LETTERS

AAAS Human Rights Activities

Three letters to the editor (15 July, p. 216; 12 Aug., p. 604) have commented on the human rights activities of the AAAS. As chairman of the subcommittee of the AAAS Committee on Scientific Freedom and Responsibility, which is responsible for developing guidelines in this area, I have discussed with the AAAS staff the philosophy which guides our concerns, and we have prepared the following statement.

This philosophy stems in large part from our strong belief that the AAAS, as well as its affiliated societies, have an important role to play in responding to government restrictions that interfere with the work of scientists and engineers. That role also includes responding to reports of irresponsible scientific behavior that violates the human rights of others, such as medical participation in torture or the involuntary hospitalization of individuals for political rather than genuine medical reasons. Our subcommittee is particularly concerned with the problems of foreign scientists, and we have learned about the harassment and imprisonment of scientists in many countries, including the Soviet Union, Argentina, El Salvador, Chile, Uruguay, Pakistan, and the Philippines. We initially struggled with the task of defining an appropriate role for professional groups in responding to the flagrant violations of the human rights of scientists and others in these countries. Should we focus solely upon those violations that significantly and directly stem from the professional activities of the victim, or should we include all human rights violations under the scope of our review? Should we concentrate our efforts only on a few cases of the better-known scientists in the hope of achieving some effective change in their personal situation, or should we examine a wide range of cases, recognizing the strains this task would place on our limited time and staff resources?

These are not easy decisions, and we have not formulated a precise response to the task that confronts us. We have been greatly assisted by the thoughts of John Ziman (*1*), Robert Kates (*2*), and others who have established a philosophical foundation supporting the human rights work of professional groups. We have sponsored symposia at the AAAS annual meetings to encourage public discussions and attention to these questions. We have worked closely with Amnesty International, the United Nations Commission on Human Rights, and other public and private organizations whose sole mission is to attempt to reduce human rights violations throughout the world, both in order to inform ourselves about their work and to define for ourselves a role that would not duplicate their efforts.

The charge to our committee from the AAAS Board and Council states that the creation of the committee "marks a very significant as well as a potentially controversial role for the Association." We see our mission as one of collecting information about cases in which scientists and engineers experience serious violation of their basic human rights. We do not attempt to determine whether such violation occurred as a result of the scientist's professional or personal activities. For us, the result is the same: a colleague is in serious trouble, and the circumstances of his or her situation violate standards embodied in international law.

We do not pretend to argue that scientists are more deserving of human rights protection than others. We work on behalf of scientists because we share a professional identity with them and because we feel that they are often targeted for repression due to their professional visibility. This is not to say that they are more sensitive to political oppression or more conscionable and outspoken, and for that reason likely to be targeted for harassment or persecution. Scientists share their discoveries and views with a community that is international. They pose a threat to totalitarian regimes because their criticisms may be heard worldwide (*3*).

Some of the cases that come to our attention are sent by individuals who studied with the victim; others are forwarded by former teachers or by scientists who attend a professional meeting in another country and learn that another participant was imprisoned without charge or trial. As members of a professional group, we are often in a position to learn quickly about circumstances that might take months to come to the attention of appropriate officials through bureaucratic channels. We see our role as one of expediting this process: summarizing the details of a case as best we can, forwarding it to the appropriate national and international officials who may be in a position to take positive action and, if necessary, publicizing the case for the education of our colleagues and others so that they too may assist in seeking remedies.

From time to time we will urge the AAAS governing bodies to express serious concern about particular cases. For example, at the last AAAS annual meeting in Detroit, the Council adopted our committee's recommendation urging that special efforts be made by the AAAS on behalf of 11 individual scholars from the countries of El Salvador, Pakistan, Philippines, Poland, the Soviet Union, and Uruguay. These scholars were selected for special action because they are all experiencing serious health difficulties during their imprisonment or repression.

The letter from J. Layon and M. A. Collins (15 July, p. 216) urges the AAAS to do more to encourage speaking out about government abuses in El Salvador. It might be worth calling attention to the recommendations of the report of the medical mission sent to El Salvador by the AAAS and several other scientific and medical associations (*4*). The report's findings state that "the weight of the evidence clearly suggests that certain elements within the [Salvadoran] government and its security forces were directly responsible for" the disappearance in 1982 of 11 of the cases of health workers investigated by the mission delegates. The report called on the Salvadoran government to honor its obligations under international humanitarian and human rights agreements by ending the practice of torture and by allowing doctors and health personnel to provide relief to the civilian population without intimidation.

The work of professional organizations in the human rights area must clearly go beyond assessing blame. In addition to performing a fact-finding role, the AAAS works with its affiliates and other professional groups to bring effective aid to victims of repression. The El Salvador report, for example, encourages medical and scientific organizations to assist in providing basic teaching materials and equipment to help rebuild the National University School of Medicine in that country. In recent months several U.S. medical institutions and individuals have responded with donations of medical supplies, books, and subscriptions to journals. A complete burn unit is now on its way to El Salvador from a donor in Michigan. We recognize that these efforts are grossly insufficient and that additional aid is needed. We have officially questioned, and some of us on the committee strongly oppose, the Reagan Administration's policy of sending military doctors as a way to provide medical aid to Salvadoran civilians. More appropriate would be allocating funds to the International Committee of the Red Cross and other religious and humanitar-

ian organizations, such as Catholic Religious Services and the Lutheran World Council.

