

# PHYSICS and SOCIETY

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PHYSICS AND SOCIETY is a quarterly newsletter of the Forum on Physics and Society, a division of the American Physical Society. The newsletter is distributed free to members of the Forum and also to physics libraries upon request. It presents news of the Forum and of the American Physical Society and provides a medium for Forum members to exchange ideas. PHYSICS AND SOCIETY also presents articles and letters on the scientific and economic health of the physics community: on the relations of physics and the physics community to government and to society, and the social responsibilities of scientists. Contributions should be sent to the Editor: John Dowling, Physics Department, Mansfield State College, Mansfield, PA 16933, 717-662-4275.

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Physics Department  
Mansfield State College  
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FORUM ON PHYSICS AND SOCIETY  
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Paul C. Maxwell (Jan. 1980-Jan. 1982)  
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U.S. House of Representatives  
Washington, DC 20515

Eric Fawcett (Jan. 1980-Jan. 1983)  
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Yorktown Heights, NY 10598 (914) 945-2483

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the Intellectual Freedom of Scientists**

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Physics Division Bldg. 203  
Argonne, IL 60439 (312) 972-4090

**Synopsis of the Executive Committee Meeting of the Forum on Physics and Society.** Summarized by John Dowling from Secretary-Treasurer Dietrich Schroeer's Minutes of the Meeting, 27 Jan 1981.

**Treasurer's Report:** Awards Endowment Account contains \$1553. The Operating Account contains \$5871. Expenditures of mailing four newsletters and one ballot annually, plus operating expenses of about \$1000 exceed the current APS contribution of \$2 for each APS member who is also a Forum member.

**Forum Programs:** The NY meeting had the following sessions: MX Missile, Energy-related activities at Princeton, Physicists in Unusual Settings (with AAPT), Human Rights (cosponsored), Communicating Science to the Public (cosponsored), Elementary School Science (with AAPT), and the Film Show (with AAPT). The March Phoenix Meeting has sessions on solar power satellites and on nuclear power. The April Baltimore Meeting has sessions on energy efficiency in buildings, energy policy and planning, directed energy weapons, and a review of APS summer study groups (with POPA). The Fall New Orleans meeting will have a session on industrial innovations.

**Forum Newsletter:** The Forum is currently publishing four newsletters per year. Deadlines for submission of material are the 15th of March, June, September, and December with publication in early April, July, October, and January respectively. The past four issues had mailings of 2863/2958/3299/and 3086 copies at a total cost of \$3730.

**Report of Forum Representative to APS Council:**

Full report by Mike Casper in this newsletter.

**Award and Nominating Committee:**

K. Ford is in charge of this.

**Scientists and Human Rights:** Discussed the Forum Session on Human Rights. Parmentola reported on attempts to organize a mission to travel to Argentina to study reports of suppression of scientists. Guerjov described possible attempts by the Commerce Dept. to use technology transfer arguments as grounds for suppressing the dissemination of scientific information.

**Ground Zero:** Sartori described this group which is forming to educate the public on issues concerning nuclear war. The following motion moved by Horwitz, seconded by Stearns was passed unanimously. "The Executive Committee of the APS Forum on Physics and Society will inform the APS Council about the organization 'Ground Zero.'" It asks the Council to debate possible appropriate actions. Ford, Sartori, Schwartz, and Byers shall write APS summarizing and discussing the background and implications of this recommendation. The Forum is interested in supporting the activities of "Ground Zero." Some Forum activities discussed were a workshop on arms-race issues, listing of speakers, work with AAPT, etc.

**Other:** Discussed official associate memberships in the Forum for AAPT members. Gallagher and Cahn will prepare questions to be posed to candidates for APS offices. Casper wants feedback concerning the APS Congressional Fellowship program.

**New Business:** Schwartz asked for new ideas the Forum could generate for the APS Council. "Ground Zero" should be seized as an opportunity to further work in arms control, possibly should also contact groups such as Physicians for Social Responsibility. Schwartz asked whether the Forum should put some emphasis on university relationships, as with the Department of Defense.

**Next Meeting:** Baltimore Meeting, Tuesday, 21 April, 3:00 p.m., place to be announced.



**REPORT OF THE FORUM COUNCILLOR**

Mike Casper, 20B-226, MIT, Cambridge, MA 02139.

Items of Special Interest to Forum Members from the APS Council Meetings, Nov. 22, 1980 and Jan. 25, 1981:

**CONGRESSIONAL FELLOWSHIP PROGRAM:** The Fellows selected for this year are beginning their one-year tenure in Congress on January 1, instead of September 1, as in the past. It has been decided to forego selection of Fellows for one year and, instead, review the program before deciding whether or not the APS should continue to sponsor Congressional Fellows. An *ad hoc* committee has been appointed to conduct this review and report to the Executive Committee and Council at the April meeting in Baltimore. While it is clear that past APS Fellows have been of excellent quality and have been well-received in Congress, concern was expressed at the January meeting

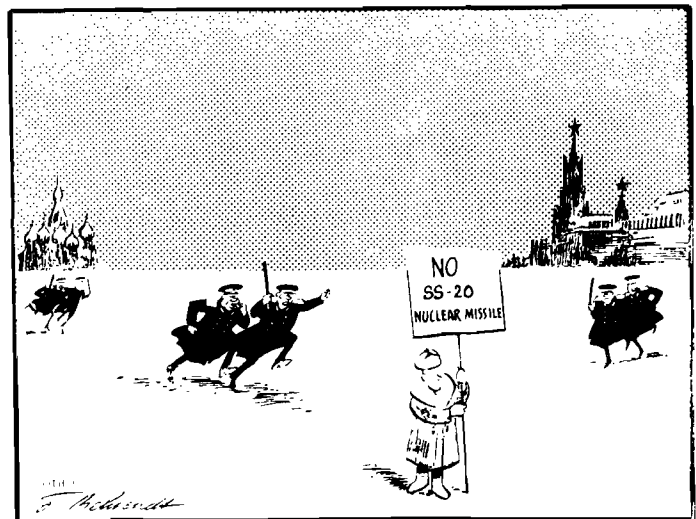
at the fact that the number of applicants has dwindled in recent years. Also, in contrast to the early days of the program, the APS is now but one of a very large number of participating professional societies. Any Forum members who have ideas or information to contribute to the review should communicate them to review committee members Benjamin S. Cooper, Senate Energy Committee, U.S. Senate, Washington, D.C. 20510 or Mary Shoaf, c/o the APS New York Office.

