

Loss of innocence or gain of maturity

According to P. Balaram, the Indian Academy of Sciences lost its innocence in July 2001 (*Curr. Sci.* 2001, **81**, 229–230). For me and my contemporaries (the pre-independence generation), the loss of innocence after independence came at two different times. The first in the late 1940s, when the Hyderabad action and the Goa action were undertaken by the government. The considerations of consolidation of the country and national cohesion took priority over prolonged negotiations. The more devastating loss of innocence was the Chinese action in 1962. The need for realism rather than romanticism (or even idealism) was brought home to the nation. The need for

an army and its use had to be thought about and planned by the country and its people, at least in the present stage of human development. The need to possess a nuclear deterrent is, of course, a far more complex and difficult question, now facing us.

The objection by Balaram is not that one should not go outside the strict confines of science in academy meetings. He, in fact, seems to be arguing for more concern, on the part of scientists, to human consequences of their work. The objection seems to be a moral one. It is argued that even if new physics can be gleaned from these experiments, that was not the purpose of the explosions. Should

the purpose stop us from learning about seismic and geological problems clouding the yield estimates. Any discussion of non-proliferation needs such information. The difficulty in this case seems to arise because of the nuclear question and the ethical dimension always present in the background of any such discussion. After the country has chosen the nuclear option, do we want the scientists involved to feel like scientific untouchables, by not listening even to the scientific aspects of their work?

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An appeal to scientists

Pugwash conferences (COSWA) and the idea of a World Government emerged as the scientists' response to the fear of nuclear holocaust. The 1958 Vienna declaration called upon the scientists to educate the public and political leadership 'to the facts of the atomic age', and rightly noted that, 'The increasing material support which science now enjoys in many countries is mainly due to its importance, direct or indirect to the military strength of the nation and its degree of success in the arms race'. Nationalism was considered an impediment to peace. Bertrand Russell and Albert Einstein in 'An Appeal for the Abolition of War', September 1955 state that 'The abolition of war will demand distasteful limitations of national sovereignty'. They wanted human beings to think of themselves as 'members of a biological species which has had a remarkable history, and whose disappearance none of us can desire'.

We ought to reflect upon the fact that such well-intentioned efforts have failed.

The end of the cold war era has seen the escalation in terrorist activities culminating in the 11 September 2001 attack on the US. Unlike the war between the nations, this changed form of warfare is akin to primitive tribal fights with the difference that terrorists have at their disposal, the most advanced technology and deadly weapons (maybe the weapons of mass destruction too). I think monopolistic/monolithic world order is anti-thesis to world peace, and man is not merely a member of a biological species – mind and conscience, ethics and spirituality are central to human existence. Greed and power (military) are presented as ideals for the advancement by the US, and they are fast getting globalized. It is very unfortunate that scientists/philosophers have institutionalized defence research and commercialization of knowledge. Actively participating in R&D for super-weapons, and working for WMNCs that epitomize greed, pious declarations are of no consequence.

Obviously, the scientific community is also to be blamed for the present turmoil and crisis. Fear, violence and greed are not the only traits of human beings; for a scientist/philosopher truth, beauty and harmony are of prime importance and value. We need to articulate our response based on positive and noble values.

Scientists and science academies/associations must reaffirm that search for truth(s) is the sole goal of science, and consequently individually or at organization level funding/support from military/commercial agencies will not be acceptable as a norm. I also urge the scientific community to include value and philosophy of science and ethics as core components in science education/training.

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