

ternative of enforced selective redundancies. At St. Petersburg's Institute of Evolutionary Physiology and Biochemistry, for example, even the technician whose sole job in the Soviet era was to operate the Xerox machine—preventing its use to copy politically “subversive” material—has not been fired. “We don’t have a well-developed system of help for the unemployed,” says the Vavilov Institute’s Altukhov.

The same sentiments extend to the top of agencies like the Academy of Sciences. “Nobody wants to be an executioner,” says immunogeneticist Rem Petrov, the academy’s vice president responsible for biology. And although a recent letter from the academy to Yeltsin has—according to press reports—backed the OECD’s call to close ineffectual research groups, its leadership clearly believes that other agencies should bear the brunt of any cuts. Applied mathematician Jury Osipov, the academy’s president, declined to discuss with *Science* the letter to Yeltsin. But he says he would oppose any attempt to impose mass redundancies on the academy, and he adds that any layoffs must be compensated with “very serious financial support” for retraining.

Given the obstacles, Saltykov’s ministry is concentrating on programs to reward top-class groups, a break with the Soviet tradition of doling out funds to research groups more or less on a per capita basis. In its most recent letter to Yeltsin, for instance, the ministry calls for a program of new “state professorships” to give improved salaries and priority research funding to several thousand leading scientists. But without a plan to cut funds from ineffective groups, such schemes depend upon Saltykov’s ability to find substantial new funding. The ministry complains bitterly in the letter that, over the past 9 months, only 53% of promised government research funding has materialized, and he demands that science spending be increased from 3% to 4% of the Russian state budget. And Georgetown’s Balzer says the reinstatement of Saltykov’s political ally, Yegor Gaidar, as first deputy prime minister, might allow him “to pry a little more out” of the government.

Although these political maneuverings could determine the fate of many Russian labs, most beleaguered researchers are too preoccupied with daily survival to reflect on their implications. “It’s hard to take a broad view,” says Andrei Mirzabekov, director of Moscow’s Engelhardt Institute of Molecular Biology. And after last month’s violence, many are simply relieved the streets are again calm. “What we need,” said mathematician Victor Sadovnichy, rector of Moscow State University, as he glanced from his window toward the distant hulk of the burned-out Russian White House, “is political stability.”

—Peter Aldhous

SCIENTIFIC MISCONDUCT

ORI Drops Gallo Case In Legal Dispute

A 4-year federal investigation into the conduct of AIDS researcher Robert Gallo disappeared last week in a puff of legal smoke as the Office of Research Integrity (ORI) abruptly dropped misconduct charges against Gallo. ORI says it couldn’t meet what it sees as an overly restrictive definition of scientific misconduct—a definition it is trying to change—while Gallo’s defenders say the government never had a case at all and is hiding behind legal excuses for a resounding defeat.

ORI abandoned its case just days before a court-like federal appeals board was scheduled to hear opening arguments in Gallo’s appeal of three misconduct charges ORI had leveled against him. The move came 1 week after the appeals board overwhelmingly rejected ORI’s charges against Mikulas Popovic, Gallo’s former associate at the National Institutes of Health (NIH) (*Science*, 12 November, p. 981). In both cases, ORI blamed the board’s insistence that it prove not only that statements made by the two researchers in key papers in *Science* were false, but that they were deliberately intended to deceive and had a material effect on the conclusions of the paper—two standards it had not originally expected and did not feel it could meet.

In a statement released last week, ORI explained that the Popovic ruling, along with two previous decisions (*Science*, 29 October, p. 643, and 13 August, p. 819), “established a new definition of scientific misconduct as well as a new and extremely difficult standard for proving misconduct.” As a result, ORI said, the panel’s decisions “have made it extraordinarily hard for ORI to defend its legal determination of scientific misconduct regarding Dr. Gallo.”

But critics contend ORI simply didn’t have a case. “They’re attempting to save face by suggesting that the failure of their case is due to some ‘new definition’ of scientific fraud,” said Martin Delaney, director of the AIDS group Project Inform, in a statement. “These people have clearly lost their case on the basis of the evidence, yet they are now pretending otherwise.” Others point to the board’s criticism in the Popovic ruling of ORI’s legal competence and judgment. The

board concluded ORI would have lost even under its own definition of misconduct. Last week, Popovic’s lawyer wrote to Donna Shalala, secretary of the Department of Health and Human Services (HHS), asking her to stop ORI from claiming otherwise.

