

# CURRENT SCIENCE

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EDITORIAL

## Science in India: Reflections on the Anniversary of a Congress

The Science Congress is the only congregation of scientists in India that attracts media attention. Curiously, few practising scientists of note consider the Congress as an important event. Pomp and ceremony take precedence over substance. Over the years the Congress has been reduced to an occasion where the inaugural session appears to be the *raison de etre* for the meeting. The traditional opening address by the Prime Minister predictably reiterates governmental commitment to support science and invariably promises to remove the many bureaucratic hurdles that sometimes loom larger than life in the minds of many scientists. The presence of the executive head of government invests the inaugural event with an importance that is often not commensurate with the quality of the scientific sessions that follow. The occasion is also used to showcase a couple of Nobel laureates, who fly in to speak to audiences with little appetite for excessively technical talks. The organisers, bolstered by considerable government backing, are always good hosts; the distinguished foreign presence ensuring that the Congress always acquires a degree of respectability rarely supported by the scientific program. The next Congress, scheduled for January 2013, due to begin in less than a month, marks the 100th such event. The Congress returns to the city of its origin, Kolkata and will undoubtedly honour the memory of its first president, Ashutosh Mukherjee (1864–1924); a man who might justly be credited with fostering the renaissance of science in the city, and the country, in the first two decades of the 20th century. Calcutta, then, was the epicentre of the intellectual ferment that accompanied the first stirring of nationalism in India. Even as the British moved the seat of administrative and executive power to Delhi in 1911, Calcutta firmly established itself as the capital of modern science in this country. The Science Congress in Ashutosh Mukherjee's time must undoubtedly have had an ambience far removed from the Congress a century later. The city too has not only changed its name but, most visibly, bears the imprint of the turbulent century that has followed. Ten years ago, in marking the 90th anniversary, the Indian Science Congress Association (ISCA) produced three volumes titled *Shaping of Indian Science* (Universities Press, Hyderabad, 2003), which document the presidential addresses over the past one hundred years.

The origins of the Science Congress are described in the 1928 presidential address by John Simonsen, an Englishman and a natural products chemist, who was appointed as Professor of Chemistry at Presidency College, Madras in 1910. He describes the circumstances of that time as 'uninspiring' and notes that 'research in the universities at the commencement of the century was practically non-existent'. Some parts of Simonsen's address may stir a feeling of *déjà vu*: 'Early in the present century it was recognised by those in authority that all was not well with university education in India and what may be called the Curzon Commission on University Education was appointed.' In recommendations, that would be repeatedly echoed in the future, the Commission suggested new courses ('honours courses'), increasing 'the teaching staffs in the various colleges' and 'the desirability of stimulating research in university colleges'. Simonsen adds that the Commission 'recognized the correctness of the view ... where there is no zeal for research there is no vitality in teaching'. If Simonsen were to survey the science scene in India today, he might well endorse a corollary: 'Where there is no teaching there is little vitality in research'. Simonsen and his colleague in chemistry, P. S. MacMahon of the Canning College, Lucknow, both of whom 'felt the great lack of scientific intercourse' generated a circular in 1911 proposing the creation of an 'Indian Association for the Advancement of Science'. Although the Simonsen–MacMahon circular was drafted in 1911, the high noon of the British presence in India, it bears repetition a century later: 'We realise that the future of Science in India depends upon the adequacy of the practical training which students receive in college laboratories and furthermore that nothing is better calculated to increase its efficiency than the inculcation of research as the ultimate purpose of all scientific knowledge. It is unnecessary to point out how many and varied are the problems awaiting solution or how intimately the social and economic future of India is bound up with the successful application of scientific methods to all the activities, whether agrarian or industrial of the community.' The Provisional Committee originally invited to define the scope and constitution of the association included only two Indians, J. C. Bose and P. C. Ray, both from the Presidency College, Calcutta. Most members were from

government organizations; a notable exception was Morris Travers, the first Director of the Indian Institute of Science, then in its infancy. Simonsen, in looking back at the scientific scene in India in 1928, notes with some distress that the status of Indian universities is far from satisfactory. He notes that administrative bodies have, at times, ordered that 'the percentage of passes in an examination should be increased'. Such events, in Simonsen's words, result in 'a general diminution in the status of the degree and if this is permitted to continue the degree of an Indian university will cease to be of value in academic and industrial affairs'. Concerns about the current quality of degrees awarded by the ever-expanding university system continue to worry academicians more than eight decades after Simonsen's address. He did note, thoughtfully, that there might be a change 'when there is a clearer realisation of the difference between knowledge and wisdom' and goes on to quote Cowper:

