

Letters

Cancer Advisory Board

As current or former members of the National Cancer Advisory Board, we are very concerned about the present composition of the Board. Our concern is not related to any individual member who has been appointed recently; rather, it is related to the proper functioning of the Board.

As specified in the National Cancer Act, the Board is legally responsible for final approval of grants, such as those to individuals, program projects, cancer centers, and community oncology programs. The Board also reviews both in-house and extramural clinical and basic science programs. As a result of the current good working relationship with the director of the National Cancer Institute, the Board has become increasingly involved in the program of the National Cancer Institute: It advises the director on its views concerning the appropriate balance of the various research efforts, and it provides guidance as to which areas should be emphasized and which should receive less funding. In order to meet these diverse obligations, the Board has, in the past, included six basic scientists, six clinical scientists, and six lay members.

We are concerned because, at present, there is only one basic scientist on the Board. Four basic scientists (Ames, Amos, Pitot, and Shubik) and two lay members left the Board in June 1982; none of the new appointees is a basic scientist. Only one member of the current Board has a Ph.D. or an M.D./Ph.D. degree. Of the new members, none has been a member of a National Institutes of Health (NIH) study section or has ever had an R01 grant from the National Cancer Institute, and only one has ever served on an NIH council. Thus, the current Board lacks representatives with the appropriate research credentials to assess the quality of the review of grants by the study sections or review groups and to act on appeals from scientists for rereview of their grants.

Members of the National Cancer Advisory Board, unlike the members of all other NIH councils, are appointed by the President. It appears that the new Board

members were selected by the White House staff with little understanding of the *appropriate balance* between clinical and scientific experience and the public interest that is necessary for the Board to fulfill its functions properly. We believe that the scientific community should be aware of these changes in the composition of the Board, because they will have a direct and deleterious effect on American scientific programs that are supported by the National Cancer Institute.

A number of courses of action are possible, including writing directly to the President and to appropriate scientific and professional societies. We hope that, in the future, emphasis will be placed on correcting this imbalance by the appointment of basic scientists of the highest quality.

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AAAS members and other readers of *Science* may wish to know about the activities of the AAAS's new Committee on Science, Arms Control, and National Security (1).

In 1980, the AAAS Board of Directors formed an Ad Hoc Group on Arms Control. The main function of that group was to prepare symposia for the January 1981 AAAS Annual Meeting in Toronto around the theme of "Directing science toward peace." In April 1981, the Board created the Committee on Science, Arms Control, and National Security and asked it to focus the resources of the AAAS toward "exploring and fostering effective approaches to conflict resolution, control of nuclear weapons, and improvement of national security assets."

Surely the time is ripe for a robust and informed debate on these matters. The President's proposals on defense and arms control, the resumption of arms talks at Geneva, the proliferation of arms sales, the congressional debates on military strategy and budgets, the national interest in "nuclear freeze" proposals, and the strikingly varied interpretations of Soviet capabilities and intentions—all have heightened interest in what constitutes national security. While U.S. science and technology have aided the successful policies of deterrence since World War II, now is the time to reevaluate the interactions of technology with foreign policy, defense programs, and arms negotiations. Moreover, next year the roughly \$220 billion for defense generally (including about \$24 billion for military research and development) will influence most areas of the economy, several major industries, overall employment levels, and the entire national technical enterprise, including universities.

Taking all of this into account, the committee is examining what activities it can undertake. Ideas include educational materials of all kinds; scholarly articles in professionally refereed journals on science, technology, and national security; fellowships in the fields of science, arms control, and national security; analysis of military R & D expenditures in relation to goals for both arms control and deterrence; review of the relationships between the Pentagon and the R & D community for the 1980's; and discussions of international security arrangements such as the conceptual foundations of "verification" for arms treaties.

On behalf of the past and present committee members listed below, I in-

vite readers to offer specific suggestions for the committee to consider. Each suggestion will be evaluated seriously and action considered in the context of our mandate and the limits of time and budget. Please write to Richard Scribner at the AAAS (1776 Massachusetts Avenue, NW, Washington, D.C. 20036).

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Note

1. The committee was formed in the late spring of 1981. Its membership includes Elise Boulding, Dartmouth College; Anne H. Cahn, Committee for National Security; Ruth M. Davis, Pymatuning Group, Inc.; Brewster Denny, University of Washington; Sidney Drell, Stanford University; Lloyd Dumas, University of Texas; Roger Fisher, Harvard Law School; Patricia McFate, American Scandinavian Foundation; Rodney W. Nichols (chair), Rockefeller University; William J. Perry, Hambrecht and Quist; George W. Rathjens, Massachusetts Institute of Technology; Herbert Scoville, Arms Control Association; Charles Zraket, MITRE Corporation; William D. Carey, AAAS (ex officio); and Richard A. Scribner, AAAS (staff officer). Recent past members are Bernard Feld, Massachusetts Institute of Technology, and Everett Mendelsohn, Harvard University.

