

Publishing "in conference"

SIR — I should like to draw attention to an alarming trend in the biological literature — the reporting of scientific data at conferences followed by publication of the abstracts in journals where they acquire the cachet of fully refereed papers.

During a recent literature search (using the BIOSIS 80 system) the key words "Ia antigen", "interferon", "macrophage" and "prostaglandin", in various combinations, elicited a total of 33 references for 1980-82 of which 19 were abstracts from conference proceedings. This struck me as being overbalanced. I do not question the validity of the data or the integrity of the investigators, but it is not possible to assess a piece of work from a 300-500 word abstract which, presumably, has not been refereed.

The two major "offenders" in my small sample were, coincidentally, both American, in particular, abstracts from the annual meeting of the Federation of American Societies for Experimental Biology published in *Federation Proceedings* and the annual meetings of the American Federation for Clinical Research published in *Clinical Research*. Such abstracts are subsequently extensively quoted in the literature and may be the only source for the work being discussed.

This trend seems to have come about because of the greatly increased numbers of scientists wishing to publish and the consequent increased pressure for space in conventional journals, the pressure on conference organizers to include all submitted abstracts and the increased use of poster sessions — impossible to referee. The overload of submissions is made worse by the apparent tendency of conference organizers to base their acceptance of registration on whether or not the applicant wishes to submit an abstract.

An example of these trends has recently been seen in the British Pharmacology Society, where data used to be presented as a talk and, following discussion, refereed "on site" by a show of hands from the members of the society. If the authors wished it the abstract was then published in the *British Journal of Pharmacology*. With the introduction of poster sessions and the consequent reduction in the possibilities for adequate reviewing, the society now publishes abstracts as a supplement to its journal — a laudable attempt to indicate the comparative lack of refereeing.

The trend towards publication of abstracts only is disquieting. A solution will not be easy to find, touching as it must the "publish or perish" syndrome. The simplest solution would be not to publish abstracts of meetings — perhaps a little drastic. Or the editors of the relevant journals could ask for a fuller abstract of the work presented to be adequately refereed before publication.

While it is not possible to blame scientists

(myself included) from taking this easy road to publication, the inclusion of unrefereed conference abstracts in subsequent articles where they acquire the same pedigree as fully detailed and refereed papers should be viewed with some unease as this practice is open to considerable abuse.

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● Perhaps data-banks should admit as search criteria Boolean specifications such as "not abstract". — Editor, *Nature*

India's bait

SIR — I sympathize with the Indian Government's attempt to lure expatriate scientists and doctors back home through programmes such as TOKTEN and through the proposal to create a sophisticated technological city (*Nature* 305, 350; 1983). But short-term solutions such as these are not the answers. India needs a coherent science policy and infrastructure to stem the flow of brain-drain and to lure the expatriates. As a first step, I suggest revitalization of the universities with up-to-date curricula facilities and competent indigenous and expatriate teachers.

I graduated from Kerala University in 1965 with a BSc in chemistry, but without having had the opportunity to use even a pH meter and without having been exposed to many of the fundamental principles of chemistry. When I joined the Training School of the Atomic Research Centre (Bombay) immediately afterwards I was confronted with advanced chemistry concepts (which at first went over my head), and a plethora of sophisticated instruments. I literally had to burn the midnight oil to bridge the almost inseparable gap between the university and the research centre.

I strongly urge the Indian authorities to rejuvenate science education in universities throughout India (not just in Bombay, Delhi or Madras). When the universities become centres of excellence, the expatriates will return home without the need for baits. One need only recall how Nalanda and Taxila, two excellent centres of learning in ancient India, attracted even foreign scholars to India.

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SIR — We would like to add a few comments concerning the creation of a UN biotechnology centre and India's bait for expatriates (*Nature* 305, 350; 1983). We are of the opinion that many of the Indian scientists and doctors working abroad would like to go back to India. We would like to point that a recent survey by E.

Garfield (*Sci. Public. Policy* 10, 112-127; 1983) has shown that India is the "superpower" of Third World countries in scientific research.

The establishment of a biotechnology centre in India, either at New Delhi or Bangalore, would attract many of the Indian scientists working abroad to return to their country and promote science. For this reason, we urge UNIDO to reconsider India as a site for such a centre.

The announcement by the Prime Minister, Mrs Indira Gandhi, of the plan for a "technology city", where Indian scientists now working abroad would be able to work in conditions to which they have become accustomed, is a constructive step towards bringing scientists of Indian origin back to India. The return of meritorious scientists to India would create a competitive and productive environment for those already working in Indian universities and other research centres.

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Grains of truth

SIR — D.A. Williams claims in his letter (*Nature* 1 December 1983, p.420), that those who attended the Royal Astronomical Society discussion meeting on "Are interstellar grains bacteria?" were impressed by McDonnell's photographs of interplanetary dust in which silicate crystals were visible. He also claims that Hoyle conceded that interstellar bacteria are not alive. In point of fact Hoyle only said, in response to a question, that he had never claimed that they were alive, which is not quite the same thing.

Related to this point is the argument that bacteria would be photodissociated on scales of the order of 1,000 years. However, similar arguments were put forward by chemists to refute the suggestion that there were molecules in interstellar clouds — a position no longer held as shielding mechanisms ensure the long-term stability of organic interstellar molecules.

McDonnell's photographs do not show any evidence of the depletion of interstellar grains but only of the high velocity impacting interplanetary dust (micrometeorites), and were therefore irrelevant, as McDonnell suggested in his opening comments. Indeed the one thing that was held to be clearly disproved at the meeting was that the 10-micrometre feature was not due to siliceous material.

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