

Einstein, Gandhi, Nehru and Tagore and their invariant principles

Sorkhabi¹ has done excellent service to scientists who are generally not much interested in historical interactions, within or outside science. His most readable note on Einstein and three Indian greats of yesteryears shows all four in great light. I wish to cast them in the form of respective invariant principles; after all, we scientists always look for invariance. The interactions which Sorkhabi has described then seem natural.

All of Einstein's scientific work had an invariant principle behind it: 'The speed of light in empty space is a constant of nature, and cannot be changed'. The invariant principle behind his philosophy was 'objective reality'. His pacifism is co-temporal with Gandhiji's. By the end of World War I and the formation of The League of Nations, Gandhi was yet unknown to the world at large, but Einstein's pacifism had begun. It is not as if one 'learnt' it from the other. As Sorkhabi says, Einstein empathized with Gandhiji, but did not hesitate to criticize, ever so mildly.

Gandhiji's invariant principle was non-violence. Its best representation is depicted

in Attenborough's movie 'Gandhi'. Yet only a thorn in Smuts' side, Gandhi declares in a meeting of Indians (in South Africa) that was beginning to turn out violent proposals of assassinations: 'There is no cause for which I am prepared to kill, not even freedom'. That is what Einstein found natural to empathize with.

Nehru, educated in Harrow and Cambridge that he was, had an automatic sensitivity – later honed by very wide reading – to Western systems, science and education. His invariant principle was 'Democracy and scientific temper at home, and neutrality and peace in international politics'. His contribution, based on it, to international peace during 1947–64 is yet to be recognized fully by Indians, what to say of international analysts. It was, however, natural for Einstein to find in Nehru a free thinker like himself, who, unlike Gandhi and Tagore, also emphasized science.

Tagore's invariant principle was 'Beauty and symmetry in Nature', in which he found spiritual significance. Contrarily, Einstein's 'god' – if one may use this wrong term for Einstein's attitude and thinking, notwith-

standing his much misinterpreted 'God doesn't play dice' – was Spinoza's 'Harmony in Nature' that manifested to human beings without the need of the anthropic principle. Tagore's assumption of science being devoid of human values (expressed in a convocation address of The Indian Institute of Science in the middle nineteen-thirties) could certainly not be acceptable to Einstein. Sorkhabi has done well to record that Einstein had pointed out to Tagore, the futility of dismissing objective reality.

Considering these respective invariant and intertwined principles helps understand the intellectual relationship among Einstein and the three Indian greats.

1. Sorkhabi, R., *Curr. Sci.*, 2005, **88**, 1187–1191.

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Universities and Vice-Chancellors

Universities in India are run by three categories of employees/persons. In the first category is the Vice-Chancellor (VC). Universities with academic leadership of VCs are among the best, doing good service to society, nation and the world at large. There are few universities where the VC is truly academic and immune to politics. The second category is that of Registrars running universities with or without the help of VCs. In such cases, the VC is generally a political appointee and will work under the Registrar. Such universities have no impact on the academic arena and are merely degree-distributing institutions. The third category of persons who run universities are local political leaders, ex-students, and the present leadership of student unions. The number of such institutions is large and they have the patronage of political leaders.

The academic standard in Indian universities/institutions is going down day by day. In almost all the universities the teaching faculty is 50% of the required strength, while administrative posts are filled to more than the needed numbers. If there is not enough teaching faculty, how can we think of teaching and research? The world over, universities are known by their qualified faculty and researches. Particularly, I am worried about the teaching of science in Indian universities; the health of science and technology is not up to the mark. There is erosion of science teaching and research; hence Ph D are not of much value either in pure or applied fields.

The President of India, A. P. J. Abdul Kalam, has rightly said at the NAAC decennial concluding function at Bangalore on 5 November 2004 that, 'In addition, the development of any nation is directly related

to the quality of education, which the higher education system imparts'.

Since VCs are nuclei of both the academic activities, namely teaching and research, they should be careful in selecting faculty. No compromise should be made for any academic post, specially in the appointment of lecturers, since they serve the institutions for a longer period. Transparency in the appointment of administrators/VCs is a must to create a good academic atmosphere for delivering better education, as conceived by Kalam.

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