12 October 1984, Volume 226, Number 4671 **SCIENCE**

Science and Two-Armed Diplomats

Members of Congress often complain that we need more one-armed scientists, experts who do not muddy their testimony with caveats, "on the one hand . . . on the other hand." In debates on national policies, major technological choices and genuine technical uncertainty do cause political frustration. But in our foreign policies involving science, there are different problems. Diplomats rarely know much about science and technology, so they do not wrestle with technical choices and uncertainties. Constructively, Secretary of State George P. Shultz recently cabled U.S. diplomatic posts a message designed to press science and technology more powerfully into the management of U.S. foreign policy. He knows that we need two-armed diplomats.

"Foreign policy decisions in today's high technology world are driven by science and technology," Schultz said. Highly visible are debates on nuclear arms and controlling/restraining proliferation of nuclear weapons. Ongoing negotiations also focus on agriculture, population, and health; information and telecommunications; and the human rights of scientists. Moreover, our worldwide interests demand that our diplomats deal with such sweeping topics as energy, oceans, space, the environment, technical aid to developing countries, and technological exports to the East. Brisk confrontations emerge on issues such as acid rain and the impacts on research of withdrawal from Unesco. At the negotiating table, decisions affect international cooperation and competition in science.

So Secretary Shultz surely is correct. His mandate, emphasized in 1979 legislation, is that the State Department has "primary responsibility for coordination and oversight . . . on all major science and technology agreements and activities between the United States and foreign countries." Taking this responsibility seriously, Secretary Shultz said in his recent cable that "in foreign policy we simply must be ahead of the S&T power curve." Yet the State Department is not there.

The incentives within the diplomatic personnel system do not help. Qualitatively, political and economic officers are on top; science officers, where available, are on tap. Quantitatively, we have 30 science attachés and counselors serving abroad among approximately 4000 full-time foreign-service officers. The career-long retraining of our able diplomats—so impressive in many fields—does not require even short tutorials on the technical fields so crucial to American foreign policy.

There are other problems. One is the propensity of the government to use science and technology as last-minute exchange chips for diplomatic agreements when there is an impasse in negotiations on other subjects. Even worse, with our chronic neglect of the technical dimensions of much foreign policy, frequently we are forced to make hasty decisions on major choices which should have received longer range and more subtle planning.

We need sharply improved institutional structures in Washington. Beyond the State Department, many others are involved with international science—for example, the White House, the National Academy of Sciences, the National Academy of Engineering, the National Science Foundation, and most mission agencies. Congress is frustrated with the increasingly complex issues. The time is ripe for the academies to create a more coherent organization for science and technology in foreign policy.

What does all this mean for the technical communities in the United States? To fulfill the initiative of Secretary Shultz will take time, greater resources, and the vigorous participation of many professionals. The R&D community must tune in to the varied international opportunities and responsibilities for science, engineering, and medicine. We must help our diplomats by taking their problems—our problems—seriously.—RODNEY W. NICHOLS, *Executive Vice President, Rockefeller University, New York 10021*