The SWAT Team Wore Suits: AAAS Deploys Quick-Response Congressional Seminars

The panel of suited experts sitting quietly before a crowd of congressional staffers one morning last month looked nothing like a SWAT team. But in essence, that's what they were: A speedily deployed squad of international security strategists organized by the American Association for the Advancement of Science (AAAS) to offer members of Congress, their staff, and others the latest thinking on global weapons trafficking in the wake of the Gulf War.

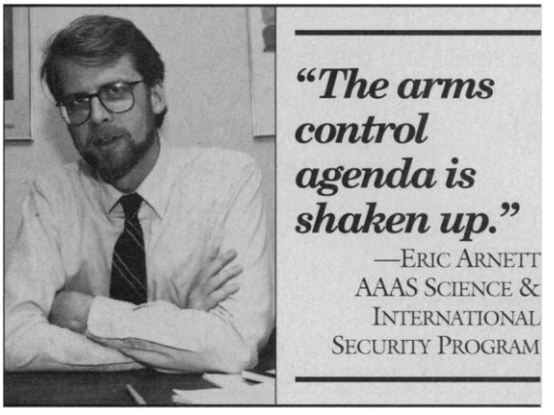
The congressional seminar on 17 April was the second in a redesigned series arranged by the AAAS Program on Science and International Security. The first such seminar, on the possible role of chemical weapons in the Kuwait crisis, occurred 11 September 1990.

"We've been doing congressional seminars for about 5 years," says program associate Eric Arnett, who organizes the events. The idea, he says, has been to provide up-to-date information from an ideologically balanced panel of experts relating to actual international security decisions Congress must make.

"But where we used to only do 'set pieces' [anchored] to arms control summits, now we have to respond more quickly" to rapidly changing world events, says Arnett. The April seminar took less than 4 weeks to coordinate.

"We don't have the old diplomatic rituals" between the Soviet Union and the United States guiding global debate anymore, says Arnett. "Now the arms control agenda is shaken up. The developing world is becoming much more important" to international security issues.

Just how agitated the factors affecting international security have become was evidenced in the views expressed by last month's AAAS panel to the more than 180 people crowded into the Dirksen Senate Office Building auditorium in Washington, D.C. (Earlier, the panel had addressed similar issues at a closed breakfast meeting for interested members of Congress and their senior staff.)



"Without the old East-West polarity, things are a lot more complex" for those concerned with arms sales, said moderator M. Granger Morgan, director of the Program on International Peace and Security at Carnegie Mellon University. As with Iraq's Saddam Hussein, he said, "today's good guy may become tomorrow's bad guy."

The end of the cold war also enabled those countries who'd traditionally supplied the world with military technologies to start cutting back on their defense budgets, noted the panelists. Rather than stablizing the flow of arms, however, domestic military cuts have spurred members of the defense industry to pressure their governments to allow more arms sales abroad.

"The contribution of arms sales to [a country's] balance of trade and economy is directly related to the issue of arms proliferation," said David J. Louscher, director of studies for Foresight International and author of a new book, *Arms Sales and the U.S. Economy*. "We continue to supply arms mostly for foreign policy reasons, whereas almost all other countries are compelled [to sell arms] for economic reasons."

Even in the U.S., however, pressure to uncork foreign arms sales is growing, says Louscher. Defense industrialists, along with the employees and communities they support, are arguing that the nation's economy cannot afford cutbacks in weapons production.

But "the overall market for arms sales is grim for the U.S., except in the Middle East," argued Edward J. Laurance, an international arms trade expert at the U.S. Naval Postgraduate School. In the absence of a Soviet threat, "advanced equipment will be in *less*, not greater demand because most developing countries can't afford it, and even those that can have difficulty operating it.

"The U.S. used to be able to tell Europe that [because of the Soviets] it must buy the best available—that is, American technology," added Laurance. "Now European [arms] suppliers are on the way up, as is indigenous production in the Third World," whose simpler products better suit the educational level of many buyer countries.

Also adding to the confusion are the new "dual-use" technologies—items such as sophisticated computer products that have both military and commercial uses.

"It used to be that the military developed technologies, then looked for spin-off applications for commercial use," said Mitchel B. Wallerstein, deputy executive officer of the National Research Council and an expert on U.S. export controls. "Now you have the Japanese, for example, pursuing what they call 'spin-ons'—military applications of technologies that were originally produced for commercial purposes."

As a result, said Wallerstein, policy-makers concerned with arms control can't rely just on a policy of denying militarily sensitive exports to proscribed countries. "You have to have a more difficult mixture of denial, carrots, and sticks," he said.

Typically, AAAS has organized about three congressional seminars each year but Arnett says that number may double in 1991. The seminar series, sponsored by the Carnegie Corporation of New York, is a rare bridge between scientists and engineers from a range of disciplines and policy-makers on the cutting edge of world affairs.

