

Beyond Data: Science and Technology Communication. Mohan Sundara Rajan. Publications Division, Ministry of Information and Broadcasting, Govt. of India, Patiala House, New Delhi 110 001. 2003. 223 pp. Price: Rs 100.

Scientists are not writers, at any rate, not very good at writing even on their own subject. The path of truth is not paved with good communication. More so because good writers do not understand science. This is a great dilemma facing the world of information technology, separating the scientist who invents and discovers from the people who ultimately buy and use his discovery or invention. Let alone the lay public, even the supposedly well-informed media persons have no grasp of science and technology (S&T) which play a dominant role in our everyday life. Mohan Sundara Rajan belongs to that very rare species of writers who understand science and write good English for the lay reader to understand what popular science is and does. In the book under review he seeks to bridge the gap between popular science and the mass media.

Ordinary people in daily life do not need to know how an electric bulb lights up when a distant switch is pressed; they need not know how something happening in USA can be seen inside a small box in their drawing rooms in Bangalore by the touch of a button (assuming that the Karnataka Electricity Board is obliging); why by the turn of a key a person could get a car moving and so on. But all these gadgets and appliances are the products of popular science and are never available free. If you do not know, you must know people who know. And they know how to make others know.

Popular science demands knowledge and understanding at different levels. The consumer must know why one electric or electronic device is better than another in the market. He must also understand how such devices are maintained to ensure performance and longevity. At another level is the technologist who can make a machine and knows how to run it, but need not have to know the principle behind the machine. The mass media must develop the idea of knowing and understanding the implications of scientific devices and discoveries and mesh it with a mastery of words that can convey the message to people of widely divergent layers of understanding. The science communicator has a more arduous job than the scientist himself.

Mohan Sundara Rajan looks at the problems of the science communicator and the havoc that mass media can cause by misrepresenting data and arriving at damaging conclusions. Having data is like having a mountain of facts. His book starts with a well-known saying of a great scientist that 'a collection of facts is no more a science than a heap of stones is a house'. The need and the challenge before the science communicator is to go beyond the presentation of facts to what he calls interpreting the data. A clear understanding of the scientific process does not require mastery of the science itself. But simply 'an understanding of how it affects mankind either by its technological potential, its intellectual fascination or its philosophical implications'. Essentially, the level of understanding lies in grasping the fact that scientific conclusions or theories are not absolute truths, but tentative hypotheses.

The book under review sees failure on all three fronts – the scientist, the science communicator and the mass media – in educating the lay public about popular science. The author quotes a leading editor to say that modern scientific writing is 'pompous, murky and dull and it fails to communicate'. The mass media has more or less assumed that science is not what the average citizen as a media-user wants or care to understand. In turn, the media persons themselves do not care to understand. The book cites many examples of misreporting based on pure ignorance and an inability to grasp facts. Science communicators are yet to be born in good numbers in India. This book tells us how a smooth delivery can take place.

The book is divided into five parts. The first part, from which the title of the book itself is taken, dwells on the goal of popular science in bridging the gap between the scientific and technological communities and a people not literate enough or keen enough to know about their work. The divergent approaches of the mass media and the S&T establishment – thinker C. P. Snow referred to as the 'two cultures' – are explained as a background to the strategies that follow.

The second part, scans the subjects for S&T communication and points out a wide-ranging agenda that encompasses frontier areas of research that lead to scientific processes of vital concern for the public, supporting the environment movement and endeavours to bring about an evergreen revolution explaining significant technological breakthroughs and indigenous effort in agriculture, industry and technology. The author emphasizes with

examples, the social role of communicators in exposing unfair and dangerous practices and the need to set priorities in S&T in terms of the needs of the people.

The third part explains what the scientific method is and how it should govern the agenda of science communicators. Various strategies are analysed in presenting the scientists' zeal for repeated observations and experiments, their passion for perfection, their avoidance of hype and readiness to admit failures and accept facts contrary to theories. This part also describes how the practice of the science is affected by controversies on several S&T issues and by the prevalence of dogmatic attitudes, strange beliefs and myths.

The next part analyses several techniques that have been found effective in the presentation of S&T in the media, given the latter's unique demands. As technical terms are inevitable in S&T presentation, a whole chapter is devoted to the art of demystifying jargon.

The last part of the book touches on the importance of lifting the general literacy standards in science writing and how to build a separate journalistic cadre of writers on such niche topics as ecology, environment, defence, etc. which require special skills of understanding, going beyond normal rules of writing, reporting and editing. The section tries to expand the scope of developing better expressions in print and offers suggestions for effective radio presentations and in-depth treatment of S&T on television. There is also a preview of the virtually unlimited scope for popular science communication offered by the Internet.

Mohan Sundara Rajan is gifted with learning as well as understanding. He writes with a sense of authority and responsibility. His acquaintance with great scientists as well as latest developments in communication technology has resulted in the presentation of an argument or an idea in simple terms with support from the masters and experts. This book is a must for journalists interested in science writing, science communicators, PR professionals in technology-based industries and scientists themselves if they want to reach ordinary people for whom they invent. A great value addition besides being a highly readable book.

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