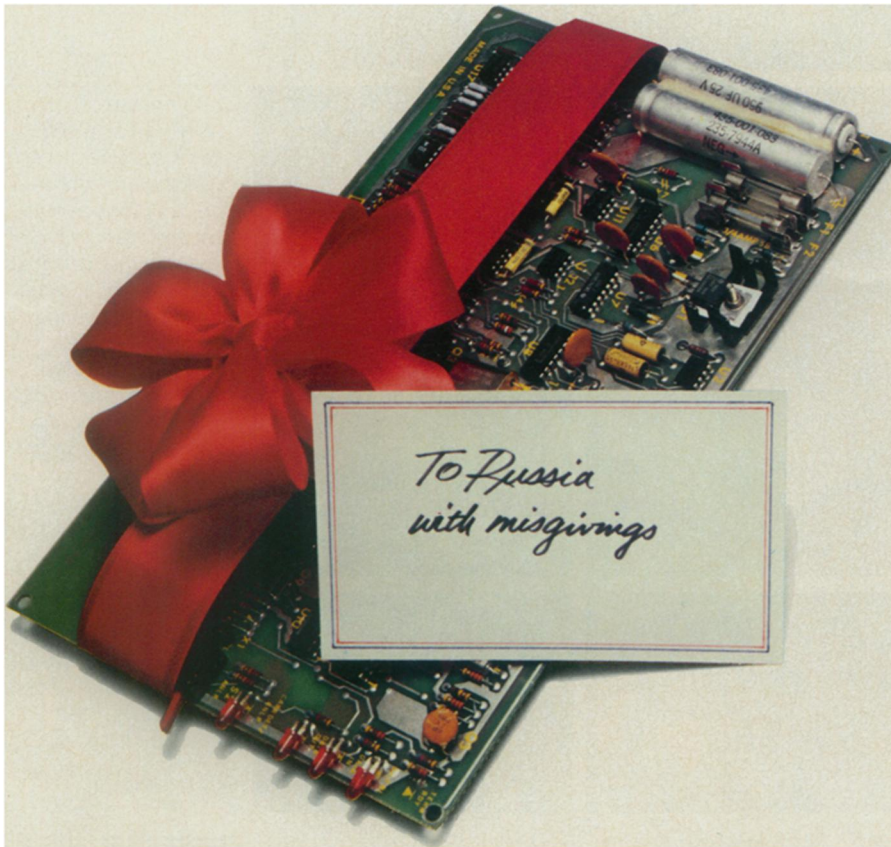


A Question of Scientific Free Speech

Controversial government efforts to restrict the flow of sensitive scientific information have raised thorny legal issues



Carl Zapp

By IVARS PETERSON

WANTED: A portable information evaluator (PIE) for predicting whether the release of particular bits of scientific and technical data endangers national security. Must be able to make instant, definitive judgments on long-term military implications of advances in basic science. Must also be able to keep a secret. Contact your local Defense Department or Customs Service.

Such a PIE-in-the-sky device may be on the wish lists of wistful Pentagon officials and their colleagues in the Departments of State and Commerce. However, scientific information has a way of springing up in unexpected places, of appearing in unpredictable forms, and of getting out. The situation these officials face is more like trying to stop water from flowing through a sieve. There aren't enough fingers to cover all the holes, and blocking a few doesn't seem to help.

The continuing tug-of-war over whether to envelop certain kinds of scientific information in secrecy is generating considerable confusion and uncertainty, precisely because determining what should or should not be controlled is so hard to define. Within the Pentagon, Department of Defense officials argue with one another over what to classify. Much energy is spent on territorial disputes concerning how scientific and technical communication should be controlled. Last summer's abrupt DOD action that canceled more than 100 papers at a meeting of the Society of Photo-Optical Instrumentation Engineers (SN: 9/4/82, p. 148; 9/18/82, p. 180) revealed serious fractures within DOD, particularly between the policy and the research and development sections.

Confusion surrounds regulations controlling the export of goods or technical data judged to be of a sensitive nature but

not classified. A recent Senate report concluded that the Commerce Department, which is responsible for licensing such exports, is "understaffed and poorly equipped" to enforce export controls effectively. In addition, the frequent lack of coordination between the Departments of State, Commerce and Defense and the U.S. Customs Service often contributes to the confusion and creates long delays before decisions are made (SN: 11/6/82, p. 293).

At the same time, university and industry researchers wonder whether their work falls into a "sensitive" category, and whether they are free to publish or report their results at open meetings. Increased DOD spending on both basic and applied research adds to the potential restraints. The scientific and technical community itself does not speak with a single voice. Some powerful technical societies are more disposed to avoid controversy and to search for accommodation, rather than to confront government openly.

The hope of resolving some of these uncertainties drew several hundred scientists and engineers to a special session on "Scientific Exchanges and National Security" at an American Vacuum Society national symposium held recently in Baltimore, Md. This topic is an increasingly popular addition to the agendas at many technical and scientific meetings.