**POPA STUDIES:** A. The "Coal Utilization Study" is essentially complete. The final draft is being prepared, but it seems unlikely that the study will have completed the APS review process in time for release at the Baltimore meeting in April. B. The "Breeder Reactor Safety Study" has not yet been funded. The Department of Energy, the Nuclear Regulatory Commission, and the Electric Power Research Institute (EPRI) have been approached for joint funding. Only EPRI has made a firm commitment (\$150,000). DOE and NRC positions will be determined by the Reagan Administration. However, Louis Rosen of Los Alamos, outgoing chairperson of POPA, was optimistic that federal funds would be forthcoming. C. A proposal for a new study of "Alternative Energy Strategies" was distributed at the meeting and the Council was asked to support the initiation of negotiations with the DOE for funding. Some feeling was expressed by Council members that the proposal, as written, was too general; one wag said it seemed to encompass the entire mission of the Department of Energy. Nevertheless, permission to begin negotiations with the DOE was granted. D. Although no formal proposal yet exists, it was reported that POPA is also considering a study of "Toxic Wastes." Some concern was expressed that this was straying pretty far from the areas of special competence of physicists.

**PROPOSALS:** One idea that occurred to me was that it might be useful to have a session or sessions at the Baltimore meeting devoted to the "Breeder Reactor Safety," and especially, the "Alternative Energy Strategies" studies. At these open meetings interested APS members could contribute to the discussion of defining the issues to be addressed by the studies. The choice of questions to address can be central to the utility of a study. When possible, it would seem wise to have the broadest range of opinions expressed. Otherwise the APS may once again find itself subject to compelling criticism, as in the case of the Photovoltaic study which limited itself to centralized applications. Among issues which might be addressed is whether or not the Breeder Safety Study should include the question of safeguards against nuclear weapons proliferation, a

topic omitted in the present proposal. A special session on Alternative Energy Strategies might be particularly useful, given the obvious need to focus the study down from the present general proposal and given the expertise on such matters that exist among a broad spectrum of APS members.

During the first year as the Forum's Council representative, the most frustrating part of the job has been the lack of proposals to present to the Council from the Forum for new APS programs. We need ideas. Please communicate them to me (617-861-1155) or to Forum Chairperson Ken Ford (505-835-5508). Thanks.



"FASCIST PROVOCATIONS CAN NOT BE TOLERATED!"

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#### A Report on the MX Symposium, 1981 New York APS Meeting by Leo Sartori, Arms Control and Disarmament Agency, ISP/SA, Washington, DC 20451.

At a well-attended symposium sponsored by the Forum at the Annual Meeting, a panel of five speakers presented a wide spectrum of views on the MX missile.

It should be noted that the symposium took place one week after the beginning of the Reagan administration. During the election campaign Mr. Reagan had criticized the multiple-protective-shelter (MPS) linear racetrack basing mode for MX approved by his predecessor. The question of MX basing is now under intensive review by the new administration.

However, the discussion at the symposium was based on the most recent MPS basing, which at the time was still favored by the Air Force.

Gen. James McCarthy, special assistant for MX to the Air Force deputy chief of staff, opened the session with a technical description of the MX missile and the proposed MPS basing mode. Gen. McCarthy then summarized the findings of the MX/MPS Environmental Impact Statement (EIS) recently released by the Air Force. The study evaluated both the short-term and the long-term impact of the program in 36 categories, including such items as water, air quality, vegetation and animal species, employment and labor force, housing, education, recreation, Native Americans, and "quality of life". The study was carried out for the preferred Utah-Nevada deployment area, for the backup Texas-New Mexico area, and for a split-basing mode. For each item studied an assessment of either "no significant impact", "low significance", "moderate significance", or "high significant impact" was made.

According to Gen. McCarthy, the Air Force does not underestimate the environmental problems of MX. It is a very big program, and its effects are bound to be felt. Several of the items studied were assessed as being in the "high significant impact" category. However, a variety of measures is planned in order to mitigate the adverse environmental impact, including programs to repair, rehabilitate, or restore the affected environment, and to reduce or eliminate impacts over time through preservation procedures or compensation. Specific site selection will be made so as to minimize harmful effects. Gen. McCarthy stressed that the Air Force plans to comply with all state laws and regulations, and will provide financial assistance to affected communities to help them cope with the impact of the program. The Air Force concludes that the environmental problems are manageable, given the importance of MX for national security.

Gen. Jasper Welch, who served on the National Security Council during the Carter administration, addressed the strategic and arms control implications of MX. He argued that MX is necessary because of the continued rapid growth in both the quantity and the quality of Soviet strategic weaponry over the past decade, a growth which now threatens the survivability of our fixed Minuteman ICBMs and thereby jeopardizes our deterrent. MX will redress the adverse trends in the strategic balance. Moreover, the counterforce capability against Soviet missiles and other strategic targets which MX will provide will give the US additional flexibility in responding to any Soviet attack.

As for the basing mode, Gen. Welch does not regard the multiple protective shelter system as ideal.

However, in over a decade of study, during which large numbers of alternatives have been considered, nothing better has turned up. In particular, Gen. Welch does not consider submarine deployment of MX (SUM) to be a viable alternative. Besides presenting a variety of technical problems, which are underestimated by its proponents, deployment of MX in SUM would amount to abandoning the triad, thus placing too much reliance for future deterrence on the invulnerability of the submarine force.

Gen. Welch pointed out that the planned MX deployment is fully consistent with SALT, and in fact MX has been developed with SALT limitations in mind. Verification features have been designed into the system from the beginning. The Soviets will be able to determine, using national technical means of verification, how many missiles are deployed.

Paul Warnke, former director of the Arms Control and Disarmament Agency, spoke on the same topic as Gen. Welch but took the position that MX is unnecessary and potentially even harmful to US security. Mr. Warnke rejects the thesis that our deterrent is in jeopardy. He pointed out that an attack on the Minuteman silos would, even if successful, leave the Soviets open to retaliation from US submarines and bombers, the latter soon to be equipped with long-range cruise missiles. Moreover, in attacking Minuteman the Soviets would have to rely on near-perfect performance of a missile force never tested on such a large scale, as well as counting on the US not to fire its missiles after confirming that an attacking force was headed toward them. On the assumption that the Soviet leaders, however malevolent, are at least marginally intelligent, Mr. Warnke argued that it is totally implausible that they would ever launch a strategic nuclear attack in the expectation of gain.