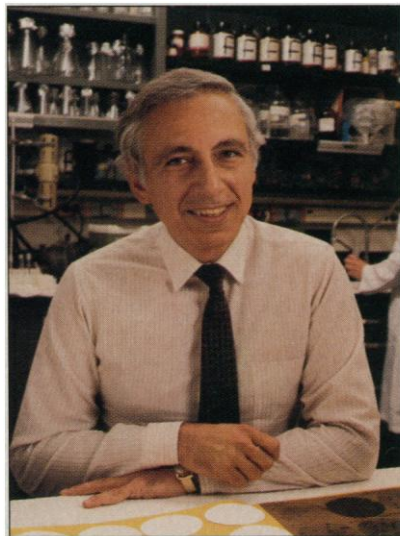
The charges against Gallo began 4 years ago as an allegation he had stolen from a group of French researchers the AIDS virus

he is credited with co-discovering. But that charge evaporated when it became clear that contamination—rather than misappropriation—was the most likely explanation for the fact that Gallo’s virus was virtually identical to that isolated by the French. As ORI tried to boil down the allegations to what it could actually prove, it settled on a set of relatively minor alleged wrongdoings: that Gallo misstated his laboratory’s ability to grow the French virus, invested insufficient effort to determine the origins of a key cell line, and

imposed severe restrictions on certain groups that wanted to use his research materials.

Gallo says he’s “completely vindicated” by ORI’s decision to drop the charges against him. “I feel happy that it’s over and I think that people can now see through [ORI’s] allegations.” His attorney, Joseph Onek of the Washington firm Crowell and Moring, says he’s disappointed the appeals board did not have a chance to address and dismiss the charges against his client, but he says that ORI’s decision marked “an end of irresponsible charges of misconduct and a terrific beginning of a new era for Dr. Gallo.” Gallo has not decided on his next step, but he hasn’t ruled out further legal battles, including libel suits, to try to clear his name. “Is it worth my war? Maybe no. Is it worth a lawyers’ war? I think the answer is yes.”

Although ORI could conceivably launch a new investigation of Gallo if it were based on different charges, a more likely follow-up in the case appears to be a report from Representative John Dingell (D-MI), chairman of the House committee that oversees NIH and its parent body, HHS. Committee staff members have been investigating possible administrative misconduct in the actions of HHS and Patent & Trademark Office officials during the patenting of the AIDS virus,



Off the hook. Gallo says he’s “vindicated” by ORI’s decision.

along with possible scientific misconduct on the part of Gallo.

A Dingell staffer says that the congressional report "is more necessary than ever," now that ORI has dropped its case. The Inspector General of HHS has also been investigating allegedly false statements made by Gallo and others in documents supporting the patent application for the virus.

At ORI, morale has plummeted as investigators confront the loss of a case that has taken more than a year to assemble. "It's

certainly a setback for this office," says ORI director Lyle Bivens, "but it doesn't put us back to square one." He points out that 13 of the 22 cases in which the office has concluded misconduct since its formation 18 months ago were not appealed, and that in three of the nine remaining cases the accused scientists abandoned their defense before the appeals board hearing. "The ones where we have really strong evidence don't get contested," Bivens says.

ORI hopes to improve its chances of

success next year by changing the rules to allow the introduction of evidence purporting to show patterns of behavior that are not explicitly misconduct. Such evidence would help it to prove intent. It also wants to add one or more scientists to the appeals board, now made up of three lawyers. But ORI doesn't intend to give up altogether on the court-like hearings process. Scientific misconduct cases "are so adversarial that you're driven to a legalistic model," Bivens says.

—Christopher Anderson

RESEARCH ETHICS

Survey Tracks Misconduct, to an Extent

Those who study scientific misconduct face a daunting obstacle: Nobody knows exactly how much of it there is. Critics claim that recent, high-profile cases are just the tip of a misconduct iceberg that pervades academia, while defenders of the scientific enterprise say such cases are the exception, and the enterprise is sound. So a comprehensive study on the issue is likely to attract a lot of attention. That's what happened last week, when researchers at the Acadia Institute in Bar Harbor, Maine, announced results of a survey of 4000 faculty and graduate students at 99 U.S. academic institutions. But some experts in the field say that, as an attempt to get at the question of how prevalent scientific misconduct is, the study's conclusions may not mean anything at all.

