

AAAS Workshop Report

Human Rights and Scientific Cooperation

*Problems and Opportunities
in the Americas*

*Prepared by Eric Stover
and Kathie McCleskey*

AAAS Committee on Scientific Freedom and Responsibility

The Committee on Scientific Freedom and Responsibility is a joint committee of the AAAS Board and Council. The committee was created in 1976 to develop policies and procedures to foster scientific freedom and responsibility, and to maintain an awareness of actions by U.S. and foreign governments, and other groups, which might restrict the professional activities of scientists and engineers.

The committee works with the affiliated societies of AAAS to examine both individual cases of infringements of scientific freedom and responsibility as well as broad issues of ethical concern in the development and use of scientific and technical knowledge. The committee highlights particular problems related to the professional rights and duties of scientists and engineers and where appropriate will suggest ways in which these problems can be resolved.

Topics of current concern to the committee include the rights of scientists to disclose important information involving public health and safety concerns (the whistle-blowing issue), the effect of national security policies upon the flow of scientific and technical research data, and the effect of human rights violations upon the work of foreign scientists.

This latter concern is addressed by the CSFR Clearinghouse on Science and Human Rights. The clearinghouse collects and disseminates information about foreign scientists who are victims of government persecution. It is designed to assist those who wish to bring effective aid to foreign scientists who are in serious trouble. The concerns of the clearinghouse and the committee are universal and independent of the ideology of any government or of the individuals they attempt to aid.

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American Association for the Advancement of Science
1515 Massachusetts Avenue, N.W.
Washington, D.C. 20005**

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October 1981

Clearinghouse on Science and Human Rights

AAAS Committee on Scientific Freedom and Responsibility

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The interpretations and conclusions in this report are those of the authors and do not necessarily represent the views of the Board or the Council of the American Association for the Advancement of Science or the members of the AAAS Committee on Scientific Freedom and Responsibility.

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Chapter 1

**Workshop on Scientific
Cooperation and Human
Rights in the Americas**

Introduction

In early 1980, the Committee on Scientific Freedom and Responsibility of the American Association for the Advancement of Science (AAAS) proposed to sponsor a workshop in which Latin American and North American scientists could examine conditions adversely affecting the protection of human rights, scientific freedom and development in Latin America, as well as to identify ways in which individual scientists and scientific groups could respond to these conditions. Although AAAS had undertaken two earlier workshops on the role of science and technology in the developing world, the Association had never convened a workshop to examine the extent of government persecution directed at scientists, and specifically Latin American scientists, in the developing world.

To place this workshop in the context of AAAS' general concerns about scientific freedom and responsibility, it is useful to summarize briefly the development of the Association's interests in the rights and duties of scientists in the United States and abroad.

Today, AAAS is the world's largest federation of scientific and engineering societies with 139,000 individual members and 286 institutional affiliates. Through its activities and publications, the AAAS serves as a forum to examine issues relevant to the international scientific community. These issues include the beneficial uses of science and technology in human affairs, public understanding of science, and scientific freedom and responsibility.

Over three decades the AAAS has sponsored discussions on scientific freedom and responsibility within the Association and its affiliates. In 1970, the AAAS Board of Directors appointed a committee to examine the conditions required for scientific freedom and responsibility and to prescribe

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criteria and procedures which would enable the Association to respond to reported abuses of scientific freedom and violations of responsible scientific conduct. The final committee report, Scientific Freedom and Responsibility, prepared by John T. Edsall, Professor of Biochemistry at Harvard University, notes that "the scientific community can no longer remain apart from the conflicts of our time, where so many technological decisions are being made that virtually affect the well-being of society".* The committee report, published in 1975, recommended that AAAS and its affiliates take a more active role "in fighting on behalf of their members who are attempting to defend the public interest".

In parallel action with the development of the Edsall report, the AAAS Council affirmed its interest in promoting greater AAAS involvement with issues of scientific freedom and responsibility. In March 1974, the Council linked the advancement of science to certain freedoms necessary for the conduct of scientific work. Those freedoms included the freedom "to exchange ideas and data with others; to publish research results; to move from place to place and from country to country; to choose research problems; and to find collaborators who have complementary interests and skills". These rights are also contained in the "Recommendation on the Status of Scientific Researchers" adopted in 1974 by the UNESCO General Conference at its 18th session in Paris. The AAAS Council further resolved that while American scientists "will be eager to work with scientists in other countries who share these ideals, ...they will be hesitant to enter cooperative programs in which scientific freedoms are stultified".

In 1976, building on the ideas expressed in the Edsall report and the 1974 AAAS Council resolution, the AAAS Board and Council appointed a new standing Committee on Scientific Freedom and Responsibility and set the following objectives for this new group:

- o to foster wider awareness of, and commitment to scientific freedom and responsibility within AAAS and its affiliated societies;

*John T. Edsall, Scientific Freedom and Responsibility: Report of the Committee on Scientific Freedom and Responsibility, American Association for the Advancement of Science, 1975.

- o to stimulate action in response to issues involving infringements of scientific freedom and responsibility;
- o to provide coordination and assistance to existing professional society activities which affect the professional rights and duties of scientists and engineers;
- o to serve as a national forum for issues relating to scientific freedom and responsibility;

During its first year of activity, the committee members identified several areas which they believed merited attention by AAAS and its affiliated groups. In 1977, the committee initiated several major program activities, including the creation of a clearinghouse to receive information about foreign scientists who were victims of human rights violations or who were restricted in the exercise of their professional work; the review of individual claims of violations of scientific freedom in the United States; and a study of alternative due process and appeal mechanisms for scientists and engineers who sought to disclose actions by their employers which might be harmful to the public -- the "whistle blower" scientists. The committee established subcommittees to review both these activities and other issues, including the problems of science teachers, restrictions on research activities, and the ethics activities of the professional societies affiliated with AAAS.

The original members of the committee viewed the violation of basic human rights affecting scientists in any part of the world as a problem requiring immediate and serious attention by AAAS. Within the Committee on Scientific Freedom and Responsibility, a subcommittee was formed to investigate the extent of abuses affecting scientists in foreign countries, and to establish mechanisms for responding to these abuses. Originally known as the Subcommittee on the Infringement of Scientific Freedom in Foreign Countries, it is now called the Subcommittee on Science and Human Rights. A separate subcommittee reviewed the problems of scientists and engineers in the United States, focusing primarily on employment and publication problems. To date, no documented report of the violation of basic human rights of any scientist or engineer in the U.S. has been received by the committee.

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The CSFR Subcommittee on Science and Human Rights bases its work on the following assumptions:

1. Scientific societies should encourage international respect for the human rights standards embodied in the Universal Declaration of Human Rights and other international treaties as a matter of scientific freedom and responsibility.
2. The maintenance of human rights is a goal in itself and not a means to other desirable goals (such as scientific progress), although it may serve to promote such ends.
3. The investigation of violations of the human rights of a scientist does not require that the scientist be politically uninvolved, because the violation of such rights should be a cause of concern in any case.
4. Scientific groups should not seek special rights for scientists outside of those general rights embodied in international law. However, scientists are likely to place special emphasis on certain rights essential for scientific work.
5. Scientific groups should respond in particular to those human rights violations involving scientists because of their special collegial identity with scientists, not because scientists are more deserving than any other group of individuals whose rights might be violated. Moreover, scientists abroad whose rights are endangered generally have colleagues in the United States who know them personally and can testify as to their characters.

In early 1977, the Committee on Scientific Freedom and Responsibility established a Clearinghouse on Science and Human Rights staffed by the committee office to review and refer documented cases of foreign scientists who are victims of government persecution to professional societies affiliated with the clearinghouse. The clearinghouse provides background material on each referral case and suggests appropriate responses which may be taken by a professional society on behalf of a scientist. Thirty-seven AAAS-affiliated societies are currently members of the clearinghouse.

In addition to case work, the clearinghouse publishes reports on topics of general concern and a quarterly newsletter on issues relating to science and human rights. The AAAS committee and the clearinghouse use the Universal Declaration of Human Rights, adopted in 1948 by the General Assembly of the United Nations, as a standard for their activities on behalf of persecuted foreign scientists. The concerns of the clearinghouse and committee are universal and independent of the ideology of any government or the individuals they attempt to aid.

While the clearinghouse investigates and reacts to individual cases involving scientists from any part of the world, several initiatives developed by the AAAS committee and clearinghouse have focused specifically on Latin America.

- o In May 1977, AAAS, the National Academy of Sciences, and the American Physical Society, arranged for an Argentine physicist, Dr. Maximo Pedro Victoria, to testify before the OAS Inter-American Commission on Human Rights concerning his treatment as a political prisoner in Argentina.
- o Emilio Q. Daddario, then President of AAAS, visited Argentina in December 1977 to raise with the Argentine authorities the concerns of the American scientific community for the plight of their Argentine colleagues.
- o At the request of the National Academy of Sciences, the clearinghouse aided participants of the International Cancer Congress held in Buenos Aires, Argentina, in October 1978, who wished to express their human rights concerns to the Argentine government.
- o The New York Academy of Sciences, AAAS, and American Medical Association sponsored the preparation for an on-site visit to Uruguay by a group of North American physicians in order to study the situation of imprisoned Uruguayan doctors and the medical facilities available in Uruguayan penal institutions. Although the Uruguayan government never granted permission for the trip, the background

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information collected through interviews with exiled Uruguayan doctors was presented to the United Nations Human Rights Commission in February 1981.

- o In August 1980, a delegation of AAAS officers met with the Minister of the Uruguayan Embassy in Washington, D.C. to discuss the continued imprisonment of several Uruguayan scientists.
- o At the request of the American Statistical Association, the clearinghouse prepared a special report on Scientists and Human Rights in Argentina Since 1976 for interested participants attending the International Statistical Institute meetings in Buenos Aires in November/December 1981.
- o In June 1981, at the request of the Chilean Commission on Human Rights, the AAAS joined four other scientific groups to sponsor a mission of inquiry to Chile to investigate the detention of three Chilean physicians.

In reviewing the problems of scientists working in difficult conditions in Latin America, the committee members learned that no forum existed in which scientists could candidly exchange views about the impact of government repression on their work. Such conversations often occur in the corridors of international scientific meetings, where news is exchanged about the status of individual scientists who have been arrested or arbitrarily dismissed without formal charges or due process. Thus, the AAAS committee suggested that a small international workshop be convened to explore the relationship between human rights concerns and scientific cooperation in the Americas. The Agency for International Development provided planning and travel funds for the workshop, and the Ford Foundation and International Development Research Centre (Canada), and the American Association for the Advancement of Science provided additional support for the meeting.

On 1-5 January 1981, 17 Latin Americans and 11 North American scientists, as well as six members of the Committee on Scientific Freedom and Responsibility and 18 observers from various scientific societies, international funding agencies and human rights groups met in Toronto, Canada to discuss these issues. The event, held in conjunction with

the 1981 AAAS Annual Meeting, was called the Workshop on Scientific Cooperation and Human Rights in the Americas and was organized by the clearinghouse. (See Appendix A-List of Participants.)

The four days of meetings consisted of plenary and several working group sessions. The opening plenary session on 2 January was chaired by John T. Edsall, Chairman of the Committee on Scientific Freedom and Responsibility (1978-1980). At this session José Goldemberg, physicist and President of the Brazilian Society for the Advancement of Science and Irving Louis Horowitz, Professor of Sociology and Political Science, Rutgers University, presented papers entitled respectively "Scientists and Human Rights in Latin America" and "Scientific Cooperation and Human Rights: The International Development Context". During the following two days participants met in three working groups; each group was assigned a topic and asked to report their conclusions and recommendations to the plenary. The topics selected for the working groups were (A) Immediate responses or strategies by individual scientists and scientific societies to human rights violations of scientists; (B) Long range responses or strategies by scientific societies and individual scientists to human rights violations of scientists; and (C) Relationships between scientific cooperation and human rights.

The final plenary session, chaired by Marcel Roche, medical scientist and editor of the multilingual science journal on development, Interciencia, took place on 5 January. The plenary approved five general recommendations and issued a press release outlining the workshop's conclusions and recommendations. The workshop assigned the clearinghouse staff the task of preparing a final workshop report for public distribution.

The report includes two background papers prepared by José Goldemberg and Irving Louis Horowitz, which were circulated to the participants in advance of the workshop discussions. Goldemberg's paper analyzes the motives for widespread political repression in Latin America which affects the general population and scientists in particular. Goldemberg identifies the special characteristics of scientists which make them susceptible to persecution and discrimination, and suggests ways to protect scientists from persecution.

Horowitz' paper explores the interplay between the desire for the universal observance of human rights principles, the prerequisites for scientific cooperation, and the

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demands placed on these two factors by national interests. Horowitz also presents a historical and problematical overview of the implementation of human rights principles within the context of international development.

Also included in the report are two papers by Eric Stover, Project Director, Clearinghouse on Science and Human Rights, which were prepared subsequent to the workshop. The first paper responds to the participants' request that a general summary be prepared to examine the relationship between human rights, scientific freedom, and scientific responsibility, as well as to present an overview of existing international and regional human rights agreements and a history of scientific involvement in these issues. The second paper by Stover also responds to a concern raised by the workshop participants, who indicated that a documented review of the varying conditions of human rights and scientific freedom in Latin American countries was necessary in order to provide some background for the recommendations proposed by the working groups. The final section of the report presents the workshop recommendations.

The final workshop recommendation, raised by Joaquin Luco, at the closing luncheon, is not included in the final section. Dr. Luco, a neurophysiologist and founding member of the Chilean Commission on Human Rights, commented that since the workshop had only dealt with the rights of scientists, the next one should deal with the responsibilities of scientists.

This report on the Workshop on Scientific Cooperation and Human Rights in the Americas is presented in the hope that it remains faithful to the ideas discussed by the workshop participants.

**Discussion Papers:
Human Rights, Science,
and Latin America**





1. Human Rights, Scientific Freedom, and Responsibility

*"Scientific laws are valid in
every laboratory and every country."*

José Leite Lopes

Through the medium of a film photographed in the Soviet Union earlier this year, Soviet physicist and Nobel Prize winner Andrei Sakharov spoke from his exile in Gorky on what he views as the special responsibility of scientists in the contemporary world. The film was shown in May 1981 during an international conference held in New York City to honor the Soviet physicist's 60th birthday. While Sakharov's image flickered across the screen, an interpreter read Sakharov's message to the conference participants:

Because of the international nature of our profession, scientists form the one real community which exists today. There is no doubt about this with respect to the substance of science: Schrodinger's equation and the formula $E=MC^2$ are equally valid on all continents. But the integration of the scientific community has inevitably progressed beyond narrow professional interests and now embraces a broad range of universal issues, including ethical questions. And I believe this trend should and will continue.¹

Sakharov raises the question of the role individual scientists and scientific societies should play as professionals when confronting issues not directly related to their area of scientific inquiry. Those issues of particular concern to Sakharov and a growing number of scientists include nuclear war, the social responsibility of scientists, and human

rights. On the issue of human rights, Sakharov writes:

The worldwide character of the scientific community assumes particular importance when dealing with such problems. By its international defense of persecuted scientists and of all persons whose rights have been violated, the scientific community confirms its international mandate which is so essential for successful scientific work and for service to society.²

By attributing to the world's scientific community an "international mandate", Sakharov implies that service to society and mankind should be science's highest responsibility. He also writes that responsible scientific inquiry depends on basic social conditions which allow freedom of thought, publication and an open exchange of views: the protection of these conditions is necessary to promote the progress of scientific thought. Thus, the advancement of science is fundamentally linked to the advancement of human rights and scientists who defend the human rights of their colleagues and others are defending the universal conditions necessary to science itself.

In the past century and especially since 1945, scientific activity and the attitudes of laymen and scientists towards science have changed substantially. In a paper presented to the AAAS Workshop on Scientific Cooperation and Human Rights in the America, Manuel Sadosky, an Argentine mathematician now living in Spain, explains:

When two atomic bombs were dropped on the cities of Hiroshima and Nagasaki without taking into account the opinion of those who constructed those bombs, science 'came to know sin'. Men of science had to understand that their activities were neither disinterested nor neutral, and--just at the moment when their accomplishments escaped their control--science ceased to be 'the unquestioned instrument of human progress' to become one more labor of man that can be used for good or for evil.³

Like Sakharov, Sadosky holds that scientists can no longer place their activities apart from the major political,

social and economic influences now taking place in the world. He argues that scientists must recognize that science may be used for detrimental as well as beneficial purposes, and that it is the special responsibility of scientists to correct abuses within the structure of science as well as to speak out against the harmful application of science. British physicist John Ziman also affirms this viewpoint and calls for a redefinition of "the ancient ethic of universalism in science" which has traditionally conjoined the international scientific community around the "simplified goal" of "the advancement of knowledge". What is needed, according to Ziman, is a reassertion by scientists of the "social solidarity implicit in the concept of a 'Republic of Science'". In such a republic, scientists still adhere to the goal of advancing knowledge but also "recognize the significance of the social, political and legal conditions under which this goal is sought". Ziman believes scientists must appeal directly to "the international code of human rights, as a standard of justice, morality, and corporate action" in order to protect both the well-being of science and the welfare of individual scientists.⁴ Thus, individual scientists from all parts of the globe—the Soviet Union, Europe and Latin America—have articulated the need for scientists to broaden their concept of scientific freedom and responsibility to address the problems of our time.

Human Rights and Scientific Freedom

Several international scientific organizations have begun to integrate the concepts expressed by Sakharov, Sadosky and Ziman into their own fields. Some of these concepts are also embodied in various international conventions and treaties. (The chart on page 16 shows the major pertinent conventions and declarations. These are also discussed in more detail in this paper.) In 1974, the General Conference of UNESCO adopted the "Recommendation on the Status of Scientific Researchers" which views the respect for basic human rights and scientific freedom as an integral part of the scientific process, and as "the strongest guarantee of accuracy and objectivity of scientific results". Although not a legally binding document, the statement establishes several provisions which call on UNESCO member states to create conditions to encourage scientific research and development "in an enhanced spirit of responsibility towards man and his environment".⁵ (See Appendix E for complete text of the recommendation.)

International and Regional Human Rights Declarations
and Conventions Cited In This Report

- Universal Declaration of Human Rights (UDHR) 1948
- UNESCO Recommendation on the Status of Scientific
Researchers (RSSR) 1974
- International Covenant on Civil and Political Rights
(ICCP) Effective: 1976
- International Covenant on Economic, Social, and
Cultural Rights (ICES) Effective: 1976
- American Declaration of the Rights and Duties of Man
(ADRDM) 1948
- American Convention on Human Rights (ACHR) Effective:
1978

Nongovernmental organizations, such as the International Council of Scientific Unions (ICSU) and the World Federation of Scientific Workers (WFSW) have adopted declarations which seek to foster scientific and academic freedom. Comprised of 18 specialized scientific unions and several national science academies, ICSU maintains two committees concerned with scientific freedom and scientific cooperation. The Committee on the Free Circulation of Scientists assists the organizations' officers in dealing with governmental interference in ICSU-sponsored meetings. When a scientist invited to attend an ICSU meeting has difficulty in obtaining a visa, the committee approaches scientific organizations and asks them to intercede with their governments. A separate Committee on the Safeguard of the Pursuit of Science is concerned with combating restrictions hindering scientists in their research and preventing them from communicating with fellow scientists.⁶

The World Psychiatric Association (WPA) has established a Committee to Review Alleged Abuses of Psychiatry. The committee investigates alleged human rights abuses against psychiatrists and, if appropriate, requests that the member association in the country concerned bring the matter to the attention of its government. The WPA also maintains a Committee on Ethics which monitors violations by psychiatrists

and psychiatric institutions of ethical guidelines adopted by the 6th World Congress of Psychiatry meeting held in Hawaii in 1977. The guidelines emphasize that as a practitioner of medicine and a member of society, the psychiatrist must consider "the ethical implications specific to psychiatry, as well as the ethical demands on all physicians and the societal duties of every man and woman".⁷ A similar declaration-"the Declaration of Tokyo" adopted in 1975 by the 29th World Medical Assembly meeting in Tokyo-establishes guidelines for the treatment of detainees and prisoners by medical doctors.⁸

In 1976, the International Federation of Social Workers (IFSW) approved an international code of ethics, and in 1980 adopted a policy on human rights. The IFSW human rights statement draws on the unique role of social workers in ameliorating those problems which arise from the "dysfunction between persons' needs and their societal institutions":

As a result of their particular role and responsibility in society, social workers are often the conscience of the community or victims of human rights violations themselves. As advocates for change, they are often in the forefront of movements and actions for change, thus being subject to repression and abuse. Therefore, the value system, training, and experience of social workers requires that they take professional responsibility for working for human rights.⁹

An extensive examination of the relationship between scientific freedom and human rights is detailed in the report Scholarly Freedom and Human Rights prepared in 1977 by the Council for Science and Society in collaboration with the British Institute of Human Rights. Compiled by seven British lawyers and scientists, the report documents internationally recognized human rights and freedoms of special importance to scientists if they are to exercise their professional duties and to work to advance science in the interest of mankind. While the authors emphasize certain rights and freedoms essential to scientific work, they stress that scientists suffer no more than others who are wrongfully deprived of their basic freedoms, and that scientists should not claim any special rights not applicable to all people. The report argues that while scientists need these rights and freedoms for themselves as individuals, they are essential to the maintenance of their professional activities "for the benefit of those whom they serve in that exercise. To that extent, they

hold their rights and freedoms in trust for those beneficiaries". If science is pursued responsibly and in the interest of mankind, the report concludes, society as a whole benefits.¹⁰

The authors of Scholarly Freedom and Human Rights recognize the following international human rights as essential for scientific work: the right to education; the right to work; protection of scientific production; freedom of expression and opinion; freedom of movement and residence; freedom of entry; freedom of association and assembly. The report further notes that these same rights are embodied in international law.

