The Social Responsibilities of Scientists

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At the American Association for the Advancement of Science (AAAS, publisher of *Science* Careers) Annual Meeting in Boston this afternoon, Mark S. Frankel, the director of the Scientific Responsibility, Human Rights, and Law Program at AAAS, made a case for scientists to think more deeply about their social responsibilities.

Right now, much of the emphasis in science is on the professional responsibility of scientists to stick to "standards agreed upon by the scientific community" regarding how research should be conducted, Frankel said. He called these responsibilities "internal." But scientists also have "external," social responsibilities "toward the larger community," Frankel argued—and "it is no longer acceptable to focus on internal responsibilities." Science depends on public money, affects policy decisions, and offers risks and benefits to society. "The communities in which you live and the communities much farther out … are ultimately affected by the work that you do."

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Frankel would like to see three core ideas integrated into graduate education. The first is that "science is a social institution, with a mission and 'baggage' like all other social institutions created by human beings," he said. By that, he means that graduate students should be given the opportunity to explore the values and expectations inherent to their specific fields and to consider whether these are consistent or in conflict with broader social values. Graduate students should also seek to grasp the social aspects and implications of scientific issues and be given the opportunity to "gain a good understanding of what it means to be a socially responsible scientist in this day and age."

Frankel's second core message was that young scientists should appreciate the global dimension of science. They should be "looking beyond themselves," he said, and should "use their skills to help with global problems." Last, they should realize that their education and research are being subsidized by society, and take into account society's expectations of how they should be using this knowledge in the future. "We must educate graduates to be vitally concerned with not only how to apply their knowledge and skills, but also to consider the value of what they do for others," Frankel said.

Scientists should also be prepared to confront situations where their internal responsibilities clash with their external responsibilities. One key professional responsibility for scientists, for example, is

to publish their results so they can be reviewed and help science move forward. But in some cases, publication of sensitive information has the potential to cause harm to society. Frankel took the example of the avian flu research that in 2011 sparked a fierce debate about whether it should be published, given that it identified mutations that could make the H5N1 virus much more transmittable to humans. Scientists have the "social responsibility to make sure that this information is not used by those who can do harm," such as bioterrorists or countries with ill-equipped safety laboratories, Frankel says.

Sometimes, different social responsibilities can clash, as also happened with the avian flu study. Scientists had "the social responsibility to give [the information] to those who need it to prevent an epidemic," Frankel said. Scientists' decision to impose a moratorium was "a very profound thing to do," with "probably profound effects on their careers and funding." The decision was an "exemplar" of how to deal with the issues. "We need to be thinking about ways to train [students] about social responsibilities along [with] those internal responsibilities."

http://www.sciencemag.org/careers/2013/02/social-responsibilities-scientists