Writing in this month's *American Scientist*, social scientist Judith Swazey and her colleagues say that 9% of the 2600 students and faculty who responded to a questionnaire reported having "direct knowledge" of faculty who have plagiarized, and 6% of faculty respondents said they knew of another faculty member who had falsified data. From those numbers, the authors infer that incidents of serious misconduct are "not rare." As for questionable research practices in general, 44% of the students and 50% of faculty in four disciplines—microbiology, chemistry, civil engineering, and sociology—say they had observed or had direct evidence of incidents of two or more types. In addition to falsification of data and plagiarism, these practices include inappropriate assignment of authorship credit, overlooking others' use of flawed data, use of university resources for inappropriate purposes, sexual harassment, racial discrimination, misuse of research funds, ignoring animal care, human subject and biosafety regulations, and financial conflict of interest. Civil engineering fac-

ulty reported the highest observed rates of data falsification and plagiarism in their colleagues: 10% and 18%, respectively.

Case closed? Not quite. For one thing, the survey does not attempt to measure actual misconduct, a point Swazey herself emphasizes. Instead, the survey records observations of perceived misconduct. That's quite a different matter, says David Goodstein, a physicist and vice provost at Caltech who reviews all his university's cases of alleged misconduct.

"By looking at perceptions of misconduct, you distort the picture very badly," says Goodstein. "I can tell you from actual experience that the vast majority of allegations turn out to be groundless. Perceptions are often wrong, and you only find out that they're wrong after you go through the proper procedures."

Furthermore, the Acadia researchers note that many of the respondents from a particular institution or academic department may be reporting the same alleged incident. Researchers and experts in scientific mis-

conduct say that ambiguity on this point, along with the fact that 41% of the 2000 faculty members who were queried did not respond, makes it hard to draw firm conclusions about the prevalence of misconduct. Due to the constraints of confidentiality, the authors were not able to conduct follow-up interviews or use others techniques to reduce self-selection bias.

"I'm strongly in favor of getting some figures on this—our policy response has to be related to the prevalence of the problem," says Drummond Rennie, West Coast editor of the *Journal of the American Medical Association*: "But there

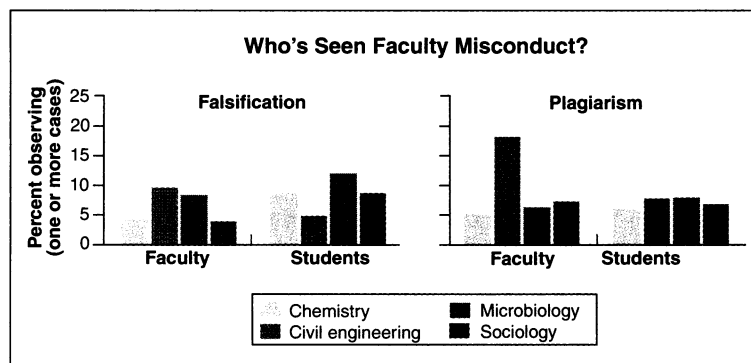
are huge holes in how they did it. They don't even pretend to measure the actual frequency of misconduct, but then they state that it's not rare. That's the curious thing."

Last week, *The New York Times* reported that the study was rejected by *Science* before it was submitted to *American Scientist*, an unrefereed journal. *Science*'s editor-in-chief, Daniel Koshland, says that the manuscript was handled in routine fashion and was rejected because "it did not have the scientific content and methodology appropriate for this journal." "The subject matter is appropriate for *Science*," says Koshland, who was not personally involved in the initial editorial decision. "If it had been a better paper it would have been accepted."

Despite the criticism, many in the field say the study is the best attempt yet to provide some answers about the community's perceptions of misconduct. Marcel LaFollette, a science policy analyst at George Washington University who reviewed the authors' grant application to the Na-

"I'm strongly in favor of getting some figures on this....But there are huge holes in how they did it."

—Drummond Rennie



Uncivil behavior. Civil engineering faculty are the most likely to come across abuses among their colleagues in two areas that the National Academy of Sciences considers to be scientific misconduct. Students in microbiology are most likely to observe such behavior among their professors.