

tional Science Foundation, which funded the study, says the work contains "some good, careful social science. This is good data, and it's troubling data." In particular, LaFollette believes the differences between disciplines warrant further study. "Up till now, it's been biology getting all the flak," she says. Yet the Acadia study's findings about civil engineering raise the question, she says, "Are they just more honest than the others, or do they really have more misconduct? These are, after all, the people who design bridges."

Swazey also argues that the fact that half the scientists report observing what they considered unethical conduct is worrisome

on its face. "If graduate students are being exposed to various types of what most people consider misconduct," she says, "we're going to be turning out a generation with a great deal of uncertainty about how to respond to misconduct."

Although there is debate about the absolute numbers, few observers are surprised by the study's overall finding that uncollegial and inappropriate conduct such as sexual harassment and improper assignment of authorship credit are more common than outright fraud and plagiarism. "It's commonsensical that the incidence of jerkery is higher than crookery," says Rennie. If one nevertheless assumes that "jerkery" can lead

to "crookery"—as the Acadia authors do—the study could play an important role in helping define the dimensions of the ethics problem on campus, he says. "But I just wish they'd made a stronger case."

Rennie believes the questions of prevalence will remain unanswered until scientists themselves conduct a one-time, confidential audit of the research community. Although the idea was roundly condemned as overly intrusive when he first proposed it several years ago, there seems to be growing interest in using something better than a survey to obtain reliable data on this slippery question.

—Christopher Anderson

## SCIENCE EDUCATION

### Europeans Get Into Festival Spirit

PARIS—When 350 schoolchildren spend the night in London's Science Museum next week, they will be striking a blow for democracy. At least that is the way Antonio Ruberti, the European Commission's (EC) vice president in charge of science and education sees it. The mass "sleep-over"—during which kids from all over Europe will participate in workshops, demonstrations, competitions, trail games, and mimeshows—is just one of 22 events making up the European Week for Scientific Culture (*Science*, 8 October 1993, p. 183), the latest manifestation of an epidemic of science festivals spreading across Europe.

The European Week is aimed at raising

science festival, offers a similar rationale: "When people vote or make decisions on science issues, they need to be more independent and informed." Adds Bruce Durie, organizer of the Edinburgh International Festival of Science, "It's what science festivals are all about."

Durie should know. His Edinburgh Science Festival—3 weeks of events all over the city each April—has been growing rapidly since its beginnings 6 years ago, and it seems to have spawned offspring across Europe. The French held their third La Science en Fête in June, with about 1500 events in museums, schools, and laboratories throughout the country. At the same time, Italy ran its fourth Week of Scientific Culture with 1000 events, while Belgium and Portugal also joined the festive spirit. The Netherlands are just now winding down from their festival, and in September the U.K. science minister gave the British Association for the Advancement of Science \$120,000 to organize a festival of science next March.

Marie-Noël Favier of the French science ministry, organizer of last year's La Science en

Fête, thinks the festivals meet a genuine demand from the public. "They are anxious about the speed of advance of science in areas that affect them: artificial insemination, genetic engineering, AIDS, the environment." Durie agrees: Books like Stephen Hawking's *A Brief History of Time*, he says, have caused "an effervescence of science issues" in the general public. To Denis Sergent, of the communications department

of France's largest scientific research organization, CNRS, the festivals show science can be fun—a big plus at a time when European governments want to encourage more young people to study science. La Science en Fête, he says, was started as an attempt to capture the street-party spirit of the country's annual music festival and bring it to the scientific arena.

Compared to the national festivals, the European Week for Scientific Culture will be a dry affair of conferences, debates, open days, and films. The main requirement for the events—all funded by the EC—was that they should be transnational. Few of them are specially aimed at schoolchildren, however. This may simply reflect lack of time for planning: Ruberti only sprang the idea on national coordinators in April, and many of them see this year's European Week as a dry run. Even Ruberti refers to it as "year zero."

For Durie, the event is more pump-priming than anything: "The major beneficiaries of the European week should be those countries which haven't done anything before." As a result of this year's efforts, he says, the coordinators have set up a network, called the Galileo Club, to keep the momentum going. But some organizers of national festivals would prefer to move them all to the same week, rather than put on an extra "European" week. "This could be difficult," says Galuzzi, especially because of national differences in school term dates. He expects the next European week to be very different. "Our concern is to find a formula to allow national partners to expand their national experience, not just organize a new week....The question is how to produce a common European outcome of the different national styles." This, however, is Europe's perennial crisis of identity, so it is not surprising that it should crop up for science (and democracy), too.

—Peter Coles

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**Sleep learning.** Organized museum "sleep-overs" have become a popular way to turn kids on to science.

public understanding of science—and producing better informed voters. "Without expecting the citizens to become experts," said Ruberti when he launched the event, "a certain level of knowledge and comprehension of scientific matters should be granted, in order to allow them to express opinions." Paulo Galuzzi, of the Italian Institute and Museum of History of Science in Florence, who organized this year's Italian