*'Knowledge and Wisdom, far from being one,  
Have oft times no connection. Knowledge dwells  
In heads replete with thoughts of other men;  
Wisdom in minds attentive to their own,  
Knowledge is proud, that he has learnt so much;  
Wisdom is humble that he knows no more.'*

The first volume of the ISCA Presidential Addresses begins with Ashutosh Mukherjee's inaugural speech in 1914 and ends with a 'stenographic summary' of Jawaharlal Nehru's address on 3 January 1947, eight months before independence. Nehru, then a key member of the Interim Government, appears to have had an intuitive idea of the difficulties that lay ahead: 'Governments normally are very slow and the only thing that moves them is some immediate outcry which affects their future indirectly. Therefore, I should discourage among the scientists a reliance always on what Government may or may not do.' This was the first time that Nehru was to publicly state his commitment to promoting science in India: 'We are intensely interested in scientific development in India and we shall do everything in our power to encourage scientific research.' The Nehru era, between 1947 and 1964, marked a period of considerable growth in the number of institutions devoted to research and teaching in science and engineering, despite an economic situation which was hardly conducive to high growth. In nearly fifty years after Nehru, his sentiments have almost invariably been echoed by his successors. Over the last twelve years governmental spending on science has increased substantially and there has been a sudden spurt in the creation of new institutions. Despite the upsurge in spending and the rapid growth of infrastructure for science, a sense of unease prevails. The universities across the country are in a state of disarray. They are not the centres of research which must have been thought of in the early years of the Science Congress. The regulatory bodies created to over-

see higher education, brought into existence by legislation in the early years after independence, are now rudderless and cast adrift by governmental neglect. Ashutosh Mukherjee and John Simonsen would hardly have been encouraged by the scene that confronts us today.

The intensely competitive nature of modern science has begun to throw up new challenges for those who practice and manage scientific research. The ability to quantitate 'scientific performance' using the measures of scientometrics has made 'science watching' a respectable sub-field of science. India's scientific output in the twenty years after economic liberalisation has increased steadily; but it is a rate of growth that pales by comparison with that of China, often leading to pessimistic forecasts for the future. There is also a disconnect between the various agencies and arms of government that determine science policy and funding and the institutions where the research is actually carried out. Nehru's romantic view of science and his proximity to influential men of science has not always been shared by his successors. Today the charge of a Ministry of Science and Technology is viewed as a 'demotion', when compared to the Ministry of Petroleum, by large sections of public opinion; an indication that in public perception science and technology appear unconnected with national development. This is hardly a situation that would have been anticipated by the founders of the Science Congress.

The early years of the Science Congress coincided with a golden era of science in India. Much of the growth in science immediately after independence can be traced to men of scholarship moulded in those days, driven by the, now forgotten, ideals of building a new nation. This journal was conceived at the Science Congress in Bangalore in 1932 and was born a few months later in July 1932. L. L. Fermor's Presidential Address of 1933 discusses the financial needs of the journal ending on an optimistic (and prophetic) note: '*Current Science* will no doubt eventually pay its way.' The discussions to create institutions that promote and foster science also began at the Science Congresses in the late 1920s and early 1930s leading to the formation of the Academies. Both the Congress and the scientific enterprise in India have grown and transformed over the century that has passed. Anniversaries, especially a centenary, are an opportune time for reflection and serious introspection. Does the Congress contribute in any way to the 'shaping of science in India'? Does science merit an important position in a national agenda for the future? The last question might well be answered by Martin Forster, who quoted Napoleon Bonaparte, in his 1925 Presidential Address at Benares: 'True conquests, the only ones which leave no regrets are those which are gained over ignorance. The most honourable, as well as the most useful occupation for nations is to assist in extending human knowledge.'

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