

Health of Indian science

During the last decade, a debate has been carried out in the correspondence columns of *Current Science* regarding the health of Indian science. Scientometric studies of scientific research in India¹⁻³ present a gloomy picture. The maladies of Indian science and some suggested remedies have been highlighted by Virk⁴ and Dhathathreyan⁵. Dadhich⁶ has made some bold suggestions to improve scientific research in Indian universities. But the commentary of Prathap⁷ on the slowing down of Indian science is most convincing and it demolishes some of the myths created by government-sponsored agencies⁸ regarding the quantity and quality of Indian scientific research. I fully agree with his analysis and feel that we

are heading towards a crisis situation. It is alarming to note that Indian research suffered a setback after the 1980s both quantitatively and qualitatively and this slide down still continues unabated. Two main conclusions are noteworthy: (i) We need to increase our scientific effort 50-fold by opening more research institutes, and (ii) One should be encouraged for open-ended research at all levels to improve the health of Indian science. I believe this slowing down of Indian science cannot be reversed, so long as globalization and market forces dominate the Indian economy.

1. Arunachalam, S., *Curr. Sci.*, 1998, **74**, 397–402.

2. Arunachalam, S., *Curr. Sci.*, 2002, **85**, 1391–1392.
3. Virk, H. S., *Curr. Sci.*, 2000, **78**, 1280–1281.
4. Virk, H. S., *Curr. Sci.*, 1998, **74**, 817–818.
5. Dhathathreyan, A., *Curr. Sci.*, 2003, **85**, 1513–1514.
6. Dadhich, N., *Curr. Sci.*, 2003, **85**, 1511.
7. Prathap, G., *Curr. Sci.*, 2004, **86**, 768–769.
8. Basu, A., *et al.*, NISTADS Report, New Delhi, 2000.

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The concept of *ātman*

With reference to the views expressed by Narasimhan¹ and Chattopadhyaya², I wish to add the following remarks. The concept of *ātman* arose from the observation that something seems to escape from a living body at the time of its death. It was called *caitanya*, the living principle. The Indian atheist school of *cārvāka* philosophy rightly pointed out that *caitanya* is an emergent attribute and not a substance. Giving a familiar example, they argued that sugar and yeast separately have no inebriating property which arises from their combination. Similarly, *caitanya* arises due to a specific association of material substances. Attributes have no independent existence. Many

philosophers, however, made a categorical mistake in holding that *caitanya* is a *dravya* (substance) and not an attribute. The living principle was termed *ātman* or *dehī*. Elaborating the concept, it was stated that *ātman* cannot be cut, burnt, soaked or dried. Further, it was claimed that *ātman* transmigrates from one body into another during the cycle of rebirths, just as one leaves aside old clothes and wears new ones.

A similar mistake engendered the idea of phlogiston. Something seemed to escape from burning substances and it was called phlogiston. However, the erroneous idea was abandoned by scientists when the real process of combustion was elu-

cidated. Vitalist philosophers, on the contrary, have continued to cling on to an old idea which now stands rejected.

1. Narasimhan, N. S., *Curr. Sci.*, 2003, **85**, 1115–1116.
2. Chattopadhyaya, M. K., *Curr. Sci.*, 2004, **86**, 626.

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Milk production in India

India is a country of villages. Almost 70% of Indians live in villages and a majority of them are engaged in agricultural and allied activities. The Green Revolution in the early 70s is a milestone in the history

of Indian agriculture, due to which India could produce surplus foodgrains. Punjab, Haryana, Uttar Pradesh and Rajasthan have greatly benefitted by the Green Revolution. Dairying, one of the expand-

ing branches came out of the Green Revolution. It is an agro-based industry, expanding fastest throughout the world. A decade ago only 5% of the milk produce came into the dairies, whereas today