisation).

Disagreement in science

Dogmatism about science can be unjustified too. All scientific theories have limitations. Newton's theories of mechanics and gravitation were superseded by Einstein's. Einstein's theory of gravity has no known limitations at the cosmological scale, but is incompatible with quantum mechanics. The evolution of species is an empirical fact: the fossil record attests it, and we can also observe it in action in fast-breeding species. Darwinism is a theory to explain how it occurs. Today's version is a combination of Darwin's original ideas, Mendelian genetics and population biology, with much empirical validation and no known failures. But it does have gaps. For example, epigenetic inheritance is not well understood and remains an active area of research. Incidentally, Dr. Narlikar in his article has suggested that Darwinism's inability to explain the origin of life is a gap. Few evolutionary biologists would agree. Darwin's book was after all titled *The Origin of Species*, and the origin of life would seem beyond its scope. But this is an example of how scientists can disagree on details while agreeing on the big picture.

How then does one eradicate superstition? Not, as the evidence suggests, by preaching or legislating against it. Awareness campaigns against dangerous superstitions along with better education and scientific outreach may have some impact but will be a slow process.

Today, the topic of "persuasion" is popular in the psychology, social science and marketing communities. Perhaps scientists have something to learn here too. Pascal, whom Nehru cited on reason, wrote on persuasion too. He observed that the first step is to see the matter from the other person's point of view and acknowledge the validity of their perception, and then bring in its limitations. "People are generally better persuaded by the reasons which they have themselves discovered than by those which have come into the mind of others."

Such a strategy may be more successful than the aggressive campaigns of rationalists such as Richard Dawkins. Nevertheless, "harmless" superstitions are likely to remain with humanity forever.

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