In addition to the breakfast meeting for members of Con-

In Brief

■ **Malaria Workshop.** Scheduled to begin today in Mombasa, Kenya, is a multidisciplinary workshop on malaria prevention and control strategies sponsored by AAAS's Sub-Saharan Africa program. The 4-day meeting brings together experts from fields such as urban planning, agriculture, and ecology—specialties not usually considered in antimalaria efforts despite such commonly encountered roadblocks as migration, poverty, and agricultural practices that affect the spread of mosquitoes. For more information, contact the program at AAAS, International Directorate, 1333 H St., NW, Washington, DC 20005 or 202-326-6651.

■ **Science Books & Films.** The country's only journal devoted exclusively to critical reviews of print and nonprint science education resources for people of all ages is increasing its annual frequency from five to nine issues.

Each issue of AAAS's *Science Books & Films* continues to offer some 125 reviews of books, audio-visual materials, and software for use in science, mathematics, or technology education. AAAS members interested in acting as reviewers for the journal or in buying a $35 gift subscription for their local school or library may contact Maria Sosa, AAAS, 1333 H St., NW, Washington, DC 20005 or 202-326-6453.

■ **Regional Divisions' Annual Meetings.** On 15 to 18 May, the Southwestern and Rocky Mountain division (SWARM) held its annual meeting in Lubbock, Texas. The Arctic division's annual gathering in Fairbanks, Alaska, ends today (22 to 24 May).

■ **Behavioral Science Prize.** AAAS invites entries for the $2500 1991 Behavioral Science Research Prize, which is annually awarded to authors of innovative studies and analyses concerning human psychological, social, and cultural behavior. Eligible entries must have appeared in a peer-reviewed journal since 1 January 1990. The deadline: 1 July 1991. For more information, an entry blank, and instructions, contact Janice Merz, Education and Human Resources, AAAS, 1333 H St., NW, Washington, DC 20005 or 202-326-6621.

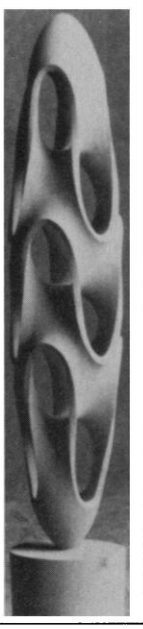
■ **Climate and Food Security.** Proceedings of the 1987 International Symposium on Climate and Food Security, cosponsored by AAAS, are now available. Contact Martin Clock, AAAS, International Directorate, 1333 H St., NW, Washington, DC 20005 or 202-326-6491. ❖

gress and the open forum for staff, proceedings for each seminar are published for general distribution. For more information about the seminars, contact Eric Arnett, AAAS, 1333 H St., NW, Washington, DC 20005.

Uncalculated Art

"I have a *very* modest aptitude for math," says artist Brent Collins, whose wood sculptures are on exhibit at AAAS headquarters in Washington, D.C., through 7 June. "The mathematical coherency in my work became clear only after I'd begun."

As it happened, University of Illinois mathematician George Francis saw Collins's work at an earlier exhibition and noticed that his curvilinear, honeycombed forms carved from cedar were a material realization of an abstract surface, topological in nature. Now, says Collins, Francis may try to "teach" a computer to create what the artist is doing instinctively.



Collins makes only minor measurements in the course of his work. "The sculptures come to me entirely as internal visualizations," he says. "It was a heady experience to learn that they are in fact intuitive apprehensions of mathematical relationships."

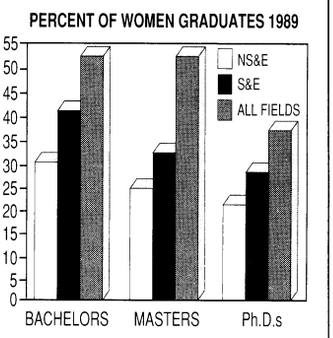
Collins's work appears as part of the AAAS Art of Science and Technology program. For more information, contact Virginia Stern, AAAS, 1333 H St., NW, Washington, DC 20005 or 202-326-6672. ❖

Women, Minorities, and Science

It may not be news that women and minorities continue to play a disproportionately minor role in many scientific disciplines. But the Commission on Professionals in Science and Technology in Washington, D.C., a participating organization of AAAS, is adept at nailing down the trend in numbers.

The Commission's 1991 edition of *Professional Women and Minorities: A Manpower Data Resource Service* is now available (see address below). Some of the report's highlights:

■ Despite earning the majority of all bachelor's and master's degrees in 1989, women earned



less than one-third of all such natural science and engineering (NS&E) degrees (30% of bachelor's; 24% of master's). As for doctorates, although women earned more than one-third of all Ph.D.s, they received only 20% of such NS&E degrees.

■ Asian Americans earned 8% of all NS&E bachelor's degrees in 1989, up from 5% in 1985 and well above population parity.

■ Blacks, on the other hand, earned 5% of these degrees although they represent 9% of all undergraduates.

■ Hispanics are 6% of all undergraduates but only 3% of NS&E degrees.

■ Women now earn most of the degrees in pharmacy and veterinary medicine, and more than a third in medicine, law, and optometry.

You may order a copy of the report from the Commission on Professionals in Science and Technology, 1500 Massachusetts Ave., NW, Suite 831, Washington, DC 20005. ❖