

DANIEL SAREWITZ

Editor's Journal

No End in Sight

Issues in Science and Technology began publication in the fall of 1984. Frank Press, president of the National Academy of Sciences at that time, explained that the magazine was “an independent journal” that was “dedicated to the broadening of enlightened opinion, reasoned discussion, and informed debate of national and international issues in which science and technology play a critical role.”

Fittingly, then, the lead article of the first issue was by Daniel Yankelovich, president of Public Agenda, a nonpartisan organization devoted to “improving the quality of public debate on important policy issues.” Highlighting the “gap between our successes in science and technology and our failures in resolving human problems,” Yankelovich argued that scientists needed to be more involved and informed participants in public debates involving science and technology—that they had “to reduce their isolation even if this complicates the progress of scientific accomplishment”—or risk public rejection in the face of ongoing human problems.

How's this going?

Four years after the founding of the magazine, Kevin Finneran came on board as an editor. By 1991 he was editor-in-chief, a position he held until August of this year (when, after six years of apprenticeship, yours truly took over). So there are few if any people better positioned to comment on what's changed in science and technology policy, what hasn't, and how much progress is being made in meeting the aspiration that Yankelovich laid out in the inaugural issue, 35 years ago.

Daniel Sarewitz: Was the science policy world appreciably different in the 1980s than it is today?

Kevin Finneran: *Above all it was much smaller, an insider's game. For academic expertise, everyone turned to Harvey Brooks at Harvard. For insights on high-tech business, current and former IBM executives Erich Bloch, Lewis Branscomb, and Ralph Gomory were the go-to voices. In Congress it was Representative George Brown of California. There were a few outspoken scientists such as Carl Sagan. Vannevar Bush remained the patron saint. None of these people were formally*

trained to be science policy analysts. Issues was created to broaden participation, but it began by choosing people at the top of the professional and business hierarchy—the “face cards.” The world was rational, and scientific and technological expertise could provide straightforward and independent advice from its lofty perch. Debates proceeded at a measured pace, largely in print. Decisions were made by the federal government.

DS: Sounds like a simpler time. Yet even then, Yankelovich directly attacked that simple approach, viewing it as inappropriate for a complex democratic society that has to manage rapid scientific and technological change.

KF: *He was amazingly prescient. Since then, the number of participants in public discussions has mushroomed, and voices from every rung of the social ladder have joined the fray. We're playing with a full deck of cards. We've learned that it's not possible to separate the scientific dimension of political questions from the economic, social, and ethical aspects. Science policy has become an academic discipline, and there now exists a young cohort of professional policy analysts. We've learned that the science community cannot simply deliver its advice and go back to the lab. As Yankelovich insisted, far ahead of his time, science must stay at the table and engage with experts and advocates who come to the discussion from diverse perspectives. But Frank Press appreciated this too. He wanted to create a forum where different stakeholders could engage one another in informed conversation. Issues was never intended to be a soapbox for scientific experts but a multichannel interaction in which the perspectives of economics, politics, social justice, and the environment as well as science were recognized.*

DS: From a magazine editor's perspective, what else has changed?

KF: *We no longer have the luxury of time or the certainty that the action would play out in the New York Times or the magazines read by the educated elite. Unfamiliar voices using social media can now have more power than a published article by a renowned expert, and their influence can grow at dizzying speed. States, cities, and communities are increasingly the focal point for policy action, but some problems require global cooperation.*

All these changes do not make experts writing for a print publication irrelevant. Specialized knowledge is still relevant, and ink still carries more weight than pixels where decisions are made. But the scientific experts now need to be more willing to mix it up with experts from other fields, and all the experts need to be more responsive to the voices of all the people affected by the policies they are discussing. Print matters, but it must be complemented and reinforced by the other media. The diversification and democratization of science policy is a welcome development, but it does make it more difficult for the scientific community to wield its influence. But as the task has become more challenging, the stakes have grown higher, and the need to participate more pressing. We no longer have an unofficial college of cardinals issuing policy dogma, and experts must now fight to have their voices heard. The job for Issues is to try to find the voices that deserve to be heard and to find creative ways to ensure that they are.

Total US magazine production has declined by half in the past 30 years in spite of a growing population. Attracting new subscribers has become more difficult and expensive, so like every other magazine Issues has expanded and enhanced its online presence. We have a hundred times as many visitors to our website as we have subscribers, which means that we're fulfilling our mission of making quality policy analysis widely available. But web visitors do not provide revenue and spend less time with the magazine than do print subscribers. The information ecosystem was much more stable in the 1980s. Today it is in constant flux with no end in sight.

Constant flux, and yet the challenges for the most part don't go away, and often they grow more complex, even as new ones are added. Along with Yankelovich's article, the Fall 1984 *Issues in Science and Technology* included articles on missile defense (for and against), air bags and auto safety, health care costs, and reindustrialization. Today it might be autonomous weapons, autonomous vehicle safety, health care costs, and reindustrialization. The deeper concern that Yankelovich flagged—the “gap between our successes in science and technology and our failures in resolving human problems”—seems equally persistent, even if the specifics of that gap are changing, as some problems (think AIDS or stratospheric ozone) are addressed with remarkable success, and others emerge or morph unpredictably.

What is here to stay is science and technology's loss of political innocence. They are part of the fray, and so should they be, given their significance in pretty much every corner of the world. If today's fractious political times are something to regret, the role of science and technology in catalyzing them cannot be ignored. Social media powerfully challenges the future of constructive democratic political discourse; germline engineering powerfully challenges the fundamental ethical precepts that help to ground such discourse. Remaining on the outside, demanding deference, is at best a nostalgic stance.

These developments are part of the human journey that (despite the apocalyptic turn some climate activists have taken) is ongoing and unpredictable. But as the power and potential of science and technology continue to grow, the insights of Frank Press and Daniel Yankelovich that motivated the creation of *Issues in Science and Technology* 35 years ago become ever more pertinent. Society needs vibrant, well-informed debate about matters of science and technology policy, where “well-informed” means not just a marshalling of facts but an awareness of how facts mix with diverse and sometimes conflicting political, intellectual, and social perspectives to yield competing world views. The healthy competition among such world views, in turn, provides the bedrock for healthy democracy over the long term.

Sorry, I suppose that's all a bit grandiose. Where does *Issues in Science and Technology* fit in? This 141st edition, like the 140 that preceded it, is motivated by a modest ambition: to make a timely and constructive—and we hope interesting, engaging, and somewhat unpredictable and challenging—contribution to a marketplace of strong ideas that can contribute to the wise steering of scientific and technological decision-making in a democratic society. In this issue our authors are:

- Reflecting on how to improve the contributions of academic social sciences to social problem solving;
- Exploring the positive role of social media and the internet in the lives of young people;
- Revealing the hidden values that influence science-based decisions in the governance of elite international athletics;
- Prescribing an innovation agenda for getting rid of carbon in sectors of the economy that lie outside standard climate mitigation policies;
- Exposing the dangers to democracy that lurk in “climate emergency” politics;
- Recommending that Congress seek advice on the ethical dimensions of scientific and technological advance;
- Arguing that getting rid of the weed killer Roundup would do a lot more damage than allowing its continued use;
- Peering through the data on innovation to see too much hype and too little productivity.

And more.

Then, when we publish the 142nd edition three months from now, we expect to feature many compelling letters from readers and respondents who extoll, expand upon, disagree with (perhaps ardently), and offer alternatives to the facts, ideas, and perspectives put forward in this edition. As well, of course, as a new set of interesting and challenging articles. In the words of my predecessor: constant flux, no end in sight.