The right to education is supported in all the universal human rights agreements. Article 19 of the International Covenant on Civil and Political Rights specifies that freedom of expression includes the right "to seek, receive and impart information and ideas of all kinds". Therefore, any measures taken to prohibit the teaching of a particular branch of science or to restrict the content of education, especially universally accepted scientific theories, contravene international human rights law. A severe example of this form of abuse happened shortly after World War II when a Soviet agronomist Trofim Lysenko, gained Stalin's favor by rejecting the Mendelian theory of genetics. Since the 1930's Lysenko had led a movement against orthodox genetics in favor of the theories of a relatively unknown plant breeder, I.V. Michurin, whose ideas were supported by the Stalinist version of Marxism. By 1948, education and research in standard genetics were virtually outlawed, and several geneticists had been arrested or killed.

Article 23 of the Universal Declaration of Human Rights states: "everyone has the right to work, to free choice of employment, to just and favourable conditions of work, and to protection against unemployment". "Arbitrary dismissal," the report on scholarly freedom notes, "is one of the most effective means of individual coercion at the hands of governments or corporate bodies". There are, however, no clauses within the international human rights agreements which explicitly offer protection against this form of abuse. The Declaration of the Rights of Scientific Workers adopted in 1969 by the World Federation of Scientific Workers incorporates a clause which refers to the need for safeguards against arbitrary dismissal by specifying that "the circumstances under which a scientific worker may be dismissed should be defined by law". Nonetheless, as the WFSW is a nongovernmental organization,

the declaration does not fall within the purview of international law. However, certain causes of dismissal are prohibited, and if the real reason for dismissal is due to discrimination, the desire to emigrate, or freedom of expression, such an action would be in violation of international human rights agreements.

Recognition of the achievements of individual research workers or a team of researchers is provided as a necessary component of human rights law in all the international instruments. Article 27.2 of the UDHR states: "Everyone has the right to protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author". In an attempt to give legal weight to the protection of intellectual property, the UNESCO statement, "Recommendation on the Status of Scientific Researchers" urges that employers, whether private or governmental, include provisions which detail "their terms and conditions of employment of scientific researchers, stating clearly what rights (if any) belong to them...in respect of any discovery, invention, or improvement in technical know-how" which may occur as a result of their research. The authors of Scholarly Freedom and Human Rights believe that any interference with the incentives built into the scientific process promoting achievement, such as recognition of authorship or discovery, public awards, or membership in national academies, may be as damaging as more overt restrictions on research.

Freedom of expression and opinion is essential to every scientist in his or her work and to the progress of science as a whole. Article 19 of the UDHR recognizes these freedoms without qualification:

Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference, and to seek, receive and impart information and ideas through any media and regardless of frontiers.

Just as peer recognition of individual or group discoveries acts as a catalyst to scientific achievement, so peer review of preliminary research results acts as one of the guarantees for scientific excellence. It is towards this goal that the UNESCO recommendation adds support to the Universal Declaration by urging member states to maintain conditions in which scientists may:

- o work in a spirit of intellectual freedom to pursue, expound and defend scientific truth as they see it...Article 14.
- o express themselves freely on the human, social or ecological value of certain projects and in the last resort withdraw from those projects if their conscience so dictates...Article 14.
- o receive without hindrance the questions, criticisms, and suggestions addressed to them by their colleagues throughout the world...Article 34.

Restrictions on freedom of expression and opinion within a particular country may affect the transfer of scientific information on an international scale as well. One commentator, Jeremy Stone, Director of the Federation of American Scientists, explains that such restrictions are a detriment to science as a whole: "Science is done for international benefit and--unlike art, for example,--is a highly cooperative endeavor. To the extent that this cooperation is infringed, all suffer from it."¹¹

Freedom of movement and residence, which for scientists means the right to attend international conferences and to visit foreign scientific centers, is guaranteed under international human rights law. (Under severe conditions of repression, those scientists and others facing persecution would, of course, view freedom of movement as the protection of the right to seek asylum in a foreign territory.) The Universal Declaration of Human Rights, Article 13, states:

- o Everyone has the right to freedom of movement and residence within the borders of each state.
- o Everyone has the right to leave any country, including his own, and to return to his country.

Article 22 of the American Convention on Human Rights has essentially the same wording.

The maintenance of peer review of preliminary research findings is essential to the advancement of science. In order to accomplish this, scientists must be able to communicate freely with their colleagues at home and abroad.

"Experience has shown," the authors of Scholarly Freedom and Human Rights write, "that there can be no substitute for personal travel as a means for diffusing scientific knowledge throughout the world, and no substitute for personal dialogue and confrontation of opinion in advancing scientific knowledge." Article 26 of the UNESCO recommendation states:

Member States should actively promote the interplay of ideas and information among scientists throughout the world...and take all measures necessary to ensure that scientific researchers are enabled...to participate in international scientific and technological gatherings and to travel abroad.

Since its creation in 1963, the ICSU Committee on the Free Circulation of Scientists has been involved in defending the right of scientists to freedom of movement and entry. As well as handling individual complaints in this area, the Committee has established guidelines for international scientific meetings to prohibit the exclusion of scientists from such meetings because of "...race, religion, political philosophy, ethnic origin, citizenship, language or sex." In 1974, the Committee expressed concern that many scientists were still being prevented from attending international meetings because governments either refused entrance to particular scientists because of their nationality or denied some of their own scientists permission to attend conferences. Scientific societies continue to report that foreign scientists invited to attend scientific meetings have been denied visas. For example, in 1980 the American Physical Society reported that the U.S. State Department had refused visas to Soviet participants invited to attend the International Conference on Magnetic Bubble Memory Materials organized by the American Vacuum Society. Other forms of governmental interference were reported in connection with the Conference on Lasers, Electro-Optical Systems, and Inertial Confinement of Fusion, organized by the Optical Society of America and the Institute of Electrical Electronics Engineers.¹²

As scientific cooperation relies heavily on open information exchange between scientists, it is essential that they be permitted to form national and international associations and trade unions to further their professional and material interests and to facilitate cooperation. The American Convention on Human Rights clearly supports these rights, as does Article 20 of the Universal Declaration of Human Rights:

Everyone has the right to freedom of peaceful assembly and association.

Article 42 of the UNESCO recommendation states:

Member States should recognize it as wholly legitimate, and indeed desirable that scientific researchers should associate to protect and promote their individual and collective interests, in bodies such as trade unions, professional associations, and learned societies, in accordance with the rights of workers in general and inspired by the principles set out in the international instruments...

Although the concept of human rights has gradually become a recognized part of international law, there remain substantial obstacles in enforcing state compliance with the obligations set out in the international instruments. Consequently, international human rights law relies heavily on voluntary self-compliance by states, aided by any moral pressure or other forms of influence which concerned nations, international organizations, or nongovernmental groups may be prepared to exert.

International Human Rights Agreements

The development of international legal standards to protect basic human rights is a fairly recent phenomenon. Three decades ago in December 1948, the newly formed General Assembly of the United Nations adopted an international agreement setting a "common standard of achievement for all people and all nations" in preserving the dignity and worth of the human person. Under the Universal Declaration of Human Rights (UDHR), the 48 member states that signed the charter pledged to take both joint and separate action to promote universal respect for and observance of human rights and fundamental freedoms. (See Appendix D.)

The Universal Declaration of Human Rights consists of 30 articles which can be divided into two categories of rights--one political and civil, and the other economic, social and cultural.¹³

Articles 4 through 21 of the Universal Declaration fall into the first category and are concerned with the integrity

of the person and with political and civil liberties. These so-called "negative rights" include freedom from torture or degrading treatment, arbitrary arrest and detention, or exile; ex post facto legislation or punishment; as well as the "positive rights" to freedom of asylum, movement, nationality, marriage, property, freedom of thought and expression, and peaceful assembly. These rights are expanded upon in the International Covenant on Civil and Political Rights.

The second category of rights is outlined in Articles 22 through 27 of the UDHR and is detailed in the International Covenant of Economic, Social and Cultural Rights. This category is concerned with the right to such vital needs as food, shelter, health care, and education.

The U.N. General Assembly adopted the Universal Declaration of Human Rights as a statement of principles, and as such it is not considered a legally binding treaty. However, many international legal scholars consider it to be a part of international common law, and several international conventions have implemented legally the rights and guarantees defined in the Universal Declaration.

The enforcement mechanism for those U.N. member states which have signed and ratified the International Covenant on Civil and Political Rights is embodied in a Human Rights Committee. The committee has three tools of implementation. The first requires states to report on the progress they have made in guaranteeing the specified rights. The second allows a state to submit a complaint to the committee that another state is violating the covenant. Individuals may also lodge complaints of alleged violations to the committee. The third and final mechanism establishes an ad hoc Conciliation Commission to consult with all the parties concerned and attempt to resolve any final disagreements. In August 1979, the U.N. Human Rights Committee found the Uruguayan government in violation of the covenant. This was the first time the enforcement mechanism has been used. The case involved José Luis Massera, an internationally renowned mathematician, who is serving a 20-year sentence for political activities. (See page 88 of this report for further information on Massera.)

The International Covenant of Economic, Social and Cultural Rights entered into force in January 1976 with the accedence of 50 nations. The covenant's signatory nations pledged their governments' commitment to enhance the quality of life and to fulfill certain basic needs. Implementation of the covenant is not as extensive as the Civil and Politi-

cal Covenant as states are only required to report periodically to the United Nations Economic and Social Council on their progress towards fulfillment of the covenant's obligations. In turn, the Council submits recommendations to the General Assembly outlining the measures necessary to facilitate adherence to the covenant. It may also call on any of the U.N. technical aid agencies for their assistance.¹⁴

Human Rights Agreements in the Americas

In 1948 (only a month prior to the adoption of the UDHR), several American states met in Bogotá, Colombia, and pledged their adherence to an American Declaration on the Rights and Duties of Man (ADRDM). The American Declaration is an affirmation of basic individual rights found in the Universal Declaration and does not impose any obligations on the contracting member states. The American Declaration proclaims that the peoples of America have acknowledged the dignity of the individual, that the essential rights of man are not derived from a national identity but are based on the dignity of the human personality, and that protection of these rights should be the principal guide of an evolving inter-American law.¹⁵

Like the international covenants, the American Declaration contains a mechanism for enforcement. In 1969, several member states of the Organization of American States* met in San José, Costa Rica and drew up an American Convention on Human Rights. The convention came into force on 18 July 1978 when Grenada became the eleventh nation to ratify the treaty. To date, 13 member states have ratified the convention. The United States has signed the convention; however, it has not been ratified by the Senate. Other nonratifiers include Argentina, Brazil, Chile and Mexico.

The treaty recognized the right to life; humane treatment of prisoners; right to personal security, including safeguards against arbitrary arrest and imprisonment, the

* The Organization of American States was established in Washington, D.C. on 14 April 1890 and has a current membership of 26 nations in the Western Hemisphere. While the OAS acts as a regional organization of the United Nations in its peacekeeping role, the present aim of the organization is "to advance the economic and social development of the member states".

right to habeas corpus, and to a speedy and fair trial by a competent court; rights to privacy, freedom of religion, and freedom of expression; rights of assembly, freedom of association, and various rights of the family.

Enforcement of the rights detailed in the American Convention on Human Rights is carried out by the Inter-American Court of Human Rights, situated in San José, Costa Rica. The court is composed of seven judges elected by the ratifying states and only has jurisdiction in those states which have ratified the convention. The court also recognizes the legality of the Inter-American Commission on Human Rights (IACHR) and will hear cases received from it if the commission is unable to reach a settlement. Although the court does not hear complaints presented by individuals, cases may be submitted by the adhering states. All judgments by the court are final. States found in violation of the convention are instructed by the court to restore the victim to his/her rights, and where appropriate, to pay the victim compensation.

The Inter-American Commission on Human Rights is an autonomous entity of the Organization of American States. It is one of the key organizations working to promote respect for human rights in the Western Hemisphere, using the American Declaration of the Rights and Duties of Man as a standard in its work. It is composed of seven members-nationals of the member states of the OAS-who represent all the member states of the organization and act in its name. In recent years the Washington-based commission has investigated the human rights situation in several countries in the region, including Argentina, Chile, Cuba, El Salvador, Haiti, Nicaragua, Panama, Paraguay and Uruguay. After completion of an investigation, the IACHR reports its findings to both the government of the country involved and the General Assembly of the OAS with recommendations on measures to improve the protection of human rights.

Human Rights and "State of Siege" Conditions

All the existing international and regional instruments on civil and political rights contain provisions which allow the signatory governments to derogate their obligations "in time of war, public danger, or other emergency that threatens independence or security..." (Article 27, American Convention of Human Rights) For example, the constitutions of several Latin American countries give their Executive the power to declare a "state of siege" or to enforce "prompt security measures" in time of an external threat or internal

turmoil, thus suspending civil and political liberties for the duration of the crisis.

The existing covenants on civil and political rights also contain provisions concerning the rights to freedom of expression, opinion, movement, residence, assembly and association which allow the signatories of these instruments to suspend these obligations on the grounds of national security and public order. Similar to the International Covenant on Political and Civil Rights, the American Convention on Human Rights qualifies the right to freedom of opinion and expression (Article 13) by providing that governments may subject this right to "imposition of liability" under established laws which "to the extent necessary" ensure:

- o respect for the rights or reputations of others; or
- o the protection of national security, public order, or morals.

While governments may be able to abuse these provisions through their own interpretation of the legal status of certain guarantees, the provisions place a burden of proof on the government authorities to demonstrate that any steps taken to protect national security or public order are strictly implemented for those reasons. For example, the article cited above regarding freedom of opinion and expression under the American Convention states that these rights may only be qualified "to the extent necessary" to safeguard national security and public order. Furthermore, those provisions in the international instruments which enable governments to suspend certain civil liberties in times of war or other public emergency do not apply to those civil rights pertaining to the integrity of the person, such as the right to life, and freedom from torture or degrading treatment and slavery. Again, governments may only derogate their obligations to respect certain civil and political liberties to the extent each emergency situation requires such actions and may not extend suspension of such rights once an emergency situation has passed. Several international human rights organizations have charged that some Latin American governments continue to suspend certain civil and political rights under emergency decrees although such measures are no longer required. Paraguay has been under a "state of siege" since 1954, although guerrilla activity there has practically ceased. Argentina remains under a "state of siege", although the mili-

tary claims that all guerrilla activity was eradicated by 1977. Chile has maintained a "state of emergency" since 1973, which the new transitory constitution has changed to a "state of danger". The Uruguayan government still holds prisoners indefinitely under "prompt security measures" invoked in 1972 when the Tupamaros (a guerrilla group) were active.

Human Rights and Scientific Responsibility

In a press statement issued at the close of the Workshop on Scientific Cooperation and Human Rights in the Americas, the participants concluded that the advancement of science is fundamentally linked to the advancement of human rights. Scientists therefore have a responsibility not only to promote scientific freedom but also to promote the basic rights guaranteed to all people under international law. The participants also noted that scientists have a duty to refuse to participate in actions which violate the human rights of others. (Appendix C)

Direct involvement by scientists in human rights abuses have been documented in primarily two areas:

- o the participation of medical doctors and health personnel in the practice of torture.
- o psychiatric misuse and abuse.

The practice of torture is prohibited in virtually all comprehensive international human rights agreements. Article 5 of the Universal Declaration of Human Rights provides: "No one shall be subjected to torture or to cruel, inhumane or degrading treatment or punishment." In the international instruments there are no provisions which allow consenting states to derogate under any circumstances their obligations to protect their citizens from torture and ill-treatment. Article 32 of the Convention on the Protection of Civilian Persons in Time of War, adopted on 12 August 1949, states that each contracting party is :

prohibited from taking any measure of such a character as to cause the physical suffering or extermination of protected persons. This prohibition applies not only to murder, torture, corporal punishment, mutilation and medical treatment of protected persons, but also to any other measures of brutality whether applied by civilian or military agents.¹⁶

Amnesty International, the London-based international human rights organization, defines torture as the "systematic and deliberate infliction of acute pain in any form by one person on another, or on a third person, in order to accomplish the purpose of the former against the will of the latter".¹⁷ A more comprehensive definition of torture is found in the "Declaration on the Protection of All Persons from Being Subjected to Torture, and Other Cruel, Inhuman or Degrading Treatment or Punishment", adopted by consensus in the U.N. General Assembly. Torture is defined in Article 1 as being:

...any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted by or at the instigation of a public official on a person for such purposes as obtaining from him, or a third person, information or confession, punishing him for an act he has committed or is suspected of having committed, or intimidating him or other persons...Torture constitutes an aggravated and deliberate form of cruel, inhuman or degrading treatment of punishment.¹⁸

The practice of torture throughout the world has been documented for nearly two decades by Amnesty International and various U.N. agencies. Amnesty International estimates that torture has been used against suspects and detainees in some 60 countries, and that torture is rapidly becoming a regular administrative practice of the state in more than 31 countries. According to Amnesty International, torture increased from the late 1950s to the early 1970s and has become a common instrument of state policy in countries such as Chile, Brazil, Argentina, Uruguay, Uganda, Spain, Iran, and the Soviet Union.¹⁹

The use of torture in Latin America is particularly acute. Costa Rica is the only country in the region from which Amnesty International has never received an allegation of torture. However, there have been some encouraging signs that government authorities in certain countries are moving to prosecute police and military personnel who have practiced torture. For example, in 1975 then President Carlos Andres Perez of Venezuela supported judicial indictment and conviction of military intelligence torturers. In the same year Peruvian courts indicted 12 policemen on charges of practicing torture.²⁰

Since 1973, Amnesty International has established medical groups in 26 countries involving 4,000 doctors whose activities range from medical letter-writing actions for sick prisoners to studying the aftereffects of torture on political prisoners. The medical groups also alert doctors to ethical abuses perpetrated by fellow practitioners who participate in torture, executions, and punitive amputations. In six years these doctors have examined more than 800 torture victims from several countries.

It is difficult to quantify medical participation in torture as data on the subject is often limited to the testimonies of torture victims (which must be verified by extensive interviews and medical examinations), or by medical personnel or torturers who decide to "come clean" and reveal all.

A Dutch physician, Herman van Geuns, who has been involved in the treatment of torture victims for several years, indicates that during torture medical personnel may be called on:

- o to perform medical examinations on suspects before they are subjected to forms of interrogations which might include torture;
- o to attend torture sessions in order to intervene, as in a boxing ring, when the victim's life is in danger;
- o to treat the direct physical effects of torture, and often to "patch up" a seriously injured torture victim temporarily so that the interrogation can be continued later on;
- o to develop, by means of his own techniques, methods which produce the results desired by his superiors, as when psychiatric methods are used.

In Prisoner Without a Name, Cell Without a Number, Jacobo Timerman, an Argentine newspaper publisher and editor who was detained without charge for two years and tortured by the Argentine military, describes his first encounter outside the torture room with the prison doctor:

I've been thrown to the ground in the cell. It's hot. My eyes are blindfolded. Two days have gone by without torture. The doctor comes to see me and removes the blindfold. I ask him if he isn't worried about my seeing his face. He acts surprised. "I'm your friend. The one who takes care of you when they apply the machine. Have you had something to eat?"

"I have trouble eating...my gum hurts. They applied the machine to my mouth."

He examines my gums and advises me not to worry. I'm in perfect health. He tells me he's proud of the way I withstood it all. Some people die on their torturers, without a decision having been made to kill them; this is regarded as a professional failure.²²

According to Amnesty International, during the years following the 1973 military takeover in Chile several doctors attended torture sessions, reporting on the victims' physical state and applying drugs such as the "truth drug" sodium pentothal during interrogation sessions. An A.I. report on Chile published in 1974 charged that "leading members of the medical profession have been aware that the torture of political prisoners has taken place within the military hospital itself, and have at times had the opportunity to visit those prisoners who had been subjected to torture".²³

Two North American physicians, who travelled to Chile in early June 1981 to investigate the arrest of three Chilean physicians, report that instances of physical torture and ill-treatment still continue, although not to the extent such abuses occurred in the past. The two physicians, whose fact-finding mission was sponsored by five American scientific groups, spoke with Gabriella Rojas, a 23 year old preschool teacher who claimed she had been beaten and raped by agents of the secret police-Centro Nacional de Informaciones (CNI) after being detained at the 1981 May Day march in Santiago. The young woman told the American doctors that prior to her release she was examined by a CNI doctor who told her that her injuries were caused because "she had bitten her lip and that the vaginal bleeding was due to her period, which she flatly denies". During her detention she was given an injection which made her feel "dizzy, hot and wiped out".²⁴

A medical code of ethics. The greatest legacy left to the medical profession by the Greek physician Hippocrates is a code of conduct known as the oath of Hippocrates. In one or another of its many versions, the Hippocratic oath has guided the practice of medicine for more than 2,000 years and is still used during graduation ceremonies at many universities and medical schools. Although the oath is an appeal for correct conduct, it is in no sense a law and it is not enforced. Under the oath a medical doctor is committed to serve and to uphold the utmost respect for human life and dignity:

The regime I adopt shall be for the benefit of my patients according to my ability and judgment, and not for their hurt or for any wrong. I will give no deadly drug to any, though it be asked of me, nor will I counsel such...

