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EDITORIAL

Conferences: Unrestrained Proliferation

The period between November and February is a generally pleasant and agreeable season in India. Even the cold, and sometimes foggy, days of winter in North India are mild by comparison with the harsher climates of Europe and North America. In India, it is tourist season and also the time for conferences. Bangalore's winter is always wonderfully pleasant and conferences follow one another. The Indian Institute of Science has in quick succession seen several hundred molecular biologists attend the congress of the Federation of Asian and Oceanian Biochemistry and Molecular Biology (FAOBMB), followed by the meeting of the American Mathematical Society, which established that mathematicians can rival biological scientists in their numbers and diversity. Scientific conferences have been rapidly increasing in number, spreading to exotic locations worldwide, making science a wonderful profession for those who love to travel. In thinking about conferences, two gatherings of scientists, which contributed immeasurably to the shaping of science in the 20th century, immediately spring to mind. The Solvay Conferences, held in Brussels beginning in 1911, transformed physics and science. The conference photographs which feature the immortals of modern physics are now a part of history. The 1911 meeting chaired by Hendrik Lorentz formalized the ongoing transformation of physics, set in motion by Einstein's famous papers of 1905. Over the next two decades, the Solvay conferences were the stage for showcasing (a modern word) the succession of revolutionary changes in physics. By 1927, Heisenberg and Born could use the conference to triumphally declare: 'We regard quantum mechanics as a complete theory for which the fundamental physical and mathematical hypotheses are no longer susceptible of modification'. The other remarkable meeting ground for scientists was the summer course at Cold Spring Harbor, initiated by Max Delbrück in 1945. Delbrück, was a physicist whose conversion to biology was catalysed by Niels Bohr's lectures on 'Light and Life' and 'Biology and Atomic Physics' delivered, at Copenhagen and Bologna, in the 1930s. As one of the discipline's most influential chroniclers notes: 'Through Delbrück, Bohr's epistemology became the intellectual infrastructure of molecular biology, the reason, perhaps for its hegemony over

twentieth century life sciences. It provided for molecular biologists the philosophical guidance for navigating between the Scylla of crude biochemical reductionism, inspired by nineteenth century physics, and the Charybdis of obscurantist vitalism, inspired by nineteenth century romanticism' (G. S. Stent in the Introduction and Overview to *Mind from Matter*, M. Delbrück, Blackwell Scientific Publication, Palo Alto, 1986). Delbrück's remarkable presence ensured that the Cold Spring Harbor meetings were as influential in spreading the revolution in molecular biology as the Solvay conferences were in physics. There are many other influential and exclusive scientific meetings, which have played a role in shaping the course of scientific research; probably the most widely known among these are the Gordon Conferences, held traditionally in New England; although an inevitable sign of the times is the expansion to winter meetings in California.

Conferences and meetings, seminars and symposia, congresses and conventions have all played a critically important role in the growth and development of science. In India the number of scientific meetings and societies has been growing. International conferences are held in India with increasing frequency; the winter months seem to be becoming excessively crowded with overlapping meetings. Many conferences have become much too large, with attendance running to several hundred people, with figures as high as several thousand, sometimes. The last meeting of the Society of Neuroscience in New Orleans is stated to have been attended by 28,000 participants. I chanced, recently, to overhear an amusing conversation between two visitors from America:

Neuroscientist (proudly): Do you know that neuroscience is exceedingly important? The recent neuroscience meeting in the US was attended by over 20,000 people.

Molecular biologist (archly): Yes. I believe there are more neuroscientists than plumbers in the US. It is possible that many of the plumbers have turned to neuroscience.

It is debatable whether very large meetings serve any purpose; but they do provide a forum for students and early

career researchers to meet, hear, and on occasion, have extended discussions with established scientists in their own fields. Organizing large meetings in India has become quite common with a new and growing breed of 'organizers', who have the ability to generate the resources necessary for these meetings. Typically, the large international meetings in India focus an excessive part of the energies of their organizers on the inauguration, the obligatory 'cultural program', the 'banquet' and in making arrangements for 'prima donnas', who appear as plenary speakers. The practice of having elaborate inaugurals complete with politicians and long speeches is spreading in India, leaving many of the participants nonplussed even before the scientific sessions commence. The larger the conference, the more bewildering is the mix of parallel sessions and overcrowded poster presentations. For habitual conference attenders there is a sense of *déjà vu*; many speakers and posters seem familiar, the science stale and repetitive. Greater solace is then to be found outside the conference, converting many of our large meetings into organized tourist festivals.

Conferences in India are also becoming steadily more expensive, restricting student participation from all except the well funded national institutions. For meetings organized in conjunction with international scientific unions, concessions in registration fees, for local participants, are frowned upon. Organizers then resort to elaborate artifices to subsidize those who find it difficult to pay the exorbitant and at times, unnecessarily high registration charges. In most meetings, the scientific content has little bearing on the costs of the meeting, with the scientific program being put together almost as an afterthought. There is a large influx of non-resident Indians for symposia held in India in winter; a welcome opportunity to combine a visit home with a scientific meeting. There is another set of conferences, exclusive and generally held at exotic locations; Goa, Sikkim, the Kerala beaches, the Andamans and varied resorts and hillstations across the country are favoured destinations. Here participation is limited to small clubs and academies; the purpose ostensibly to imitate the famous conferences of yore, which advanced science, without the distractions of the presence of large and inexpert audiences. The irony of these expensive meetings is that many of the most regular participants are senior scientists, who have long abandoned the mundane routines of day to day research and others who show little interest in academic discourse within their own institutions.

Conferences and meetings would not be an issue for discussion if the quantum of public funds expended were modest and the participation net cast wide. Unfortunately, at present we seem to have too many conferences, which cost substantial sums of money. The proliferation of conferences parallels the multiplication of scientific societies and academies. This growth of scientific bodies is, of course, a worldwide phenomenon. A cursory glance at the yearbook of the Indian National Science Academy (INSA) reveals that this organization interfaces, on behalf of the country, with as many as 25 international bodies. Many of these, from their names, appear to span overlapping fields. The International Union of Biochemistry and Molecular Biology (IUBMB) and the International Union of Biological Sciences (IUBS) presumably share common interests. To an uninitiated observer, distinctions between the International Union of Geodesy and Geophysics (IUGC), International Union of Geography (IGU) and International Union of Geological Sciences (IUGS) are not readily apparent; but their existence must undoubtedly facilitate more conferences. Following the cue from international bodies, the number of scientific societies in India has grown alarmingly. Biology is probably the most dynamic discipline with societies that cater specifically to biological chemists, cell biologists, microbiologists, reproductive biologists, biophysicists and many more. A curious feature of our proliferating societies is that many times we have scientists of eminence, who preside at different times over different bodies. Presumably the societies must then have a considerable overlap of disciplinary interests. This fragmentation of scientific bodies for reasons which defy comprehension, is best exemplified by our science Academies. They are growing in number, with several specialist academies sprouting up. Most often, the main purpose of academies seems to be to 'elect fellows' and to hold annual (and sometimes, biannual) meetings. As academies and societies proliferate, so too do conferences.

I must hasten to add that conferences are a wonderful medium for scientific discourse. However, we might pause and wonder if their proliferation is not a cause for worry. There is the danger of indigestion, both intellectual and otherwise from a surfeit of conference dinners.

P. Balaram