

Sitting in judgement

Investigations of scientific misconduct need expert input, but they can prove harrowing experiences for the scientists involved. Erika Check finds out why.

When Jeffrey Flier picked up the telephone on a January day 22 years ago, he was surprised to hear his old supervisor on the end of the line. Jesse Roth was director of the lab at the National Institutes of Health (NIH) in Bethesda, Maryland, where Flier had worked as a postdoc, and he had a favour to ask. One of Roth's postdocs had accused a Yale University postdoc of plagiarism — would Flier investigate?

"I tried to talk myself out of it," says Flier, now at Harvard Medical School. At the time, there were no rules for conducting such investigations. Also, the accused postdoc worked for Philip Felig, one of the most highly regarded researchers in Flier's field of metabolic disease. Flier eventually relented, but found the experience unsettling. He uncovered serious fraud, which ended the career of the postdoc, Vijay Soman, in the United States and derailed Felig's plans to take up a departmental chair at Columbia University in New York. "I would never go into it by myself again," he says.

Thankfully, things have improved since then. In the United States, investigators of misconduct in biomedicine now work in teams and are backed up by federally funded experts. But despite all this, many researchers finish inquiries feeling much as Flier did. Some have faced lawsuits from the accused. Others have had to end a fellow scientist's career. And all have to juggle the inquiry with their day-to-day academic lives, even though

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Paul Friedman

cases can drag on for years. "It's very unpleasant to have to judge your colleagues," says Paul Friedman, emeritus professor of radiology and former dean of academic affairs at the University of California at San Diego. "It's like being dragged off the street and told to function as a policeman for the next week."

Attitudes to misconduct investigations vary between disciplines. High-profile physics cases at Bell Laboratories in Murray Hill, New Jersey, and the University of California at Berkeley have hogged headlines this year (see *Nature* 418, 5; 2002 and *Nature* 418, 261; 2002). But misconduct is probably more common in biomedicine, where competition and commercial pay-offs are often greater.

National approaches also differ. Most European countries have no central organization for dealing with research misconduct, and investigations are handled by institutions or funding agencies. The United States, however, has a dedicated organization for monitoring misconduct, for biomedicine at least. Now known as the Office of Research Integrity (ORI), this body was established in 1989 and

is currently run by the US government's Department of Health and Human Services. ORI says that 127 new misconduct allegations were made in 2001, the third consecutive rise since 1998. Most dealt with accusations of fabrication, such as inventing patients who didn't exist, or falsification, where existing data were distorted (see chart, opposite).

Under ORI rules, every institution that receives federal grants for biomedical research has to have a formal procedure for investigating misconduct. In many centres, new cases are handled by an in-house research integrity officer — a former scientist or, in the case of Margaret Dale at Harvard Medical School, a lawyer. When Harvard investigates a misconduct allegation, Dale starts by working the telephone. She forms a committee of three senior scientists from an appropriate field, avoiding those who work with the accused. "It should be someone who will be comfortable making an unpopular decision, and who's not going to be running into this person in the cafeteria or on other hospital committees," she says.

Dale says that researchers are generally happy to be involved as long they have the time and are not connected with the scientists involved. But once the committee begins the sometimes laborious process of interviewing the accused and any witnesses, as well as combing through relevant data, people often start to have second thoughts.

The time required is one of the biggest



Reluctant heroes: (left–right) Jeffrey Flier, William Chambers, Paul Friedman and Margaret Dale.

problems. ORI says that the length of an investigation varies greatly, but that researchers are involved for an average of nine months. Those taking part soon realize that the work will distract from their research without adding to their own reputation or publications list. “They gain almost nothing from it,” says Friedman. “Mostly they just make enemies.”

The investigation of cancer researchers Friedhelm Herrmann and Marion Brach, Germany’s most high-profile misconduct enquiry (see *Nature* 418, 113; 2002), is a case in point. Ulf Rapp, the University of Würzburg cell biologist who led the investigation, says he could not have refused when he was asked to look into the matter in 1998. But he had no idea that the enquiry would last three years. “I would have limited my involvement to the first year,” says Rapp. “We thought we would work for a while and then transfer our findings to a different committee.”