Several of the ethical principles that Greek physicians adhered to as early as the 5th century B.C. are embodied in a code of conduct for doctors concerning prisoners and detainees adopted in October 1975 by the World Medical Association. Commonly known as the "Declaration of Tokyo", the WMA resolution guidelines establish that doctors shall not "countenance, condone or participate in the practice of torture, or other forms of cruel, inhuman or degrading procedures," in "all situations, including armed conflict and even civil strife".

Article 4 of the WMA declaration requires medical doctors to maintain a universality of purpose transcending their national and political loyalties and obligations:

A doctor must have complete clinical independence in deciding upon the care of a person for whom he or she is medically responsible. The doctor's fundamental role is to alleviate the distress of his or her fellow men, and no motive—whether personal, collective or political—shall prevail against this higher purpose.

Doctors are also banned from the artificial feeding of prisoners on hunger strikes if such prisoners are judged to be aware of the consequences of their actions. However, in such cases a doctor does have a duty to explain the "consequences of the refusal of nourishment." The WMA is also opposed to the participation of doctors in the amputation of the hands of convicted criminals as practiced in some countries.²⁵

In August 1975 the International Council of Nurses (ICN) adopted a resolution similar to the WMA declaration outlining the responsibility of nurses in regard to torture. The ICN resolution condemns the use of torture and the participation of the nursing profession in its practice. In addition, nurses may only participate in clinical research carried out on prisoners if the prisoner has "freely given consent" to such research and "has been secured a complete explanation and understanding...of the nature and risk of the research".²⁶ In 1981, the ICN adopted a resolution further supporting the 1975 guidelines.

The General Assembly of the United Nations is now considering the adoption of an international code of medical ethics relevant to the role of health personnel in the protection of persons against torture. The code was drawn up by the Council for International Organizations of Medical Sciences (CIOMS) and is a revised version of the WMA declaration. WMA Secretary Andre Wynen has expressed concern that the U.N. Assembly might favor the CIOMS text rather than the one adopted by WMA in Tokyo in 1975. According to Wynen, "the thesis defended by CIOMS is much more flexible than the Tokyo Declaration, especially in defining torture, the role of the physicians confronted by it and the physician's attitude regarding forced feeding of those on hunger strike".²⁷

Amnesty International has suggested to the U.N. Assembly that it incorporate into the code a clause which would provide that "those covered by the code have an affirmative obligation to make publicly known, or to inform proper national and international bodies, of any activities which inflict torture" or inhumane treatment upon anyone. They have also recommended that international and national bodies and organizations who adopt and promulgate the code be required to discipline doctors who violate its provisions.²⁸

One way of stopping the use of torture is for professional associations to take disciplinary actions against those members who violate codes of ethics. Professional associations can also seek ways to prevent government prosecution of their members who refuse to participate in torture. The AAAS workshop participants strongly condemned medical participation in torture and recommended that any medical doctor or health worker who participates in torture should be expelled from the medical profession.

In a unanimous decision in October 1980 the Regional Medical Council in Sao Paulo, Brazil, voted to strike Dr. Harry

Shibata off the medical register for falsifying two medical certificates of people tortured in military custody in 1975. One certificate falsely stated that a prisoner had committed suicide, and the second that another prisoner had not been tortured, despite evidence to the contrary.

The first case involved a well-known Brazilian journalist, Vladimir Herzog, who, according to military intelligence, committed suicide while in their custody in October 1975. Dr. Shibata signed an autopsy report to this effect. However, on the basis of evidence which included police photographs revealing signs of torture on Herzog's body and testimony by a prisoner held in a cell adjacent to Herzog's cell which claimed he overheard Herzog being tortured, a Sao Paulo federal judge ruled in October 1978 that the Brazilian government was responsible for the death of Vladimir Herzog.

The second case involved a former member of parliament, Marco Antonio Tavares-Coelho, who was detained at military intelligence headquarters in January 1975. After his release, Tavares-Coelho claimed he had been tortured and was subsequently examined by army-appointed doctors who confirmed injuries on his body. Prior to Tavares-Coelho's release from the military intelligence headquarters, Dr. Shibata signed a medical certificate stating that there were no torture marks on Tavares-Coelho's body. In early 1981, there were 10 cases pending before medical councils in Sao Paulo and other Brazilian states in which doctors were accused of having been involved in torture and of having signed false medical certificates.

The involvement of professional associations in disciplining unprofessional conduct by their members would appear to contribute positively to efforts aimed at halting the use of torture. However, professional societies are often reluctant to criticize or to censure their members. Reviews of individual behavior in the profession may divide the membership of a society and ultimately may weaken the integrity of a profession. This is illustrated by the case of three South African medical doctors who treated the black leader Steve Biko in a Port Elizabeth jail shortly before his death in September 1977. The same doctors admitted at an inquest into Biko's death, held in Pretoria in November 1977, that "they had subordinated his interests to those of the security police by submitting false and incorrect reports about his state of health".³⁰ Biko died of head injuries shortly after being driven 700 miles from Port Elizabeth to Pretoria in the

back of a police vehicle. The three doctors had examined Biko in Port Elizabeth and pronounced him fit to travel, despite extensive head injuries he received during an alleged scuffle with a six-member security police interrogation team.

The magistrate presiding over the inquest took no punitive action against the doctors but referred the matter to the South African Medical and Dental Council. In April 1980, after a closed meeting, the council declared "that there was no evidence of improper or disgraceful conduct on the part of the doctors who treated Mr. Steve Biko before his death in detention" and concluded that "there was no need for a disciplinary hearing" by the council's disciplinary committee. In September 1980, the Medical Association of South Africa issued a similar statement.

Immediately following the statements by the council and the medical association, several of their members threatened to resign and members of the medical faculties of the University of Natal, Capetown University, and the University of Witwatersrand protested the decisions. The board of the Witwatersrand University Medical Faculty in Johannesburg unanimately adopted a resolution publicly disassociating itself from "the council's decision on the 'Biko doctors'". The board further charged that, although they were not saying the doctors were guilty, it was their opinion that "there was prima facie evidence of improper or disgraceful conduct, which should have been subjected to the careful scrutiny of a medical council disciplinary committee hearing".³¹

In Colombia, legislation was introduced into the Congress in 1979 which would have established a national code of medical ethics. While the legislation was supported by the National Academy of Medicine and the Colombian Medical Federation, several unions of medical personnel, including the Colombian Union of Medical Workers (ASMEDAS) questioned the practicality of giving such a code a legal status. Several international human rights groups also expressed concern over the legislation.

ASMEDAS was particularly concerned about possible political abuses in the proposed formulation of tribunals which would review cases of medical misconduct. The union also objected to various articles in the legislation which limited the dissemination of medical information as well as certain sections dealing with the oath of medical secrecy. Under certain undefined "legal situations", a doctor would be allowed to violate his or her professional oath. As of early

1981, the legislation with modifications had been approved by the Colombian Congress and signed into law by the President.³²

Psychiatric Misuse and Abuse

Psychiatrists, like medical doctors, may be called upon by government agencies to use their professional skills and expertise. An individual psychiatrist or a team of psychiatrists may be asked to examine a person suspected of having committed antisocial acts to determine whether he suffers from a mental disorder which may account for his actions. In such a situation a psychiatrist is under an obligation to render an opinion based on available clinical data and his best professional judgement. If the psychiatrist(s) involved determine(s) that a person is suffering from a temporary or permanent mental dysfunction, it may be necessary to treat the person in a hospital.

It is in situations where psychiatrists must balance concerns about the welfare of the individual with the interests of the state that they are most vulnerable to conflicting demands of allegiance.³³ Alfred Heijder and Herman van Geuns examine this conflict in their report on Professional Codes of Ethics:

It is obvious that the professionals who are in the service of the state are most exposed to conflicting demands of allegiance. For their skills and expert knowledge are most easily perverted against their original intentions. In cases where such conflicts become manifest and a choice must be made, the individual will look for concrete orientation points to guide his behavior.³⁴

In August 1977, the World Psychiatric Association (WPA) adopted a code of ethics designed to offer guidance to psychiatrists when conflicting demands of allegiance may force them to use "psychiatric concepts, knowledge, and technology" to the detriment of the patient. Commonly known as the "Declaration of Hawaii", the WPA guidelines are unequivocal in the belief that psychiatry must always serve the best interests of the patient. Article 2 provides: "Every patient must be offered the best diagnosis and therapy available and be treated with the solicitude and respect due to the dignity of all human beings and their autonomy over their own lives and health".

Article 7 states that psychiatrists have a duty to refuse participation in any activities which contravene the ethical guidelines set out in the declaration:

The psychiatrist must never use the possibilities of the profession for maltreatment of individuals or groups, and should never let inappropriate personal desires, feelings, or prejudices interfere with the treatment. The psychiatrist must not participate in compulsory psychiatric treatment in the absence of psychiatric illness. If a patient or some third party demands action contrary to scientific or ethical principles, the psychiatrist must refuse to cooperate.

While in recent years psychiatrists in several countries, including Czechoslovakia, Chile, Argentina*, Romania, and South Africa, have been charged with the misuse of psychiatry by human rights groups and psychiatrists, an overwhelming amount of documentation suggests certain Soviet psychiatrists are engaged in psychiatric abuse for political purposes on an unprecedented scale. Between June 1975 and May 1979, Amnesty International reported that it had received documentation on the cases "of more than 100 people who were forcibly confined to psychiatric hospitals for exercising their human rights rather than for authentic medical reasons".³⁵ While the figure quoted by Amnesty International only takes into account cases received by that organization, other observers quote a considerably higher figure. Evidence that Soviet psychiatrists were abusing their professional duties led the General Assembly of the WPA to adopt the following resolution in 1977:

That the World Psychiatric Association take note of the abuse of psychiatry for political purposes and that it condemn those practices in all countries where they occur and call upon the professional organizations of psychiatrists in those countries to renounce and expunge those practices from their country and that the WPA implement this resolution in the first instance in reference to

* After the military take over of March 1976, a large number of psychiatrists were detained without charge or "disappeared".

the extensive evidence of the systematic abuse of psychiatry for political purpose in the USSR.

The arrests of Soviet mining engineer Alexei Nikitin and psychiatrist Anatoly Koryagin are evidence that instances of psychiatric abuse still continue in the Soviet Union. Nikitin, a 41-year-old mining engineer from Donetsk in the Eastern Ukraine, was arrested at his sister's home on 12 December 1980, three days after talking with journalists from the Financial Times and Washington Post about unsafe conditions in the Donetsk mines. Nikitin has been interned in psychiatric hospitals by the authorities on several occasions over the past 10 years. During a four year confinement at the Dnepropetrovsk Special Psychiatric Hospital, Nikitin was reportedly diagnosed as "psychopathological-simple form".

After his forced return to the psychiatric institution in January 1981, Nikitin was examined by Anatoly Koryagin, a psychiatric consultant to the unofficial Working Commission to Investigate the Use of Psychiatry for Political Purposes, who claimed the engineer suffered no mental illness and should be released. On 13 February 1981, Koryagin was arrested and has since been sentenced to 7 years in prison and five years in internal exile. It is generally believed that Koryagin was detained as a direct result of his diagnosis of Nikitin.

Koryagin was the last active member of the Working Commission. It was founded in 1977 and despite the continued harassment and imprisonment of its members had managed to publish until April 1980 more than 20 information bulletins on its investigations into cases of dissidents who had been declared insane and interned in psychiatric hospitals. The Working Commission has campaigned for the release of such dissidents, visited them in psychiatric hospitals, and provided moral and material support to their families.³⁶

Notes

¹Andrei Sakharov, "The Social Responsibility of Scientists", Physics Today, p. 25. See also Nicolas Wade, "Physicists Meet to Honor Sakharov", Science, 15 May 1981, pp. 756-7.

²Ibid, p. 27.

³Manuel Sadosky, from discussion paper presented at AAAS Workshop on Scientific Cooperation and Human Rights in the Americas, 2-5 January 1981.

⁴John Ziman, "Solidarity within the Republic of Science", Minerva, Spring 1978.

⁵A copy of the "Recommendation on the Status of Scientific Researchers", adopted by the General Conference at its XVIIIth session (Paris), November 1974, may be obtained from the UNESCO Liaison Office, 918 16th St., N.W. Washington, D.C. 20008.

⁶Information about the two ICSU Committees may be obtained by writing to their international secretariat: ICSU Secretariat, 51 Bd. de Montmorency, 75016 Paris, France.

⁷For a copy of the "Declaration of Hawaii" write: World Psychiatric Association, 1 rue Cabanis, Paris 75014 France. Also see Psychiatric News (newspaper of the American Psychiatric Association), 5 August 1977.

⁸For more information, write: Dr. Andre Wynen, Secretary General, World Medical Association, Avenue des Alpes 28, F-01210 Ferney-Voltaire, France.

⁹For more information, write: Chauncey Alexander, Executive Director, National Association of Social Workers, 1425 H Street, N.W., Washington, D.C. 20005.

¹⁰This part of the section owes much to Scholarly Freedom and Human Rights, which gives a concise overview of the international human rights agreements and their relationship to the scientific process. For a copy of the report write: The Council for Science and Society, 3/4 St. Andrew's Hill, London EC4 5BY, United Kingdom.

¹¹Jeremy Stone, "Scientists and International Politics", Chemical and Engineering News, 21 April 1980, p. 38.

¹²See AAAS Clearinghouse Report on Science and Human Rights, December 1980.

¹³See Peter Weiss, "Human Rights and Vital Needs", Institute for Policy Studies Issue Paper, September 1977; Thomas Buerghenthal and Judith V. Torney, International Human Rights and International Education, published in 1976 by U.S. National Commission for UNESCO.

¹⁴See American Bar Association, "International Human Rights Treaties, the Rule of Law and the United States—A Time of Decision", September 1978.

¹⁵Inter-American Commission on Human Rights of the Organization of American States, Handbook of Existing Rules Pertaining to Human Rights, July 1980. For a copy of the handbook write: Inter-American Commission of Human Rights, Organization of American States, Washington, D.C. 20006.

¹⁶Quoted from Matthew Lippman, "The Protection of Universal Human Rights: The Problem of Torture", Universal Human Rights, October-December 1979, p. 26.

¹⁷Amnesty International, Report on Torture (New York: Farrar, Straus and Giroux, 1975), p. 35.

¹⁸U.N. Resolution 3452 (XXX), 9 December 1975. Quoted from Matthew Lippman, op. cit., p.38.

¹⁹Matthew Lippman, op. cit.

²⁰Bryce Wood, "Human Rights Issues in Latin America", in Enhancing Global Human Rights (New York: McGraw Hill Book Co., 1979), Jorge I. Dominquez et al.

²¹Herman van Geuns, "The Responsibilities of the Medical Profession in Connection with Torture", in Professional Codes of Ethics (London: Amnesty International Publications, 1976).

²²Jacobo Timerman, Prisoner Without a Name, Cell Without a Number (New York: Random House, 1981).

²³Amnesty International, Chile, p. 63. Quoted from Matthew Lippman, op. cit.

²⁴The mission to Chile was sponsored by the American Association for the Advancement of Science, The American Public Health Association, the National Association of Social Workers, the Physicians' Forum, and the Emergency Committee to Defend Chilean Health Workers. The mission delegates were Dr. Jonathan Fine and Dr. James Koopman.

²⁵Quoted from U.N. General Assembly Document A/34/273, dated 6 June 1979, p.9.

²⁶Quoted from Alfred Heijder and Herman van Geuns, op. cit., pp. 29-30.

²⁷Associated Press, 4 December 1980.

²⁸Alfred Heijder and Herman van Geuns, op. cit., p. 12.

²⁹Amnesty International Newsletter, "Record on Torture Victims Falsified", July 1980 and "Ruling on Doctor", December 1980.

³⁰Donald Woods, Biko (New York: Random House, 1979).

³¹Quoted from Phillip V. Tokia, Dean of the Medical School, University of Witwatersrand in a letter to Nature, 17 July 1980. Also see "New Biko Protest", Washington Post, 14 November 1980, and AAAS Clearinghouse Report on Science and Human Rights, December 1980.

³²From documents provided by AAAS Workshop participants Eduardo Arevalo Burgos, M.D., Chairman of the Board, ASMEDAS, and Federico Allodi, psychiatrist.

³³"Psychiatrists Knock Soviets in A'sentia", Honolulu Advertiser, 31 August 1977. Article based on paper presented by Dr. Paul Chodoff at the World Psychiatric Association meetings held in Hawaii, August 1979. Also see Sidney Bloch and Peter Reddaway, Psychiatric Terror, 1977.

³⁴Alfred Heijder and Herman van Geuns, op. cit., p. 9.

³⁵Amnesty International, Prisoners of Conscience in the USSR: Their Treatment and Conditions (London: Amnesty International Publications, 1980) p. 172.

36"Life in Donetsk", editorial, Washington Post, 10 February 1981; "Dissident's Relatives Allowed to See Him", Washington Post, 22 April 1981; "It is illegal to Say That One is Sane", Science, 19 June 1981; "Psychiatrist on Trial", Nature, 11 June 1981.

2. Scientists and Human Rights in Latin America

I. INTRODUCTION

Legend has it that when the Romans captured the Sicilian city of Syracuse in the year 212 B.C., a soldier killed the great mathematician Archimedes when he was trying to solve geometry problems in the sand. This story is often cited as an early example of brutality towards an eminent scientist - brutality which has prevailed throughout history in many parts of the world. In actual fact, Archimedes was working on a combination of mirrors which would set fire to invading Roman ships by concentrating solar energy on them, an activity which obviously qualified him as a "combatant" in the eyes of the victorious army. However, it is sometimes forgotten that the soldier who killed Archimedes was severely scolded by a superior for having murdered an eminent scientist who might have been useful to the Roman Empire.

This story always comes to mind when I think of the problem of the persecution of scientists and the violations of their human rights in Latin America. Violence is widespread in many Latin American countries as a result of social and political struggles, and many scientists are victims of repression.

Violations of human rights should always be condemned and there are a number of ways for citizens to contribute to a greater respect of these rights around the world. Organizations such as Amnesty International, many church organizations and others work actively in this area.

What we like to discuss here, however, are the following questions:

Are scientists special targets for repression?
If so, why?

Although we will try to keep our discussion in a level applicable to Latin America in general, most of the examples reflect the particular situation of Brazil.

In this discussion we will differentiate scientists from other victims of repression; this can be considered a divisionary strategy reflecting an elitist view of the problem. This parochial position might seem geared to protect the corporate interests of this category of people.

As a matter of fact, it might not be possible to protect all people and all institutions from repression while protecting some special activities that are closely connected to education, science and technology.

Authoritarian regimes have a logic of their own as we will outline later and, in facing them, flexible approaches have to be used. People living in countries that have been occupied by foreign armies have developed a large experience in fighting these armies. In a similar way, what is happening in a number of Latin American countries is the "occupation" of the country by their own army and strategies have to be developed to cope with that situation. One has to be realistic enough to realize that a very strict system of laws and regulations is in effect in many countries forbidding political activities of one type or another. Scientists who violate these regulations or who involve themselves as citizens in struggles against this government are bound to be imprisoned and suffer in the hands of the police. These are additional risks they take as citizens interested in changing or improving things.

No special privileges can be claimed for them in many cases which is exactly what happened to Archimedes when he fell into the hands of the Romans.

There are, however, a number of activities which are not strictly political and there are important areas of discussion in Latin American countries in which scientists are important such as the protection of the environment, rational use of natural resources, preventive medicine, protection of indians and other minorities, and educational problems in general. These areas are not considered "illegal" even in many very authoritarian regimes. Scientists are very important in these discussions and frequently - as a result of their views - overstep the narrowly drawn limits of tolerated discussion and are arrested or persecuted by the government.

These are the areas in which scientists have a special role to play and a lot can be done to help them and to convince governments to leave them alone.

After all, demands that universities keep functioning, that hospitals keep working properly, that a reasonable code of ethics for medical doctors exist and that personal safety to attend and give classes in schools be possible are demands to which many sectors of the government are sensitive to, even in authoritarian regimes. Scientists and university people have a great stake at that and a special responsibility to fight for them.

All of this does not mean that scientists should not join forces with other groups in society, fighting for a greater respect for human rights in general and including those of political opponents of the government. Scientific organizations can do that by establishing alliances with civil rights organizations.

The preservation of the specificity of the action of scientists - although it can be considered elitist - is important however not only as a matter of expediency but also because it opens new channels for discussion with authoritarian governments - and enlightened people inside these governments - which would have been closed otherwise.

II. THE CAUSES FOR REPRESSION

Before we address these questions in the context of Latin America, it may be useful to recall some general points concerning socio-political change in Latin American countries. Contrary to common belief, military governments and dictatorships are not the results of historical accidents, and neither, generally speaking, are they installed by "palace coups". They come about when the upper middle class feels threatened by increasing demands from the population and ever more powerful labor unions trying to obtain a large share of the national income. In this connection, it is interesting to note that as a rule in Latin American countries, the upper middle class constitutes some 10% of the population, but earns half of a country's total income.

