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The Universality of Science

Irving A. Lerch

The intellectual commerce that has propelled the explosive growth of international science and technology over the past 50 years is threatened. More than at any time since the McCarthy era, our government increasingly has sought to bar the entry of scientists from nations at odds with our foreign policy interests and to prevent the travel of U.S. scientists to many of these same nations. This effort to selectively abridge scientific exchange threatens the vigor of the world's science enterprise.

There is perhaps no better rationale for freedom in the conduct of science than that provided by the statutes of the International Council of Scientific Unions (ICSU): "ICSU, as an international nongovernmental body, shall observe and actively uphold the principle of the universality of science. This principle entails freedom of association, expression, information, communication and movement in connection with international scientific activities."

Throughout the darkest days of the Cold War, this statute was accepted by our government and used by the National Academy of Sciences to promote contacts between Soviet and Western scientists. Without such interactions, it was recognized that neither side would be able to fulfill its need to reduce tensions, build confidence, and develop workable schemes for arms control and weapons reductions.

Because of Indian and Pakistani ambitions to be nuclear powers, South Asian physicists and other scientists have recently been prevented from attending international scientific conferences in the United States. Within 6 weeks of the first Indian nuclear tests, Rajagopal Chidambaram, chairman of the Indian Atomic Energy Commission and a leading figure in India's nuclear program, was unable to attend a U.S. meeting of the executive committee of the International Union of Crystallography (of which he is a vice president), because, he was told, State Department policy for granting visas to all Indian scientists was under indefinite review. At the same time, a list of Indian and Pakistani institutes presumed to be involved in weapons programs was sent by government officials to Department of Energy laboratories, with a statement that the visas of visiting South Asian physicists would not be extended beyond the expiration dates. One result was the threatened loss of a productive scientific collaboration by U.S. scientists in the Large Hadron Collider project at the Organisation Européenne pour la Recherche Nucleaire (CERN).

In 1998, then-president of the American Chemical Society, Paul Walter, and the society's administrator of international affairs, John Malin, were denied permission to meet with their counterparts in the Cuban Chemical Society. The Treasury Department concluded that their rationale for travel did not qualify as professional research and education. By early 1999, a more sophisticated application combined with considerable political pressure succeeded, so that a group of U.S. chemists attended a scientific congress in Cuba. In the spring of 1997, five Cuban chemists from the University of Havana were denied visas to attend an important international meeting on quantum chemistry at Sanibel Island, Florida, because they were declared "government employees," as are all university professors in Cuba. The State Department later confided that a red flag is raised whenever the word "quantum" or "nuclear" appears in a scientist's application to enter the country. And in a remarkable act of political interference in our intellectual dialogue, eight Department of Energy physicists from Fermilab were denied permission to attend a high-energy physics conference in India in January 1999 despite the scientific consensus that no benefit could possibly accrue to the Indian weapons establishment. One Fermilab physicist did eventually attend the conference after he was granted permission by the lab director to take leave and travel at his own expense.

The variegated richness of science is a product of its diversity. In the wake of World War II, the world's scientific talent flocked to U.S. and U.K. research universities and laboratories, thereby vastly enriching science. The efforts of government officials to slow this engine of exchange under the guise of preventing weapons technology transfers threaten debilitating consequences for science here and abroad.

The author is on the AAAS Committee on Scientific Freedom and Responsibility and is in the Department of International Affairs of the American Physical Society (APS). This editorial is the personal opinion of the author and does not reflect the official position of APS.

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