

social costs," which means that prices should be increased. Notably lacking in this study are projections of cost and evaluations of institutional barriers to change. These will come later, in another report, the authors say.

All predictions about the rate of gas accumulation and its impact on global temperatures are riddled with uncertainty. But, as this report points out, it is not important to resolve the scientific issues before taking action—an attitude that contrasts with the

Reagan Administration's approach to acid rain controls.

Many steps that could be used to slow the buildup of greenhouse gases also could bring immediate social benefits, such as reducing urban pollution and limiting dependence on foreign oil. The report's message is activist. It suggests that governments should not seek an airtight case to justify intervention. Even modest steps to control emissions will improve the atmosphere in the next century. ■ **ELIOT MARSHALL**

German Computer Spy Ring Broken

The arrest of three young West German techno-vandals in March ended an investigation of computer spying that lasted more than 2 years and spanned several continents, linking a U.S. military base in Japan, the Lawrence Berkeley Laboratory (LBL) in California, and a variety of German universities and research institutes.

Two of the three suspects were released without charges. An unnamed third stands accused of espionage. In all, eight hackers are under suspicion for belonging to a group that snooped through electronic networks, receiving pay from the Soviet KGB.

After a preliminary review last week, the U.S. Department of Defense reported on 16 March that no real damage had been done. Daniel Howard, the assistant secretary of defense for public information, told reporters that the West Germans "did not penetrate secure programs" and "it does not appear that there was any compromise of classified information."

While the hackers failed to get classified U.S. data, they apparently did acquire some industrial secrets, according to reports in Europe. The companies involved have not confirmed this information. But Klaus Brunnstein, a computer specialist at the University of Hamburg, writes that if the thieves did take designs for a megabit (1-million bit) chip and sophisticated design software from the Thomson Company of France and N.V. Philips of the Netherlands, as rumored, then "the advantage and value for the U.S.S.R. cannot be overestimated."

Two members of the group have been identified in the West German press as drug addicts, suggesting they were motivated by money, not politics. The German Panorama TV news team, which broke the news in early March, asked Brunnstein to examine computer logs seized in the apartment of one suspect, Markus Hess, 27, of Hanover. Brunnstein saw protocols for what he calls the "famous NASA hack" of 27 July 1987, in which the agency's space physics or

SPAN network was invaded by someone searching for "secret" data. It contains none.

Hess was released uncharged, in part, Brunnstein says, because evidence was taken illegally. It included records of successfully cracked passwords. In a reprimand for those who make the hacker's job easy, Brunnstein notes disapprovingly that at the universities of Pisa, Pavia, and Bologna, INSALATA is a favorite password.

The first person to detect the broader pattern of espionage and alert the police was an astronomer at LBL, Clifford Stoll. He has since moved to the Smithsonian Astrophysical Observatory in Cambridge, Massachusetts. Stoll says he had a hard time getting an inquiry launched in 1986. "When we first took it to the FBI, they laughed at us," he says, because the violation looked trivial. The only evidence Stoll could produce was a 75-cent discrepancy in LBL's charges for the use of computer time. Someone with no account had used the computer for a short time. Stoll eventually persuaded the FBI and others that an undeliverable bill, no matter how small, hinted at a major breach in security.

At Stoll's suggestion, LBL decided in 1986 not to slam the gates shut on the criminal but to watch his behavior surreptitiously and follow him to his home. Stoll gives a thorough account of this "Wily Hacker" investigation in the May 1988 edition of *Communications of the ACM*. The intruder was tracked all across the United States, where he took advantage of a loophole in a defense contractor's computer in McLean, Virginia, to romp through dozens of interconnected networks.

By baiting the LBL network with bogus files on the use of computers in the Strategic Defense Initiative, officials tempted the hackers into dallying on long distance lines for up to an hour. In this way, the source was tracked back through an intricate series of connections to Hess in West Germany.

■ **ELIOT MARSHALL**

Fraud Review May Be Taken from NIH

Congress won't be satisfied that biomedical research is properly policed until NIH is stripped of its dual role as funder and watchdog. No matter what steps NIH takes to strengthen its oversight offices, "the system clearly exhibits the appearance of the proverbial 'fox guarding the chickens,'" according to the assessment of one observer who has privately circulated a memo on the subject. A reading of Capitol Hill suggests the assessment may be right—at least for now.

Legislation that is expected to be introduced in the House by Representative John Dingell (D-MI and others would take the current fraud office out of NIH and place it in the office of the assistant secretary for health in the Department of Health and Human Services (HHS).

A more radical move is also being suggested. Take the Recombinant DNA Advisory Committee (RAC), the fraud office, and the office responsible for protecting the rights of research patients and animals and move all three into HHS, thereby ridding NIH of all responsibility for overseeing its own regulations in areas where it both supports and regulates research.

Meanwhile, a proposal to create a new Office of Scientific Integrity within the NIH director's office has just been published in the 16 March *Federal Register*. In line with a recent recommendation from the Institute of Medicine, that office would not only investigate allegations of fraud and misconduct but also set guidelines for promoting high ethical standards in research.

This proposal, which comes from the Administration, also calls for an Office of Scientific Integrity Review to be established under the assistant secretary of health in the Department of Health and Human Services (HHS). Among its jobs would be to make sure that NIH and other HHS research agencies are doing what they should to carry out various policies for preventing and investigating misconduct. Layer upon layer.

Scientific conduct has become a hot topic on Capitol Hill and the debate that is anticipated for this spring is likely to be heated.

■ **BARBARA J. CULLITON**

Next Science Adviser?

George B. Rathman, the chairman of a California biotechnology company, wants to be President George Bush's science adviser. The Amgen, Inc., executive has the backing of Senators Robert Dole (R-KS), Pete Wilson (R-CA), and Edward M. Kennedy (D-MA).

■ **MARK CRAWFORD**