The military is part of the class of techno-bureaucrats that maintain this system. High-ranking military are closely connected to the local "aristocracy" when in active service or to the military-industrial complex after retiring. It is an auxiliary force of the ruling class and reflects their

aspirations, while at the same time adding their own idiosyncrasies. Such idiosyncrasies are frequently exaggerated in the American press, deflecting attention from the fundamental nature of the role of the military, which is to keep popular demands under control by force and/or intimidation. A good example is General Meza's recent "palace coup" in Bolivia. It has been suggested that he staged this coup in order to protect a "cocaine ring", of which he is rumored to be a member. However, a far more important motivation for the coup was to crush the demands of the labor unions and democratic forces in Bolivia.

Luiz Carlos Bresser Pereira, a well-known Brazilian economist and political analyst, gave the following pertinent description of the political scene in Latin America:

"When the bourgeoisie does not feel threatened by popular uprising and economic disorder, military coups and dictatorship are not necessary; being a numerous ruling class, the industrial bourgeoisie does not need the direct and authoritarian action of the State for the appropriation of wealth which is done through market mechanisms. The conflict among conflicting groups inside this class are best resolved through the classic democratic process. While doing so, the ruling class opens space to the workers and other lower classes which fight for their rights and aspire to a wider democratic society."

In critical situations, such as today in El Salvador, in Brazil in 1964, in Chile in 1973 and Argentina in 1977, the domestic political situation resembles civil war. In the "roar of the battle", all kinds of reprehensible actions are justified. In such conditions, repressive groups have considerable freedom and feed violence by more violence, arresting and torturing people at will. The most politically active groups suffer, mainly workers, intellectuals and students. In the process, universities and scientists also suffer. In some cases, excessive violence is used by repressive groups to justify their own existence. When the urban or rural guerrilla movements are crushed, the ruling class feels less threatened and excessive abuses abate. It is then that scientists begin to play a special role.

In Latin America, scientists are generally part of the upper middle class, either by birth or by newly-acquired importance. It is in the Latin American tradition to give a special role to intellectuals, even if they are critical of

some government actions. This tradition dates back to times when the landed gentry dominated society and their sons went to Coimbra, Paris or Rome to study law. Scientists and intellectuals were considered valuable fixtures that one had to have: as de Gaulle used to say, "every French house has a piece of Sevres porcelain as well as everyday dishes".

In addition to that, scientists and technologists are considered important to a country's development, and many military and techno-bureaucrats in government are fascinated by the achievements of technology. In the quest for self-assertion and in order to fulfill their ambitions of becoming a powerful nation, military regimes have come to realize that technology, such as aerospace engineering, communications and nuclear energy, is essential. This means giving special privileges to scientists and engineers. However, the internationalization of the economy, which is a widespread phenomena in many Latin American countries, decreases the importance of this factor because know-how and technology tends to be imported, reducing the reliance on local engineers and scientists. This has become a source of friction between governments and scientists.

A combination of factors makes it difficult for governments to clamp down on intellectuals and scientists. It is much easier for them to authorize or tolerate widespread oppression of students, workers or political parties than to close universities and arrest leading artists, intellectuals and scientists. Such people are well-known and are more articulate; they may quickly become martyrs or harm the government's image, at home or abroad.

As previously stated, when conditions are close to civil war, these subtleties do not matter much, but in more liberal circumstances, the repressive establishment may lose its face if it pushes matters too far. This happened recently in Brazil, when a document written by the secret police, which incriminated a number of leading scientists as being members of a "conspiracy" against the controversial nuclear deal between West Germany and Brazil, appeared on the front pages of some newspapers. In the current climate of political liberalization, the charges appeared so clumsy and absurd and the scientists involved had such prestige that the government retreated immediately. Eventually, some of those who were responsible for the document were dismissed from their jobs and transferred to other government positions.

III. ARE SCIENTISTS SPECIAL TARGETS FOR REPRESSION?

As part of the "elite", one would expect scientists to share the fundamental goals of this elite and side with the government regardless of minor disagreements. However, scientists seem to have a special talent for irritating authorities once the atmosphere of civil war abates.

Scientists however do not constitute a "caste" in Latin America as it happens frequently with the military. It is the significance of the functions scientists perform that attract attention to their activities the same way as the doctor in a small village becomes naturally a leader for many purposes. As such they receive honors and are also persecuted because they easily become representatives of the aspirations of many people and are bound to clash with the more repressive groups in society.

The refusal to accept authoritarian rule, a search for evidence and a disdain for myth are bound to trouble repressive governments that stand for traditional privileges and values. This has been shown throughout history by the cases of Galileo, Lysenko and Oppenheimer.

In the case of Galileo, it is quite clear that some of his work -- the laws of falling bodies, mechanical properties, etc. -- was not considered very important because it did not have threatening implications for the existing social order. This aspect of his work was tolerated or ignored. However, his work in the area of astronomy interfered with the social order because it questioned the position of man in the universe and consequently was suppressed.

The Lysenko affair in the Soviet Union after the second World War is also a clear-cut case of persecution of scientists because of the conclusions reached in their work. In this case however Lysenko (as the official geneticist and closely connected to Stalin), was the prosecutor and virtually extinguished other scientific work in the area which did not agree with his ideas -- setting back genetics in the Soviet Union for decades.

The case of Oppenheimer seems less clear. Oppenheimer tried to remain in the system (and "work from the inside") much longer than was justifiable. In his case, the same information on past associations and background, which was considered acceptable and manageable while he was useful to the system, was used to dismiss him when his usefulness ended

and he became an embarrassment in the arms race with the Soviet Union. The idea of punishing him to "set an example" so that other less outstanding people would behave, did not pass unnoticed. Oppenheimer's work in the field of nuclear weapons was always politically significant; it was only after the political climate changed in the USA that he was found unacceptable. This indicates quite clearly that science cannot be completely separated from politics.

Current Latin American governments are frequently unclear about their position regarding science and scientists; while some ministers and members of the military value and encourage scientific activities (and support some criticism), others do not. A particularly good example was in 1977 in Brazil when the government almost succeeded in suppressing the Annual Meeting of the Brazilian Association for the Progress of Science (SBPC), (which is the Brazilian counterpart of the AAAS) for the first time in 30 years. The meeting was only held because the Catholic Church courageously offered the "campus" of the Catholic University in Sao Paulo, after all official universities refused the use of their "campi". The government was clearly split in the matter and only at the last minute was the meeting "tolerated". This was a dramatic affair because the vacillations of the government increased the importance of the meeting and because Brazilian scientists, who are usually quite conservative, were outraged at the obscurantist position of the government.

In 1969, Brazilian universities were purged of many "unacceptable" professors who were forced to retire; however, the SBPC meetings remained open to them. In the 1970s, the SBPC meetings were the only forum where people could discuss and analyze scientific problems. Such meetings often resulted in protests, warnings and denunciations. Slowly the Annual meetings became an important political event and tensions among scientists and the government mounted. Government judgment of the degree of subversiveness of scientists' activities followed the following rules:

1. Scientific work in the exact sciences was not considered dangerous to the stability of the government and was actually useful to the technological development of Brazil.
2. Work in social sciences - even if purely scientific - could be a threat. Sociological studies of the poverty-stricken areas

of Brazil (in particular slum areas) are in themselves political arguments demonstrating the failure of many government policies.

3. Physicists, although usually working on problems irrelevant to the social order, have become a threat because they have pointed to problems associated with nuclear energy which interfere with government plans. Questions on the transfer of technology and on the real need for nuclear energy in Latin America have become very heated.
4. Meetings in which scientists and students mix freely, might "contaminate" other sectors of society against the government.

In general, governments want a docile population. Scientists are not docile, generally speaking, and the better they are, the more independent and less docile they are; therefore, they are a breed to be watched with suspicion by government authorities. In this sense, science and scientists cannot be separated from politics. Just by being scientists, they are likely to be seen as a threat and therefore a special target for repression. The persecution of Sakharov in the Soviet Union affords a good example.

The report issued by the Council for Science and Society of the British Institute of Human Rights in London in 1977 is in general agreement with my remarks here and gives a good summary of the reason why governments might be nervous when confronting scientists:

"Any effective modern government needs the participation of scientists in the shaping of policy for science and of policies based on science. Science as a group can therefore possess a significant degree of latent political power. Since scientists are not so easily managed by administrators and politicians, there is a "fear of scientists" as an elite group."

IV. WHAT CAN BE DONE TO PROTECT SCIENTISTS FROM PERSECUTION

Scientists usually do not have the strength to impose liberal policies on governments; these policies came about

through complicated mechanisms that frequently have a lot to do with the international situation. Just to give an example a wave of liberalism and democracy swept most of Latin America at the end of World War II as a consequence of the defeat of the Nazis and the prospects of cooperation between the US and the Soviet Union. The Cold War dashed these hopes and some of the most durable dictatorships of Latin America were installed in this period. Scientists and non-scientists have become victims of these regimes.

In some cases, there is a "pendular movement" towards democracy and general elections are held: in these cases, denunciation of torture and political persecution are strong political arguments which usually lead to defeat in the polls of the elements who supported dictatorships; liberal policies frequently are short-lived and after a few months or years, authoritarian regimes are back in power.

Under these unstable conditions, the only sensible policy, in my view, is to try to convince governments and ruling elites that persecution of scientists actually runs counter to their own interests: enlightenment seems to be the only way to protect scientists.

In large countries such as Brazil, Argentina and Colombia where they have elites with great national projects, this seems possible because in the medium and longer terms, these projects are hurt by the lack of scientists.

In the smaller countries, enlightening is a much harder task because it actually might make sense to suppress scientists as well as other more liberal elements of society.

Since it is difficult to predict beforehand which efforts can be successful, I recommend that:

1. all opportunities (public and/or private) should be used to stress the importance of science and technology in solving the problems of developing countries. Experience shows that scientific societies, such as AAAS and SBPC, prefer to work through protests and public manifestations while others such as the Academies of Science prefer to work through private channels.
2. Whenever possible, one should stress that differences of opinion as well as criticism are part of

the scientists' method of inquiry and that these criticisms should not be construed as "subversive" or "conspiratorial".

Like scientists, journalists have been facing a lot of discrimination and persecution in many Latin American countries for reasons that are not very different.

It might be interesting, therefore, to notice that the journalists have organized an Inter-American Press Association (SIP) which has been active in trying to protect freedom of speech. One of the methods used is to establish prizes and honors to personalities who have denounced oppression and harassment. These honors are important in protecting some personalities in the same way as the Nobel Prize does it for their recipients as it happened recently in Argentina with Adolfo Esquivel.

The AAAS has established a new Award for Scientific Freedom and Responsibility for scientists and engineers who distinguished themselves in the area and this seems a good move.

Enlightenment failing, only embarrassment, at home or abroad, can act as a deterrent to the violation of human rights of scientists; these violations can and should be characterized as "autophagy of vital parts" on the part of authoritarian governments in the sense that they are destroying important parts of their own systems.

This method has worked in Brazil and I don't see why it should not work in other places.

3. Human Rights Conditions and Scientific Freedom in the Americas

This paper examines the varying conditions of human rights and scientific freedom in the Americas. It does not attempt to present a comprehensive survey of the situation of human rights in each country in the region, but rather details the effect of recent human rights violations on individual scientists and academic freedom in countries of particular concern.

At the close of the AAAS Workshop on Scientific Cooperation and Human Rights the 55 participants issued a press statement outlining the discussions which had taken place during the 3-day meetings. The press statement summarized briefly the conclusions and recommendations reached by the participants. Although the press statement and the workshop discussions focused primarily on the impact of human rights violations on individual scientists and science in general in the region, the participants did express concern about human rights abuses directed at all sectors of the population. The participants condemned attacks on basic human rights recognized under international law, whether emanating from the right or the left, and no matter whether they occur in repressive or in "moderately repressive" regimes. (See Appendix C.)

José Goldemberg, physicist and president of the Brazilian Society for the Progress of Science, pointed out that the workshop participants "didn't get together to cry about the violation of human rights in Latin America, but to find new ways of facing these problems". The Workshop concluded that attacks on human rights and scientific freedom have become a chronic problem, rather than a temporary aberration and thus require the exploration of new initiatives by individual

scientists and scientific societies. The participants felt these initiatives should include activities designed to aid persecuted scientists as well as to prevent the decline of academic and scientific freedom which has prevailed in recent years. The participants were also concerned about the secondary effects of government repression including a deterioration in the quality and availability of scientific and general education at all levels and to a restricted research environment in certain countries.

The conferees noted that human rights and scientific freedoms are closely linked, so that attacks on scientists and students imperil the long-range possibilities of national scientific and technological progress and contribute to the "brain drain". When scientists flee their country of origin, either for political or economic reasons, and when internal conditions are unfavorable to national scientific development there is always the danger that governments will be unable to fulfill such basic needs as shelter, health care, and education. However, economic and social progress, as science writer Colin Norman points out, is not only dependent upon scientific and technological advancement:

Building up research and development capacity in the Third World is likely to be critical for the long-term economic and political prospects of developing countries. It is not sufficient by itself to guarantee future social and economic progress, however. Most of the problems now facing the Third World require not research and development but political and social reforms at the national and international level that will allow the poor to benefit from existing technologies.¹

The workshop recognized that scientists have a responsibility not only to promote scientific freedom but also to promote basic rights, whether political and civil or economic, social and cultural, guaranteed to all people under international law, in order to broaden access to the benefits of science and technology.

The participants issued a strong condemnation of human rights violations currently taking place against their colleagues and others in several Latin American countries. Violations range from harassment to disappearance, torture, detention without charge or trial, and often death. The conditions of human rights and scientific freedom, however,

differ significantly from one country to another. The conferees noted that there has been widespread repression, such as that carried out by the military governments of Argentina, Bolivia, Chile, and Uruguay, as well as isolated instances of detention and torture of physicians in Colombia, where the democratic government has not adopted a generally repressive policy.

In the conditions of political unrest which characterize the current situation in El Salvador and Guatemala, the participants expressed deep concern that scientists--particularly medical personnel--are being killed by military and paramilitary groups. This represents a breakdown of the Geneva Convention which pledges nations to regard doctors and nurses as well as the sick and wounded as neutrals during military conflict.

As many of the Latin American scientists attending the workshop were either living in or had recently left countries which are passing through various forms and levels of repression, the participants were able to hear first-hand testimony on varying conditions of human rights and scientific freedom in several Latin American countries. This section summarizes those discussions, with supplementary research carried out after the workshop by the staff of the Clearinghouse on Science and Human Rights.

Political Unrest

In recent years political unrest has escalated rapidly in El Salvador and Guatemala. Clashes between the army and guerrillas in El Salvador have virtually paralyzed the economy and forced thousands to flee across that country's two borders to escape the fighting. The current turbulence in Guatemala has escalated to the point where many observers speculate as to whether elections scheduled for March 1982 will even take place. If they do, it seems unlikely they will be pluralistic, as many of Guatemala's political leaders have been killed or have gone into exile. Social and economic prospects in El Salvador and Guatemala have been further diminished by the high level of political unrest and violent government repression.

Elsewhere in the region, Colombia has recently experienced political unrest resulting in the detention of several physicians alleged to have given medical treatment to members of subversive groups. The ouster of Nicaragua's President Anastasio Somoza Debayle on 19 July 1979 by the Sandinist

National Liberation Front marked the end of a long, bloody civil war which left some 40,000 people dead. Although political unrest and violent government repression prevalent under the Somoza regime have ended, there are reports that Somoza loyalists in Honduras are threatening to enter Nicaragua to remove the Sandinistas from power. In addition, human rights organizations, such as the Inter-American Commission on Human Rights, have expressed concern about recent restrictions placed on political, press and judicial rights by the Sandinista government.

In a discussion paper presented to the workshop, José Goldemberg reviewed some general points concerning socio-political change in Latin American countries. Goldemberg maintains that there is a common belief outside the region that military governments and dictatorships in Latin America are installed as a result of "historical accidents" or by "palace coups". He cites the way the American press has suggested that General Meza's July 1980 coup in Bolivia was staged to protect a "cocaine ring" of which he was said to be a member. According to Goldemberg, any connections General Meza may have with the illegal cocaine trade in that country are secondary and that "a far more important motivation for the coup was to crush the demands of the labor unions and democratic forces". In general, the military takes power "when the upper middle class feels threatened by increasing demands from the population and ever more powerful labor unions trying to obtain a larger share of the national income. In this connection, it is interesting to note that as a rule in Latin American countries, the upper middle class constitutes some 10% of the population but earns half of a country's total income". Goldemberg views the military in some countries as an auxiliary force which aids the upper middle class by keeping popular demands under control through force and/or intimidation.

El Salvador. El Salvador's socio-political development over the past century parallels some of Goldemberg's observations. President José Napoleón Duarte has commented that the current violence in his country is "not only political. It is social and economic. This is a history of people starving to death, living in misery. For 50 years, the same people had all the power, all the money, all the jobs, all the education, all the opportunities".² The ruling oligarchy in El Salvador, traditionally known as "the fourteen families", has controlled the country's largest estates as well as its banks and import-export revenues. Some observers including Leonel Gomez, former chief advisor to the President of the Salvadorian land

reform agency, and U.S. Congressional aide Bruce Cameron, now believe the old ruling oligarchy has lost its hold on the military with whom it shared power until the late 1970's. In addition, they point to "modernization of the Salvadorian economy, requiring technicians and the involvement of foreign private banks and international aid institutions" as convincing the army officers that they can run the country without the old economic elite. In effect, a new military oligarchy is moving in to replace the old oligarchy--many of whom have already left the country as the banks have been nationalized and large estates broken up.³

In December 1980 the armed forces permitted José Napoleón Duarte to become the first civilian President in 49 years. Duarte, a civil engineer educated at the University of Notre Dame, is a founder and first general secretary of the Christian Democratic Party in El Salvador. Despite assurances since the beginning of 1981 that he and other Christian Democrats in the military-civilian government would control abuses committed by the armed forces, reports of violent and arbitrary deaths and massacres of unarmed civilians carried out by the security forces still continue.

During Sunday mass on 12 July 1981, the acting Archbishop of San Salvador, Monseñor Arturo Rivera Damas, charged that the Salvadorian Army had massacred 27 peasants near the capital and that 80 people had been abducted from their homes in recent weeks.⁴ According to the Legal Aid Office of the Archdiocese of San Salvador (Socorro Jurídico del Arzobispado de San Salvador), 7,786 civilian deaths occurred from January to April 1981. The church offices, which have repeatedly called for a political solution to the civil war and for an end to violence from the left and the right, state that 75% of the civilians killed during that period were non-combatants. Most of the deaths are attributed to the armed forces and right-wing death squads. Of the figure of 5,303 persons reported by the Legal Aid Office to have been killed as a result of political violence from January to September 1980, an estimated 434 were students, 62 were teachers and 30 were professionals.⁵ Many of the attacks against teachers and university professors have been directed against members of the teachers' union Asociación Nacional de Educadores Salvadoreños "21 de Junio" (ANDES 21 de Junio). During 1979, 33 of their members were reported to have been killed by both uniformed and plainclothes members of the security forces.⁶

There is growing evidence that, as the civil war escalates, President Duarte has been unable to put an end to human

rights abuses. On March 30, 1981, a list of 138 names of alleged "traitors" was published by the Salvadorian army in La Prensa Gráfica. The army claimed that these people were responsible for traitorous acts and for destroying the country. The list includes the names of priests, human rights activists, university rectors and former members of government. Leaders of the Catholic Church in El Salvador have charged that the list marks the 138 for possible assassination. Furthermore, under Decree 507, passed in late 1980, military judges have the power to detain persons believed to have committed crimes against the security of the state. The military judge may hold a suspect incommunicado from 15 to 180 days and give them a sentence of up to four months in corrective detention, even if no proof has been found against them in the first six months of imprisonment. Confirmation by national or international media is sufficient to establish that a suspect belongs to an organization violating internal security. President Duarte reportedly admitted that "he had neither seen nor approved the list before it was released". He also stated that "when he personally objected to the inclusion of several members of his own Christian Democratic Party on the list, the military refused to withdraw the names".⁷

Over the past year the government has suspended most civil rights and freedom of information in what it describes as a period of official "emergency". The newspaper La Crónica del Pueblo was closed down after both its managing editor and a photographer were abducted from a downtown coffee shop and later found brutally murdered. The Roman Catholic Church has stopped publishing its own newspaper and emitting radio broadcasts out of fear. Jorge Pinto, editor and publisher of El Independiente, describes how his newspaper was forced to close:

On 16 January 1981, army troops arrived in tanks and armored trucks at the offices of my paper in San Salvador, looking for me. They also went to my home and threatened my wife and three-year-old son. On 18 January, the troops arrived again and smashed the paper's equipment. I was fortunate enough to make it with my family to the Mexican Embassy, where I was granted political asylum.⁸

According to Pinto, whose family has been active in Salvadorian journalism for the last 90 years, El Independiente "had links to no political faction, seeking simply to serve

the journalistic role of being a forum for all voices among the Salvadorian people".

