the advanced countries of the West and India in science and technology is increasing rapidly, and the visibility of Indian science is rather low in the global market. He lamented, 'How did we fail to motivate the young and attract them to research and how did we fail to persuade industry to support science'?

In the same meeting[3], C. K. N. Patel, Vice Chancellor of Research University of California, Los Angeles vehemently criticized poor quality of Indian scientific research. He once recommended closing down of Indian national laboratories to the Prime Minister of India as they had out-lived their usefulness.

P. Rama Rao in his Presidential Address[4] to the Indian Science Congress at Hyderabad has outlined in greater detail the growth of S&T institutions in India during the British rule and after independence. It is by far the best documented Address presented at any session of the Indian Science Congress, which I have attended since 1975. Rao is also worried about the health of science in Indian Universities. He remarked, 'It is heart-rending to hear about the inexorable decline in research standards in several universities in our country. Rejuvenation of the Indian universities, their capability and vitality is a paramount and urgent need.'

S. Arunachalam *et al.*[5] have done an excellent job in mapping scientific research in India in their recent article published in *Current Science*. Their analysis based on CD-ROM version of *SCI* brings out clearly the declining trend of publications by Indian scientists at the global level. There has been a slide down for India from 8th position to 12th position among the top 20 nations of the world. India is left behind Italy, The Netherlands, Australia and Spain in the quality and number of publications. The Indian journals, too, are losing their position in *SCI* rating based on impact factor.

So, the health of Indian science should worry our scientific planners genuinely when we are celebrating the golden jubilee of our independence. Can we inject some dose of inspiration and vitality which may rejuvenate Indian science at the threshold of 21st century? Following the Russian launch of the Sputnik, the American science curriculum was revolutionized at all stages from school level up to the university stage. A similar exercise is called for to resuscitate Indian scientific research.

To overhaul the entire system, I offer some suggestions:

(i) Creation of 'Centres of excellence' in some of Indian universities at par with TIFR and IISc.

(ii) Linkage of Universities with National Research Laboratories for liberal exchange of equipment/scientific manpower/infrastructural facilities, etc.

(iii) Creation of more Inter-University Centres of research. Nuclear Science Centre at New Delhi is one such example.

(iv) Identification of universities and colleges which can award Ph D degrees in science through a National Commission.

(v) Identification of priority areas of research and putting a ban on wasteful expenditure being incurred on aimless/third rate research being carried out in Universities/National laboratories.

(vi) Creating parallel positions for researchers in the teaching departments with free option to carry on teaching and/or research duties.

(vii) Liberal travel grants to carry out experiments at international centres of research where necessary facilities are available. CERN in Geneva is one such centre where Indian physicists have participated.

(viii) Reorientation of theory and laboratory courses at all levels, making B Sc as the terminal degree for entry into research stream.

(ix) Reorientation of M Sc programme for producing a cadre of science teachers and researchers as being done in Hungary and some other European countries.

(x) Abolition of rigid bureaucratic control, democratization of university governing bodies but at the same time introducing self-appraisal reports and peer review to make accountability a watch-word for science teachers and researchers.

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H. S. VIRK

Department of Physics,
Guru Nanak Dev University,
Amritsar 143 005, India.

Shall we close our ranks?

S. Arunachalam *et al.* (*Curr. Sci.*, 1998, **74**, 433–441) clearly bring out the truth that over the years, the number of Indian journals included in *Science Citation Index* (*SCI*) has dropped considerably. One of the reasons could be the lack of regularity in publication. In my own discipline of physiology, there are four societies (Association of Physiologists and Pharmacologists of India, Physiological Society of India, Society of Animal Physiologists of India and the Indian Association of Biomedical Scientists) each with its own publication. No wonder that none of these journals figures in the list of journals indexed by *SCI*. While each society can hold its annual meeting and bring out the proceedings in the form of a booklet, will it be possible to merge their journals into a single publication ensuring quality and regularity? Or better still, pooling their resources, opt for a separate physiology section in an indexed journal like *Current Science*. This will certainly go a long way in obtaining better exposure for publications in physiology from India.

J. PRAKASA RAO

Department of Physiology,
Christian Medical College,
Vellore 632 002, India