Warnke expressed concern over the implications of the counterforce capability that MX would represent. He dismissed as having no self-evident justification the argument that the US needs a counterforce capability simply because the Soviets have one. He pointed out that the great bulk of the Soviet strategic force resides in their ICBMs, unlike the US force which is more evenly divided among its three components. Hence the Soviet leaders might panic in a crisis and launch their missiles if they feared that those missiles might be taken out in a US first strike. In this sense, argued Warnke, US counterforce could increase the chance of a nuclear war.

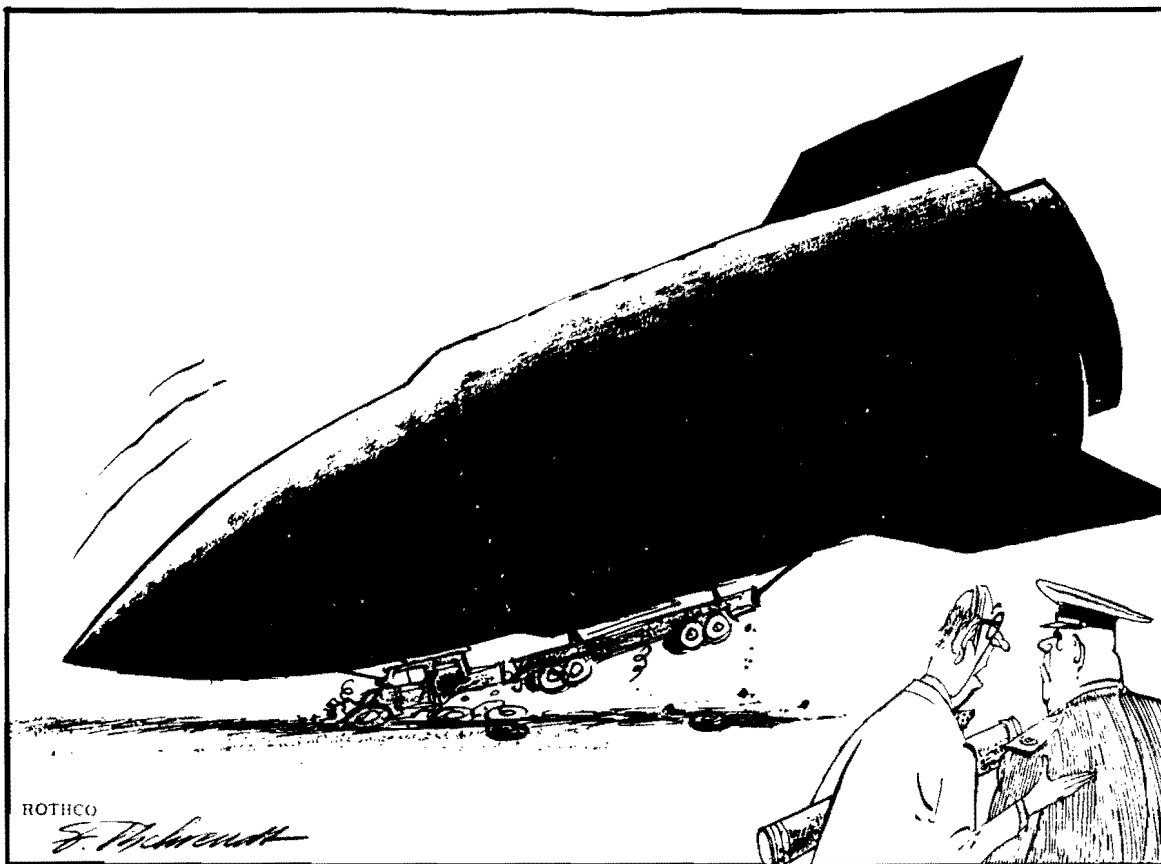
Prof. William Fiero, a geologist and hydrologist at the University of Nevada-Las Vegas, opposed the MX/MPS deployment on the grounds that it would impose severe and irreparable damage to the areas of Nevada and Utah where the system is to be deployed, and would destroy the way of life of the region. He ex-

pressed particular concern over the water needs of the project in an area where water is an extremely scarce commodity, and over the social as well as the economic impact of the influx of new population, which would add a considerable fraction to the present population of the sparsely-settled area.

Prof. Fiero challenged the findings of the Air Force EIS, claiming that the study had not been sufficiently thorough and that the proposed mitigating measures would be inadequate. According to Dr. Fiero, a proper study of the environmental impact of MX would require several years. Fiero reported that the people of Utah and Nevada, after initially supporting the project, had now changed their minds. He cited the results of referenda held in several Nevada counties last election day, all of which resulted in majorities opposed to the proposed deployment.

The last speaker, Dr. Richard Garwin of IBM Watson Lab and the Kennedy School of Government, took the position that MX is needed but should be based

not on land but on the small diesel-powered submarines (SUM) which he and Sidney Drell, among others, have been advocating for some time. He argued that SUM is technically feasible and would have many advances over an MPS deployment, including better survivability, absence of environmental problems, lower cost, and the fact that SUMs would begin to contribute to the US deterrent with the first submarine deployed, unlike MPS, whose benefits would not begin to be felt until almost the entire system had been deployed. Putting MX in SUMs would avoid the prospect of an expensive and destabilizing arms race between Soviet ICBM RVs and US shelters, which could result from an MPS deployment. Dr. Garwin further claimed that using GPS Navstar satellite guidance (with ground beacon system backup) would give SUM an accuracy as good as that of land-based MX, and that the command and control problems were manageable.



WE CAN MAKE THEM BIGGER - BUT THE TRANSPORT IS A PROBLEM!

BEHRENDT - HET PAROOL, AMSTERDAM

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**FORUM SESSIONS IN BALTIMORE** (These three sessions will all be in Room 310 of the Convention Center.)

**ENERGY EFFICIENCY IN BUILDINGS**, organized and chaired by Vernon Ehlers, 2:00 pm. Monday, 20 April.

Overview of the Santa Cruz Summer Study, Vernon Ehlers, Calvin College

Energy-Efficient Buildings: Progress and Potentials for Further Progress, Arthur Rosenfeld, U C Berkeley and Lawrence Berkeley Lab

House Doctors, Robert Socolow, Princeton University

Shedding a Little Physics on Light: Disciplining the Interdisciplinary, Sam Berman, Lawrence Berkeley Lab

A Balanced View of Solar Energy vs. Energy Conservation, Douglas Balcomb, Los Alamos National Laboratory

Why People Don't Save Money by Saving Energy, John Darley, Princeton University

**ENERGY POLICY AND PLANNING**, organized by Marc Ross and Robert H. Williams, chaired by Robert Williams, 7:30 pm., Wednesday, 22 April.

