then to watch to see how they react over time. But, as with most enabling technologies, the best use is probably not yet even a glimmer in anyone's eye. **–ROBERT F. SERVICE**

POLICING OF SCIENCE

A Misconduct Definition That Finally Sticks?

A White House panel was due this week to unveil the first government-wide definition of improper conduct in scientific research. True to long-circulating rumors, the new definition would narrow research misconduct to three specific acts: fabrication, falsification, and plagiarism (FFP). But officials at the White House's Office of Science and Technology Policy (OSTP) say they've fleshed out these categories to ensure that a variety of serious misdeeds are explicitly included.

The proposed misconduct policy, expected to appear in the *Federal Register* on 14 October, spells out a range of procedural steps for policing misconduct that all federal agencies would be forced to follow. The most controversial issue, however, is the definition, which the scientific community has agonized over for years. Those who have advocated a minimalist definition appear to have won the battle. "I think it is something that we are comfortable with," says David Kaufman, a toxicologist at the University of North Carolina, Chapel Hill, and president of the Federation of American Societies for Experimental Biology (FASEB), who notes nonetheless that his organization had not seen the final phrasing before *Science* went to press.

> **"I think it is something that we are comfortable with."**
>
> **—David Kaufman**

The misconduct definitions now used by the Department of Health and Human Services (HHS) and the National Science Foundation (NSF) consist of FFP and "other serious deviations" from accepted practice, a clause that has been criticized as too vague. But other attempts to broaden FFP have faltered: A 1995 proposal for an updated HHS definition, from a commission headed by Harvard reproductive biologist Kenneth Ryan, drew fire for being too open-ended and potentially stifling creativity (*Science*, 21 June 1996, p. 1735). In April 1996, an OSTP committee called the National Science and Technology Council (NSTC) set out to craft its own definition of research misconduct.

The NSTC's proposal, obtained by *Science*, starts out much like the existing HHS definition, defining research misconduct as "fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results." The added value of the NSTC wording is that it spells out each of these concepts in a sentence to ensure that they encompass misdeeds that may have fallen through the cracks. In addition, to make it clear that destroying a colleague's research data is considered misconduct, the NSTC definition added "manipulating research equipment" to the falsification category. The definition also explicitly covers plagiarism during peer review.

Included in the proposed policy is the statement that a misconduct finding must amount to a "a significant departure from accepted practices of the scientific community." NSF had argued in favor of such wording, which echoes its own misconduct definition. The agency has invoked a similar clause in at least one case—to discipline a professor who sexually harassed several students. Although "there's no flexibility to go beyond research misconduct more broadly than it's defined in this policy," an OSTP official says, agencies and universities are free to investigate and prosecute other transgressions during the course of research.

Parties now have 60 days to comment on the definition; the Office of Research Integrity and the National Academy of Sciences are planning a meeting on 17 November with FASEB, journal editors, and other groups to vet the proposal. Judging from the subdued reaction so far, it appears the agencies have reached the end of a long road toward a standard definition of research misconduct. **–JOCELYN KAISER**

DIPLOMACY

Gibbons Joins Effort to Boost Science at State

The State Department now has a 12-step self-help plan for producing science-savvy diplomats. A National Academy of Sciences (NAS) panel last week sent Secretary of State Madeleine Albright a dozen recommendations for rebuilding her department's depleted expertise in science, technology, and health. But while top diplomats welcome the ideas—and have asked former White House science advisor Jack Gibbons to help put them into practice—they say a budget crunch could slow the progress. "The problem is not one of will but of resources," says Ken Brill, acting head of the agency's Bureau of Oceans and International Environmental and Scientific Affairs.

The new report,* which Albright requested in April 1998, is a fleshed-out version of a preliminary study the panel released late last year (*Science*, 25 September 1998, p. 1937). It concludes that science-based issues—from trade in genetically modified crops to global climate change—are moving "to the forefront of the international diplomatic agenda" just as the State Department is losing technically trained staff. The number of full-time science counselors at embassies, for instance, has slipped from 22 in the 1980s to about 10 today. The panel also found it "striking and alarming" that foreign service officers assigned to the agency's roughly 300 science-related posts, many of them part-time, had "weak" academic credentials. "Ironically, as the world becomes more technologically interdependent, the trend at the State Department has been to downplay science and technical expertise," says panel chair Robert Frosch, a research fellow at Harvard University in Cambridge, Massachusetts.

To reverse that trend, Frosch's committee goes straight to the top. Albright, the panel says, "should articulate and implement a policy that calls for greater attention to [science] dimensions of foreign policy throughout the department" and should appoint a high-ranking aide to make sure that technical advice is injected into policy discussions. The panel also recommends setting up an external advisory committee, training all diplomats on technical issues, strengthening the department's ties with research-oriented agencies, and assigning 25 new full-time science counselors to key outposts abroad. But the department shouldn't pick and choose among the recommendations, Frosch says. "We want it to be a package and not a menu."

Speaking for science. Gibbons will advise State Department.

State Department officials won't say if they'll go that far. Albright plans to meet with NAS president Bruce Alberts "as soon as their schedules permit." But Brill notes that State Department officials have already asked Gibbons, who left the White House last year, to help a committee review the report and draw up a game plan by next spring. Gibbons will also help develop the science advisor's post and aid ongoing efforts to strengthen training, increase dialogue with scientists, and recruit more academics to serve stints as science fellows within several departments. Brill warns, however, that all that may be tough to do on a budget that has shrunk by 15% since 1993.

–DAVID MALAKOFF

* "The Pervasive Role of Science, Technology, and Health in Foreign Policy: Imperatives for the Department of Science" (www.nap.edu)

CREDIT: RICK KOZAK