The Cost of a Fortress Science Mentality

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The U.S. electorate is preparing to vote for a new president later this year. There are now about as many candidates as, according to string theory, there are dimensions. In fact, strings—tiny, vacillating bits of matter capable of assuming variable form—remind me of so many politicians, but that's another editorial. Most scientists will be wondering whether the presidential contenders will discuss science policy as a campaign issue.

Past elections here and abroad provide little hope that science will be discussed directly. Mrs. Thatcher's miserly support for science never really became an issue in the British elections—except among scientists. Granted, there is a consensus that governments ought to be doing more about AIDS, but that only illustrates the level at which the public understands the need for science. Science policy issues, like the debates over building the supercollider, mapping the human genome, or constructing a space station, don't excite the average voter.

Arguably, the funds allocated for science represent such a small portion of a nation's budget and immediately affect so small a group that the failure to discuss science policy is only natural. There are so many other pressing, visible and publicly felt domestic and international programs. And some believe that science is better off by not being easily identified in national budgets.

The public is largely unaware of what science is and of what scientists do. (I do not mean to imply, however, that the public does not recognize or enjoy the benefits of scientific research; even the scientific illiterate can appreciate a medical triumph.) Moreover, is it reasonable to expect science policy to enter the political debate when many of our leaders can claim only marginal scientific literacy? Others simply stupefy with their remarks. Mr. Pat Robertson recently asserted that you can "catch" AIDS through airborne transmission. But even if our candidates utter scientific absurdities, I think we should expect a little more from the public.

As science and technology make an ever greater impact on our lives and increasingly represent real investment for our nation, a scientifically illiterate populace will surely drag down both the democratic process and economic progress. Our Constitution presupposes a well-informed public, one able to judge critically the statements of candidates for elective offices. And society as a whole needs a scientifically educated public to ensure technological innovation, a dynamic engine of our economy. A certain rudimentary knowledge of science and the scientific method is the minimum requirement for everyone.

Are Scientists to Blame?

In practical terms, no one expects non-scientists to master the technical side of scientific issues; these matters are left to our representatives in government and their consultants—the national science organizations, professional scientific societies and individual expert scientists.

What we can reasonably hope for is a public that is knowledgeable enough to reach informed attitudes about science. We hope citizens will think that the pursuit of science is worthwhile, even vital. A renovation of science education is urgently needed, but we will not see the benefits of such reform for years.

As it is now, the public is too easily swayed by pressure groups who, by distorting facts, play upon ignorance and effectively advance negative images of science and scientists. Certain animal rights groups immediately spring to mind, as well as other organizations that reject gene research out-of-hand. Today, many voters actually fear what tomorrow's science may bring.

For that situation we scientists are quick to blame politicians, educators, special interest groups, the press and the public itself.

But are we blameless? How many of us harbor a "fortress science" mentality? As virtual hermits of the laboratory, many seem to be saying (or at least thinking): "I do not want to take time out of my busy schedule to explain to the unwashed what it is I am doing and why it is important (they wouldn't understand anyway), and I certainly don't want to deal with the press. After all, support has been fairly good lately. Why risk misunderstanding?" Plainly, scientists can be just as short-sighted as politicians.

Our titanic national debt will eventually force hard decisions. Science funding will not be exempted. When that time comes, a public that has heard from the scientific community about why its work is valuable will more likely support science than one that hasn't. We cannot expect the public to respond positively if we have not told them our story. We can only do so through the media.

Sending the Public a Message

Molecular biologist Bryan Sykes of Oxford University recently spent seven weeks working for a British television station under a Science and Technology Media Fellowship, sponsored by the British Association for the Advancement of Science. He has offered his colleagues sound advice on how to speak through the media (*New Scientist*, November 26, 1987, pp. 67-68). Sykes is correct to point out that our reluctance to work with the press can only widen the gulf that now separates scientists from the rest of society.

Despite what many of us assume, the value of scientific research is not self-evident. A strong and clear message about what science has done for our society and what it can do in the future needs to be brought, again and again, to the public. Working scientists who will provide the media with simple explanations of what they are doing and why are the best messengers. The public will respond to results that are made plain.

Science is unlikely to figure directly in this year's campaign. But scientists should work to ensure that the public's own self-interest in science finds a place in the party platforms. Platitudes about competitiveness are not enough—science education is the only guarantee. ■