Scientists and other academics caught up in the spiral of political violence in El Salvador have been persecuted by the government because of their trade union affiliations and, in some cases, as a result of their professional activities. However, the majority of non-combatant civilians who have been killed are peasants, suspected of supporting the guerrilla forces of the Farabundo Marti National Liberation organization (FMNL).

While El Salvador has never had a large scientific community, the University of El Salvador maintained schools of medicine, engineering, chemistry and pharmacy, architecture, dentistry, economics, sciences and humanities. However, on 19 June 1980, the university was occupied by the military and closed down. In addition, the activities of two private social science research institutes, the Instituto de Investigaciones and the Asociación Demográfica Salvadoreña, have been brought to a virtual halt. In May 1981, Carlos E. Hernandez, Secretary of Planning of the University of El Salvador, personally presented a letter to the United Nations Division of Human Rights protesting the occupation of the university by the military and calling on the U.N. to establish a commission to investigate the university situation in El Salvador. Hernandez had been selected by the High University Council (Consejo Superior Universitario) to deliver the letter, signed by the University Rector and hundreds of faculty members. The letter, addressed to U.N. Secretary General Kurt Waldheim, stated:

In the Faculty of Sciences and Humanities, according to a report by its authorities, the loss of equipment, books, destruction of buildings, etc. alone reaches the figure of 10 million Salvadorian colones; the minimum estimated figure under this heading for the University of El Salvador as a whole is 20 million colones; about \$8 million (U.S.). The university has suffered other losses which are impossible to quantify: the suspension of the dental clinic for people of scarce economic resources, equally, the suspension of the medical and psychiatric clinics, and the health and literacy teams for marginal and rural sectors, all of them destined to provide necessities to the slum-

dwelling, low-income strata. Moreover, research (botanical, biological, etc...) which takes 5 to 10 years of investigative process, has been damaged, as well as bibliographical collections that have consumed the lives of studious Salvadoreans: for example the library of Dr. Alejandro Dagoberto Marroquin, who was the Director of the Indigenist Institute of Mexico, donated by the above-mentioned intellectual to the University of El Salvador, the Museum of Forensic Medicine, the Archaeological Collections, the Biological Collection of stuffed animal specimens, etc., all are totally or partially destroyed. (Sic.)⁹

On 10 February 1981, uniformed army troops burst into a meeting of the University Council of the University of El Salvador and arrested 20 Salvadorian academics and students. Shortly after the arrests, President Duarte told reporters that the security forces made the raid on the meeting, held in a private high school in San Salvador, because they believed a Democratic Revolutionary Front (FDR) meeting was in progress (the FDR is the main political opposition to the present government). By early April 1981 all these academics and students had been released. Among those detained were: Miguel Parada, Acting Rector of the University; Jorge Gomez Arias, Bursar of the University; Carlos Henrique, Dean of the Faculty of Economics; Manuel Mejía, Secretary of the Law Faculty; as well as Eduardo Campos and Eduardo Ferrel, both representatives of the Faculty of Medicine.¹⁰

In July 1980 a commission of North American health professionals, including three physicians, a professor of public health, and a teacher of community health and social medicine, travelled to El Salvador to investigate reports of attacks on health workers and medical institutions by military and paramilitary groups. The commission was organized by the Committee for Health Rights in El Salvador, and supported by the American Public Health Association, the Physicians Forum, and the American Friends Service Committee. While in El Salvador the commission carried out interviews with the Minister of Health, himself a physician, and several individuals "in the health and relief fields representing many organizations and a spectrum of political beliefs".

A report issued by the commission in October 1980 charged that "death squads and uniformed forces have repeatedly entered hospitals and clinics and shot down patients, doctors,

nurses and medical students in cold blood". The commission documented the cases of 9 physicians, 7 medical students and 1 nurse killed since the coup. One health worker gave the visiting medical team an eyewitness account of the killing in late June 1980 of four rural health workers and two others near the town of Santa Ana:

While conducting a routine, sweeping search for "oppositionists", military forces entered the home of Dr. Montes and his wife, a nurse. Two medical students (one named Tonativ Ramos) and two relatives were visiting the Montes' at the time the military appeared. Hearing a commotion, another young physician who lived nearby, Dr. Matamoros, went to the house, too. Four hours later and after the soldiers had departed, our informant felt it safe to enter the house. He found all seven killed by shots in the head, apparently with a high-power weapon. "They had their heads nearly blown away", he reported. The reason for the massacre was that an ordinary examining table and small amounts of anaesthesia material had been found. The military presumed that they had discovered a clandestine clinic for the treatment of guerrillas.¹¹

The commission reported that security forces and plain-clothes gunmen frequently attack health clinics and hospitals in search of suspected leftists receiving treatment. For example, on 26 May 1980, Candelario Portillo Calderon was shot by gunmen in the operating room of Usulután Hospital while undergoing treatment. Earlier in the day Portillo had been seriously wounded by uniformed officers. In January 1980, social worker Manuel Rodas was murdered in the same hospital. A few days earlier, Rodas had been wounded during his capture and brought before a judge, who ordered his admission to the Usulután Hospital for medical treatment.

In May 1980, the violent persecution of health workers and patients had reached such a level that the majority of the nation's physicians and health workers staged a month-long work stoppage. The strikers called on the government to meet the following demands:

Guarantee of the physical and moral integrity of patients and of all health workers.

Recognition of the rights and obligation of health workers to give professional and technical assistance to all people on demand.

Recognition and guarantee of the inviolability of health establishments.

Guarantee of non-militarization of hospital centers.

According to the commission, the Board of the National Medical Association (Colegio Médico) resigned as a group in order to protest threats made against them after they had voted to support the medical strike action. The strike was eventually called off after the government had pledged to protect patients and health workers. However, attacks against medical personnel and their patients have continued. In February 1981 the Socorro Jurídico del Arzobispado reported that two doctors in the city of Suchitoto had been killed on 5 December 1980. The bodies of Drs. Alcides Ortega and Mauricio Gonzalez, as well as an agronomist, Joaquin Gonzalez, were found two months later, showing signs of torture. The Church's Legal Aid Office is convinced the killings were carried out by the National Guard.

The commission's report concluded that "the endemic violence in the nation coupled with the closing down of the Medical School have seriously undermined health care for El Salvador's predominantly rural, civilian population". The closure of the Medical School at the University of El Salvador--the only medical school in the country--means that 4,500 students have had to stop their medical training: 40% of them were working for degrees in health-related areas other than the M.D. Health care in El Salvador's rural areas has already been severely affected, because university medical students--as in many other Latin American countries--are required to spend their eighth year in a district, preferably a rural one, which has no resident medical practitioner.

One of the most disheartening examples of the extent of poverty in El Salvador may be seen at the San Salvador city dump, where children collect food and junk to sell in the shanty towns. Undernourishment has long been considered one of the country's worst health problems; an estimated 75% of children under the age of 5 are reported to suffer from malnutrition. In addition, crop burnings by both the security forces and the guerrillas have diminished food supplies. All these factors led the commission to conclude that "the cur-

tailment of medical services in the countryside could not have happened at a worse time". And it warned: "A rise in rates of infant mortality, childhood infections and parasitic disease can be anticipated".

In July 1981, the Washington Post reported that refugee camps in El Salvador housed an estimated 142,145 refugees who have fled their homes from what they describe as "systematic" government persecution". A smaller number of refugees are seeking "shelter from what they describe as severe harassment by the guerrillas". The camps in El Salvador are supervised by the government, the Red Cross, El Salvador's Green Cross, and Caritas, a Roman Catholic relief agency. To date, some 118,000 refugees have fled to Honduras, Guatemala, Costa Rica, Nicaragua and Belize. Relief workers from several aid agencies, including the United Nations High Commissioner for Refugees (UNHCR) have alleged that the Salvadorian Army frequently crosses the border into Honduras to search for guerrillas among the refugee population.¹³

Colombia. The Workshop participants strongly condemned attacks on health personnel and their patients in El Salvador. They were also concerned about the detention of some 40 physicians in Colombia over the past two years; several of those detained claim to have been tortured while in detention. According to a Colombian physician and a Canadian psychiatrist at the workshop, most of the medical doctors have now been released. The Colombian government has stated that the physicians were being held because they had given medical treatment to members of subversive groups. One of the physicians, German Bolaños Mejía, had been held for nearly two years for "having created a medicines cooperative with persons considered to be members of subversive groups, and for having provided medical attention to alleged members of guerrilla movements". Bolaños had been working among peasants in the Colombian countryside and four years ago set up several "medicines cooperatives" as alternatives to the local drugstore, which was charging high prices. In a written statement, Bolaños claimed that he was "not an active member of any political organization" and that "there is no evidence against me of any connection with demonstrations, riots or armed actions against the stability of the state". Bolaños was released in January 1981.¹⁴

Guatemala. In Guatemala, murder and torture have prevailed as a means of political coercion for so long that it has now become a feature of everyday life. Since 1952 there have been at least 30,000 deaths attributed to political violence.

Accounts of dead bodies--often showing signs of torture and mutilation--found in town plazas and beside roads frequently appear in the daily newspapers: one weekly tabloid dedicates its pages exclusively to photographs of victims of automobile wrecks and other serious accidents, and includes photographs of victims of apparently politically-motivated murders.

In May 1980, the Vice President of Guatemala, Francisco Villagran Kramer, resigned from office because, as he stated in a Washington, D.C. press conference, "the most radical right-wing sectors of the Government have adopted a policy of human rights violations". Since General Fernando Romero Lucas García became President in 1978, there have been 3,000 killings, and more than 600 other arrested persons have since "disappeared". The Guatemalan government has repeatedly denied holding a single political prisoner.¹⁵

Although the government attributes the right-wing violence to independent death squads whose activities are beyond their control, there is strong evidence directly linking the security forces and their paramilitary auxiliaries to the killings. An Amnesty International report on Guatemala issued in January 1981 claimed that "the task of coordinating civil and military security operations in the political sphere is carried out by a specialized agency under the direct supervision of President Lucas García". Relying on statements and testimonies from former Guatemalan officials, including a former Mayor of Guatemala City, and documents obtained from the records of a United States assistance program under the Freedom of Information Act, Amnesty International states that the security agency "is situated in the Presidential Guard annex to the National Palace, near the offices of the President and his principal ministers, and next to the Presidential Residence, the Casa Presidencial". Former Vice President Villagran Kramer confirmed Amnesty International's findings in an interview with a journalist from the International Herald Tribune: "While in power...he learned how the system worked, and does not doubt that most killings are decided upon in the palace complex".¹⁶

Political violence, including kidnapping and killings, is also a tactic used by Guatemala's extreme leftist guerrillas who have been active since the early 1960s. The primary targets of guerrilla attacks are army and police officers, right-wing politicians, and landowners who allegedly underpay or maltreat their workers. The New York Times has reported that guerrillas killed more than 100 soldiers in 1980. On 14 July 1981, unidentified persons firing machine

guns riddled a bus with gunfire, killing two policemen and wounding four young men studying to be policemen. According to Guatemalan officials, the police were riding in a police bus bound for a downtown station when persons presumed to be leftist guerrillas opened fire. Incidents such as this have become more frequent in the past year.¹⁷

In order to understand the extent to which Guatemalan scientists and academics in general have been persecuted, it is necessary to examine, first, the role of the Indian population in Guatemalan society, and second, the interaction between the academic and scientific community and the Indian and ladino (mixed race) populations.

Descendants of the Mayans, the Indians make up 54% of the population and are divided into 18 different language groups. Although numerically dominant, the Indians have chosen to remain out of the mainstream of political life, despite pressure from both the left and right. Unlike many Indian groups in North and Central America which have been gradually assimilated into the society around them, Guatemalan Indians have retained a strong cultural identity and resisted the values imposed on them by external groups. Until recently they showed no interest in organizing themselves, even though 75% of Guatemala's exports depend on their labor.

In the last decade living conditions for the already impoverished Indians worsened. Eighty-one out of every 1,000 babies born in Guatemala die in their first year of life. In a recent study of 704 farmworkers' children under six years old it was discovered that 51% had "measurable malnutrition". The 1976 earthquake caused extensive damage throughout the countryside, destroying many Indian communities in the north and northwestern parts of the country. Earthquake damage, coupled with overpopulation in some areas, has forced Indians to migrate to the Pacific coast where there is seasonal work on the cotton, sugar and coffee plantations. Each year 600,000 Indians travel to the coastal plantations and often work for less than the minimum of \$3.20 a day. Conditions on many of these plantations have been strongly criticized by the International Labour Organization (ILO).¹⁸

The Committee for Peasant Unity (CUC) was formed in 1978, linking for the first time the highland Indian peasant with poor ladino workers. Since its inception CUC has organized a number of strikes, involving thousands of migrant workers,

in an attempt to force the government and landowners to raise the minimum wage and provide better working conditions. After a strike by 70,000 cane cutters and 40,000 cotton workers in February 1980, the government raised the legal minimum wage for farmworkers from \$1.12 to \$3.20. Later in the year, another CUC strike of 10,000 coffee pickers nearly crippled the coffee harvest on 15 plantations in the municipality of Colombia. As a result of such activities, many of CUC's leaders have been killed and it has been forced to function in secrecy.¹⁹

Guatemalan trade union activity has been severely repressed by the government and paramilitary groups. Trade union leaders have been killed, "disappeared", or forced into exile. (For example several leaders of the trade union at the Coca Cola bottling plant in Guatemala City were murdered in succession. Despite appeals from international human rights groups for the government to investigate the killings, no such investigation has ever taken place). On 21 June 1980, the headquarters of the National Confederation of Workers (CNT)--an independent union with some 17,000 members--were raided and its entire 27-strong executive committee was abducted. To date, there has been no news of their whereabouts.

Following the 1976 earthquake, foreign relief assistance poured into Guatemala. The Indian communities of Chimaltenango and others in the Quiché area received the most attention from social assistance groups which helped organize community organizations to provide health care and build shelters for the homeless. Many of the social assistance groups trained Indians to lead the community groups once they had left. Guatemalan military leaders now perceive community organization--and the unionization of Indians--as a threat. Several community leaders have already been killed. Many community groups have received death threats from the so-called Secret Anti-Communist Army, the designation for 'death squads' within the regular army and the National Police. Government violence has forced several foreign assistance groups out of the country, including Oxfam, World Neighbors and Mennonite Missions.²⁰

Violence against priests and lay workers who work with the Indians in the highland province of Santa Cruz del Quiché has reached such a level that the Roman Catholic Church has closed the diocese. In December 1979 the army took control of the province. When the Bishop of Quiché, himself the target of two assassination attempts, travelled to Rome to dis-

cuss the situation with the Pope, the government prohibited him from returning to Guatemala. President Lucas also refused to accept the new papal nuncio nominated by the Vatican. Some six priests have already been murdered this year.²¹

In recent years there have been several massacres of Indians in Guatemala. In one of a series of articles on violence in Guatemala, New York Times journalist Warren Hoge wrote:

Among (the massacres) are the storming of the Spanish Embassy in Guatemala City while peasants occupied it in January 1980, leaving 39 dead; the shooting of unarmed peasants in the town square in Nebáj in March 1980, 10 dead; the "disappearance" of Indians who struck sugar plantations in Tiquisate in June 1980, 100 dead; the roundup and public execution of all men over 12 years old in Cotzal in June 1980, 60 dead; and the torture and machete killing of peasants, including a young girl, in San Martín Jilotepeque last April 9, 24 dead.²²

Although sporadic waves of killings of university professors and students have taken place in Guatemala for years, there has been a marked increase since March 1980. Prensa Libre publisher Alvaro Conteras Velez, who serves as President of Guatemala City's Volunteer Firemen Corps (which collects many of the corpses discovered in different parts of the city) has stated that of over 3,617 people who died violent deaths in the first 10 months of 1980, 86 were university professors, 389 were university students and 326 were elementary school teachers. The World Council of Churches (WCC) believes assaults against academics and students are "part of the widening circle of repressive violence aimed at silencing the few voices remaining in Guatemala which have the capacity to analyze the current situation, denounce the government's complicity, and provide intellectual leadership for opposition to the regime".²³

The main target of the present repression directed at educators and students has been directed at Guatemala's major national higher education institution, the University of San Carlos (USAC). Established in 1776, the university became autonomous in 1944 under a provision incorporated into Guatemala's Constitution. With its main campus in Guatemala City and several regional branches, the university has 13

faculties, 9 of which are scientific, and a student population of approximately 30,000. USAC is frequently denounced in the Guatemalan press by government officials as a "center for subversion", and university administrators, faculty and student organizations are routinely labelled "leftist". Interior Minister Donaldó Alvarez Ruíz has told the press that he considers university student organizations "equivalent to guerrilla organizations".²⁴

The University is one of the few centers of critical thought in Guatemala. Its publications provide political and economic commentary rarely found in other Guatemalan publications. Newspapers such as the official university weekly Seven Days at USAC (7 Días en la USAC) provide news coverage and editorial comment that goes considerably beyond conventional news media in reporting political issues and abuses attributed to the security forces. The legal aid offices (bufetes populares) of the University, both in Guatemala City and provincial capitals, provide legal services to independent trade union and peasant organizations unable to obtain counsel from independent lawyers. They also provide legal aid to the relatives of individuals detained by security forces, but officially denied to be in custody. Most private lawyers refuse such cases. On several occasions Indian groups have sought representation and legal advice from the legal aid offices in land ownership disputes especially in areas where there is oil, nickel and forestry development.

Lawyers and university professors who counsel or defend Indian groups are viewed as subversives by the government. For example, in May 1978 army troops allegedly opened fire and killed over 100 Kekchi Indians who had gathered in the town plaza of Panzos to receive a document from the mayor for land which had been taken from them by large landowners in Alta Verapaz. In July 1978, a commission of inquiry travelled to the region to investigate the incident and published a report severely critical of the army's actions. On 9 April 1980, law professor John Dahinten, who had headed the commission, was shot dead.²⁵

In March 1980, the university council reported that the School of Veterinary Medicine's experimental farm in Patutal, Suchitepequez, had been taken over by army troops who had painted death threats on the walls, directed at faculty and students. Shortly after the takeover, Dr. Julio Alfonso Figuero, economist, council member and director of the Institute of Social and Economic Studies (IIES), was killed,

together with his wife. The IIES carries out independent research into socio-economic development, rural life, urbanization and migration.

Days after Figuero's murder, death threats forced University Rector Saul Osorio to leave the country. He and other educators had also appeared on the death list of a right-wing death squad known as the Ejército Secreto Anticomunista (ESA) or Secret Anti-Communist Army. Despite numerous appeals from university administrators and others, the Guatemalan government has never investigated killings carried out by such squads.

As in El Salvador, Guatemalan physicians and health workers have been killed by security forces and paramilitary groups. On 7 May 1981, Dr. Mario Leonel de Leon Flores, 26, a medical doctor in the village clinic of Chiantla, Huehuetenango Province, was kidnapped on his way to work by uniformed soldiers. To date, his whereabouts remain unknown. In recent months the School of Medicine at USAC has been a target of right-wing violence. On 23 May 1981, the body of Dr. Arturo Soto, Head of the Medical School, was found in Guatemala City, showing signs of torture. Dr. Soto had been with the university for 20 years. Shortly afterwards, eight of his medical colleagues received death threats and fled the country; five are now in the USA, and three others are believed to be in Mexico. Since December 1980, some 30 medical professors have fled Guatemala.²⁶

Presidential elections are scheduled to take place in Guatemala in March 1982. However, increased attacks on police and military officers by the guerrillas seem to have intensified what has been called a "right-wing terror campaign" to eliminate all possible opposition. In January 1979, the head of the Socialist Party, Alberto Fuentes Mohr, an economist and former mayor of Guatemala City, and Manuel Colom Argueta, leader of a left-of-center populist party, were both assassinated. In the past year, 76 party leaders of the moderate Christian Democratic Party whose platform calls for "pluralist democracy" have been murdered. Their current leader, Vinicio Cerezo, has survived three recent assassination attempts which he claims were carried out by the National Police. He is unsure if his party will participate in the election because of the present violence. Consequently, the elections could turn into a race between three right-wing groups: the National Liberation Movement, which allegedly maintains a 3,000-strong paramilitary force; the Authentic Central Nationalist Party; and General Romeo Lucas

García's three-party coalition.²⁷

Nicaragua. By way of comparison, it is useful to examine conditions in a country which has come out of a period of extended civil strife. The Sandinist National Liberation Front's (FSLN) victory over Nicaragua's President Anastasio Somoza Debayle on 19 July 1979 marked the end of 44 years under the rule of the Somoza family. For the past two years, the revolutionary government has been working to reconstruct the damage caused by the civil war. Shortly after taking power, the Junta issued a Bill of Rights, guaranteeing basic personal freedoms and restoring freedom of the press and broadcasting. Civil rights were restored in January 1980. Elections have been postponed until 1985.

In its 1980 Report, Amnesty International states that no prisoners of conscience--prisoners detained for their non-violent beliefs--were taken up by that organization from April 1979 to May 1980. The AAAS Clearinghouse on Science and Human Rights is investigating the case of a Nicaraguan botanist said to be detained in Nicaragua. According to a North American botanist and colleague, Juan Batista Salas was a professor at the Escuela Nacional de Agricultura y Ganadería in Managua, where he was chiefly responsible for collecting vascular plant specimens in the school's herbarium. In March 1981 the clearinghouse wrote to the Nicaraguan Ambassador to the United States to inquire about Juan Batista's legal situation. Although the Ambassador has said that Nicaragua's National Commission on Human Rights will look into the case, no reply clarifying the whereabouts and legal situation of the botanist has ever been received. To date, the clearinghouse has been unable to verify the information on Juan Batista.

