

Decline of science in India

Almost every issue of this journal carries a letter lamenting the continuous decline in the level of science in our country during the last few decades. The decline is very marked and it 'sends a shiver down the spine.'¹

I think the decline started soon after India became independent. Before independence, the then Government of India did not support research and all work was done on one's own initiative and interest. The country produced Bose, Raman, Ramanujan and Saha, to name a few. After independence the Government took control of education and all scientific activities with a view to support and promote research. This led to political and bureaucratic

control over these fields and the decline started. This case is very similar to what happened in the USSR when Lysenko became the science advisor to the leaders (Stalin and Khrushchev). Agriculture and life sciences declined so rapidly that even now it is considerably behind other nations in the fields of molecular biology and genetic engineering.

It is now time for scientists to analyse the reasons for the decline of physics in the country and suggest steps to revitalize research.

The first essential step that comes to mind for the advancement of the country is to devote the next two five-year plans essentially to the education of our school

children. The other step should be to completely free education and scientific research from political and bureaucratic control. Unless we take such and other hard and difficult steps, the dream of our Revered President of a developed India will only remain a dream.

1. Virk, H. S., *Curr. Sci.*, 2004, **87**, 7.

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Gero (geronto) phobia and Indian science

During the past few years, many have expressed their concern about the declining quality of Indian science. There were some counter arguments to this concern and in any case, the general agreement appears to be the conclusion that the quality of Indian science is far below that in developed countries. The scientific community and science managers of the country have become conscious of this fact and presumably some thinking, apart from the rhetorics, is going on in this connection.

Development of good science and technology cannot perhaps take place in a matter of 50 years in a large and diverse country like India. To begin with, the country should have developed a science culture at the society level and scientific temper at the individual level, which of course, takes time and some serious planning. This will eventually result in good scientific practice and subsequently in discoveries that will make living comfortable and place the country ahead.

Over the years, as I grew to be older while practising science research in my humble way, I found an astonishingly prevalent phenomenon, which I like to describe as 'Gerophobia' to denote an indifferent and repudiating disposition characterized by visible apathy towards elderly

people who retired from their jobs. This was puzzling. For one thing, this is just the opposite of what Indian culture and ethos lay so much emphasis on, 'respect the elderly'. Chronological age seems to elicit different influences in different professions in our country. In politics, age seems to have a positive effect. It is also intriguing that some elderly, influential scientists, who have left laboratory science decades ago (science managers), are vested with responsibility of shaping the destiny of science research in the country. For this activity, there appears to be no age bar. On the other hand, a working scientist willing to continue active research even after retirement is generally faced with several impediments.

One simple inexpensive way of establishing a tradition (*parampara*) in the practice of science in a country like ours is to allow and, if necessary, create opportunities for retired, but willing scientists to continue their research and teaching activities. It is my feeling that the number of such scientists with a good track record, who are healthy, active, and capable of attracting funds for their research, is unlikely to be large. The only thing that these people would need is a proper climate devoid of subtle exhibition of gerophobia. In fact, the institutions can

draw their pound of flesh from these elderly, eminent scientists in terms of lectures and guidance to youngsters in more than one way, thus establishing the science *parampara* in the country. Indeed, a society that has the benefit of the wise counsel of its elderly, will be a rich society and this kind of healthy interaction is likely to yield great dividends in scientific research. The more one polishes, the greater is the brilliance of the shine. On the part of the retired scientists, it is to be expected that they mind their business with utmost commitment to promote the advancement of science, but do not show undue interest in the administrative and management aspects of the institution they are working in. On the part of the younger colleagues, it should be a welcome situation to have the support and accrued expertise and wisdom for the asking and to qualify themselves for occupying the other chair in the years to come – the *parampara*.

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