
The Human Face of Science

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Why do we wait until the death of our colleagues to commemorate the achievements of their lives? Among scientists, the first biographical account is too often the obituary notice. And even when written by a well-informed associate, the biography or obituary, being essentially a view from the outside, cannot substitute for the rich personal details and revealing statements found in first-person accounts. There are many kinds of records that we and later generations require for a substantial understanding of the human element in science, but autobiography ranks high among them.

In this age of Big Science, it is seldom acknowledged that such intangibles as character, personal preference, and even idiosyncrasy can act as moving forces. To many, science in the late twentieth century resembles an impersonal, mechanized Leviathan. And this is not only the view of the public. In counting the success of our latest project, how many of us think first of the quantity of support we had available, before thinking of the quality of human resources that shaped that success?

The relative dearth of information on the human element in science may be ascribed, in some measure, to the character of the scientific article, which functions as the chief medium of communication in science. In 1968

Robert K. Merton observed in *Social Theory and Social Structure* that the mores of scientific publication "call for a passive idiom and format of reporting which imply that ideas develop without benefit of human hand" (p. 6). Moreover, the editors of scientific journals have understandably chosen not to provide space for information about how the work reported actually proceeded.

In recent years there has been some effort on the part of scientists, recognizing the deficiency, to fill this gap. Memoirs by scientists are on the increase. In the last issue of *The Scientist* (November 17, 1986), we published a review of three new autobiographies of scientists: Peter Medawar's *Memoir of a Thinking Radish*, Fred Hoyle's *The Small World of Fred Hoyle*, and Nevill Mott's *A Life in Science*.

You'll find the human element in every issue of *The Scientist*. Our interview column "Face to Face" features the opinions and observations of scientists and science policy-makers. "Happenings" contains notes of scientists in the news. And "Personal Communication" provides first-person accounts by scientists of great moments and turning points in their professional lives, as well as their reflections on the ways they carry out research. In the October 20 "Personal Communication," Mott recalled four

months spent in Copenhagen with Niels Bohr, which he described as "the experience that showed me most clearly what I wanted to do in life." Last issue, entomologist E. O. Wilson recounted his early exploration of the chemical language of ants, which he undertook after being inspired by a lecture of Konrad Lorenz. In this issue, John Polkinghorne describes how his association with Murray Gell-Mann opened his eyes to the excitement of the experimental side of theoretical physics.

My interest in the human element in science is long-standing. In 1977 ISI created the series "This Week's Citation Classic," which is published in each issue of *Current Contents*. Upon identifying a highly cited, classic article or book in science, we invite the author to contribute a brief commentary on the people and events that shaped this piece of research. We en-

courage the personal and the anecdotal; we have not been disappointed with the result. Over 2,300 first-person accounts of individual triumphs in science have already appeared and have been gathered together in seven volumes that make up *Contemporary Classics in Science*. Many Nobel laureates and other high-profile scientists contribute to this weekly feature. Others whose important work has been less recognized also find a forum in the Citation Classics. Along with their direct interest, these commentaries are grist for the mills of historians and sociologists of science.

Science is an enormous enterprise, requiring vast resources. But the prevalence of Big Science should not be allowed to obscure the human element in every scientific advance. The personal stories of scientists uniquely reveal that human element. ■



Eugene Garfield (left), President of the Institute for Scientific Information and Editor-in-Chief of *The Scientist*, spoke at a workshop on citation analysis last summer during the 14th International Congress of Microbiology in Manchester. With him are (from left) Harry Smith, president of the Congress; Sir Mark Richmond, vice-chancellor of the University of Manchester; Bernard Dixon, European Editor of *The Scientist*; and Sir Andrew Huxley, Master of Trinity College Cambridge and Nobel laureate.