We are encouraged by the letters on human rights concerns published in *Science*. It is satisfying to know that readers pay serious attention to these activities along with the more traditional research studies published in the journal. Further comments or inquiries about the human rights work of the AAAS are welcome and should be addressed to Eric Stover at the AAAS address or to me.

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References and Notes

1. J. Ziman, *Scholarly Freedom and Human Rights* (Rose, London, 1976).
2. R. W. Kates, *Science* **201**, 502 (1978).
3. E. Stover and T. Eisner, *BioScience* **32**, 871 (1982).
4. "Report of a medical fact-finding mission to El Salvador, 11–15 January 1983" (AAAS, Institute of Medicine, International League for Human Rights, National Academy of Sciences, New York Academy of Sciences, Washington, D.C., 1983); see also A. Gellhorn, *New Engl J. Med.* **308**, 1043 (1983).

Corn Mold Controversy

After reading Eliot Marshall's article "Yellow rain experts battle over corn mold" (News and Comment, 5 Aug., p. 526), I feel compelled to make my own comments.

I see no purpose in derogatory remarks such as "Minnesota mafia." These comments tend to make the issue more controversial than necessary. When one establishes the etiology of a "mycotoxicosis," one obtains the appropriate relevant sample, demonstrates a mycotoxin in it in sufficient concentration to cause problems in animals, and isolates the toxin-producing fungus. This is often very difficult, and strict requirements are not often fulfilled, which leads to inferences as well as speculation. Another fact that is not peculiar to this area of research, one of which most plant pathologists are acutely aware, is that, as E. C. Stakman said many years ago, "Fungi are a mutable and treacherous tribe." We, as plant pathologists and mycotoxicologists, can only make conclusions about the capabilities of a species from the isolates that we have worked with. The more isolates we have, the more diverse the sources, and the more care we have used in their isolation and preservation, the more likely is our generalization to be true. But proving negative statements such as, no isolates of a species has x toxin-producing capabilities, is a time-consuming and often endless and nonrewarding activity.

We should await the research needed to clarify the role of *Fusarium moniliforme* and avoid innuendos.

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Automobiles and Acid Rain

In his editorial "Acid rain" (8 July, p. 115), Philip H. Abelson writes that "everyone who drives an automobile is a contributor to acid rain." Examination of emissions data indicates that controlling automobile emissions will contribute little to solving acid precipitation problems.

Of the strong acid anions associated with precipitation acidity, sulfate accounts for about 60 percent and nitrate for about 40 percent, on an equivalence basis. The contribution to national SO_2 emissions by all forms of transportation is about 3 percent (Table 1). The corresponding value for national NO_x emissions is about 44 percent. If ground-level emissions from highway vehicles contribute to long-range transport of atmospheric pollutants and to precipitation acidity on an equal basis with other sources, for example, power plant smokestacks, then the respective contributions to precipitation acidity can be approximated (Table 2). The atmospheric chemistry of NO_x and its interaction with SO_2 is poorly known. However, it is likely that automobiles account for less than 14 percent of total equivalents of strong acid anions in either wet or dry deposition in the eastern United States. The implication of these data for regulatory policies aimed at controlling acid precipitation (or "acid rain") by reducing SO_2 and NO_x emissions is obvious.

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Table 1. National SO_2 and NO_x emissions for 1980 (10^6 tonnes per year) (*2*).

Source	SO_2	NO_x
Electric utilities	15.8	5.6
Industrial boilers	2.4	3.5
Nonferrous smelters	1.4	
Residential/commercial	0.8	0.7
Other industrial processes	2.9	0.7
Transportation	0.8	8.5
Miscellaneous		0.3
Total	24.1	19.3

Table 2. Transportation sector and highway vehicle contributions (percent) to precipitation acidity, on the basis of data in table 1 and the assumption that highway vehicles contribute 50 percent of the transportation sector's SO_2 and 75 percent of its NO_x emissions (*3*).

Source	H_2SO_4* (%)	HNO_3† (%)	Total (%)
Transportation sector	2	18	20
Highway vehicles	1	13	14

*Values calculated as 3.3 and 1.6 percent of 60 percent, respectively. †Values calculated as 44 and 33 percent of 40 percent, respectively.

References

1. Work Group 3-B, *Emissions Costs and Engineering Assessment* (United States–Canada Memorandum of Intent on Transboundary Air Pollution, Department of State, Washington, D.C., 1982), tables A.2.1 and A.2.2.
2. *National Air Pollutant Emission Estimates 1970–1979* (EPA-450/4-81-010. Environmental Protection Agency, Washington, D.C., 1981), tables 2 and 3.

Meningomyelocele

Gina Kolata (News and Comment, 29 July, p. 441), in a statement about the potential of children with meningomyelocele, writes, "Most are also mentally retarded." The American Society for Pediatric Neurosurgery, the Pediatric Section of the American Association of Neurological Surgeons, and the Spina Bifida Association of America are attempting to increase recognition among physicians and the lay public of the fact that most children with meningomyelocele are not mentally retarded.

The mental retardation seen in the past was often associated with unrecognized shunt malfunction, improperly treated shunt infection, and the effects of sociocultural deprivation. Significant advances in the management of hydrocephalus and the integration of disabled children into regular school programs have reduced the numbers of children with significant mental handicaps. At the present time it can be stated that the majority of children with meningomyelocele are not mentally retarded and have the potential to be fully participatory, contributing members of society.

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