EDITORIAL

Roads Not Taken, Yet

There has recently been an enormous increase in appeals—including a Science guest editorial*—to scientists to become activists in the political process. Unfortunately, this has been occasioned by the perceived threat to stable federal funding of science, not by a broader concern for the “polis.” Secretary of Health and Human Services Donna Shalala has said that activist scientists are rarer than the spotted owl. From the perspective of 30 years in the owlish ranks, I wish to share with other scientists three conclusions.

First, don’t kid yourself. The public’s attitude toward science has enormous inertia; whatever you do will not have a measurable national impact for years. Second, contrary to all the emotional appeals, the United States is not in the grip of an antiscience wave. By virtually every measure (for instance, the National Science Foundation’s Science Indicators) the U.S. public loves and respects science more than nearly every other profession, and to a greater degree than the public of any other Western nation. Third, really educating the public about what they are getting for their money is absolutely no guarantee that they will give us more. Funding for science will almost certainly decrease as decision-makers find out more about how it is really used.

At the 1995 State of the World Forum in San Francisco, my science section co-chair Arno Penzias, a Nobel Laureate in physics and former vice president of the now mutated Bell Labs, said that science cannot remain inwardly focused but must look outward to its national constituency. I agree, and am appalled at the political, social, and budgetary ignorance of the scientific community. It is at least as much the fault of the public as it is of the scientific illiteracy of the public. Moreover, I find it very disheartening that so few of us, the supposed fountainheads of invention, look out at the real world of deficits and cuts in social programs and then inward to improve our condition by our own actions and innovations.

Before scientists go before the public to persuade them to continue the lavish funding we have enjoyed for nearly five decades, they should prepare themselves for questions such as the following, which they will have to answer sooner or later: (i) The corporate world (not just U.S. companies) has decided that it gets little return from basic research that is unrelated to its present needs and has cut it back drastically. Has academia faced up to a similar rebalancing? (ii) There is widespread agreement that the entire academic culture has emphasized research at the expense of teaching, but what attempts have been made to rectify this? (iii) How many of the research universities’ instrumental “Taj Mahals” would stand up to the scrutiny of the U.S. General Accounting Office in terms of cost-effectiveness or hours per week of use? The track record of the “sealing-wax-and-string” approach in really significant research being so good, can scientists not design systems that share capital equipment and use communications technologies—and thinking—more intensively? (iv) A great deal of the creative energy of faculty, young and old, is consumed by proposal management in the world’s most inefficient system for funding of research. Why not try modest experiments or radically redesign the system? (v) We can argue a plausible case before the public for mission-oriented science for defense, the environment, better transportation, and cheaper energy, and so on. But what honest case can we make for funding totally undirected research at a level of several billion dollars per year? Why not privatize most support for research that is not connected to useful products, through area-specific appeals such as the March of Dimes; or a check-off on an income tax form; or philanthropy from, for instance, the 100 or so billionaires who made their money from technology. I am certain that, freed from peer-group bureaucratic, such science would be much more creative.

When activist scientists have done their homework on questions such as these, they will be ready to enter the fray of public debate. I hope many will be moved by conviction and high moral purpose, not just by the desire for more research money, because the slings and arrows of peer jealousy and honest disagreement will not be long in coming.

Rustum Roy

* The author is Evan Pugh Professor of the Solid State at The Pennsylvania State University, University Park, PA. J. Daie, Science 272, 1081 (1996).