Planning and serendipity in science

Planning for the future is a very respectable and essential activity. A recent visit to the Planning Commission, which is housed in a typically forbidding government building in Delhi, turned my thoughts to the role of planning in scientific activity. Meetings are often conducive to letting the mind wander, free and unfettered, sometimes to pose questions which have no simple answers. What has half a century of centralized planning achieved in a complex and populous country like India? How many of our past ‘visions’, documented in the turgid prose of government committees, have been realized? What indeed, is the prognosis for the many visions of the future that we are now documenting? Is ‘centralized planning’ a critical activity in all sectors of the liberalized economy? But, these are general questions, which presumably deserve attention in another forum. Of somewhat greater concern to an audience of scientists would be the issue of ‘planning for science’ and the virtues of ‘planning in science’. As an aside, it is worth recalling that scientists of note were associated with the centralized planning process in the early years of the Planning Commission. While, P. C. Mahalanobis is the recognized architect of organized planning for development, another strong votary was Meghnad Saha. Indeed, the story of Saha persuading M. Visvesvaraya not to accept the chairmanship of the original planning body, so that its power could be enhanced by having Jawaharlal Nehru at the helm, is recounted in the biography of C. V. Raman by G. Venkataraman (Journey Into Light, Indian Academy of Sciences, 1988, p. 517). But Venkataraman also quotes the feelings of Nehru himself, as the Planning Commission grew in size and bureaucratic complexity: “When we first started it, I definitely thought it should not function as a part of the Government. But now it is just like any other part of Government... the same hierarchy of Secretaries, Under-Secretaries and what not—it is frightening. What was thought of as a close body of people, who think and advise Government has now grown into a huge organization, with all the Departments of Government almost duplicated there and each one sending papers to the other, which is the normal habit of Government.” (Journey Into Light, 1988, pp. 463–464). Today the Planning Commis-
of serendipitous (or pseudo-serendipitous) discovery. But, he strongly emphasizes that many of the principal beneficiaries of serendipity 'clearly recognized' the difference between an accident and an accidental discovery. Pasteur put it succinctly: 'In the field of observation, chance favours only the prepared mind'. Joseph Henry echoed Pasteur when he said: 'The seeds of great discovery are constantly floating around us, but they only take root in minds well prepared to receive them.'

Planners of all kinds, those who plan for science and those who plan in science, might occasionally ponder on the many intangible factors that help science advance; sometimes in bursts and at other times as a steady march forward. It is hard to plan for an accidental windfall, but we might plan to be well prepared to quickly recognize and exploit new discoveries. But to return to the mundane; it might be wise for science planners to ensure that the ambience in our institutions favours the survival and proliferation of 'prepared minds'. Chance might then favour us with her bounty.

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