

Restore the status of earth science

Palaeontology, the science of fossils, is a prerequisite for explaining the evolution theory. It explains the cause of extinction and appearance of species. Sharma¹ is emotionally concerned with the poor state of the discipline and has glorified its potential. Remedial measures were advocated by Kapoor and Maheshwari². It is a natural phenomenon and reflects the sensitivity of scientists. Causes for the poor state of palaeontology include poor leadership, government apathy in monitoring, repetitive research, lack of reading habit and exclusion of experienced personnel in planning. It holds good for all disciplines. But they fail to appreciate the genesis of the problem. Geology includes the study of rocks, minerals, fossils, groundwater, volcanism and earthquake. It is taught in more than 50 universities at the Master's level. In almost all departments, the number of faculty exceeds that of the pupils. In some places, less than five students are enrolled. This neglect of geology has caused a decay of its offshoots like palaeontology.

Mineral wealth determines the economic status of a nation. Geological components are also basic and fundamental in developmental activities, viz. in town planning, selection of waste disposal

sites, crop management, forestry, environmental appraisal, groundwater resource, construction of roads and tunnels, and major projects like dams, power plants, etc. Landslide and earthquake studies are impossible without geological maps. Unfortunately in India, geology was always accorded shabby treatment by sister disciplines and by the government also. Barthwal³ had explained the pathetic state of geology in India and pointed out the exclusion of geoscientists in the 38-member committee to formulate the National Science Policy. Fossils, rocks and minerals are integral constituents of any museum of natural history, where they are displayed prominently. Accordingly, curators of such museums should have a Master's degree in geology. More than twenty such museums exist in India. But none of the curators is a geologist. It reflects the general apathy towards earth science by the scientific community at large. Similarly, the role of geology is of paramount importance in the emerging field of environmental science. But it is seldom incorporated in its syllabus. It is high time that exponents of geology, naturalists, planners and leaders with missionary zeal and enthusiasm come forward and save the discipline from

extinction. There is need to include geology in the school curriculum. In USA, earth science is a popular subject and is at par with other science subjects like biology, physics and chemistry. Members of the public are ignorant about basic facts regarding the origin of the earth, its interior, evolution of life, rocks, meteorites, and fossils, found in India or elsewhere. Public awareness and opinion may be mobilized by organizing programmes like 'Earth Science Week', seminars and exhibitions. Further, keeping in pace with the need of the hour, drastic measures are solicited to revamp the syllabus at the undergraduate and Master's levels.

1. Sharma, Mukund, *Curr. Sci.*, 2002, **82**, 913–917.
2. Kapoor, H. M. and Maheshwari, H. K., *ibid*, 2002, **83**, 930–931.
3. Barthwal, Brijesh, *ibid*, 2000, **78**, 1408.

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Standard of doctorate degrees in the faculty of science

I tend to agree with almost all the suggestions on the topic expressed by Gupta (*Curr. Sci.*, 2002, **83**, 927–928).

Worried at the deteriorating standard of doctorate degrees awarded by the universities, I have been trying to draw the attention of successive Chairpersons of the UGC (a body statutorily responsible for the maintenance of standards of higher education and research) to take effective steps at least in this direction.

With the increasing number of journals in all the fields of science, it should not at all be difficult to get at least part of the work submitted for doctorate degree published in refereed journals. In fact, it should be made obligatory for a candidate to produce copies of his published research papers (or at least acceptance let-

ters) at the time of his final viva-voce examinations and this fact should be mentioned in the report of the viva-test. Such steps would also be a positive step in the query: 'Has Indian science slowed down?', initiated by Arunachalam (*Curr. Sci.*, 2002, **83**, 107–108) with a befitting commentary by G. Padmanaban (*Curr. Sci.*, 2002, **83**, 1055).

Regarding the viva-voce test, the UGC in 1998 did circulate (at my suggestion) a communication to all the universities that viva test must be open to at least faculty members. Although most of the universities have already adopted this practice, there are a few (including some prominent) institutions, where the viva of the candidate is conducted by the supervisor and one of the examiners only.

For maintenance of the standard of doctorate degrees, the successful candidates could be provided the names of their examiners with essentials of the recommendation(s) of the external examiners including suggestions for improvement/revision, etc. as well as the appointment of another examiner in case any of the original examiners had returned the thesis with or without comments. This should be made available by the candidate to the selection committee for a teaching post. Transparency in the evaluation process of doctorate degrees should be conducive for maintenance of hopefully higher standard(s).

The Sen Committee in 1974 had made the Ph D degree obligatory for selection of a candidate to the teaching post at the

higher education level. In view of the general experience that the more brilliant students were eager to get into the All India Services (with higher grades and more attractive perquisites), only the mediocres slogged in research pursuit for a few years to qualify for a teaching position.

In view of the implementation of the parity of at least the basic salary struc-

ture of university teachers with class I officers, the Mehrotra Committee emphasized in 1986 that uniform brilliant academic record should be the essential qualification for entry to the teaching profession, although such candidates with research qualifications also were to be provided with additional increments in their basic salary. Repeated announcements, such as the current one of exclud-

ing the candidates who submit their theses before December 2002, from the NET examination, have also tended to lower the standard of doctorate degrees.

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