RANDOM SAMPLES

edited by CONSTANCE HOLDEN

Fisher Fights Back

Last spring, Congress raked National Cancer Institute (NCI) staffers over the coals for their slow response to reports of tainted data in a major breast cancer study. Now study director Bernard Fisher hopes, with help from a court order, to show that NCI was bullied by Congress into punishing him.

Last week, the University of Pittsburgh's Fisher won a court injunction requiring removal of "scientific misconduct" labels from citations of his work in federally run databases (*Science*, 3 March, p. 1255). In addition, the government will send faxes to all distributors of the databases, apologizing for the label and noting that Fisher's own research had never been judged faulty. The order is pending before U.S. District Court judge Ricardo Urbina in Washington, D.C.

Last spring, managers of two computerized databases—NCI's *Cancerlit* and the National Library of Medicine's *Medline*—slapped warning labels on citations of Fisher's papers. The action was in response to a memo from the Office of Research Integrity requesting that certain publications be flagged "to indicate that a reanalysis ... may be needed based on a finding of scientific misconduct on the part of one of the contributors." The contributor in question, Roger Poisson of St. Luc's Hospital in Montreal, had altered patient records in the breast cancer study.

Fisher believes the government has been running an "electronic smear campaign" against him. Now his lawyers are entitled to dig through government files and take depositions from relevant officials to try to prove that the government wanted to damage his reputation.

Federal officials meanwhile remained mum last week on the fate of a separate investigation involving allegations of scientific misconduct in the breast cancer study that were lodged against Fisher in 1994.

GINGERICH/APS

To stop time, add water. Bead's shadow moves down bowl.

Recreating the Miracle of Ahaz

Ever want to turn back the clock? A unique sundial at the American Philosophical Society in Philadelphia may help you out. The device, built in 1578 by the German instrument builder Christopher Schlisser, is known as the Dial of Ahaz. It was designed to recreate an Old Testament miracle involving King Ahaz, who asked God for proof that he had been cured of a dire illness. He was convinced when the sun's shadow, cast by an obelisk upon some steps, grew shorter by 10 steps as if time had reversed.

Schlisser sought to duplicate this event with a bowl-shaped sundial in which the shadow is cast by a bead on a line strung from the staff of a Moorish figurine. A Latin inscription on the dial explains that filling the bowl with water will cause the shadow to be "borne backward by 10 degrees." The sundial, victim of an inept repair job in the 1890s, did not work as advertised when examined a few years ago by astronomer and science historian Owen Gingerich at the Harvard-Smithsonian Center for Astrophysics (CFA). The bead was in the wrong position.

This problem intrigued one of Gingerich's students, Philip Sadler, now a Harvard professor and director of science education at CFA. Working with photographs of the dial, he noted where the shadow should fall at noon and then traced where the sun's light had to be blocked to produce that shadow, thus determining the bead's location. Sadler, who describes the project in the March *American Journal of Physics*, next created a mathematical model of the dial to show why it appears to make time recede. The trick depends on refraction: When light crosses the boundary from water to air it bends slightly, changing the apparent location of its source. "As you start to add water, the shadow moves backward in the bowl. It's weird," says Sadler. He found that at one point each day—the exact time depends on the latitude and season—the sundial's time could indeed be made to retreat by about 40 minutes, or 10 degrees—presumably the 10 steps of the miracle.

Blood in Canada

Sweeping changes are needed in Canada's blood supply system, warns a commission set up to trace the events in the early 1980s that led to the infection of some 1000 Canadians with HIV.

"To the question whether the tragedy of 1978 to 1985 could happen again with a different contaminating agent, I believe the answer is 'Yes,' " wrote Justice Horace Krever, head of the Commission of Inquiry on the Blood System in Canada, which issued a preliminary report on 24 February. The commission found poor donor-screening and sloppy record-keeping at some blood centers. Audits performed by experts from the U.S. Food and Drug Administration, Scotland, and New Zealand revealed that "controls that should have been in place ... were missing," says John Shortreed, a risk management expert from the University of Waterloo and a member of the safety audit committee.

The blood network also suffers from a bewildering administrative structure, says Shortreed: "It took us 4 months to figure out who was running the system." The commissioners call for clearer definition of the roles played by the Canadian Red Cross, the provincially funded Canadian Blood Agency, and the federal regulators at Health Canada. Also recommended are beefed-up inspections at Canada's 17 blood centers, and facilities to encourage patients to donate blood for their own surgeries. National public hearings on the Canadian blood system began this month.

Spreading the Wealth

A 5-year, $500,000 award from the National Science Foundation (NSF) is giving 30 young scientists a chance to turn themselves into mini–funding agencies.

The Presidential Faculty Fellows—tenure-track scientists and engineers—are chosen for their overall performance in the lab and the classroom. Now in its fourth year, the program offers scientists the chance to realize some dreams. Chemist Jennifer Lewis of the University of Illinois, for example, says "I want to purchase equipment, support some graduate student researchships, and build up our undergraduate facilities in processing materials." She hopes to leverage her cash with matching funds from the college and a donation from the alumni fund to create a $250,000, hands-on undergraduate program. Similarly, University of Georgia mathematician Andrew Granville is using $60,000 a year, along with $100,000 from his university, to create the school's first four math postdocs. When the grant runs out, the school will pick up the tab.

Fellows must be nominated by the presidents of their institutions. This year's winners will be announced in the fall.