Since January 1981 several events in Nicaragua have concerned international human rights groups. In February the Ministry of Justice ordered the closure of the independent Permanent Commission for Human Rights: it was founded in 1977 and is the only nongovernmental human rights group operating in Nicaragua. The offices of the Commission were reopened within two weeks. In the first half of 1981 there were disturbances in the Zelaya Province on the Atlantic coast, where the 50,000 or so Miskito, Sumo and Rama Indians live. In February, security agents arrested the top leaders of the Misurasata Indian organization, alleging that they were in contact with Somoza exiles and leading a separatist movement. By May 1981 they had all been released, including Mr. Fagoth Muller, a 27-year old biologist of mixed German-

Miskito blood, who had been critical of the government's attempts to assimilate the Indians into Nicaraguan society, without allowing for their cultural and ethnic idiosyncrasies. In addition, authorities closed La Prensa (an opposition newspaper with a circulation of 70,000) for one week during July 1981. The temporary closure was ordered by the Interior Ministry's Communications Department which stated that the newspaper had "repeatedly lacked truth and ethical journalism". The Department also said that the newspaper had misguided the public by reporting that pro-government groups had destroyed a religious sign.²⁸

In a report issued in July 1981 on the human rights situation in Nicaragua, the Inter-American Commission on Human Rights criticizes several laws adopted by the Sandinista government which limit political and press activity. The report cites incidents of press censorship and the arrest of journalists as unjustifiable. It also calls on the government to permit general elections "within a short and reasonable period of time". The Sandinista government has prohibited electoral campaigning and postponed elections until 1985.²⁹

Institutionalized Repression

Scientists and academics in Latin American countries with repressive governments face similar situations: authoritarian governments--almost always military--attempt to eliminate all opposition to their policies by systematically eliminating critical groups, restricting freedom of expression, and placing strict controls on universities. Individual scientists, engineers and science students have been harassed, detained without charge or trial, "disappeared", tortured, and even murdered.³⁰

In order to understand the decline of academic and scientific freedom in certain Latin American countries and the extent of persecution directed at individual scientists, it is necessary to examine the role of the military in the continent. Military regimes now exist in six South American countries: Argentina (1976); Chile (1973) Brazil (1964); Uruguay (1973); Bolivia (1980); Paraguay (1954). Indeed, several Latin American workshop participants stated: "Some of us live in countries occupied by our own armies". Whereas in the past the military traditionally played the role of "moderators" or government "caretakers", they now appear to be moving towards directing and consolidating new types of

"authoritarian, corporative political systems".³¹ Historically, the military has often played a key role in supporting certain political leaders in Latin American countries -- occasionally assuming the responsibility itself. However, the present military regimes are not merely personal dictatorships, as exemplified by the regime of General Alfredo Stroessner in Paraguay and the former regime of General Anastasio Somoza in Nicaragua, but are characterized by professional training in political and economic decision-making.

Military academies in the region now train military officers to be political and economic specialists. In Brazil, the Superior War College (ESG) has been reorganized to train military officers and civilians in both military affairs and national development, with special emphasis on internal security matters. Peru's Center of Higher Military Studies (CAEM) has been restructured in the same way. According to Latin American specialist Alfred Stepan, CAEM has forged a doctrine that legitimates "long-term military supervision of the development process".³²

In Chile, Argentina and Uruguay, the military assumed control during periods of political unrest. The military governments continue to consider their presence necessary to ensure the safety of the country and to preserve their national traditions and values. South America's latest military takeover was in Bolivia on 17 July 1980, when in the wake of elections held two weeks before, the head of the Military College, General Luis García Meza, led a garrison from the town of Trinidad to break Bolivia's "democratic experiment". Three months before the coup, General Meza had told cadets at the Military College: "In view of the fact of the historic failure of political partisanship, the Armed Forces are by their responsibility obliged to resolve periods of political vacuum or power conflict, or indeed to force through a new democracy".³³

Military regimes often defend their continued presence by maintaining that certain civil and political liberties guaranteed under their constitutions must be restricted in order to safeguard law and order. Special internal security measures or "state of siege" decrees are usually invoked to maintain order. The Inter-American Commission on Human Rights has repeatedly criticized the military governments of Argentina, Chile and Paraguay for continuing to enforce special security measures while there is no real internal threat to the government. Regarding the state of siege in Paraguay, the IACHR writes: "This creates a climate of insecurity and fear

that is clearly prejudicial to the observance of basic human rights".³⁴

The military's maintenance of internal security and order in many Latin American countries has gone beyond invalidating certain rights, such as freedom of association and speech, to the denial of the right to personal security, including protection from torture and arbitrary detention. Latin American specialist Bryce Woods writes:

...when the rights to life or freedom from torture are subordinated to governmentally defined "higher" human rights, and murder and torture become regarded as routine techniques for keeping the populace obedient and deferential, then a realm of ethical and political conceptions is delineated where there is no place for the rights of man in the classical liberal tradition, or as set forth in the American Declaration of 1948.³⁵

There are some indications that popular support for military regimes in the Southern Cone is diminishing. In Uruguay, where power rests in the hands of a 28-member junta of generals from the Armed Forces, a plebiscite vote held in November 1980 voted against a new 238-article constitution which would have institutionalized the role of the military in the future political life of the country. In Argentina there are also growing signs of discontent with military rule. In July 1981 Argentine labor organizations called a one-day general strike to press demands for political rights and higher wages. In addition, the press has begun to criticize the military junta for its economic policies and to call for an investigation into the whereabouts of the thousands who have disappeared in Argentina since the military coup of March 1976. In Chile, many of the early supporters of the Pinochet regime have assailed both a new university law designed to restructure the universities and to ban political activity on the campuses as well as the new "transitory constitution" which extends military rule until 1989.³⁶

Repression in the Universities

Many public and private universities in the southern cone are controlled, either directly or indirectly, by the military. Traditionally, the military have viewed the universities as centers of subversion. Prior to present military rule many universities were strained by the massive in-

flux of students and the politicization of many faculties which undermined the educational process. Upon assuming power the military seized upon these conditions to purge the universities of "troublemakers" and to restore their "normal functioning" to the universities.

Jeffrey Puryear, a Program Officer and Latin American Specialist at the Ford Foundation, views the present university policies of Latin American authoritarian regimes as antithetical to the basic conditions required for open and responsible scientific inquiry:

Universities are predominantly seen as places where technical, job-related skills are provided and where only certain cultural traditions are preserved and dispensed. Conspicuously absent is the view of the university as a place where social issues are freely debated and where, for example, the actions of the government may be carefully analyzed and criticized. Often, scientific knowledge which challenges the dominant order is prohibited. The basic elements necessary for intellectual creativity--curiosity, discussion, criticism, security, and tolerance--may be weakened or destroyed.³⁷

In Chile, military leaders were convinced that leftists in the universities were responsible for the 40 years of ideological pluralism that culminated in the election of Salvador Allende as President in 1970. Shortly after the 1973 military coup, the new Minister of Education, Rear Admiral Hugo Castro stated: "This does not involve destroying the autonomy of the authentic university values, but precisely to strengthen them through the extirpation of those who claim to take advantage of the autonomy so as to destroy the essence and function of the university". Castro's statement was followed by a highly partisan purge of faculty and staff members.³⁸ Similar statements have been made by military leaders in Argentina and Uruguay.

Two months after the March 1976 military coup in Argentina, one of Argentina's major newspapers, La Nación, announced that military personnel in the universities had been given the authority "to control and prevent all ideologically subversive activities that in any way deviate the country from a Christian and democratic way of life. These activities will be reported to the military and police

authorities competent in the matter". The powers given to the military and police broadened the junta's so-called "war against terrorism" to include ideological enemies who had not been involved in terrorist actions. As a result, individual scientists and even certain scientific disciplines--notably in the social and health services--were singled out for repression.³⁹

Uruguay's only university, the National University of Uruguay, was occupied in October 1973 by the military shortly after a bomb blast in the Department of Engineering. The university had been autonomous since its founding in 1848. Colonel R. Julio Soto, vice-chancellor of the National Education Council (CONAE) until 1979, often spoke out in the press against the political and economic liberalism which had prevailed in the university prior to 1973.⁴⁰

Workshop participant James Street, a North American economist and co-author of Technological Progress in Latin American: The Prospects for Overcoming Dependency, outlines the process of military intervention in public universities and scientific institutes as follows:

When a Latin American university is intervened, it usually means that an official interventor is installed as rector with the specific task of establishing firm control over faculty and students. Deans of faculties are also replaced with military officers or others considered completely loyal to the regime.

Faculty and students are screened to eliminate agitators and textbooks are examined for political content. The interventor is particularly charged with making sure that student elections, which nearly always reflect national issues, do not embarrass the regime in power.⁴¹

The restructuring of the university curriculum and academic policy is implicit in the national reorganization plan of the military junta in Argentina. Within weeks of the coup, the junta enacted Law 21.276 which provides that any faculty or student activities "taking the form of indoctrination, or political or trade union agitation" or activities at variance with the basic objectives and purpose determined for the "process of national reorganization" were prohibited. The new law gave the Ministry of Education the power to choose all rectors, presidents, deans or directors,

many of whom are active or retired military officers, and to govern academic policy.

A new university law decreed this year by Chile's military government provides for a financial and academic reorganization of that country's eight state-aided universities. One of the more controversial provisions virtually bans all political activity. The law states that higher institutions may not "shelter or foment actions or conduct incompatible with juridical order" or "propagate, directly or indirectly, any party-political tendency". Article 6 continues: "All political indoctrination is to be excluded from universities, understanding by this the propagation or dissemination of ideas which exceed what is generally understood as objective information and reasoned discussion, through which the best-known arguments in favor of or against systems, doctrines or points of view are presented". Chile's new university law has drawn widespread protests from Chilean academics in and outside of the country. Many academics still in Chile have strongly criticized the government for drafting the law without the participation of representatives from educational and cultural institutions.⁴²

Uruguay. The restructuring of the National University of Uruguay by its military appointed administrators has resulted in the dismissal of over half of its professors and staff. University enrollment in Uruguay is known to have decreased substantially since the military took power, and the budget for education is now about 14% compared to 21% in the early 1960's. Present budgetary allocations for the military and police amount to 60%. Mario Otero, former dean of the School of Humanities and Sciences of National University, blames the present de facto military government for the "total destruction of scientific training, of research activity and independent thought" in the university by the dismissal and imprisonment of faculty members who disagree with official government policy. Otero states that "in the Agriculture faculty, 80% of the staff lost their jobs through dismissal, not being reappointed, or arrested", and that "in the various branches of engineering not less than 60% of the staff have been replaced".

A government directive decreed in September 1974 requires university staff members to sign a declaration stating that they adhere "without reservations to the democratic republic system that the Nation has established", and that they "had not belonged nor do not belong to the anti-national organizations dissolved by the Executive Power". According

to Otero, "the great majority of the staff once belonged to the Federation of University Students of Uruguay and were members of the University Teachers Federation, affiliated with the Trade Union Congress". Both associations, as well as all trade union activity were banned by the military in 1973. Consequently, "university staff overwhelmingly refused to sign this declaration and challenged its legality". The authorities reacted by provoking the resignations of over 500 staff" and the detention of dozens of others.⁴³

According to a study undertaken by three North American physicians with the sponsorship of National Academy of Sciences, American Medical Association, New York Academy of Sciences and the American Association for the Advancement of Science, more than half of the Faculty of Medicine declared they would rather resign than sign a declaration pledging their support for the military government. The study indicates that the Department of Social Medicine was dissolved and all its members fired, as was the Department of Biophysics. The director of the Hospital de Clinicas of the Faculty of Medicine, Dr. Hugo Villar, a specialist in hospital administration, was replaced by a military physician. Over half of the Department of Critical Care was replaced by military physicians. Four were dismissed: one clinical chief in the Department of Obstetrics, a full professor, chief of the otolaryngology service, and a professor of endocrinology. Of the four full professors of medicine, three were fired.

In 1978, the then Minister of Health Dr. Mario Archos Perez declared to the Council of State that the volume and quality of medical research in Uruguay was declining at a dramatic rate. The present Minister of Health, Dr. Antonio Canelas, has reportedly supported that contention. The North American study claims that medical libraries in Uruguay lack funds to purchase foreign medical texts. Only two medical journals, Cátedra and Revista de la Sociedad Médica Uruguaya are widely circulated and both are of poor quality, "especially when compared to those published in the past". The military now run the Uruguayan Medical Union, which has lost its affiliation with the World Medical Association and the Pan American Health Organization.

A recent report by the American Universities Field Staff indicates that restrictions also exist on teaching staff in the primary and secondary schools: "In Uruguay.. no one whom the government does not consider reliable can

teach at any level or hold an educational administrative post; persons who were politically active in any of the parties before 1973 are specifically barred; and school inspectors, who before 1973 had the responsibility for checking and improving instruction, now dedicate themselves to assuring that teaching personnel do not diverge from official expectations".⁴⁴

Chile. Until the military takeover in 1973, Chile had developed a long tradition of a constitutional democracy and its universities had been held in high esteem throughout Latin America. Since the coup, thousands of persons have been expelled from the universities, including 30 to 35% of the faculty in all Chilean universities. Dismissals of faculty have continued sporadically which in many cases the government attributes to budget reductions.⁴⁵ In early January 1980, at least 70 professors were dismissed at Chile's four major universities. Among those dismissed were Manuel Sanhueza, a former dean of the law school at the University of Concepción, who was removed after 30 years on the faculty, and Andres Sanfuentes, who was removed as director of the economic research center at the University of Chile. Sanhueza was chairman of a broad-based private commission of former legislators and lawyers who drafted a constitution as an alternative to the government's constitution. Dismissal of Sanfuentes by the military rector of the university was reported to have been the direct result of a dispute with the government's economic team, headed by the Minister of Treasury, over the interpretation of a study prepared in the university's school of economics on income distribution since the military government came to power. According to The New York Times, his dismissal "was viewed by faculty members as a warning against criticism of the official economic line".⁴⁶

The social sciences have been particularly hard hit in Chile. By the late 1970's, the only institutions carrying out serious social science research were a handful of private research centers, which are dependent on funding from international organizations or private foundations. Like similar private social science research centers in Argentina, those in Chile have managed to provide meaningful employment for a few social scientists who may otherwise have been forced into nonscientific work or have had to leave the country. However, the centers lack the resources to increase their staff and have to devote considerable time in trying to obtain funding from international agencies. They have been unable to undertake large national surveys because of the costs involved and

because it is often necessary to receive government permission. A hostile environment for critical social research has forced the centers to restrict their research methods, to refrain from making explicit policy recommendations, and to limit their findings to descriptive and analytical data. Workshop participant and British sociologist Anthony Tillet describes the difficulties encountered by the centers:

Apart from a continuing lack of money and a difficult research environment they face two other difficulties. First, they are not teaching institutions and in some cases are prohibited from offering courses. Furthermore, they are not allowed to offer post graduate training. Second, the average age of the researcher is between 35-40 and because staff or contract positions are limited, the number of training positions are reduced. Because of the situation in the universities and the limited resources of the independent centres, there is an increasing generation gap, so that it is common for social scientists to talk about a missing generation of researchers.⁴⁷

Founded in 1967, the Consejo Latinoamericano de Ciencias Sociales (CLACSO), a private institution based in Argentina which coordinates the activities of numerous social science research centers in Latin America, has offered moral and financial support to independent centers in Chile and Argentina.

Funding restrictions and the departure of many of Chile's ablest scientists have reduced the level of research in the natural sciences. University science education, which was among the best in Latin America, is said to have declined in quality because of shortages of equipment and supplies as well as faculty. An estimated 2,000 Chilean physicians are working outside the country. In 1977 it was reported that the National Health Service, established in 1952, was dismantled; approximately 7,700 health workers were dismissed, 850 more were forced to retire, and the National Health Service budget was cut by 20%.⁴⁸

Chile's new university law, which came into effect in early 1981, provides for a financial and academic reorganization of the country's eight state-aided universities, by reducing emphasis on the humanities, social sciences, and

basic scientific research in favor of degree programs in the applied sciences and engineering.* The new law provides for a gradual 50% reduction in government support for public universities. Twenty-one disciplines previously taught in the universities will be left to the initiative of private institutions: such disciplines include journalism, philosophy, sociology, marine biology, geology, and gynecology. The survival of those degree programs eliminated by the government will depend on whether a demand exists to create private institutions for their continuation and whether they can support themselves under the fluctuations of Chile's "free market" economy.⁴⁹

The new university law has brought a new wave of dismissals. Chile's news magazine Hoy reports that in the first four months of 1981 "250 academics have been dismissed or 'invited' to resign from Chilean universities and another 100 have been given notice that they will have to leave in May". Several Chilean academics have charged that the expected increases in tuition and fees will limit higher education to an economic elite, and that those who will suffer most are the children of the middle and lower classes.⁵⁰

Argentina. Before the military takeover in March 1976, dismissal as a form of coercion was already an established phenomenon in Argentina's universities. During the 1950's dismissal of anti-Peronists was common. In 1966, the right-wing government of General Oganía carried out a major purge of university faculty. When Juan Peron returned to power in 1973 dismissals of anti-Peronist and conservative faculty took place. The present military government has directed its purges at faculty and staff members who oppose their policies.

The Law of Dispensibility (Ley de Prescindibilidad) authorizes the Minister of Education to dismiss immediately

*The following degree programs can only be offered in the state-supported universities: law, architecture, biochemistry, dentistry, agronomy, civil engineering, business and economic sciences, forestry, medicine, veterinary medicine, psychology, and pharmacy. The remaining degree programs, as has already happened in the humanities and social sciences, will be offered by new private institutions. However, many of the programs eliminated from the state-supported universities will not be offered at all.

"any state employee for unspecified reasons" and forbids those dismissed from holding any other government post for 5 years. Universities, as well as scientific research centers, hospitals and psychiatric institutions, are circumscribed by the law. By September 1976, the then Minister of Education, Ricardo Bruera, had eliminated by decree 95 career fields from the universities and secondary schools and had announced the dismissal of over 3,000 academics, administrators and teaching assistants. While the social sciences and humanities were particularly affected, some medical, psychology and mathematics faculties also underwent complete or partial curriculum cuts and personnel revisions.

In the months following the March 1976 coup, the military and police searched the homes and offices of university professors and students. On 3 April 1976, the local commander in Córdoba burned books confiscated during raids: the event was televised. In Mendoza, the military rector of the Universidad Nacional de Cuyo, Air Force Colonel Hector Ruíz, held a press conference at which he displayed some 10,000 "subversive books" seized during raids on the homes of professors and students.⁵²

In July and August 1976 the police and military in the Bahía Blanca region south of Buenos Aires carried out a purge of professors and students at the Universidad Nacional del Sur. The region's military commander declared that the military and police had discovered an "international conspiracy of ideological and socio-cultural infiltration" in the universities aimed at indoctrinating students in "Marxist ideology" and using it as a base to disseminate its propaganda. Sixteen economics professors were arrested during the purge and an arrest warrant was issued for Gustavo Malek, a former Minister of Education, who had been appointed director of the regional office of science and technology of UNESCO for the Latin American and Caribbean region. The arrests and reports of ill-treatment brought strong international protest. In a press conference following the arrests the military commander declared that it was necessary "to cleanse the teaching area" of all professors who were not of "Christian thought and ideology".⁵³

Science magazine reported that in a letter sent in late 1976 to Argentine President Videla a group of Mexican scientists and intellectuals protested the firing of nearly 100 research scientists supported by the Consejo Nacional de Investigaciones Científicas y Tecnológicas (CONICT), and more than 600 scientists from the National Research Institute for

Agriculture and Cattle Breeding, the National Institute for Industrial Technology, the National Physics and Technology Institute at San Miguel and the National Atomic Energy Commission.⁵⁴ The Argentine Physical Society says about 40% of its members--some 120 physicists--have either been fired from their jobs or have fled the country.⁵⁵

In 1977, Amnesty International reported that 7 department heads and 100 volunteers at the Borda Hospital in Buenos Aires had been dismissed. In Córdoba, where numerous mental health professionals were reported to have been arrested and in some cases abducted by paramilitary groups, the Secretary General of the University of Córdoba declared that the arrests and dismissals of certain faculty members were intended to curb the spread of subversive ideas that had found expression in the curriculum. According to José Carlos Escudero, former Chief of Vital Statistics and Deputy Director of the Department of Social Medicine at the University of Buenos Aires, 90% of the staff of the Department of Psychology has been dismissed at the University of Córdoba and the remaining professors have been placed under the supervision of the Faculty of Medicine. The Department of Sociology at the university has been made dependent on the Faculty of Law and its postgraduate course cancelled.⁵⁶

Although the large scale university purges which followed the military coup have abated, occasional dismissals attract national attention. Members of the academic research community in Argentina have protested the firing of Professor Nicolas Bazán from his posts as Director of the Institute of Biochemical Research at Bahía Blanca and as Professor of Biological Chemistry at the University of the South. Bazán was informed of his dismissal in March 1981 only days after he had been acclaimed for his research into epilepsy at the annual meeting of the American Society of Neurochemistry. The dismissal order came from the Minister of Education, who has declined to discuss the matter with the press, but states that the decision was made for reasons of "national security".

