

ting. If he raised \$10 for every investor he brought through, we might still be in business." Another scientist who left the company before the boom fell, said, however, that Kilgore "was never concerned with science, only with the question of what would be good for the stock market."

By the end of the year, when the cash flow problems were starting to get severe, the search for external financing became desperate. Kilgore began to pin his hopes on negotiations with Monsanto for a deal that might have resulted in a

cash injection of about \$3 million from the chemical company. Monsanto has developed a new process for fractionating plasma, and it was apparently interested in access to a secure plasma supply. Southern Biotech's plasma collection business looked attractive, and the two companies went through a long series of talks about a joint venture involving the establishment of a new facility in Tampa. After five drafts of an agreement had been produced, Monsanto in mid-March abruptly broke off negotiations. Neither side is willing to discuss the

reason for the breakdown. Although talks were still under way with the Scottish Development Board and with Prutech, the venture capital arm of the British Prudential Assurance Co., for some international deals, the company's prospects began to look bleak indeed.

Nevertheless, on 1 April, John Lilly, the vice president for finance, sent a memo to all Southern Biotech employees saying that "The most recent cash forecast that we have put together indicates that though we will not have all the dollars we would like to have, there will

Researcher Denied Future U.S. Funds

Nearly 4 years after a tempest broke at Boston University (BU) over the falsification of data in a series of oncology experiments, Marc J. Straus, the senior researcher on the project, has been barred from receiving federal funds until 1986. It is the first time that federal "debarment" regulations have been invoked.

On 17 May, Straus signed an agreement with the National Institutes of Health (NIH) and the Food and Drug Administration (FDA) whereby he admitted that he was responsible for work submitted to federally funded programs that contained fabricated data. The work centered on how patients responded to a complex drug regime meant to combat a virulent form of lung cancer. The debarment means that Straus, for a period of 4 years, will be unable to study investigational new drugs and will be unable to receive any form of financial assistance from the Department of Health and Human Services. The 4-year cutoff is unique to the Straus affair. Under the regulations, the period of debarment is flexible and based on "the seriousness of the offense." FDA and NIH officials, who investigated the case between June 1979 and March 1982, say they will not press criminal charges against Straus.

The controversial regulations, drafted amid an apparent rise in data falsification and misuse of federal funds, went into effect in 1980 (*Science*, 14 November 1980, p. 746).

Though now legally taking responsibility for the false data, Straus strongly maintains that he had no part in the falsifications and was victim of a conspiracy hatched in 1978 by a handful of disgruntled employees.

"I have never been party to any data frauds or manipulations," Straus said in a telephone interview, "and nothing in the settlement with the government indicates that I was such a party. I have settled with the government only after becoming convinced that this legal outcome was unavoidable since government regulations unfairly impose these penalties on a principal investigator even when he did not know of any wrongdoing. . . . I have spent four frustrating years fighting for a fair and complete peer review of my work. . . . With my limited resources, I am unable to fight an endless battle against the government."

Three years after he left BU, Straus filed in federal court in Boston a \$33 million conspiracy suit against five members of his BU team, saying they had falsified data, abused patients, and conspired to blame these acts on him (*Sci-*

ence, 19 June 1981, p. 1367). The court case is in pretrial discovery, and the defendants still maintain, as they have since 1978, that the bulk of the BU falsifications were ordered by Straus.

That the Straus affair ended in debarment has significance beyond the individual case. It sets a strong precedent for the liability of a senior scientist, even though he may not be aware of unethical acts performed by subordinates. In the emerging debate over the issue, Straus previously argued that a senior investigator cannot be held totally responsible. At a 1981 hearing of the President's commission for the study of ethical problems in medicine and biomedical and behavioral research, he said: "You must rely on the integrity of people who are going to fill in those multiplicity of little boxes. . . . There is a certain level of surveillance in any operation, medicine or otherwise, that requires the belief that the persons under you are acting properly."

At BU, the Straus team consisted of some 40 individuals. Their work on a drug regime, devised by Straus, allegedly led to remission in 93 percent of patients with small cell lung cancer, a disease that normally kills within 3 months of diagnosis.

A contentious issue that haunted the Straus affair was whether a senior investigator should be given federal funds in the midst of unresolved allegations of fakery. After BU forced him to resign in 1978, Straus moved to the New York Medical College in Valhalla. There in March 1980, while under investigation by the FDA and NIH, he received a \$910,000 grant from the National Cancer Institute (NCI). This largess was questioned a year later at a congressional investigation by Representative Robert S. Walker (R-Penn.): "It took 10 days for Boston University to investigate Straus and demand his resignation," he said. "Yet 22 months later you are still giving him a grant." In response, NIH official William F. Raub said that the presumption of innocence meant that Straus would be funded until proven guilty.

After an NIH site visit to Valhalla that came in the wake of the congressional inquiry, however, NIH officials decided that Straus had violated some of the conditions of the award and his 3-year NCI grant was terminated in April 1982. The debarment thus merely extends the cutoff of federal funds to Straus.—WILLIAM J. BROAD