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Status of the academia

The debate of the Indian Institutes of Management (IIMs) with the HRD Ministry has brought to the fore the need for a careful review of the autonomy that educational institutions of higher learning should enjoy without any bureaucratic interference. While the debate has largely centred around only the IIMs, it may be noted that many other premier scientific institutions employing men and women of international eminence and repute are also having to deal with increased interference from the Government in recent years. The argument that there will be interference because the Government is also the funding agency is a vacuous one and one that assumes that the bureaucrats can somehow manage Indian science better than the scientists themselves can.

I would like to cite a few cases in point from my experience at the Institute of Mathematical Sciences, Chennai. For quite some time it is required that all the academic institutions obtain Government permission for inviting foreign participants to any conference or meeting conducted by them. Of late the interference has increased.

So also, the appointment of Directors of the aided institutes, which used to be through the boards of the institutes, now requires the approval of the Central Cabinet Committee. In addition, scientists working in aided institutes are expected to routinely obtain permission from various ministries before inviting a foreign scientist for a visit to their institute, even though the aided academic institute has nothing to do with the department through which it is getting aid.

Now we are facing an additional encroachment in our autonomy of academic activities. We are expected to obtain permission from the department through which we are funded if we wish to conduct an international conference where the expenditure exceeds Rs 2 lakhs; what is more, if the expenditure exceeds Rs 10 lakhs, we need to get permission from the Finance Ministry/Central Cabinet! There are no rational reasons behind such requirements.

Secondly, when the country is faced with serious economic and developmental issues that need urgent attention of the Central Cabinet, how much time can it devote to carefully studying the suitability of a scientific conference? It seems to me that the day is not far off when we will be asked to seek permission to publish the next theorem we prove!

I think it is time that the academic community in this country articulates the kind of ‘controls’ it is willing to accept. The best interests of the country will be served if there is a more intelligent approach to these issues, especially when one is dealing with some of the best minds that India has produced.

It is common knowledge that every society invests a part of its funds for strengthening its future. When Pandit Nehru set up institutions like the Department of Atomic Energy, it was with the vision that one day they will make the country self-sufficient in energy. When the Green Revolution was initiated, it was to attain food security. In the same vein, the academic institutions of higher learning were set up not to lose out on the developments in the area of intellectual achievements that, in the future, ensure unforeseen benefits to society as a whole. Today the academic institutions of higher learning in India stand tall in the world community and perhaps the time has come for them to be totally free.

It is to be remembered that in any country, the group of academics and scientists doing fundamental research and implementing the consequent technologies, or developing world-class teaching institutions, irrespective of the discipline they are involved in, are the guardians of the future growth of the country. Their efforts do pay rich dividends for the country’s prospects in the long term.

Somehow it seems that a lopsided value system is being set up in the country as a whole, where bureaucracy seems to be valued more than science.

A constitutional status will ensure the rightful place for the scientists and academics employed in all aided institutions of higher learning. This measure may also protect the cause of science and education from the whims and fancies of Governments acting on non-academic compulsions.

It was heartening to read, a few weeks ago, the statement of the Honorable Minister for Science and Technology that he would like to eliminate the stranglehold of bureaucracy on scientific institutions.

Let all aided institutes be freed from the clutches of bureaucracy and let them take their own decisions regarding all academic and administrative matters.

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A rational approach to study ancient literature

It was interesting to read about Hertzstark’s hand-held mechanical calculator, which converted subtraction into addition”. But I would like to comment on the ‘Vedic mathematics’ referred to in the note. Bharati Krishna Tirtha is a good mathematician, but the term ‘Vedic mathematics’ coined by him is mislead-
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Vedic astrology is another term which fascinates people and captures their imagination about its ancient origin. Actually, there is no mention of horoscope and planetary influence in Vedic literature. It only talks of Tithis and Nakshatras as astronomical entities useful for devising a calendar controlled by a series of sacrifices. Astrology of planets originated in Babylon, where astronomers made regular observations of planets, but could not understand their complicated motions. Astrology spread from there to Greece and Europe in the west and to India in the east. There is nothing Vedic about it.

It appears that some Indian intellectuals would use the word Vedic as a brand name to sell their ideas to the public. It is imperative that scientists should study ancient literature from a rational point of view, consistent with the then contemporary knowledge.


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Shanghai rankings and Indian universities

The editorial ‘The Shanghai Rankings’ is a shocking revelation about the fate of higher education and a slide down of scientific research in India. None of the reputed ‘5 star’ Indian universities qualifies to find a slot among the top 500 at the global level. IISc Bangalore and IITs at Delhi and Kharagpur provide some redeeming feature and put India on the score board with a rank between 250 and 500.

Some of the interesting features of the Shanghai rankings are noteworthy: (i) Among the top 99 in the world, we have universities from USA (58), Europe (29), Canada (4), Japan (5), Australia (2) and Israel (1). (ii) On the Asia-Pacific list of top 90, we have maximum number of universities from Japan (35), followed by China (18) including Taiwan (5) and Hongkong (5), Australia (13), South Korea (8), Israel (6), India (3), New Zealand (3), Singapore (2) and Turkey (2). (iii) Indian universities lag behind even small Asian countries, viz. South Korea, Israel, Taiwan and Hongkong, in ranking.

I agree with the remark, ‘Sadly, the real universities in India are limping, with the faculty disinterested in research outnumbering those with an academic bent of mind’.

The malaise is deep rooted and needs a complete overhaul of the Indian education system.


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Water storage in *Terminalia tomentosa*

*Terminalia tomentosa*, a member of the Combretaceae family, is a large tree found in deciduous forests. As the tree stands bare during winter (November to February), it can only be identified by its scissored and cracked bark and for this reason is sometimes known as crocodile bark tree.

Two forest watchers at Bandipur National Park had informed me about the tree’s remarkable ability to store water in the stem. Some members of this species develop a lateral ridge (called ‘wing’, sometimes two on the opposite sides) 2–3 feet long and half a foot thick on the stem, 5–10 feet above ground. The wing is an indication for the presence of water in the stem.

Large amounts of water (at least 4 to 6 l) can be collected by making a small hole in the tip of the lateral ridge with the help of a sickle (see Figure 1 a and b). I believe that the water stored in *T. tomentosa* is not from rains as there are no cracks in the stem.

Although slightly off-flavoured and orange-yellowish in colour (may be due to dissolved phytochemicals), the water