Bazán insists that he has no connections with political organizations deemed subversive by the military regime. In 1976, former President Videla named him one of Argentina's most promising young people. At 38, Bazán is recognized as one of the world's leading researchers on epilepsy. Bazán's situation received sympathetic coverage in the Argentine press. The daily El Clarín editorialized:

It is well known that there are numerous

scientists who are working outside of our country because of economic reasons and because they are unable to carry out credible professional work here--among them are many who, like Dr. Bazán, have been declared 'dispensable'. Does the Minister of Education believe that his action against Dr. Bazán will encourage young people...to enroll in the university and pursue a career? Does the Minister believe that with this act he has projected a good image of the country to the international scientific community?⁵⁷

Bazán attempted to gain reinstatement through a series of appeals to the Minister of Education, but without success. Over 300 letters from foreign colleagues as well as Argentine scientists were sent to the Argentine authorities and in March the staff of his institute sent a letter to the President of Argentina protesting Bazán's dismissal. In early June 1981, the Argentine Academy of Sciences held a symposium in Córdoba and publicly endorsed protests from the international scientific community. On 27 June 1981, Bazán and his family fled Argentina due to "threats and intimidation". Bazán had been living in hiding just prior to his departure and was escorted to the airport by the Cultural Attache of the U.S. Embassy. Although still puzzled by his dismissal, Bazán thinks several factors may have been involved, most notably that he was the target of institutional jealousy and subsequently labeled a "leftist". Bazán had written several letters on behalf of dismissed professors.

Workshop participant José Westerkamp, who was dismissed in 1980 from his teaching post at the University of Buenos Aires, and whose son, Gustavo, has been detained for five years without charge, describes the university atmosphere in Argentina as follows:

They are universities in name only. Fear is the only thing that predominates and makes the professors and teaching staff docile. The reprisals taken against certain faculties have completed their mission: to sow fear among those professors who remain, even if they can still think freely, and to strengthen the authoritarian aspect among those professors who are authoritarian by nature.⁵⁹

After its annual meeting in 1980, the Argentine Publishers Association declared: "It is impossible to state that press freedom exists in Argentina".⁶⁰ According to a report published by the Buenos Aires based Centro de Estudios Legales y Sociales (CELS) in November 1980, the Secretary of Communications has prohibited the postal circulation of over a hundred books and periodicals, many of a scientific nature, by invoking Law: 20.216. The CELS report says, "although this prohibition only excludes postal distribution, in practice it warns distributors and bookshops not to sell them, and that they should not be used in schools and universities".⁶¹ One of the first books to be banned by the authorities was a children's book about the horrors of nuclear war entitled La Anti-Bomba. The authorities have also stopped the distribution of two student science magazines, the biological journal Doble Helice and the Math Physics journal Interacción. The student center at the School of Exact Sciences at the University of Buenos Aires has been closed. CELS reports that the amount of books published in Argentina during 1979 was 45% less than the number in 1976.⁶²

Cuba. In Cuba, scientists and science students, like all Cubans, may be harassed, demoted or dismissed from their jobs, or imprisoned for "anti-socialist activities". The Constitution of 1976 upholds many of the individual and collective rights contained in the Universal Declaration of Human Rights and the constitutions of many other countries. However, these rights may be restricted for the "collective good" of Cuba's socialist society. These limitations are set forth explicitly in Article 61:

None of the freedoms which are recognized for citizens can be exercised contrary to what is established in the Constitution and the law, or contrary to the existence and objectives of the Socialist State, or contrary to the decision of the Cuban people to build socialism and communism. Violations of this principle are punishable by law.⁶³

Since May 1960, Cuba's universities have been under direct government control. The autonomy of the universities was abolished when a student movement in the University of Havana installed a new revolutionary governing board, which promptly dismissed two-thirds of the faculty. The Cuban Academy of Science and the Society of Medical Studies have been abolished. Education is based on Marxist-Leninist principles and combines study with manual work.

Shortly after the takeover of the universities a large number of professionals and technicians left Cuba. In recent years, several Cuban scientists studying or carrying out research in the Soviet Union have defected in Lisbon while on return flights to Cuba. In October 1980, six Cuban professionals, including Jose Luís Molina Avila, a Cuban nuclear engineer working at the Soviet Center for Atomic Studies in Moscow, defected in Lisbon.⁶⁵

In addition to the thousands who have been imprisoned and eventually released in Cuba since the revolution of 1959, there are many others who have been restricted in their university, professional and technical careers because of their unwillingness to endorse Cuba's socialist revolution. Jorge Luís Romeu, a Cuban statistician who left Cuba with the thousands of others during the recent "freedom flotilla", was rebuffed on several occasions in his career. In 1965, Romeu, who is now 36, was expelled from the School of Mechanical Engineering at the University of Havana. A year later, he undertook mandatory military service and was sent to a special agricultural camp in Camaguey for "non-partisan youth". During his two years at the camp, Romeu worked as a cane cutter and voluntarily taught evenings in literacy schools. Like other "non-marxist" conscripts in the camp, Romeu was required to attend courses in socialist ideology. The Inter-American Commission on Human Rights has stated that in Cuba, "the basic, underlying principle of socialist law is reeducation before repression". The IACHR has criticized Cuba for maintaining a system of forced labor, citing that country's ratification of the International Labor Organization Convention No.29 which pledges adhering states "to suppress the use of forced or compulsory labor in all its forms".⁶⁶

On two occasions, Romeu was offered scholarships to study in France and Spain, but the Cuban government did not permit him to leave the country. He believes the government stopped him because of his political views and because his brother, a lawyer, was in prison for political reasons. After President Fidel Castro announced on Cuban television on 8 September 1978 that all who wanted to leave Cuba were free to do so, Romeu and his wife filed emigration papers. Shortly afterwards, Romeu's salary was reduced by 40% and his wife was fired from her job as a secondary school teacher.

The Cuban government has made considerable advances in the area of public health with special emphasis on primary health care. By 1973 it was reported that polio, diphtheria and tetanus had all been eradicated; in 1979 it was reported

that there were 15,000 doctors on the island, one for every 674 people.⁶⁷ The 1981-85 Development Plan emphasizes improvement of professional and technological education, especially in medicine, economics, accountancy, and teaching.⁶⁸ However, those who oppose the government and do not wish to leave the country are subjected to intimidation and may be restricted from pursuing a career in such subjects as medicine, orthodontics, engineering, economics, social sciences and journalism.⁶⁹

Detention, "Disappearance", and Torture

Military governments in the Southern Cone have maintained an ideological and administrative control of higher education which has effectively destroyed the freedom of thought, expression, and exchange which once characterized universities in the region. Violations of human rights by the security forces and paramilitary groups, as well as certain legal measures designed to restrict freedom of expression, have created a climate of fear. Educators and scientists are prohibited from teaching or carrying out research in certain fields eliminated from the university curriculum by government-appointed administrators. Many of those who remain in their posts are concerned that any contravention of government norms will label them and their students as "subversive", thereby subjecting them to dismissal or arrest.

While scientists in these countries have been arrested or detained as a result of their professional activities, especially in the areas of sociology, political science, psychology, and medicine, the majority have been persecuted for their political affiliations or because they have criticized government policies. Others have suffered for their human rights activities. Scientists have not been targeted for repression more than other sectors of the population, although by the nature of their work they are likely to be more visible and therefore viewed by the government as a possible source of embarrassing criticism.

The AAAS Clearinghouse on Science and Human Rights has documented the cases of a number of Latin American scientists whose detention, sometimes followed by "disappearance" and/or torture, violates internationally recognized human rights. The clearinghouse receives information on persecuted scientists from several sources. Information on Latin American scientists has been received from the Inter-American Commission on Human Rights, United Nations Human Rights Committee, Amnesty International, Washington Office on Latin

America, and from human rights groups operating in countries where violations have taken place. The clearinghouse staff has interviewed the families and colleagues of persecuted scientists and Latin American scientists living in the United States in an attempt to verify the data collected on persecuted scientists in the region. The Workshop participants were particularly concerned about human rights abuses directed at their colleagues in the region and stressed the need for scientists and scientific societies to keep themselves informed of violations as they occur and to defend persecuted colleagues.⁷⁰

Brazil. International human rights groups acknowledge an improvement in the human rights situation in Brazil in recent years. Since April 1964, when the military took power, Brazil has pursued a plan of rapid economic development and the authorities have been intolerant of criticism of government policies. Scientists and educators, as well as university students, have opposed many government programs and been detained without charge and imprisoned.⁷¹

Shortly after the coup of April 1964, the principal universities were purged and several scientists were forced to flee the country or face imprisonment. Physicists who opposed the German-Brazilian nuclear deal--finally signed in June 1975--were particularly singled out for persecution. During the 1970's, there were waves of arrests of faculty, students and trade unionists and torture as a means of interrogation was common. The Brazilian Society for the Progress of Science was instrumental in defending freedom of speech and provided forums at their annual meetings for the discussion of topics on national development not permitted elsewhere. Despite terrorist bombings directed at civil institutions, such as the Brazilian Bar Association, by disgruntled members of the armed forces who are annoyed at the government's liberalization program and frightened of possible prosecution for human rights abuses committed in the past, reports of gross violations of human rights have steadily decreased since 1979.⁷³ However, on occasion those openly opposed to government policies are intimidated. In 1979, the Tropical Biology Association was prevented from holding its 5th international symposium in Brazil because the main focus of the meetings was to discuss the ecology of the Amazon basin. In 1980, a report prepared by the security and information branch of the Ministry of Mines and Energy accused scientists and opposition political leaders of staging a campaign with "origins in the U.S. and the U.S.S.R." to sabotage Brazil's nuclear accord with West Germany.⁷⁴

(See page 46 of Goldemberg discussion paper for further explanation of this incident.)

Uruguay. In Uruguay, the systematic use of torture on political prisoners by the military and police has been recognized and condemned by nearly every governmental and nongovernmental human rights organization monitoring human rights in the region. The testimony of a former officer in the Uruguayan army, who admitted to having witnessed and practiced torture, revealed that its use has been institutionalized and was practiced, at least until 1979, by the majority of the Uruguayan officer corps.⁷⁵

In 1980, human rights groups confirmed the deaths of six prisoners under suspicious circumstances.⁷⁶ Political and trade union activity has been illegal since 1973: those arrested for such activities are charged in military courts and have received sentences of up to 20 years. Most of the estimated 1,100 to 1,500 political prisoners held in prisons and detention centers in Uruguay are serving sentences for such crimes as "subversive association", "assisting a subversive association", "attacking the morale of the armed forces", or for distributing political materials, and other non-violent crimes under the military penal code. The majority have been tried for political and trade union activities--whatever the date of the offenses--which were legal before the military took power.⁷⁷

In 1980, the International Red Cross published a report which strongly condemned conditions at La Libertad prison, the high security prison for males. The report stated that torture was common and that prison officials were trying to bring about "the physical and moral breakdown of its prisoners".⁷⁸ Human rights groups have gathered credible evidence confirming the deaths of at least 32 detainees as a direct result of torture or other conditions of detention.⁷⁹

A study undertaken from 1979 to 1981 by three North American physicians confirmed the detention of 54 physicians up to and including 1979. The information was corroborated by sources within the Uruguayan government, the U.S. Embassy and by interviews with Uruguayan exiles. The three physicians repeatedly requested permission to visit the imprisoned physicians, but to no avail. The medical group was able to verify that 33 of the total had been charged with non-violent crimes, but were unable to determine the exact charges against the remainder. (They believe the remainder were charged with non-violent offenses as the Uruguayan authorities

stated that only 4 physicians were being held for violent or terrorist activities). Of the 54, 33 had held appointments in the Faculty of Medicine, and two had been full professors.⁸⁰

A 65 year old Uruguayan mathematician who is serving a 20 year sentence:

José Luís Massera, an internationally renowned mathematician and former deputy in the Uruguay Congress, was detained on 22 October 1975 by members of the Uruguayan armed forces.

According to testimony given by Massera's stepdaughter to the United Nations Human Rights Committee, upon arrest he was taken to the Infantry Battalion No. 13 and at one point during his interrogation was "forced to stand on one foot, hooded, for several hours until he finally collapsed". He reportedly suffered a broken hip from the fall and never received proper medical treatment: he now walks with a limp.

On 15 August 1976, he was charged with "subversive association" for his membership in the Communist Party of Uruguay, which was banned in November 1973 along with 13 other political parties and groups. At a later date, Massera was charged with additional crimes of "attack on the constitution" and "attack on the morale of the armed forces". He was eventually convicted by a military court and sentenced to 20 years imprisonment.

His wife, Martha Valentini de Massera, was arrested in February 1976 for having sought the assistance of the Catholic Church of Uruguay in her attempt to discover her husband's whereabouts and to secure his release.

On 15 August 1979, the United Nations Human Rights Committee condemned Uruguay for violating the human rights of Massera,

his wife, and his son-in-law. This was the first time a country had been found in violation of the International Covenant on Civil and Political Rights, ratified by Uruguay in July 1979. Massera's wife was eventually released.

In March 1978, a group of scientists from the National Academy of Sciences Human Rights Committee visited Massera at the La Libertad prison. The group met with Massera in the presence of the prison commandant and their escort officer. They reported that Massera was "restricted in prison by a lack of suitable mathematical books and particularly by an absurd rule that all reading materials, including those in mathematics or other technical subjects, must be in the Spanish language". Massera has been offered teaching and research positions by the University of Paris, (SUD), Brown University, the University of Costa Rica, and others.⁸¹

A Uruguayan biophysicist on "provisional liberty" flees to Brazil:

Claudio Benech, for 20 years a biophysicist at the Instituto de Investigación de Ciencias Biológicas, was detained on 8 May 1980 and held for eight months. During that period Benech claims he was tortured to make him confess to membership in the Communist Party of Uruguay.

In December 1980, Benech was released on "provisional liberty" and fled to Brazil with his wife, pediatrician Gracia Gula, and two of their five sons. In Porto Alegre, they were granted refugee status by the United Nations High Commissioner for Refugees.⁸²

Chile. During the past year a deterioration in the human rights situation in Chile has been reported by the Catholic Church in Chile, the Chilean Commission on Human Rights, and

Amnesty International. A U.S. Embassy official has also indicated, albeit unofficially, that human rights abuses are on the increase once more. According to reports from the Legal Department of the Catholic Church in Santiago, in the first five months of 1981, 235 persons were detained in Santiago alone, nearly twice the amount detained during the same period in 1980. In June 1980, high officials of the Catholic Church told two North American doctors on a human rights mission to Chile that the Church possesses overwhelming evidence to show that torture exists on a wide scale and that the problem is becoming worse.⁸³

These reports have been of concern to Chilean human rights groups--some of whose members have been briefly detained and allegedly tortured--as human rights have been improving since 1976 when most of Chile's political prisoners were released. The Vicariate of Solidarity, the church-connected human rights organization, and the Chilean Commission on Human Rights blame the new constitution--which came into force in early 1981, for legalizing systematic methods of repression.⁸⁴

Under the new constitution, which will be in effect during the eight-year transitory period which began in March 1981, the police and security forces may detain persons for up to five days without formal charge, and an additional 15 days for acts against the security of the state. Amnesty International maintains that detainees may be tortured during periods of incommunicado detention, before either brought to trial or released.⁸⁵ Furthermore, the right of assembly and freedom of information as regards the founding, editing or circulation of new publications is banned and persons may be exiled or relegated within Chile for three months for acts contrary to the interests of Chile. Over the past year, writs of habeas corpus filed on behalf of detainees have been repeatedly rejected, as have appeals against decisions reached by the courts.⁸⁶

Three Chilean physicians held incommunicado by the secret police and later released:

Manuel Almeyda, MD, aged 57, Pedro Castillo, MD, aged 54, Patricio Arroyo, MD, aged 49, were detained between 19-27 May 1981 by the secret police (CNI) and held incommunicado until 7 June when they were transferred to a public prison in the port city of Valparaiso. Two days after their transfer, the three physicians

were permitted to see two North American doctors who had travelled to Chile at the request of the Chilean Commission on Human Rights to investigate their detention. They told the American doctors that while in the custody of the secret police, they were held in solitary confinement in small cells that were brightly lit 24 hours a day. For most of that period their eyes were kept taped shut. The two Americans said that when they saw their Chilean colleagues in the prison courtyard they appeared "in a state of psychological terror. The first thing they talked about was their terrible upset about the publicity that defamed them. The secret police had released a number of charges against them that were featured in the national newspapers. They were anguished that they had been made to appear as terrorists in the press. Their whole careers were destroyed in an instant by having the national newspapers link them to terrorist activities".⁸⁷

On 1 July 1981, a military judge in Valparaiso ruled that there was no evidence that the three physicians were associated with terrorist groups and that another charge of illegal political activities was not within the military's jurisdiction. (All political and trade union activity is illegal in Chile). Consequently, the military judge referred the second charge of "illegal association" to a civil court. On 14 July, that court rejected the case against Manuel Almeyda and Pedro Castillo and ordered their immediate release. The third physician, Patricia Arroyo, has been released on bail while the court continues to investigate the charge of "illicit association".⁸⁸

The Catholic Church, the Chilean Commission on Human Rights, and the two North American physicians who travelled to Chile, are convinced that the Chilean doctors were arrested as a result of their human rights activities. Manuel Almeyda is an internist who directs the medical program of the Catholic Church in Santiago. At the time of his arrest, Almeyda had been treating torture victims and submitting

complaints of torture to the Chilean courts. The Catholic Church had submitted a writ of habeas corpus on his behalf. Pedro Castillo is a thoracic surgeon who received some of his training in the United States, and who is a Fellow of the American College of Surgeons. Like Almeyda, Castillo has given medical care to torture victims; he has also treated hunger strikers. Patricio Arroyo had served as medical advisor to the Ministry of Public Health in Chile from 1970-1973. He also gave medical attention to hunger strikers.⁸⁹ Joaquín Luco, a distinguished Chilean neurophysiologist who has received Chile's National Science Award, told the Chilean press:

"I have no idea if the doctors belong to a group of professionals that attend to persons who have been tortured. But what does it matter? This is totally moral. A torture victim has to receive medical attention for any physical or psychological damage which he has received. And a doctor has the obligation to attend the sick". Joaquin Luco is a member of the Chilean Commission on Human Rights and also attended the AAAS Workshop on Scientific Cooperation and Human Rights in the Americas.

Appeals on behalf of the three physicians were made by several scientific organizations, including the Chilean Medical Association, U.S. National Academy of Sciences, World Medical Association, American Public Health Association, and American Association for the Advancement of Science.

Argentina. When the military took power on 24 March 1976, Argentina was in a period of serious political and economic instability. Leftist guerrilla organizations such as the Montoneros and the People's Revolutionary Army (Ejército Revolucionario Del Pueblo=ERP) and rightist terrorist groups such as the Argentine Anti-communist Alliance (Alianza Argentina Anti-Comunista=AAA) had created an atmosphere of arbitrary violence and chaos. Five months before her overthrow in March 1976, President Isabel Peron declared a "state of siege", pursuant to Article 23 of the Constitution,

which gives the Executive the power to implement severe national security measures in order to eradicate subversion. Under this provision persons may be held at the disposal of the national executive power (Poder Ejecutivo Nacional=PEN) for an indefinite period of time without charge or trial. The state of siege remains in force today.⁹⁰

Since 1974 some 8,200 persons have been detained under special executive powers. In July 1981, the Argentine government acknowledged that 780 persons were detained under PEN and that the total number of political prisoners was over 1,000. Persons held at the disposal of PEN include prisoners who have never been charged (some of whom have been detained for over 5 years without charge), those who have been tried and acquitted, and others who have been convicted but whose sentences have expired.⁹¹

After a two-week mission to Argentina in September 1979, the Inter-American Commission on Human Rights (IACHR) recommended that the Argentine government "consider the possibility of lifting the state of siege, in view of the fact (sic), according to repeated statements made by the Argentine government, the reasons for which it was imposed no longer exist". The IACHR also recommended that the Argentine government release all those detained under PEN.⁹²

Argentine citizens and foreigners from all walks of life number among the estimated 10,000 to 15,000 persons (including some 80 children) who have "disappeared" after abduction by police and military personnel or paramilitary groups. In February 1981, a panel formed by the United Nations Human Rights Commission reported that of "involuntary disappearances" in 15 countries, Argentina alone accounted for more than half of the 13,000 cases involving persons who had been arrested, detained or abducted by personnel associated with government agencies. Although it is feared that many of the "disappeared" are now dead, many may still be held in secret detention camps scattered throughout the country.⁹³

The IACHR and Amnesty International have received numerous testimonies from former prisoners that document the systematic use of torture during interrogation, especially as a method to obtain confessions. In the Argentina section of the U.S. State Department Country Reports on Human Rights Practices for 1980, it is reported:

Former detainees have reported that torture,

practiced during the first days of the interrogation, took the form of electric shock, immersion of the head in water, mock executions, severe beatings, and psychological abuse.