Nuclear Power-Nuclear Weapons Connection, Harold Feiveson, Princeton University

Climate Changes and Society, William Kellogg, National Center for Atmospheric Research

Our Energy: Regaining Control, Marc Ross, University of Michigan

The SERI Conservation/Solar Study, Henry Kelly, Solar Energy Research Institute

**DIRECTED-ENERGY WEAPONS**, organized and chaired by Vigdor Teplitz, 7:30 pm., Tuesday, 21 April

Future Opportunities in Directed-Energy Technology, Douglas Tanimoto, ARPA

Current Defense Directed-Energy Programs, Richard Airey, Department of Defense

Projects for Directed-Energy Weapons, Clarence Robinson, Aviation Week and Space Technology

Directed-Energy Weapons: Feasibility, Effectiveness, Desirability, Kosta Tsipis, MIT

(Also possible co-sponsorship of a POPA session reviewing and assessing POPA-sponsored summer studies.)

**Committee on Opportunities in Physics:** A Report by Earl Callen, Physics Department, American University, Washington, DC 20016

The Committee on Opportunities in Physics (COPS) met at the annual APS meeting on January 28th. The first item of business was a presentation by an APS member who feels he is being taken advantage of in a commercial relationship (breach of contract) by a prominent firm which is active at APS meetings. COPS will investigate. [This is mentioned to show the type of issue the committee is able and willing to consider.]

Dead-end jobs at universities: The committee was told of an NSF program, Faculty Development Awards, whose purpose is what its name suggests, but which could be used by persons employed at universities, going nowhere, or underutilized, as a way to retool. The COPS will organize a session at the April (Washington) meeting in Baltimore, on "How Can (Or Should) Small Physics Ph. D. Programs Survive."

APS Council approved of our proposal of granting 100 free, one-year memberships in the Society to political refugees and needy immigrant physicists. This will help them plug into the employment network. If you know of appropriate cases, write to COPS member David Kraft (at the AIP Office, 335 E. 45th St., New York, NY 10017) on their behalf.

#### Moscow Sunday Scientific Seminar in Exile

American and Canadian scientists and engineers are participating in a series of Sunday Seminars in Exile to demonstrate solidarity with our oppressed Soviet colleagues whose Moscow Sunday Seminar on Collective Phenomena has been closed down by the authorities.

#### Future Seminars are as follows:

April 5: Stanford University, John Mc Carthy on "Effects of Artificial Intelligence Research on Philosophy"

April 5: Ann Arbor

April 12: Seattle (at home of Edward Stern). Alumni of the Moscow Seminars: Ernest Henley, Edward Stern, Gregory Dash, and Arno Motulsky will discuss their experiences and what can be done about the dissidents.

April 26: Chicago (at home of Peter Freund). James Cronin will speak on "CP Symmetry Violation" and Harry Lipkin will discuss Sakharov's work on the nonrealistic quark model.

May SUNY Buffalo-Amherst, Stonybrook, San Diego, New York City, and Oak Ridge.

For more details contact Dorothy Hirsch, Committee of Concerned Scientists, 9 E. 40th St., New York, NY 10016. 212-686-8862.

**"Nuclear War is National Suicide":** The Federation of American Scientists (F.A.S.) Public Interest Report (12 pages) for Feb., 1981 is an excellent treatment of the topic "Nuclear War is National Suicide." It discusses the effects of one bomb on one city (fallout, evacuation, post-attack recovery, health and ecology), lists estimated superpower strategic nuclear forces for 1985, and examines the strategic context: first strike and counterforce. This is an important effort to inform the public about the hazards of the arms race. For single copies send one dollar for postage and handling to F.A.S., 307 Massachusetts Ave., NE, Washington, DC 20002. Bulk copies are available at \$.20 each, plus \$.2 for postage and handling.

**ANNOUNCEMENTS:**

**THE BULLETIN  
OF THE ATOMIC SCIENTISTS**

**ANNOUNCES THE 1981  
INTERNATIONAL ESSAY COMPETITION**

In honor of its founding Editor, Eugene Rabinowitch, the Bulletin of the Atomic Scientists and the Albert Einstein Fund offer a \$5000.00 prize for the best essay on

**PROSPECTS AND POSSIBILITIES FOR ELIMINATING THE  
THREAT OF NUCLEAR WAR IN EUROPE**

Nuclear weapons--unambiguously aimed at war-fighting rather than war-deterrence--are being rapidly deployed in Europe. In 1980 the Soviet Union and the United States officially declared nuclear war thinkable.

The Editors and Directors of the Bulletin believe that nuclear war cannot be limited and cannot be won. We appeal to the post-Hiroshima generation to address the issue of peace and survival in Europe.

**FOR MORE INFORMATION WRITE:**

The Rabinowitch Essay Competition  
The Bulletin of the Atomic Scientists  
1020-24 East 58th Street  
Chicago, Illinois 60637 USA  
312-363-5225

**"The Forgotten Guinea Pigs":** This report was prepared for the Committee on Interstate and Foreign Commerce of the U.S. House of Representatives and its Subcommittee on Oversight and Investigation. Subtitled "A Report on Health Effects of Low-Level Radiation Sustained as a Result of the Nuclear Weapons Testing Program Conducted by the U.S. Government," it summarizes four days of congressional hearing which examined the consequences of the nuclear tests carried out at the Nevada Test Site in the 1950s and 1960s. Document 65-703 O, 42 pp, 1980, available from Superintendent of Documents, U.S. Govt. Printing Office, Washington, DC 20402.

**Forum Membership:** Membership in the Forum is free to APS members. The Forum is given \$2 per member to support the Newsletter and other Forum activities. To join the Forum send your name and address to Dietrich Schroerer, Dept. of Physics and Astronomy, University of North Carolina, Chapel Hill, NC 27514.



**Human Rights Kit: Suggestions for Activities in Support of Oppressed Physicists** by Phillip F. Schewe, American Institute of Physics, 335 E. 45th St., New York, NY 10017.

