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EDITORIAL

The Mirage of World Class Institutions

The Indian Institutes of Technology (IITs) are, in many ways, the flagship of the higher education system in India. In the fifty years or so since their inception, they have established a worldwide reputation for the quality of their students. While the focus has always been on a high standard of undergraduate education in engineering, post-graduate teaching and research in science and engineering have also contributed, in some measure, to the image of these institutions. Over the years, the pressure to enter the IITs has made the Joint Entrance Examination (JEE), a benchmark for procedures that select students, in limited numbers, from a very large pool of aspirants. The lustre of the JEE has dimmed in recent years as 'coaching' has become a lucrative profession. Many successful and highly ranked entrants to the IITs perform indifferently in their courses of study. Murmurs of students who are already burnt out by years of preparation are also heard, at times, in the corridors of these institutions. The public image of the IITs, built over the last few decades, has rested greatly on the performance of its alumni, many of whom have had stellar careers in diverse professions across the world. Many among the generations of students, who graduated from the IITs since the 1960s will look back fondly (and undoubtedly, with gratitude) on their IIT days and remember teachers, who enthused and inspired them. In recent years, the IITs have grown in number and their 'brand equity', a favourite phrase of some of IITs most successful alumni, is in danger of being diluted. Nevertheless, the now mature and middle aged, 'original IITs' remain amongst the most sought after destinations for students in India. As an alumnus of the IITs, albeit in science and not engineering, a long time observer of the Indian academic scene and as one who has spent (or possibly misspent) an entire career in one of India's oldest institutions, a forerunner of the IITs, I read with some surprise the intemperate remarks attributed to the Minister for Environment and Forests. Speaking on the sidelines of an event, where he announced government's intention to partner with one of India's largest corporate conglomerates, Reliance, to set up a research centre focusing on marine diversity, Jairam Ramesh pronounced judgement on the IITs. He dismissed the faculty of the IITs as being mediocre in their research and argued that the reputations of the institutions rested solely on the quality of students, whom he declared as

'world class'. The immediate provocation, for delivering this dismissive assessment of our flagship institutions, appears to have been a question posed by an intrusive reporter, who asked why the ministry had not sought a public institution as a partner for the proposed research initiative. Dismissing all research in public institutions as ineffective and irrelevant may have been intended to justify government's new found love for public-private partnerships, in the arena of research. What went unnoticed in the media storm that followed the Minister's public criticism of the IIT faculty, is the absence of any assessment of the commitment to research by private industry, even after a decade in which they have profited hugely by the many concessions extended by government.

The Minister's, characteristically provocative, remarks appeared just as I prepared to participate in the annual convocation of IIT Kanpur. As an alumnus, I was especially proud to be going back, memories rekindled after over four decades. I had entered the IIT, largely unfocused, vaguely contemplating careers in journalism or the civil services. Two years later I left, seduced by science. How do students transform, mature and grow in academic institutions? They do so, undoubtedly, influenced by their peers and their teachers. Much has changed since then. But, has it really changed so much? Are today's faculty less accomplished, less committed and less capable than those who served the IITs in their youthful years? Or is it that the ambience has changed; the aspirations of both students and faculty have transformed over the years and the expectations of the outside world have dramatically increased? It is these questions that bothered me on the long journey to Kanpur. But, more was to come. A few days later on the sidelines of another function to promote science in Bangalore, C. N. R. Rao (see *Curr. Sci.*, 2011, **100**, 1466), an enormously accomplished scientist and a former member of the faculty of the IITs dismissed the IITs and, for good measure, the Indian Institute of Science (IISc) as mediocre research institutions, far from being 'world class'. These independent and magisterial pronouncements by widely disparate commentators does raise serious questions. Are our leading research and educational centres in science and engineering as poor as they are made out to be, by Ramesh and Rao? Is the yardstick of 'world class' well understood (or possibly,

mis-understood) by politicians, policy makers and sometimes, scientists themselves? Have our best institutions deteriorated from a once-held position of strength? Are increased resources and a dramatic improvement in 'governance' the key to the transformation of institutions into 'world class' academic centres?

