

of our scientists are not doing research relevant to the society at large. For most of our children (and also lay-people) scientists are a breed long extinct and evoke the memories of Newton or Einstein. Our scientists need to do research useful in solving the problems faced by the society. An awareness needs to be created among children that 'scientific research' is also a creative profession useful to the society.

It is necessary that we nurture scientific temperament in children. Parents, in general, do not encourage experimentation or exploration, which they consider as dangerous tendencies. When children conform to the established norms, do rote reading and score good marks, parents feel happy and successful in their roles. The catch phrase is 'curiosity killed the cat'. But this curiosity is the very basis of all discoveries and inventions. How many parents kill the curiosity of their children to save cats. We need to encourage our children to be curious (of course, in non-destructive ways), to have more scientists in future.

Students finishing their 10th standard with good marks continue their +2 in science stream. This is not due to aptitude in science alone; there are parental and societal compulsions. After +2 those scoring very good marks opt for professional courses like medicine and engineering. The second best continue undergraduate studies in science. On graduation many opt for civil services and other competitive examinations. Many students also pursue management studies (MBA). The rest continue for M Sc. After M Sc many bright students go abroad for doing Ph.D. Among those who pursue doctoral research in India, many who work on good topics, in better institutions, under well-established, well-known and well-connected guides leave the country for better places, most often to developed countries. This migration is not for monetary benefits only. People failing to get even an assistantship here have made it big elsewhere. The residue of this repeated desertion (selection?) constitute the majority (but surely not all) of our scientific manpower.

Brain-drain is held responsible for the low quality and quantity of research in India. May be it is true to some extent. But the question is: Are we able to provide a conducive atmosphere for doing 'good science' to the draining brains? As

long as we are unable to do that, why cry about them? Many of those brought back from abroad with much fanfare are disillusioned and frustrated. Some of the 'super brains' who come back are mediocre persons, who just managed to go abroad. Often we fail to identify local talents. For want of methods to assess the real worth of a person, we accept a 'foreign-returned' stamp as sure evidence of 'greatness'.

It is often stated (quite boastfully at times) that India is the third largest scientific manpower in the world (hope we are not trying to improve our position!). Having a large scientific manpower means huge expenditure in salaries and perks. By spending much what are we getting in return? Is it a matter of pride to have one of the largest scientific manpowers? We are the second largest population in the world and we are not proud of that. On the contrary, we are trying to control population growth by all means. What is not known is where we stand in terms of scientific output. Are we 3rd or 30th? A country which is at the nth position in the size of scientific manpower and also at least at the nth position in terms of its scientific output has a reason to be proud of.

Drastic reduction in government funding has created much despair and anguish. Government attitude is variously described as 'benign indifference' and 'benign neglect'. The previous governments were as much at fault in keeping science dependent on government funding as the present one is in drastically cutting the assistance. Self-reliance and self-sufficiency can be achieved only gradually (over a decade or more). If only the mistake is realized and corrected, our scientific institutions, painstakingly built over a long period, have a chance for revival and survival.

The stopping (reducing?) of recruitments and the promotion policies have made our research institutions 'top-heavy'. The situation is that there are many senior scientists, but there are very few at junior levels (JLAs, SLAs, JSAs, etc.), resulting in scarcity of people who work in laboratories and in fields. Senior scientists interested in working feel as if their hands are tied. Those who consider a job in a research institution as a long, well-paid holiday have an excuse for their 'non-delivery' of goods.

Majority of our people struggle for food, clothes and shelter. Do we need to do research on ways and means to solve their problems or send a rocket to the outer space? In and around our major cities there are huge slums in which people migrating from villages live under subhuman conditions. These people are forced to leave homes, and near and dear ones for want of gainful employment in their native villages. They are happy in their villages if they get less than half of what they earn by doing odd jobs in cities. Our scientists need to develop technologies (i) for village industries using locally available raw materials (resources), (ii) for feeding these people, for providing them low-cost clothing and housing, and (iii) for remedying their diseases and containing the ever-increasing population, on priority.

Without correcting these basic flaws, there is no way science can progress (and prosper) in India. Establishing a National Science University needs to be considered seriously. But these underlying anomalies need to be corrected first.

Mrs S. JOHN

*Shibu Nivas, Sagar Park
S. No. 46/9, Nagar Road
Pune 411 014, India*

On Current Science

Not so current

I am reading *Current Science* regularly and find that most of the pages in the journal is devoted to history of Science and Scientists which I think is not all that relevant to the present day science. Another type of articles where too many pages are devoted is on history of 'Academies'. Thus, there is, very little in print on science currently done in *Current Science* as one reads in the journals *Science* or *Nature*. In fact, these general articles on history of science, scientists and academies are no better than those popular articles appearing in *The Hindu*, Wednesday, Science and Technology issues. I am sure that the readers like me would like to see current