During recent years members of the Physical Society, acting alone or in small committees, have sought to help politically oppressed colleagues in various countries who have been dismissed from their jobs or been imprisoned. The purpose of this document is to describe some of these activities in the hope that it will assist those newly embarked on such efforts.

The activities described fall into several categories: letters to the physicist in question; letters and petitions to his or her superiors and government; intercession with appropriate officials in the U.S. government; solicitation of support from scientific bodies and human rights organizations; and, when appropriate, marshalling of publicity. The report is divided into five parts:

1. Two case histories, illustrating how the emigration process can be made to work.
2. Suggestions for effective actions.
3. A list of various agencies, committees, and government officials.
4. A bibliography of human rights and scientific freedom.
5. Sample letters in support of oppressed scientists.

This report was prepared by Phillip F. Schewe with the help of Pierre Hohenberg of Bell Labs for the APS Committee on the International Freedom of Scientists (CIFS). The CIFS member who coordinates many of the activities described here is Professor E.A. Stern, Physics Department, University of Washington, Seattle, WA 98195.

## PART 1. CASE HISTORIES:

### CASE HISTORY: ELENA H. SEVILLA

Born May 4, 1948 in Mendoza, Argentina. She studied for two years at San Luis University and three more at Instituto Balseiro, Centro Atomico Bariloche, receiving the U.S. equivalent of a Masters degree in physics in July 1973. Until March 1975 she taught at the

Universidad del Sur in Bariloche and did physics research at the Instituto Balseiro. In September 1975 her husband was arrested. On 27 November 1975 Elena Sevilla was arrested five days after giving birth to a son by cesarean section. She was acquitted for lack of evidence, but was held in prison thereafter by order of the military. Most of her time was served in Villa Devoto prison in Buenos Aires. She applied for emigration but was ignored.

**May, 1977**

Sevilla's twin sister, Alicia, a graduate student in mathematics at Cornell University, approaches the Committee on U.S.-Latin American Relations at Cornell for help. They contact Amnesty International in London and the Cornell physics department.

**June, 1977**

A Cornell physics professor, a member of APS, begins organizing a campaign to free Sevilla. He writes to *Science* magazine which asserts that letters on human rights cannot be published too frequently without losing their effectiveness. Congressman Matthew McHugh and Senator Jacob Javits, both of New York, are notified of Sevilla's plight.

**Aug., 1977.**

*Nature* (11 Aug. 1977) carries a story on Sevilla after being notified by Amnesty International. The Vienna, Austria chapter of Amnesty International "adopts" Sevilla.

*Physics Today* (Aug., 1977) carries a story on Sevilla and Argentina.

*Science* (Aug., 1977) publishes a letter about Sevilla's condition. It is signed by 23 Cornell professors, including Nobel Laureate Hans Bethe and Pulitzer Prize winner Carl Sagan.

**Oct., 1977**

The deputy Assistant Secretary for Human Rights in the U.S. State Department is notified, and a visa for Sevilla is requested.

Moves are made to admit Sevilla as a physics graduate student at Cornell. Possession of a student visa, it is thought, will make emigration easier.

- Nov., 1977** **The New York Times** is contacted, and they carry an item about Sevilla on 27 Nov. 1977. The National Academy of Sciences (NAS) Committee on Human Rights sends letters about Sevilla to the Attorney General and to the American Ambassador in Argentina.
- Dec., 1977** Cornell has admitted Sevilla as a graduate student and sends documentation to Washington to help with a visa request. A group from the American Association for the Advancement of Science (AAAS), led by its President, Emilio Daddario, travels to Argentina. He reports that the government is sensitive to public opinion in the U.S. A report of this trip appears in the 3 Feb., 1978 issue of **Science**.
- Jan., 1978** Sevilla is visited in prison by the U.S. Consul in Buenos Aires and subsequently is issued a certificate guaranteeing a student visa when she is released. She has re-applied for emigration as a political exile.
- Apr., 1978** The Organization of American States (OAS) has been asked to inquire. The report which comes from Argentina is that Sevilla is accused of having "connections with the Montenarios terrorists," but has not been charged with any crime. Congressman Robert Drinan of Massachusetts is notified of the case. An NAS committee tours Argentina and Uruguay investigating human rights violations. In Argentina, they meet with President Videla but are not permitted to meet the Interior Minister. Very little information is surrendered. A curious event: from a list of 30 names, President Videla recognizes only two, one of which is Sevilla. The extensive coverage in the U.S. is having an effect. **The New York Times** (27 Apr. 1978) runs a story on the NAS trip and mentions Sevilla.
- May, 1978** The NAS trip is reported in **Chemical and Engineering News** (8 May 1978).
- June, 1978** The Special Assistant to the Under Secretary General for Political and General Assembly Affairs of the United Nations responds to a previous inquiry by mentioning, in a carefully worded letter, that the appropriate UN agencies are looking into the matter.
- July, 1978** Elena Sevilla is released from prison after three years and flies to New York with her son, Fernando, and her mother, Amelia. Her trip is paid for by the Science and Engineers Emigrant Fund at MIT. Sevilla stays with her sister and prepares for her studies at Cornell, where she holds a tutition scholarship. Her husband is still in prison in the third year of a four-year term.
- Dec. 1980** Her husband is released from prison, and seeks permission to emigrate to the U.S. so that he can join his family.
- 
- CASE HISTORY: YURI KALENOV**
- Born 6/2/44 in Ulan Bator U.S.S.R. 1970-1972: Research Fellow at the Institute of Chemical Physics; Ph.D. in Chemical Physics (1972) from the Moscow Institute of Physics and Technology. From 1972 to 1974 he worked as a senior faculty member at the Department of Physics, Moscow Institute of Economic Statistics. In 1974 he applied for an exit visa from the U.S.S.R., was refused, and was fired from his post.
- Dec., 1976** By this time, the APS Division of Chemical Physics has set up an adoption committee for Kalenov and a coordinator, an American chemistry professor, is named.
- Jan., 1977** The coordinator sends a registered letter to Kalenov, at his Moscow apartment, offering his support and encouragement.
- Apr., 1977** The second registered letter is sent. Like the first, it never reaches Kalenov.
- Dec., 1977** Protest to the U.S. Post Office over non-delivery seems to have no effect.

