

A seesaw of science and pseudoscience

India is drifting rapidly towards a state of ignorance even as it aims for development



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Prime Minister Narendra Modi seems thoroughly modern. But he also appears to be steeped hopelessly in superstition. He promotes the exploration of the moon, orders the most sophisticated fighter jets, launches the first bullet train project, boasts about India being a vaccine ‘powerhouse’ that supplies vaccines to the world – all products of modern science. But he also simultaneously plumps for pseudoscience. He invokes cosmic energy to drive out the SARS-CoV-2 by exhorting the public to beat gongs and blow conches at auspicious hours based on ancient numerology; he does not pull up his Cabinet colleagues when they launch a yoga guru’s concocted COVID-19 medicine, drugs that have no clinical evidence of trials and have been condemned by the Indian Medical Association. Mr. Modi speaks glowingly of India's scientific accomplishments in its mythic past and cites, for example, the elephant head transposed on Lord Ganesha as great strides in plastic surgery, long before the West invented it.

Nobel-winner physicist Richard Feynman coined the term ‘cargo cult science’ to describe all kinds of pseudoscience that passed off for science over the ages – ancient superstitions, black magic, voodoo, witch doctors, astrology, mind reading, ESP (extrasensory perception), expanded consciousness, aphrodisiacs made from rhino horns, and other debatable ideas. He spoke of a ‘Cargo Cult’ of people, the South Sea islanders in the Pacific, who, during the world war, had seen planes landing and delivering cargos. After the war, they wanted to receive similar gifts from the skies. So they prepared landing strips to resemble runways, set up flares on either side, made wood pieces that looked like headphones, stuck bamboo stakes to resemble antennas, and waited for planes to land to deliver the goodies, the cargo. They waited and waited and repeated their exercise by adjusting the sticks and flares but the planes did



People in Gujarat applying cow dung on their bodies believing it will boost their immunity against COVID-19. ■ REUTERS

not land. They were missing something. They did everything right. But there were no planes. They were changing the form but not the substance. “We really ought to look into theories that don’t work, and science that isn’t science,” said Feynman. “Cargo cult science” was his phrase for research that mimicked science. Despite never seeming to yield verifiable results, it garnered public acceptance because it seemed to possess the semblance of rigorous methodology.

A slew of offerings

India has a surfeit of charlatans – godmen and ‘sadhus’ of various hues, dieticians of native foods who have morphed into self-anointed doctors, and quacks who have turned apothecaries and practise various alternative medicines. Traditional practitioners have set up labs on a limited scale for analysing blood sugar and cholesterol levels, and equipment like X-ray machines and ECGs on the lines of western medicine to acquire the veneer of science that gives them credibility. They peddle everything from esoteric diets to cow dung and cow urine, as ‘cure-all’ for all ailments, including the COVID-19 infection, which has ravaged the country. They offer various things to the rising middle class, from Vedic medicines, which promise immunity and boost potency to increase libido, to ‘instant nirvana’.

It can't be denied that home remedies are often beneficial. If one has a bad cold, a concoction of crushed black pepper and turmeric boiled in milk will do wonders. A terrible bloated stomach can be eased by buttermilk garnished with garlic and ginger. Corns in the feet can be man-

aged without surgery by applying fresh lime and wrapping the affected parts in a ripe banana peel.

From home remedies to Ayurveda, there are many cures that work for illnesses. Alternative medicines from other parts of the world, including treatments from medicines used by tribal communities, have been useful and passed down from generations. But their limitations have to be recognised and acknowledged. Modern medicine, an offshoot of science that questioned existing beliefs and practices, discovered the method of experimentation to find out whether medicines worked, and if they did not, it encouraged exploring new ideas. This was the beginning of the scientific age.

Scientific progress has been possible only because the great men of science acknowledged their ignorance and were not afraid to question; each generation added to the fount of knowledge because they left the door to the unknown ajar. However, pseudoscientists are a danger to society because they are cocksure of their belief systems. They are not comfortable with doubts and uncertainties. It is alright to be not sure because certainty shuts all doors to corrections and blocks progress, which can be fatal for a civilisation.

Returning to the subject, one is compelled to wonder whether Mr. Modi is a man of science or pseudoscience. Why is he pushing both at different times and on different occasions? If it is a political strategy with an eye on the electorate to appease the public, both the modern and the rational, the traditional and the superstitious, it has not, going by the recent State elections, yielded the expected results. His mixed messaging,

mystic symbolism and mythic metaphors are incongruous with the image of a leader in a hurry to propel India to a technologically advanced nation alongside the modern developed economies of the world. While Mr. Modi's loyalists – both within the saffron fold and on the fringes – are wreaking havoc and showing India in a bad light as a country of obscurantists lost in ignorance and superstition and going back to the Middle Ages, his administrators and scientists at the helm of policymaking are paralysed by the predominance of regressive orthodox forces and are unable to give impetus to scientific advancements and infrastructural progress to lead India into the comity of developed economies. India, hitherto a rising power, suddenly seems a wandering ship adrift on the seas of pseudoscience amid a huge calamity.

Core values

The Indian civilisation, from its known beginnings, has served as a quest for knowledge for people to explore the deep meaning of life and existence. It is a great adventure of ideas in the history of the human spirit stretching back three thousand years. “Nothing is more sacred to man than his own history ... For us Indians, a study of Upanishads is essential, if we are to preserve our national being and character,” said Indian philosopher and former President S. Radhakrishnan. He added, “There is much in our past that is degrading and deficient but there is also much that is life-giving and elevating. If the past is to serve as an inspiration for the future, we have to study it with discrimination and sympathy ... While the fundamental motives, the governing ideas which constitute the essential spirit of our culture are a part of our very being, they should receive changing expression according to the needs and conditions of our time.”

Mr. Modi must heed the above words. Modern science is not antithetical to Indian thought. The spirit of enquiry, embracing new ideas and evolution through acquiring new knowledge is at the core of our being from the Upanishadic times. Without losing time, Mr. Modi must steer the nation back on to the path of science.

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