

SCIENCE DIPLOMACY

A New Paradigm in the Post-truth world

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IN my science outreach talks, I introduce my mother as a cat; she is like Schrodinger's cat, a famous thought experiment in Physics. The experiment designed by the celebrated eponymous German physicist goes like this: place a cat in a box containing a radioactive substance and close the box; is the cat dead or alive? According to the principles of physics, the cat is in a 'quantum state', half-dead and half-alive. Such is the state of my mother; she, aged 71 years, had undergone nine open-heart surgeries in the past, living on her 3rd cardiac pacemaker, and is a cancer survivor. She is alive today thanks to a 20th century American scientist, Wilson Greatbatch, who invented the cardiac pacemaker. If her pacemaker fails, whom I call a bionic woman is dead. I am also grateful to countless scientists around the globe who have made remarkable strides in biomedical research for her life. In 1800, the mean life expectancy of the world was only 40 years; it is now around 72.6 years, thanks to the remarkable progress our scientists have made over the last two centuries.

It is becoming increasingly clear that the majority of the problems that humanity is facing at present are global and scientific, be it climate change, ecological collapse, nuclear holocaust, overpopulation, poverty, food security and so on. In addition, the world also has the multifaceted problem of Post-truth, the disappearance of shared objective standards for truth. Put plainly, post-truth or alternative facts refer to fake news, conspiracy theories and pseudoscience, which have gained an increased momentum since the turn of the millennium. Such global issues warrant global solutions; we can only strive to fight these rampant issues through international scientific collaborations.

As of today, defence expenditure eats up a significant chunk of national budgets worldwide; no country is an exception. Defence infrastructure, on the other hand, depends upon scientific research and development to a large extent. Some of the defining moments of world history can be traced to advancements in basic sciences, for example, the nuclear bombing of Hiroshima and Nagasaki to research in particle physics. Inversely, through global scientific partnerships and dialogues, one can expect global harmony and a gradual reduction of warheads channelling economic resources to meet the nation's education and health sectors. International scientific partnerships and dialogues are crucial in conflict resolution and our march towards a more peaceful tomorrow.

The use of scientific collaborations and dialogues among nations to address the common problems facing humanity and to build constructive, knowledge-based international partnerships is known as Science Diplomacy. Alternative terms for science diplomacy include 'soft power' and 'smart power.' Over the years, Science Diplomacy has tremendously increased; as of today, the term is not only used to refer to 'actions to advance cross-border interests' but also to 'actions designed to directly advance a country's national needs'. The field of science diplomacy is still fluid and emerging, but its impact is profound and can be felt across all domains of human existence. It is becoming increasingly conspicuous that science plays a decisive role in international conflict resolution and in fostering new coalitions. Three cardinal attributes of science are rationality, universality and transparency; all countries can use these attributes to foster national and international dialogues to find optimal solutions for global challenges.