**July., 1978** A letter arrives from Kalenov's sister in Brussels. Yuri Kalenov has received none of the letters and knows nothing of the efforts on his behalf. He believes that the Moscow Institute of Chemical Physics has blocked his exit application because of some supposed secret research he has performed there. He claims that he did no such research.

**Aug., 1978** The APS coordinator sends a registered letter of inquiry to N.W. Semenov, Director of the Moscow Institute of Chemical Physics. The letter is delivered successfully.

**Sept., 1978** Yuri Kalenov now knows through his sister of the APS efforts on his behalf, although he has received no letters. He has had to reapply for an exit visa. He recommends writing to Academician Alexandrov, President of the U.S.S.R. Academy of Sciences. Such a letter, similar to that sent to Semenov, is sent by the APS coordinator.

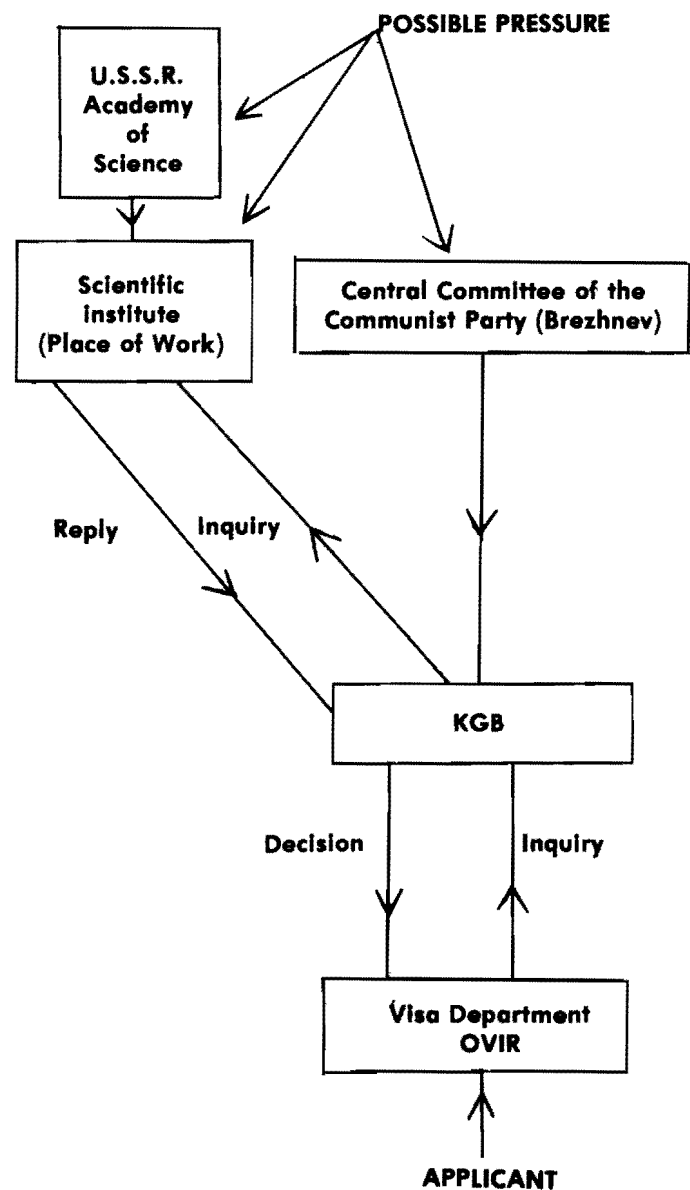
**Mar., 1979** A letter from the sister in Belgium states that Yuri Kalenov's visa application has been refused again and that he is very depressed. Semenov has received the letter of inquiry and it has apparently had some effect. Kalenov recommends sending more letters to Semenov and Alexandrov. Letters from several American scientists are now sent to the two Russian authorities.

**Dec., 1979** Yuri Kalenov finally gets his visa and arrives in Brussels, where members of his family live. He never received any of the letters sent to him but is sure that those to Semenov and Alexandrov helped to free his application. He thanks everyone for their help.

**Feb., 1980** The APS coordinator sends his congratulations and the names of several scientists in Belgium who might be of assistance.

**Mar., 1980** Kalenov has gotten a one-year job on his own and is happy to be back at

research after five years. He asserts again that the pressure applied was useful, and encloses a small map of governmental agencies in the U.S.S.R.



**PART 2. SUGGESTIONS FOR EFFECTIVE ACTIONS**

- When writing to the oppressed scientist, perseverance is important. Since the scientist's mail is probably monitored, many letters will not get through to him. Continue to write; some letters may penetrate and the authorities are made aware that the scientist has colleagues in the West who are interested in his case.
- With registered mail the fate of a letter may be followed. When a letter does not reach its destination, a document is returned to the sender specifying the reason for non-delivery, along with a refund.
- It is useful to be familiar with the scientist's research interests. Keeping him abreast of developments in his discipline (by sending journals or reprints) helps to maintain his professional standing--scientists who are imprisoned or dismissed have little access to scientific literature-- and provides a natural topic for correspondence.
- While letters need not be of a scientific nature, it is best to avoid political subjects. Assume that all mail will be intercepted and scanned by the authorities.
- It is advisable, when possible, to exhibit your institutional affiliation (by the use of official stationery, for instance).
- Writing in English (to someone in the USSR, for example) presents no major problems. Many scientists either have a facility for English or know someone who has.
- Helping the scientist to publish articles in Western journals is another way of maintaining his research involvement.
- At later stages in the emigration process, a job offer, or help in that direction, may speed things along.
- Letters written to the scientist may not be enough. Additional pressure can be brought to bear by writing to heads of research institutions or scientific academies, when the names of such people are known. For the more grave situation in which the scientist has ac-

tually been imprisoned, letters to wardens, ambassadors, and even national leaders may be in order.



