English or in Indian languages, covers any science at all excepting scandals and squabbles involving scientists. Among the national newspapers, the *Science Express* supplement has been discontinued, and it is the Wednesday S&T Supplement of *The Hindu* that carries on, gratifyingly, as the lone sentinel. The daily from Hyderabad, *Newstime*, carries a weekly science page as does *The Pioneer* from Delhi, and it is possible that there are a few others elsewhere that I am not aware of. True enough, there are the science TV programmes of the UGC/EMRC and 'Turning Point' of Doordarshan, but these suffer for want of sponsors; with the introduction of cable TV we can watch the infrequent science show from BBC TV (e.g. 'The Mavericks'), but here too, an occasional jarring note is struck by giving equal time to Rupert Sheldrake (who says we all live in a morphogenetic field), and Benveniste (who reported that homeopathy operates through molecular imprinting in water) as to Linus Pauling.

What we need is proper, regular, frequent, informed and discerning communication of science. And the need is even more acute now in the era of receding governmental investment in S&T where we need to convince private industry and corporations of the importance of investing in research and development in science and technology. It is necessary to convince people at large that long term investment in education and research is vital for material welfare and national ethos. It is important for the legislator to be able to appreciate why one needs to study, say, the mating behaviour of fish, and what its relevance is so that he does not turn into another Senator Proxmire of the derisive 'golden fleece aware' fame.

Who would do it if not us scientists and who can do it better than a practising scientist? 'Scientists are members of society, and the fruits of their work underpin and shape it. Society requires and deserves that we enter into dialogue with it; communicating our science is as important as creating it.' The above quote is from Professor Peter Day, Director, The Royal Institution, London, UK, who delivered the Ninth Blackett Memorial Lecture of the Indian National Science Academy on 10 January 1994 (see *Current Science*, 1994, **67**, 434–440). In an engaging lecture, Day traces the origin of the Royal Institution, its charter as elaborated by its founder (Count Rumford: 'diffusing the knowledge ... of ... inventions ... by lectures and experiments the applications of science to the common purposes of life'), the public lectures from the days of Humphry Davy (so popular that the street was blocked by carriages and one way traffic had to be declared, which continues to this day), his 'discovery', namely the bookbinder apprentice Michael Faraday (who became a scientist, thanks to those public lectures of Davy), Tyndall, Rayleigh, Rutherford, Bragg, Zeeman, Linus Pauling, Lord Porter and Richard Dawkins.

The role of the Royal Institution through its science communication has been unique and exemplary (one wonders what Faraday might have become, but for it). As Day concludes: '... science will not deserve to flourish unless it can succeed in explaining itself to the large group of people who have never had any professional contact with it. That is true whether one is seeking to capture the imagination of the young ... or to convince a reluctant Treasury ...'

We need to communicate science to ourselves and to our fellow citizens. The efforts of individual scientists are useful but inadequate. It should be possible for organizations to get together along with lines of COPUS (Committee on Public Understanding of Science, see Day's article) and diffuse science, its methods, its consequences and its necessity. The Current Science Association can initiate the process in Bangalore, either by itself or by getting together with the Indian Academy of Science, the Jawaharlal Nehru Centre, the National Institute for Advanced Studies, The Indian Institute of Science and the Karnataka Rajya Vigyana Parishad. Raman, who was intimately associated with some of these organizations, was known to be an avid and expert communicator of science, whose memory we perpetuate every February 28th as the National Science Day. That is as good a day as any to start this activity.

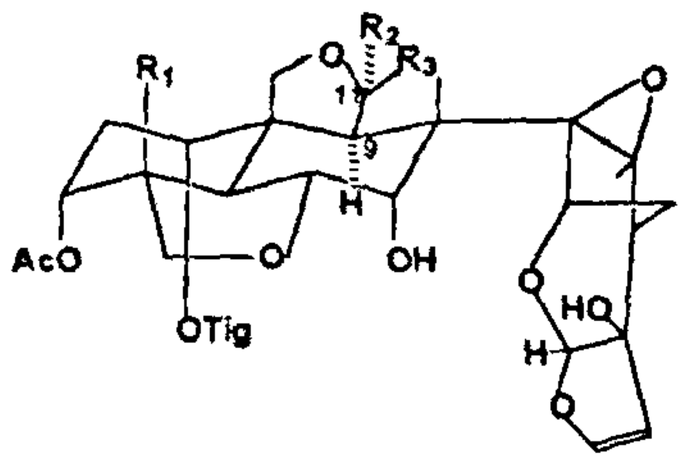
D Balasubramanian is in the Centre for Cellular & Molecular Biology, Hyderabad 500 007, India

SCIENTIFIC CORRESPONDENCE

Stereochemistry of Azadirachtins – H and I

In two earlier publications from this laboratory, the isolation[1] and determination of structure[2] of two new Azadirachtins H and I were detailed. Recently, the structure of Azadirachtin-H was determined[3] by X-ray diffraction, which confirmed the structure assigned earlier in all respects, except the stereochemistry at C-11. The structure derived by the X-ray study showed the C-11 hydrogen as β and the dihedral angle in the system H9-C9-C11-H11 was 83(5)°. We had depicted[2] in Azadirachtin-H, H-11 as a doublet (5.4, d, 4.4 Hz) coupled to H-9 as a doublet (3.1, d, 4.4 Hz) and in Azadirachtin-I, H-11 as a doublet (5.41, d, 4.4 Hz) coupled to H-9 as a doublet (3.21, d, 4 4 Hz) The NMR spectra of Azadirachtins H and I were redetermined in fresh $CDCl_3$ and the hydrogen at C-11 was seen to be a singlet in Azadirachtin-H at 5.45 ppm and the hydrogen at C-9 as a singlet at 2.61 ppm. In Azadirachtin I, H-11 was seen as a singlet at 5.35 ppm and H-9 was seen as a singlet at 2 62 ppm. Hence the H-11 hydrogens in both these compounds should be β-oriented as in Azadirachtin-B[4]. In acetone-d_6 also the hydrogens both at C-9 and C-11 were singlets.

The earlier measurements must have been vitiated by the use of poor $CDCl_3$



	R_1	R_2	R_3
1a Aza H	COOMe	OH	H
1b Aza I	Me	OH	H

Figure 1.

and lying round for a long period in solution before NMR determination, and the cyclic hemi-acetal system should have opened and recyclized with the hydrogen at C-11 in the α-configuration with a coupling to H-9 in that structure of 4 4 Hz. Hence the earlier structures[2] proposed must be revised with the hydrogen at C-11 as β in both the compounds (Figures 1 *a* and *b*).

1 Govindachari, T. R , Sandhya, G and Ganesh Raj, S P , *Chromatographia*, 1991, **31**, 303–305
2. Govindachari, T. R., Sandhya, G and Ganesh Raj, S P , *J. Nat Prod* , 1992, **55**, 596–601.
3. Govindachari, T R , Geetha Gopalakrishnan, Rajan, S S , Kabaleeswaran, V and Lessinger, L. (Communicated).
4 Klenk, A , Bokel, M and Kraus, W , *J. Chem Soc , Chem. Commun.*, 1986, 523–524

T. R. GOVINDACHARI
GEETHA GOPALAKRISHNAN

Centre for Agrochemical Research
SPIC Science Foundation
110, Mount Road, Guindy
Madras 600 032, India