Coincidentally, even as the debate on our institutions was sparked in the public domain, the report of the Kakodkar Committee, set up by the Ministry of Human Resource Development (MHRD) to 'recommend autonomy measures to facilitate IITs scaling greater heights' was released. The report entitled 'Taking IITs to excellence and greater relevance' is a large document of over 250 pages. Chapter 5 of the Kakodkar report begins with the terse statement: 'World-class institutions require world-class faculty members.' Clearly, the transformation, from institutions with the primary mandate of imparting high quality undergraduate engineering education into 'research universities', places significantly higher demands on faculty research output. The debate on the quality and quantity of research in the best of our institutions has been fuelled in recent years by world rankings of universities, in which Indian institutes do not appear in the top 100. While a few make an entry in the top 500, there is a considerable desire to move up the scale. While the term 'world-class' has not been defined in quantitative terms, by many commentators, I suspect the magical figure of 100 is probably uppermost in the minds of many. Curiously, MHRD uses the term in somewhat cavalier fashion, probably borrowing it from the many reports and documents which project visions for the future. Pronouncements are frequently made on the intention of establishing dozens of 'world-class' universities. Another widely misused word, 'innovation', is also a favourite. National 'innovation universities' are on the anvil, even as our existing institutions (or at least those who govern them) wilt under the weight of criticism from politicians and policy makers. Unfortunately, many discussions centering around the problem of raising our institutions to 'world-class' status are carried out with little or no understanding of the procedures used for generating the world rankings. In attempting to chart a course to take the 'IITs to excellence and greater relevance' the Kakodkar committee made a brief visit to China. Their observations, at least in part, merit reproduction: 'Universities enjoy institutional autonomy under Central government guidance. There is a system of comprehensive performance assessment of the faculty, which is done annually. Faculty compensation may vary by as much as a factor of 10 depending on the performance measured on the basis of teaching, research output, technology, resources brought in, IPR generated, linkage with industry/local government, etc.' As I read this, I could not but help succumb to a feeling of despair, that even the most well intentioned efforts at review and reform can be derailed by the affliction of the China syndrome. Kakodkar and his colleagues

must undoubtedly be aware of the difference between India and China in their systems of governance and the fact that the words 'autonomy' and 'guidance' may have distinctly different meanings in the two countries. The tendency of committees to embark on 'fact finding missions' overseas is certainly one that leaves me distinctly uneasy (although, I must confess that my view may be prejudiced). The most recent IIT review adds little to the 2004 Rama Rao report and its projections for expansion seem to have little relation to the task of raising the IITs (or indeed any of our institutions) to 'world-class' status.

In a recent column, P. V. Indiresan (a former Director of an IIT) agrees in part with Ramesh: '... the IITs are not world-class research institutions. However, he is not correct in asserting that the students are world-class. The JEE has become so trainable that it puts out more muggots than brilliant minds.' Indiresan notes that the Minister's statement is a 'half-truth'. He goes on to quote Mahatma Gandhi: 'a half-truth is worse than a lie; therefore, I call it a lie and a half' (*Business Line*, 4 June 2011). Jairam Ramesh, C. N. R. Rao and P. V. Indiresan, three commentators as disparate as can be, appear to have reached a conclusion that reflects an uncomfortable reality. Our best institutions must indeed improve their academic performance dramatically, to become internationally competitive in research. It must also be realized that our institutions are embedded in an environment that can be severely constraining to any reform process. An understanding of institutional histories and the process of evolution may prove necessary in any informed debate. It would be foolish to imagine that Cambridge, with a history of 800 years, or Harvard with 375 years of experience can be matched by mere public pronouncements of intent. An understanding of historical legacies and shackling constraints must precede any discussion of a sweeping reform process. Institutions also need to introspect, conduct internal reviews and define both short-term and medium-term goals. Visions of a distant future are best left to government appointed committees. Learning from others can also be done by reading and reflection. In a recent editorial, Bruce Alberts writing about 'The New Egypt' notes: 'There are lessons to be learned from the mistakes made by other nations. For example, years ago I was shocked by the remarks made by a scientific leader in India who, when asked about the major problem in his large research institute told me that it was "getting people to work". ...I discovered that in India's government institutions, life tenure in one's position is normally granted after 1 year of work' (*Science*, 2011, **332**, 513). While 'accountability' is a popular word it is rarely used in an academic context. Institutional reform must begin within organizations, with the bar on academic performance being raised considerably; otherwise 'world-class' institutions will be a mirage, which will continually beckon us.

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