**PART 3. IMPORTANT ORGANIZATIONS AND GOVERNMENT AGENCIES**

- Attorney General  
Department of Justice  
Washington, DC 20530
- National Academy of Sciences  
2101 Constitution Avenue, N.W.  
Washington, DC 20418
- Ambassador Anatoly F. Dobrynin  
Embassy of the USSR  
1125 16th St., NW  
Washington, DC 20036
- Passports  
Office of the Commissioner  
Immigration and Naturalization Service  
Washington, DC 20536
- Asst. Secretary for Human Rights  
U.S. Department of State  
Washington, DC 20520
- President  
National Academy of Sciences  
2101 Constitution Avenue, N.W.  
Washington, DC 20418
- Ambassador Anatoly F. Dobrynin  
Embassy of the USSR  
1125 16th St., NW  
Washington, DC 20036
- Ambassador  
Embassy of Argentina  
1600 New Hampshire Ave., NW  
Washington, DC 20009

- OAS Inter-American Commission on Human Rights  
1725 I Street, NW  
Washington, DC 20036
- President Leonid Brezhnev  
Secretary General of Communist Party  
The President of the USSR  
Kremlin  
Moscow, RSFSR  
USSR
- Academician A.P. Alexandrov, President  
USSR Academy of Science  
Leninsky Prospekt 14  
Moscow V71 USSR
- Head of National OIVR  
(Soviet Visa Office)  
Constantin Zotov  
6 Ogareva St.  
Moscow 103009, USSR
- Signor Jorge Aja Estil  
Embassy of Argentina  
1600 New Hampshire Ave., NW  
Washington, DC 20009
- Minister of Health  
Dr. Boris Petrovsky  
Rakhmanovsky Pereulok 3  
Moscow K-51, USSR
- Ambassador Raul Castro  
United States Embassy  
Buenos Aires, Argentina
- Procurator General U.S.S.R.  
Pushkinskaya  
U1. 15-A  
Moscow 103009  
RSFSR, U.S.S.R.
- Lipman Bers (Columbia), Chairperson  
NAS Committee on Human Rights  
2101 Constitution Avenue  
Washington, DC 20418  
(202) 389-6226
- Eric Stover, Coordinator  
AAAS Committee of Scientific Freedom  
and Responsibility  
AAAS Clearinghouse on Science  
and Human Rights  
1515 Massachusetts Avenue, NW  
Washington, DC 20005  
(202) 467-5236
- Federation of American Scientists (FAS)  
307 Massachusetts Ave., NW  
Washington, DC 20002  
(202) 546-3300
- Amnesty International  
US National Office  
304 West 58th Street  
New York, New York 10019  
(212) 582-4440
- Scientists and Engineers Emigrant Fund (SEEF)  
Peter Elias, Chairperson  
NE 43-839  
MIT  
Cambridge, Massachusetts 02139  
(617) 253-4193
- Human Rights Internet (Directory)  
1502 Odgen Street NW  
Washington, DC 20010  
(202) 426-4320
- Refusenik Newsletter  
474 Central Avenue  
Highland Park, Illinois 60035  
(312) 433-0144

**ORGANIZATIONS WORKING FOR THE HUMAN RIGHTS OF SCIENTISTS**

- Dorothy Hirsch  
Committee of Concerned Scientists  
9 East 40 Street  
New York, New York 10016  
(212) 686-8862
- Scientists For Sakharov, Orlov, & Shcharansky  
P.O. Box 6123  
Berkley, CA 94706
- Helsinki Watch  
205 E. 42nd Street  
New York, New York 10017

**MEMBERS OF THE US CONGRESS WITH A SPECIAL INTEREST IN HUMAN RIGHTS**

Sen. Henry Jackson (Wash.)  
 Sen. Paul Tsongas (Mass.)  
 Sen. Edward Kennedy (Mass.)  
 Rep. Millicent Fenwick (N.J.)  
 Rep. George Brown (Calif.)  
 Rep. Tom Harkin (Iowa)  
 Rep. Harold Hollenbeck (N.J.)  
 Rep. Donald Pease (Ohio)  
 Rep. Matthew McHugh (N.Y.)  
 Rep. Dante Fascell (Florida)

- Mr. Fascell is the Chairperson of the Commission on Security and Cooperation in Europe (known as the Helsinki Commission). Staff members include R.S. Oliver and S. Pederson.
- For addresses and telephone numbers for members, phone the Capitol Switchboard: (202) 224-3121
- The proper salutation in a letter should be: "Dear Senator Smith" for members of the US Senate, "Dear Mr. (Mrs., Ms.) Smith" for members of the US House of Representatives.
- The zip code for the House is 20515, for the Senate 20510.

**PART 4. A Bibliography on Human Rights and Scientific Freedom.**

**BASIC DOCUMENTS:** The U.S. Department of State's Bureau of Public Affairs has issued two publications which contain the international agreements pertaining to human rights.

1. Dept. of State Publication 8961, General Foreign Policy Series 310, Nov., 1978. "Selected Documents-Human Rights, No. 5 (Revised: Contains UN Charter, Universal Declaration of Human Rights, American Convention on Human Rights, etc.)
2. Helsinki Final Act: reprint from Dept., of State **Bulletin**, Sept. 1, 1975.

**GENERAL:**

"Scholarly Freedom and Human Rights", Council for Science and Society, British Institute for Human Rights (Barry Rose Ltd. 1977)--this is a scholarly document; discusses legal status of HR.

"Index on Censorship", bi-monthly, journal, published by Writers & Scholars International Ltd., 21 Russell St., London WC2 5HP

"Freedom, Appeals", bi-monthly, Freedom House, 20 W. 40 St., New York, NY 10018

"Matchbox", Amnesty International, 340 West, 58 Street, New York, NY 10019

**Human Rights & American Foreign Policy**, edited by D.P. Kommers and G.D. Loescher, U. of Notre Dame Press, 1979.

"International Human Rights - Treaties, The Rule of Law, and the United States", American Bar Association, Division of Public Service Activities, Washington, DC, September 1978.

"Human Rights Internet", monthly, 1502 Ogden Street, NW, Washington, DC 20010

"Science & Human Rights", Earl Callen, Bernard Cooper, John Parmentola, **Tech. Rev.**, Dec.-Jan. (1980)

**SOVIET UNION:**

**Alarm and Hope**, A.D. Sakharov, Vintage Books, 1978.

**Soviet Dissidents: Their Struggles for Human Rights**, J. Rubenstein, Beacon Press, 1980.

"Prisoners of Conscience in the USSR", Amnesty International, 1980.

"A Chronicle of Human Rights in the USSR", English translation of famous Samizdat "Chronicle of Current Events", ed. V. Chalidze, Khronika Press, 505 8th Ave., New York, NY 10011.

**ARGENTINA :**

Organization of American States. Report on the Situation of Human Rights in Argentina: General Secretariat, OAS, Inter-American Commission on Human Rights, Washington, DC 20006.

Report of the Mission of Lawyers to Argentina by the Association of the Bar of the City of New York, May, 1979.