When an investigation finally comes to an end, researchers must deal with the results — a difficult task, as a guilty verdict can stop a promising career dead in its tracks. William Chambers, an immunologist at the University of Pittsburgh, has served on several misconduct panels. Last year, he completed an enquiry into a Pittsburgh molecular biologist who said that his data related to different experiments from those he had actually performed. “It was easy to see, although he didn’t admit it,” Chambers says. As a result, the post-doc — a foreign national — left both the university and the country. “I still feel a little sad about it,” Chambers says. “This was someone who could have had a bright future.”

Other researchers finished their investiga-

tions only to find themselves the subject of a lawsuit. Susan Berget, a geneticist at Baylor College of Medicine in Houston, Texas, led a 30-month inquiry into her colleague Kimon Angelides, who was accused of falsifying data in five papers and in NIH grant applications worth \$4 million. Angelides, who studied sodium channels in nerve cells, was sacked from Baylor in 1995 after being found guilty both by Berget’s team and then by a federal appeals committee. But he went down fighting, slapping slander lawsuits on Berget and other investigators, as well as on the college.

Angelides settled the case in 1999 after an NIH investigation confirmed Berget’s findings (see *Nature* 397, 549; 1999). But Baylor College was landed with a legal bill of more than \$2 million, and Berget was left wishing she had never got involved. “If someone had told me up front what this would take out of my life, I would have run away,” she said at the time. She now declines to discuss the case for fear of being sued again.

Berget is not the only scientist to harbour regret long after the event. “My name got in the news a lot, but it wasn’t the kind of news I was looking to be associated with,” Flier says of his inquiry. “Over the years this thing keeps coming up, and not everyone can keep straight who was investigating and who was the investigator. I’ve had to defend myself against the view that I was the perpetrator.”

Despite the stress involved, current procedures have the backing of biomedical researchers. It may be a distraction from everyday duties, but scientists say there is no better way to separate real fraud from a baseless accusation than to have researchers exam-

ine the facts. “You need to get people who are involved in research so they know how the experiment is done,” says Chambers. And while the accused has to suffer a long trial, the procedure is now similar at most institutions, and allows for several levels of appeal.

Ideas for improving the process are thin on the ground, however. Lawsuits are impossible to avoid altogether, although cases such as Berget’s could be made less difficult if institutions briefed investigators about what legal steps the party under investigation could take, and what protection investigators have. Most institutions, for example, have insurance policies that cover legal costs.

Reducing the time involved may be less easy. David Wright, assistant vice-president for research ethics and standards at Michigan State University in East Lansing, has one alternative. If members of the panels he oversees do a good job, he writes a letter to the dean or chairperson of their department and requests that their work be taken account of in their salary review — although it is unclear whether such requests can compensate researchers for the time they spend on an investigation.

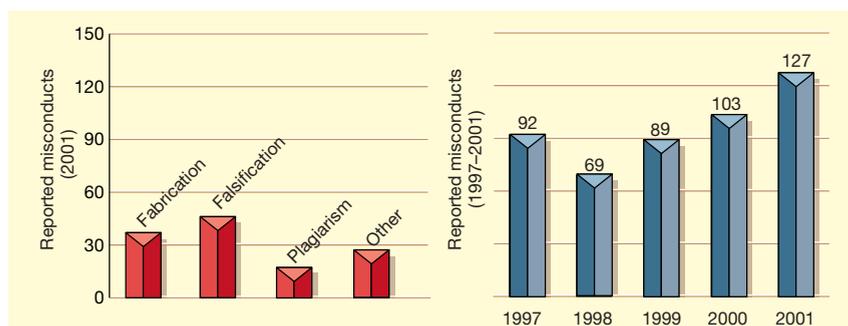
Other researchers have raised the idea of appointing full-time committees to look into misconduct allegations. The idea has little support, however, as most scientists would prefer investigators to be actively involved in related research. “If you don’t enforce your own standards you don’t have the moral authority to set them,” says Friedman.

With radical changes to the investigative process in short supply, the most practical approach may be to tackle the root of the problem — the fraud itself. No single person can end the competitive pressures of biomedical research, but, says Friedman, they can combat fraud by stopping minor infractions before they reach the level of serious misconduct. “Nobody arrives at fraud as the first thing they ever do,” he says. “That’s important. They got there by doing little things and getting away with it. Calling them in might stop people from going off the deep end.” ■

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Figuring it out: allegations of misconduct reported to the Office of Research Integrity in recent years.