Where Science Meets Society

The theme for next week’s American Association for the Advancement of Science (AAAS) annual meeting, “The Nexus: Where Science Meets Society,” reminds us of many events of the past few years that suggest that the relationship between science and society is undergoing significant stress. Some members of the public are finding certain lines of scientific research and their outcomes disquieting, while others challenge the kind of science taught in schools. This disaffection and shift in attitudes predict a more difficult and intrusive relationship between science and society than we’ve enjoyed in the recent past.

Examples of these strains in the relationship include sharp public divisions about therapeutic or research cloning and stem cell research. Although many understand the potential benefits of such research, they also are troubled about scientists working so close to what they see as the essence and origins of human life. Last year, ideology came dangerously close to publicly trumping science when the U.S. Congress failed by only two votes to defund a set of grants from the National Institutes of Health on sexual behavior, HIV/AIDS, and drug abuse that made religious conservatives uncomfortable, even though the research was critical to solving major public health problems. And, of course, the scientific community is enmeshed in a continuing battle to keep the nature of science clear in debates about whether schools should be allowed to teach non–science-based “intelligent design theory” alongside evolution in science classrooms.

The common thread linking these examples is that science and its products are intersecting more frequently with certain human beliefs and values. As science encroaches more closely on heavily value-laden issues, members of the public are claiming a stronger role in both the regulation of science and the shaping of the research agenda.

To many, this appears to be a new dimension of the science/society relationship (in truth, it may be a recurrent dimension, because the same issues have been prominent at other historical moments). We’ve been used to having science and technology evaluated primarily on the basis of potential risks and benefits. However, our recent experience suggests that a third, values-related dimension will influence the conduct and support of science in the future. Taizo Nishimuro, chairman of the board at Toshiba Corporation, suggested at the Science and Technology in Society Forum in Kyoto, Japan, in November 2004 that whereas historically science and technology have changed society, society now is likely to want to change science and technology, or at least to help shape their course.

For many scientists, any such overlay of values on the conduct of science is anathema to our core principles and our historic success. Within the limits of the ethical conduct of science with human or animal subjects, many believe that no scientifically answerable question should be out of bounds. Bringing the power of scientific inquiry to bear on society’s most difficult questions is what we have done best, and that often means telling the world things that it might not initially like.

Independence and objectivity in the shaping and conduct of science have been central to our successes and our ability to serve society. Still, our recent experiences suggest that the values dimension is here to stay, certainly for a while, and that we need to learn to work within this new context. Protesting the imposition of value-related constraints on science has been the usual response, but it doesn’t work because it doesn’t resonate with the public.

An alternative is to adopt a much more inclusive approach that engages other communities assertively in discussing the meaning and usefulness of our work. We should try to find common ground through open, rational discourse. We have had some success with programs such as the National Human Genome Research Institute’s Ethical, Legal and Social Implications program. Another example is the AAAS’s Dialogue on Science, Ethics, and Religion, which brings scientists together with religious leaders and ethicists to discuss scientific advances and how they relate to other belief and value systems.

Simply protesting the incursion of value considerations into the conduct and use of science confirms the old adage that insanity is doing the same thing over and over and expecting a different outcome. Let’s try some diplomacy and discussion and see how that goes for a change.

Alan I. Leshner
Chief Executive Officer, American Association for the Advancement of Science
Executive Publisher, Science