Information Services

In his editorial "Essential federal information services" (28 May, p. 937), Philip H. Abelson raises the important question of the proper role of the government in marketing computerized information services. The editorial, however, presents only one side of this controversial issue. I would like to comment on some of the statements in the editorial and to briefly explain the position of the Information Industry Association (IIA) on government competition.

First, the pricing policies of the National Library of Medicine (NLM) are of concern to many companies, foreign and domestic. The IIA, which represents a broad cross section of private sector database producers and information vendors, has created a task force on the NLM. We have presented our views regarding the problems posed by the NLM and other government information producers and vendors to Congress and to other appropriate government decision-makers on many occasions.

Second, the private sector is not trying to force the NLM to "increase its charges sharply." Rather, it is asking the NLM, and other government agencies, to charge the full cost of their products and services to domestic commercial and private foreign users. NLM's prices to domestic nonprofit users would not increase.

The dispute between the private sector and the NLM and other government information services is not a matter of

increasing the charges for use of government services to bring a windfall to the government and the private sector. The core of the dispute is whether government institutions, such as the NLM, should subsidize the price of bibliographic products sold in the course of business to commercial entities and thereby disrupt the natural workings of the marketplace.

Under the pricing policies of the NLM, for example, 20 commercial users of the NLM's computerized MEDLARS system received, in effect, a \$1-million subsidy from the NLM over a recent 18-month period. That is, they paid \$1 million less in fees for searching the NLM's databases than they would have paid for searching comparable databases produced by the private sector. There is, we believe, a legitimate question of social policy concerning the appropriateness of such a subsidy, particularly in the current economic climate.

Requiring the NLM or other government information services to charge full-cost fees to commercial and foreign customers would not diminish their value to the medical or scientific communities. By allowing the marketplace to function and promoting the growth of more diversified sources of information, they would be acting in the best interests of the people whom they are meant to serve.

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Sulfur Emissions

In the editorial "Science advisers to the government" (19 Feb., p. 921), Jean Mayer reports on the 7 January meeting of the Advisory Committee on Oceans and International Environmental and Scientific Affairs. In discussing acid rain, Mayer reports, the committee concluded that oxidizing agents, particularly NO_x , were "the limiting factor in the formation of acids, including sulfuric acid, in acid rain" and that this finding "dictates a different strategy from that recommended by the Canadian government." The "strategy" referred to aims to reduce acidic sulfur deposition by reducing regional sulfur dioxide emissions in eastern North America.

A detailed account of the committee's deliberations and findings appears to be unavailable to the public, so it is difficult to understand the basis for these conclusions or to confirm Mayer's interpretation of the proceedings. However, Mayer's brief synopsis presents a view

that does not reflect the current understanding of acid deposition and its implication with regard to policy alternatives.

Various investigators have concluded that oxidants formed from copollutants are largely responsible for the transformation of SO_2 to aerosol and rainwater sulfates (1). However, there exists little direct evidence about the degree to which the oxidants limit the amount of SO_2 that can be oxidized. Indirect evidence based on the regional sulfur budget provides the only current quantitative estimate of the rate-limiting role of the oxidants (2). This evidence indicates that regional reductions in atmospheric sulfur dioxide concentrations on the order of 50 percent will generate significant regional reductions in sulfuric acid deposition in rainwater (≥ 40 percent). Therefore, oxidant rate limitation of the sulfur dioxide transformation may not be a critical factor in selecting a policy to deal with regional acidification. Furthermore, reduction of total deposition of acidic material, rather than reduction of rainfall acidity alone, is an appropriate goal of an acid deposition reduction strategy. Sulfur dioxide gaseous dry deposition is the other large component of the sulfur deposition problem, and this component appears to be comparable to the wet component on a regional basis (3). The only identified strategy for reducing gaseous dry deposition is reduction of airborne SO_2 concentrations by SO_2 emissions reductions. On the related issue of the direct contributions of SO_2 and NO_x to acidity, we note that sulfate equivalents in rainwater in the Northeast exceed nitrate equivalents by a factor of 2 and total SO_2 emissions substantially exceed total NO_x emissions in eastern North America in terms of potential acid equivalents of oxidation products (4).

NO_x emission reductions are a desirable component of an acid deposition reduction program. However, if our goal is to reduce total regional acid deposition, the focus on sulfur emissions reductions remains entirely justified.

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References

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3. J. N. Galloway and D. M. Whelpdale, *ibid.* 14, 409 (1980).
4. R. G. Semonin et al., *Study of Atmospheric Pollution Scavenging, 19th Progress Report* (Contract Report No. 252, Illinois State Water Survey for the Department of Energy, Washington, D.C., May 1981); Working Group 3B, *United States-Canada Memorandum of Intent on Transboundary Air Pollution, Interim Report* (Environmental Protection Agency, Washington, D.C., 1981).