

Poll Taps "Deeply Troubled Mood" Among U.S. University Scientists

Leon Lederman, Nobel laureate and president-elect of the American Association for the Advancement of Science, said that a recent poll he took of physicists, chemists, and biologists has tapped "a deeply troubled mood" among America's university scientists. "This is so pervasive that it raises serious questions about the very future of science in the United States," he said. One of the groups most affected is materials researchers, said Lederman in a telephone interview with the *MRS BULLETIN*.

The report, presented publicly in Washington on January 7, is titled *Science: The End of The Frontier?* Surveys were sent to scientists at 50 universities, including the 30 universities receiving the greatest amount of funding. The report is largely anecdotal, and Lederman acknowledged that a social scientist would find his methodology "horrendous." However, there is evidence from those who provided testimonials that the U.S. competitive position is falling, relationships between professors and graduate students are negatively affected (with students sometimes walking away from promising disciplines of study),

and that a potential breakdown of the country's scientific infrastructure may be at hand.

Lederman and others attribute the source of the problem to insufficient funding. One problem Lederman stressed is that twice as many doctoral scientists are competing for funds now as were in 1968 and the corresponding resources have not moved forward as rapidly. However, Lederman's own proposal, which advocates a budget doubling over the next five years, appeared to receive thin support, even from among the science cognoscenti, for one reason or another.

The most serious criticism of Lederman's proposal was that it appeared unrealistic in a time of general national belt tightening and fell into the category of aggressive lobbying that so many special interests in Washington attempt to use. Another problem, voiced specifically by Senator Al Gore (D-TN), was the need to stem the flow of America's scientific research abroad before the flow substantially increases.

Lederman also identified new fields of research opened up since 1968 that must be populated, including materials science, molecular genetics, organometallic chemistry, chaos, and complexity.

Lederman attempted not to place all the responsibility on the federal government,

also suggesting the establishment of a trust fund supported by special taxes on high technology consumer products that benefit research, and the establishment of partnerships between the government and investment community. He recommended organizing a new commission to study such possibilities. Representatives would be drawn from the executive and legislative branches, industry, the financial community, and academia.

In one response to the survey, a professor of physics said, "My current plans are to quit. As funds for research disappear, I lose the ability to support students and operate a laboratory. Real research cannot be done without funding."

"Undergraduates, graduate students, and postdocs continually ask about the benefits of pursuing an academic career when funding is so tight," said Alan Koretsky, assistant professor of biology at Carnegie Mellon University. "The general sentiment is that an academic research career already takes long hours and dedication. If the reward of having the freedom to pursue an idea is stifled because of lack of funds, then there is little else to recommend the job."

C. David Chaffee
Washington, DC

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