Report of an AI Mission, Nov., 1976, Amnesty International.

AAAS President's Report: Visit to Buenos Aires, Dec., 1977 by Emilio Q. Daddario, *Sci*, **199**, 520 (1978).

AAAS Report of the International Cancer Congress and Human Rights in Argentina, Bruce A. Kiernan.

National Academy of Sciences Report: Argentina and Uruguay, March, 1978.



**HELSINKI FINAL ACT:**

The Commission on Security and Cooperation in Europe (3281 House Office Bldg., Annex 2, Washington, DC 20515) publishes numerous reports on compliance by all signatories (including the U.S.) of the Helsinki Final Act. Documents of note are:

"Profiles: The Helsinki Monitors", December, 1979.

"Implementation of the Final Act: Findings and Recommendations Five Years after Helsinki", August 1980.

The State Department, by law, publishes semi-annual compliance reports, the latest being "Special Report No. 73, December 1, 1979 - May 31, 1980".

Congressional Testimony by Herman Feshbach, Philip Handler, and others, before the Scientific Forum (held in Hamburg in March 1980) as part of the 'Helsinki Process', see:

Joint Hearings of the Subcommittee on Science and Technology and the Subcommittee on International Security and Scientific Affairs, House of Representatives, January 31, 1980.

**PART 5. SAMPLE LETTERS:**

**Senator Jacob Javits**  
**321 Russell Senate Office Building**  
**Washington, DC 20510**

Dear Senator Javits:

I am writing to solicit your help in gaining the release from prison of a young Argentinian physicist in whom Cornell has taken a humanitarian interest.

The person in question is Elena Sevilla, age 30, presently in Villa Devoto Jail in Buenos Aires, and held without charges since November 1975, when she was arrested in a hospital ward five days after giving birth by cesarean section. A detailed history of her case is enclosed. Originally our information came from her sister Alicia, who is a graduate student at Cornell. Last year the National Academy of Sciences adopted her case, and in March members of the Academy's Committee on Human Rights visited Argentina, and their enclosed report confirms this information.

In order to facilitate Ms. Sevilla's release, Cornell has admitted her as a graduate student in physics, and full financial support for her travel, maintenance and tuition have been underwritten by various bodies. Furthermore, the U.S. Consulate in Buenos Aires, after a visit to Ms. Sevilla by the Consul-General in January, issued a certificate guaranteeing a student visa on her release from prison. Armed with this, Ms. Sevilla has exercised her constitutional right to apply for exile as a political refugee, but she has had no response from the Argentinian authorities.

This moment, while her case is awaiting decision, is particularly propitious for intervention by a person of your international stature. We would therefore be very grateful to you if you could support our efforts by making an inquiry at the State Department, and by writing our ambassador in Buenos Aires, Mr. Raul A. Castro, the President of Argentina, Lt. Gen. Jorge Rafael Videla, and any other person that you would deem appropriate.

Sincerely yours,

**Academician A. P. Alexandrov**  
**President**  
**Soviet Academy of Sciences**  
**14 Leninsky Prospect**  
**Moscow B-71-RSFSR**  
**U.S.S.R.**

Dear President Alexandrov:

I have become aware of the international appeal on behalf of Professor Naum Meiman. My purpose in writing to you is to express our strong support for Professor Meiman's application to emigrate.

Professor Meiman's distinguished work, especially on functional integration and the Pomeranchuk theorem, is well known to American theoretical physicists, and he is held in very high esteem here. A considerable number of my colleagues have also had the pleasure of meeting Professor Meiman during visits to the Soviet Union. For these reasons the tragic circumstance in which Professor Meiman now finds himself is keenly felt by many members of the Society.

It is our understanding that Professor Meiman's application for an emigration visa, first filed nearly five years ago, has been repeatedly rejected because he was, at one time, engaged in secret research under your own direction. As Professor Meiman has not been engaged in military research for over a quarter of a century, we find this to be a rather implausible rationale for the rejection of his application: as physicists we know that someone who has been divorced from classified work for such a long period of time cannot pose a threat to his country's security. As the director of Professor Meiman's research during the period in question, we feel that you are in a particularly advantageous position to clarify this matter to those authorities who can grant the permission to emigrate.

I appeal to you on humanitarian grounds to intervene in support of Professor Meiman's application. Professor Meiman is a sick man well past retirement age; he has lost his wife, and his only child lives abroad. Indeed his right to emigrate is guaranteed on at least two grounds by Universal Declaration of Human Rights and by the Helsinki Final Acts; these international agreements, signed by the Soviet Union, provide an inherent right to emigrate to all citizens, and furthermore guarantee families the right to unite.

In addition to the singular merits of Professor Meiman's case, I should also point out that if his ap-

plication were to be approved this would be widely seen as a tangible contribution to the improvement of international scientific relations.

Sincerely yours,

cc: Ambassador Dobrynin  
 Philip Handler  
 Frank Press

**Exmo. Sr. Excelencia Presidente**  
**de la Republica Argentina**  
**Lieutenant General Jorge Rafael Videla**  
**Balcarce 50**  
**1064 Buenos Aires**  
**Argentina**

Dear President Videla:

On December 8, 1978, I wrote you concerning the unexplained disappearance of Daniel Bendersky, a young Argentine physicist. More recently, on April 20, 1979, I wrote Dr. Jorge A. Aja Estil, the Argentine Ambassador in the United States, acknowledging a letter from your Private Secretary, Mr. Osvaldo Marcelo Necchi, about Mr. Bendersky. My April 20 letter expressed continued concern about Mr. Bendersky's welfare and hope that this promising young physicist, who has been offered a fellowship at the Massachusetts Institute of Technology, will be able to continue his scientific work.

The purpose of this letter is to ask that you investigate the disappearance of Alfredo Antonio Giorgi, a physicist and chemist who formerly headed the plastic research laboratory at the National Institute of Industrial Technology (INTI) in Buenos Aires. Dr. Giorgi was reportedly called to the administrative offices of INTI by the Institute's executive officers, and handed over to men claiming to be army and police officers. He has not been heard from since that date. The Supreme Court of Argentina has ordered the appeals court to start an investigation on writs of habeas corpus concerning this case.

Such unexplained disappearances are deleterious to the progress of science. I am saddened that Argentine science has suffered these injuries. I ask that you do everything in your power to locate the whereabouts of Mr. Bendersky and Mr. Giorgi.

Sincerely,