The audience was attentive, restrained, polite. Some had a special reason for paying close attention. In February 1980, an international meeting on magnetic bubble memories, organized by the American Vacuum Society, was one of the first meetings affected by the Commerce Department's export regulations. Just five working days before the meeting, the department informed the organizers that "oral exchanges of information in the U.S. with foreign nationals constitutes export of technical data." The society rescinded invitations previously extended to Polish, Hungarian and Soviet researchers, and the foreign participants who did arrive had to sign agreements not to "re-export" what they learned.

At the special session, Edith Martin, deputy undersecretary of defense for research in advanced technology, was conciliatory but firm. She praised the re-



"JUST WHAT AREA OF U.S. ELECTRONICS HAS OUR INTELLIGENCE NETWORK TAPPED INTO?"

searchers for their contributions to the national defense effort and spoke proudly of DOD efforts to increase funding for university research and facilities, in part to encourage the training of more and better qualified engineers and scientists. She said, "All of our initiatives to recruit and train the best and the brightest for careers in science and engineering would be fruitless unless we assure them an environment conducive to scientific innovation and development."

Then she continued, "We made a decision a long time ago to base our defense strategy on high technology rather than trying to address our potential adversary on a person-to-person, tank-for-tank basis. We are not today in a position to turn around on that decision. So all we have is a lead in terms of time. I don't really think that the government is looking for wholesale restraints on U.S. citizens. ... What they're looking for is cooperation."

The question of restraints on communication, however, involves legal and constitutional issues. Mary M. Cheh, a law professor at George Washington University in Washington, D.C., noted, "The law does not make a distinction in its First Amendment analysis between issues that arise in the scientific community and other kinds of issues that present free-speech questions. The essential question ... is under what circumstances can the government censor or control a scientist's or researcher's communication or publication of information or results." She pointed out that the government is given wide latitude to control any information that is developed within the government, by government employees or under government contracts. "With respect to you as an individual, not a government contractor or employee, the First Amendment tells us that Congress may make no law abridging free speech," she said.

The government tries to control private communication of scientific ideas in several ways (SN: 3/20/82, p. 204). The Atomic Energy Act, various export control laws, the Patent Secrecy Act, for example, all impose restrictions. These laws present some murky questions, Cheh said. Are these laws constitutional? Are they sensible? Are bureaucrats interpreting these

statutes too broadly?

For the most part, these laws as applied to the scientific community have not been tested in the courts, Cheh said. "One of the reasons is that the government has applied the laws by-and-large sensibly." However, the government's recent heavy-handed tactics have raised questions about the laws. The First Amendment, as understood by the U.S. Supreme Court, provides that the government cannot control the content of speech unless the speech itself is harmful, and that the law restricting that speech is narrowly tailored just to get at that harm and nothing broader. Cheh said the burden is on the government to define clearly what the potential threats are and the kind of information involved.

Nevertheless, there are several catches. Somehow, the government must have the expertise to analyze and understand the implications of all state-of-the-art technical and scientific developments, not only within the United States but also internationally. There seems little point in restricting information already available freely in other countries. The government also protests that simply by trying to define and describe what should be restricted, the government gives away what it thinks is important.

Martin described the Defense Department's attitude. "I look at ... the Department of Defense ... as somebody who is trying to retain for you freedom, which you very frivolously enjoy, and if you cannot tolerate some small level of control on that, how would you feel with a government that would impose total restraint on that freedom," Martin said. The issue ought to be addressed on a personal and philosophical level rather than a constitutional one, she added.

Cheh said, "On the whole ... we're going to do a lot better with an environment of openness, even if it means some slippage. The problem is that we all have in the back of our minds the nuclear holocaust. Some bit of information is going to slip through a symposium somewhere and change the whole order of things in the world. It's unlikely. ... It's better that it all be out so that we know what we're dealing with."

About a year ago, Admiral Bobby R. Inman warned that as awareness of the Soviet defense buildup, much of it based on technology stolen from the West, grew, the federal government would be tempted to impose tighter restrictions. He suggested that scientists should voluntarily consider the question of potential harm to the nation when they are disseminating research results (SN: 1/16/82, p. 35).

Yet, this fall a National Academy of Sciences study concluded that while there was a serious and substantial leak of technological information to the Soviet Union, open scientific exchanges, particularly university activities, played only a very small part in that leakage of technology (SN: 10/9/82, p. 229).

Perhaps DOD has already achieved what it calls an "increased sensitivity" to national security considerations on the part of researchers. When a questioner asked Martin about one company's withdrawal of several papers from a coming technical conference because of concerns about DOD reaction, she replied that she didn't see this as a "chilling effect." She was encouraged to find researchers in both industry and universities thinking more carefully about the implications of their work. DOD itself can't effectively control information flow without the cooperation of researchers.

The issue of controls on scientific information is a long-term problem. The NAS study is only one of a series of steps necessary to resolve the conflict and to remove the confusion and uncertainty. Meanwhile, other government actions ensure that the issue will continue to be controversial. The current DOD authorization bill calls for a study of the possible formation of a new agency to supervise export controls. A government-wide technical information task force is also taking a fresh look at the whole export control question. The Export Control Act, administered by the Commerce Department, comes up for renewal next September.

Cheh said, "I think there is room for negotiation, room for agreement. But the scientists must say to the government: Now the ball is in your court. ... You tell us what should be controlled, and if you can't, then the regulations shouldn't survive." □