Reports from some people detained for national security during 1980 indicated that physical mistreatment continues to be used during the interrogation phase.⁹⁴

Argentine authorities themselves have admitted that the security forces have committed excesses, but that the nature of the conflict warranted measures which violated human rights. As far back as 1978, President Videla was giving assurances that his government would conduct an inquiry into allegations of "repressive excesses". However, to date no one has been arrested or tried for the ill-treatment or torture of prisoners or for the illegal abduction of persons.⁹⁵

In 1980, an Argentine journalist named Manfred Schoenfeld published an article in one of Argentina's oldest newspapers, La Prensa, singling out the military government's silence concerning the "disappeared" as the one issue hindering any possible "national reconciliation". Schoenfeld wrote that the Argentine people are "not prepared to accept the pure and simple liquidation, without any explanations or the possibility of an appeal, of several thousand people...The government must take responsibility, not just for what has been done, but for saying what has been done". In July 1981 Schoenfeld's son was briefly detained by the police. Later that same month, Schoenfeld had his front teeth knocked out by unidentified men who stopped him on a street in Buenos Aires. Schoenfeld and his newspaper had been openly critical of the government's political and economic policies.⁹⁶

Since 1979 reports of gross violations of human rights and the number of disappearances have decreased substantially: the Argentine Permanent Assembly for Human Rights reported only 18 disappearances in 1980. However, human rights groups in Argentina feel a possible resurgence of repression because the military government has not attempted to dismantle the infrastructure which permits human rights violations to occur. On several occasions in the first half of 1981, trade unionists and human rights activists were detained and later released.⁹⁷

In late February 1981, the offices of the Center for Legal and Social Studies (CELS) in Buenos Aires were raided and six staff members detained; a week later, all those detained were released. Although charged with possession of plans and diagrams of military establishments--which the defendants categorically denied--, a federal judge eventually dismissed the case against them and ordered that documents confiscated by the police be returned to them. Founded in 1979 by lawyers, scientists, and other professionals, CELS provides legal and technical assistance to individuals and organizations affected by human rights violations, especially the families of political prisoners and the "disappeared". One of those arrested was José Westerkamp, who attended the AAAS Workshop on Scientific Cooperation and Human Rights in the Americas. During his detention and court investigation he received letters of support from several workshop participants.⁹⁸

It is possible to determine the exact number of scientists who have been imprisoned or "disappeared" since the Argentine military takeover in March 1976. Although the government has issued occasional lists of arrests and releases, such lists often contain contradictions and do not account for the "disappeared", and, in any event, they never list professions. The AAAS Clearinghouse on Science and Human Rights has documented the cases of 60 scientists who have "disappeared", but this is maybe only a fraction of the real number.

An Argentine statistician whose whereabouts are unknown:

In early February 1977, Argentine statistician Carlos Noriega was detained in the presence of his wife and three small children while on vacation near Mar del Plata. To date, the Argentine authorities have not acknowledged his whereabouts.

During his career, Noriega served for three years as regional Adviser on National Accounts to the United Nations Economic Commission for Latin America in Santiago. He left that post to become the Director General of the Instituto Nacional de Estadística y Censo in Argentina. It was in that capacity that Noriega served as a member of the host committee for the delegation from the American Statistical Association in May 1976. During that same year, the United Nations Statistical Office asked him to apply

for a post as senior adviser in that office. He declined the offer, but did accept a short-term assignment as consultant to UNICEF and the UN during August and September 1976 on a project for the Statistical Institute of Peru. After completion of this assignment the UN Statistical Office had an understanding with him that he would be available for short-term assignment in connection with UN sponsored projects on statistical development, particularly in Peru, Central America and Mexico.

In a letter dated 10 January 1977 to an American colleague, Carlos Noriega wrote, "I believe next year I will follow up the assistance to Peru by UNICEF. At present, I am engaged in independent professional activities on my own, in connection with which I am considering the feasibility of doing some research work on the brain drain in Argentina". He then returned to Mexico for a brief period. Shortly after his arrival in Argentina he was abducted and never seen again.99

An Argentine physicist released after 7 months detention and tortured while in custody:

In May 1977, Maximo Pedro Victoria, a physical metallurgist, testified before the IACHR concerning his detention without charge and torture from April to October 1976.

On 1 April 1976, Maximo Victoria was detained at the personnel office of the Comisión Nacional de Energía Atómica-CNEA (Argentine Atomic Energy Commission) after reporting there to resume a research post he had left in 1973 on leave of absence from the Commission. Victoria had been with the CNEA since 1963. In August 1973 he left the Commission on leave of absence to direct the Instituto Nacional de Tecnología Industrial - INTI. Shortly after the military coup of 24 March 1976, he was dismissed from his post at the INTI and subsequently returned to the CNEA to see if he could take up his old post. He reported to the personnel office and was told by the personnel manager, a Navy officer, that he was under arrest. No explanation was given for his arrest.

Victoria stated:

I was taken back to the entrance hall of the CNEA at gunpoint and was then placed in a police car. About three blocks from the CNEA building the car went up a side road. I was then gagged, blindfolded and a hood was put over my head. Still at gunpoint, I was told to lie on the floor of the police car and driven to what I suppose was the port of Buenos Aires, and taken to a cabin in a Navy boat. I stayed there, completely isolated, for fourteen days. The whole procedure was very violent, and I was constantly beaten with fists and guns.

In the boat I was constantly harassed by my guards, who frequently pounded on the cabin door and shouted that I was next in line to be shot or thrown into the sea. I never saw the faces of my guards as I had to face a wall each time the door was opened or they put a hood over my head when I had to go out of the cabin to use the toilet.

While detained on the boat, Victoria was chained to a bed post and frequently interrogated about his political and religious beliefs. He heard the names of nine other scientists from the CNEA being mentioned by the guards and realized they were also on the boat. During this period he was given no food or water. Eventually, Victoria and the other scientists were transferred to Villa Devoto Prison and detained at the disposal of the executive power. At one point he was held 45 days "without communication with the outside world" in an isolation cell 1 by 2 meters in size. "All visits, even from lawyers, were prohibited. No mail came in or went out".

On 6 September 1976, Victoria and 50 other prisoners were transferred by plane to Sierra Chica prison. During the transfer Victoria reported that they were beaten with sticks and guns and were forced to sit with their heads between their knees:

About ten guards from the Federal Prison System continued to beat us walk over our backs, and made us shout "long live the military!", "long live General Vilas!", etc. After about 45 minutes, we arrived at an airport near Sierra Chica. Once inside the prison, we were stripped naked for a "medical check up" and forced through a double file of guards who beat us with sticks. The beating continued while we tried to pick up our personal belongings. One at a time, we were forced to run naked from the main building to the cell pavillion a distance of about one hundred meters. The floor was covered with small sharp stones. It was probably there that I broke two toes on my right foot...also, my front teeth were beaten out and my back was covered with sores. No medical attention was provided. Two days afterwards we were asked to sign a paper saying that the wounds had been self-inflicted or we would not be allowed visitors.¹⁰⁰

Bolivia. Since Bolivia's military coup of July 1980--the 189th in its 154 years of independence--, Bolivian security forces have been condemned for human rights abuses by nearly every human rights organization monitoring the region. The first announcement made by the leaders of the coup proclaimed "the whole country a military zone", thus instituting martial law.

Parliament was dissolved and the military junta began to rule by decree. Decree No. 17531, issued within days of the coup, bans all trade union activity. Workers who did not return immediately to work were fired, and force was used to ensure compliance. On 18 August, Decree No. 17554 ended the functions of the university authorities, deans, administration and student organizations. The universities were closed down and taken over by the military. According to a AAAS workshop participant, some 5000 academics, researchers and associates were dismissed and hundreds of academics have fled the country. In May 1981, the universities began registering students again. Military rectors now control the universities and degree programs in sociology and psychology have been eliminated.¹⁰¹

Since the coup security forces have killed hundreds of people and the number of persons in detention is said to run

into the thousands. Several foreign journalists have been detained (one was threatened with death) and forced to leave the country. Padre Julio Tumiri, 70-year-old president of the Permanent Assembly for Human Rights, was detained shortly after the coup and severely beaten during his imprisonment. A book written by Padre Tumiri which was critical of the military so enraged Bolivian officials that he was forced to eat the book page by page. After his release, Padre Tumiri was hospitalized because of injuries he received while in detention.

On 15 January 1981, paramilitary and security forces broke up a meeting of the Movimiento de la Izquierda Revolucionaria—a political party and not a guerrilla group—in La Paz. Seven of those at the meeting, including two members of Parliament, were killed. Among them were Ricardo Navarro Mogro, Professor of Sociology; Amiro Velazco Arce, Professor of Economics and former advisor to the Minister of Finance; and José Luís Suarez Guzmán, Professor of Sociology.¹⁰²

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- 9 May 1981; J. Jude Pansini, "Lake Atitlan: The Seasonal Farm Labor Problem", Anthropology Resource Center Newsletter. For more information, write ARC, 59 Temple Place, Suite 444, Boston, MA 02111.
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99. Information from AAAS Clearinghouse files.
100. Information from AAAS Clearinghouse files; This same testimony was presented to the IACHR in 1977.
101. See Latin America Bureau, Bolivia: Coup d'Etat, (London: Russell Press Ltd., Nottingham, 1980). It should be noted that the military coup which brought General Luis Garcia Meza to power interrupted what appeared to be a process of democratization under the interim government of Lidia Gueiler. Gueiler had called elections for 29 June 1980, which were held as planned. Unión Democrática y Popular (UD), obtained 38% of the votes. Based on an apparent agreement reached with other political parties, its presidential candidate, Hernan Siles Zuazo, was to be sworn in as President by Congress on 6 August 1980.
102. See UNESCO document E/CN.4/1441 13 January 1981.

4. Scientific Cooperation and Human Rights:

The International Development Context

Superficially, scientific cooperation and human rights are isomorphic; the relationship derives from the very foundations of scientific method. The properties of scientific method emphasize the autonomy of the research act, and its lack of dependence upon external authority and the view that evidence rather than emotion should determine the validity of claims. These are but a few of the better known canons of scientific cooperation. Indeed, when these canons are violated in the specific experimental settings, i.e., when data are tampered with to effect results, when findings are claimed that cannot be replicated, or when information about scientific results are suppressed outright, there is a general hue and cry within the scientific community.

However, the presumption that scientists are predisposed by these canons to elevate human rights in general, falls apart as soon as values enter the picture. The translatability of concerns about scientific cooperation and human rights is mediated by claims of national interest or national rights. The norms concerning communication of scientific findings are distinct from those concerning the creation of such findings. They involve a set of decisions that impinge on issues of sovereignty and secrecy. These, rather than abstract canons of scientific procedures, prevail in the international arena.

In specific international situations, withholding rather than communicating scientific findings may be the highest expression of human rights. For example, the boycott of Soviet scientific conferences and conventions by Western colleagues, undertaken as an expression of revulsion for the Soviet invasion of Afghanistan and its imprisonment of dissidents, may be viewed as an instance in which

withholding of scientific cooperation is an instrument of a human rights policy. What appears to be methodologically transparent: the use of science to promote human ends--is actually complex, mediated by considerations of value that extend far beyond the scientific community.

The high costs of creating and generating scientific information give it a special monetary value and in some cases special usefulness that a government does not wish to share. This is particularly the case in scientific investigations related to military technology. Here arguments about human rights are weak in comparison to those based upon national or even pecuniary interests.¹

Most societies have strong legal as well as extralegal prohibitions against the disbursement of specific forms of scientific information. As levels of high sensitivity or immediate applicability are involved, governments (and scientists themselves) invoke three mechanisms: for protecting information, the most efficacious is secrecy or non-disclosure; the next is patent rights; and finally, there is copyright. It is worth taking note of these mechanisms for inhibiting the spread of scientific cooperation since they place in perspective the too easy assumption of shared values between scientific communities and human rights advocates.² The strongest of the three is secrecy, or non-disclosure. Governments and businesses are the most frequent practitioners of secrecy in modern society. By restricting the distribution of information to an individual or definable group, the information can be protected from "falling into the wrong hands." Secrecy is often practiced when information has economic or political value, as if economic or political power derives from control over the distribution of the information.

The mid-point mechanism for the protection of information is the patent. In patenting, information about a technology or a process is registered with the government as a third party so that the power of the government can ensure proprietary title to the process of the technology for a definite period of time. Patents also have an added measure of security in that the item patented is often a small element of a much larger technology, especially if it is high technology so prevalent in advanced countries.

The weakest of the three mechanisms for the protection of information is copyright. Copyright grants the owner of

the information exclusive rights, protected by registration of copyright by a government. Copyright need not be registered in certain cases, but is inherent in the "creation" of the work as defined in copyright law. However, in practice, copyright protects the carrier of the information, i.e., the film, book, journal. Information can be freely drawn from the copyrighted source so long as the source is cited, and so long as copyrighted form is not exactly reproduced.

If there are serious weaknesses in the communication of scientific findings from the viewpoint of "donor" nations; there are equal problems involved with respect to "recipient" nations. Problems connected with information as such are confirmed with potential disruptions caused by implementation of the information. At another level are the problems of research in overseas contexts that are perceived as beneficial only to donor nations, and of scant or no value to the host nation. To talk of scientific cooperation in such volatile Third World contexts as necessary harbingers of the extension of human rights is naive and perhaps dangerous. In short, scientific cooperation is not likely to occur without the understanding and participation of the recipient nations.

Project Camelot in Chile, even more than Project Vicos in Peru, raised serious questions about when scientific cooperation becomes political interference with the national structure. In the mid-1960s proposed project to elicit the role and relevance of civic action programs in Latin American contexts, officials and academics of the Chilean government were consulted. Instead of viewing the project as a form of cooperation, or as a mechanism for enhancing human rights, they viewed the proposed research as an extension of American colonial ambitions. The questionnaire which Camelot social scientists sought to administer led the government to believe that the Project was not intended to disburse or share information, but simply to inhibit normal patterns of social change within Chile. The outcry was ferocious, the project was cancelled, and whole new set of rules and regulations were institutionalized to insure that such forms of unwarranted or unrequested scientific cooperation would not take place in the future. ³

As the subject of human rights increasingly becomes the purview of the political arena, the scientific world sees its own interests as once again indifferent to such goals.

The effort to harness scientific discovery to any social movement or political myth raises the specter of the subversion of science as an end in itself. The "science for its own sake" position, like "art for its own sake," does not so much argue against human rights, as it does pluralize the nature and ubiquitous character of such rights.

The actual conduct of science is so related to factors of politics, geography, nationality, language, and the disproportionate distribution of power, that the simple act of communicating becomes confounded by these external items. For the most part, international scientific collaboration is weak, involving at most five percent of the scientific community, and more often less than one percent. Cross national cooperation that does exist, is often within blocs: there is high collaboration within First World countries, high collaboration within Second World countries, and high collaboration within Third World countries--but little interface between the three worlds when it comes to the dissemination of scientific findings. As one recent report put the matter: "It is apparent that national scientific size has a bearing on patterns of national research production. Large scientific establishments are dependent to a substantial degree on the presence of abundant quantities of manpower and other material resources. These material resources create a climate favorable for the fostering of intellectual resources. The migration of talent from resource-poor to resource-rich countries provides evidence of this phenomenon. Thus, we find that high levels of material and intellectual resources often go hand-in-hand".⁴

Recent studies indicate a growing trend toward centralization rather than diffusion of scientific cooperation.⁵ In part, a human rights posture is essentially one that must be based on a wider diffusion of information, but also on the creation of new mechanisms for competitive behavior at the industrial and commercial levels. The present situation allows for a monopoly of information and hence a monopoly of domination and innovation. The need therefore is to disaggregate the communication package, so that costs of cooperation can be reduced, and more important, adaptation to local national conditions in Third World nations can be established. In this way, scientific and technical communication can provide a countervailing element to the current monopolization of data and information in the hands of multinationals. Also this will permit a greater screening capacity for underdeveloped countries in their search for

appropriate technology. In turn this will permit bargaining power in every operation engaged in by Third World nations with foreign suppliers of technology. Only when the human rights issue is properly brought down to manageable proportions, will the place of scientific cooperation be appropriately registered.

Communication of scientific findings is still a long way from social or technical implementation of those findings. The notion of a direct pipeline between scientific cooperation and human rights should be taken with a grain of salt. Even if a consensus develops that free access to information is an integral feature of any human rights program, achieving technical competence and implementation remains a hurdle. This is another way of saying that human rights policies, however worthy in concept, do not guarantee the goals of economic development or political democracy. The gap between communication and implementation is not unlike the gap between receiving advanced commodities and services and being able to create de novo such commodities and services. Narrowing information gaps between rich and poor nations may have a salutary effect at one level, and yet exacerbate differences at other levels pointing up the very existence of inequities. Thus, a modest appraisal of the actual worth of cooperation is probably wiser than broad assumptions that communication automatically translates into equity.

II

Politics is a game of vulnerabilities, and the human rights issue is clearly where the socialist Second World has proven most vulnerable, just as the economic rights issue is where the capitalist First World is most open to criticism.

The human rights issue can be conceptualized nowadays in part as a struggle between eighteenth century libertarian persuasions and nineteenth century egalitarian beliefs -- that is, from a vision of human rights having to do with the right of individual justice before the law to a recognition of the rights of individuals to social security and equitable conditions of work and standards of living.

The right to justice, or the right to a formal education, are easy enough to absorb within the framework of almost any social system. But when rights are carefully

defined in terms of costs, when freedom of beliefs becomes freedom to impart information and ideas without harrassment, when social security is translated into old age insurance, when rights to privacy are viewed as the right of every individual to communicate in secrecy, when social rights becomes the rights of mothers and children to special care and protection, when rights to work involve the right to form and join trade unions and the right to strike, when rights to fair trials include protection against arbitrary arrests or detention--then the entire panoply of rights assumes an exact meaning that it otherwise would not have.

The world-wide interest in human rights in part reflects the absence of these rights. There is a great deal of concern on matters of cruel, inhuman, or degrading treatment because there is so much cruelty, inhumanity, and degradation present in world affairs. There is concern about the rights of self-determination because there are so many violations of those rights in the name of national integration. International law calls for the punishment of genocide because the twentieth century has seen the alarming development of genocidal practices for national ends.

The dichotomy between practices and principles, between reality and rhetoric gave the human rights issue its special volatility. Yet the one enormous breakthrough that has evolved over the century is the sense of right and wrong. A common legacy of both democratic and socialist systems of marketing and planning systems, of liberation and egalitarian frameworks, is the assumption that there is such a goal as human rights. Only one hundred years ago slavery and serfdom were a vital force in human affairs and wars were fought to protect chattel slavery as state's rights. The extent and velocity--at least conceptually--of how far we have come are dramatic.

The central characteristic of the twentieth century, what profoundly demarcates it ideologically from previous centuries, is that a world in which obligations were taken for granted has been transformed to one in which rights are presumed to be inalienable. Institutions have been previously concerned with theories of human obligation; what individuals and collectives owe to their societies and to their states--an automatic presumption that the citizen has an obligation to fight in wars whatever the purpose of the war, or the notion that economic failure is a mark of individual shortcoming rather than societal breakdown. The hallmark of the twentieth century is that the question of

obligations is placed on the shoulders of institutions rather than individuals.

There are risks in this transvaluation. One might well argue that the tilt has turned into a rout; that issues of the duties of individuals to the community, of the limitations of human rights to ensure national survival, have not received proper attention; that social research has so emphasized the minutiae of imbalances of every sort that even homicides are now blamed on television violence. History has been written in terms of dynasties, nations and empires. As long as that was the case, the matter of human rights hardly counted. Only now, when these larger-than-life institutions--dynasties, nations, and empires--are dissolving, can it be seen that the individual is the centerpiece of all human rights and that the expression of these rights must always remain the province of the free conscience of a free individual. In this sense ours is a century in which individualism has emerged beyond the wildest imaginings of previous centuries. Paradoxically it is also the century of the most barbaric collectivism, which put into sharp and painful relief the subject of human rights.

The most troublesome problem in the scientific cooperation program is a myopic incapacity to appreciate the degree to which some rights conflict with other rights: the right to know versus the right to privacy, the rights of private property versus the rights of each person to be free of slavery, and so on. Laws do not so much mandate rights as they circumscribe such rights in the name of high moral truths. As a result, to speak of human rights policy is to assume the unitary character of rights, precisely what is most seriously open to challenge and assuredly, to doubt. There is even a certain question as to whether individuals or societies are the ultimate repositories for rights. For it must be recognized that individual and collective goods are not mutually negotiable. All of this is said not to frustrate the search for a human rights policy, but better, to recognize that the subject of human rights is, to be sure, a matter of policy and not some set of precepts written on tablets for all times for each person to hold sacred.

III

Human rights, like the New Deal, the Fair Deal, and the

Great Society represent a historical tendency on the part of the American executive government to give distinction and individual character to each of their administrators. The Democratic Party in particular has traditionally felt the need to delineate itself in contrast to previous administrations. The human rights issue as it now stands, in contrast to previous executive political rallying cries, is its international dimension. In part this is deep recognition that there is a high correlation between war and the adoption of social measures intended to ameliorate world poverty and discrimination. Indeed, as Nisbet reminds us, our highly prized social gains have been more the result of the needs of war than the ideology of rights.⁶

In the 1950s, the key political slogan was modernization, easily enough defined as maximization of consumer goods and human resources. In fact, in operational terms modernization was strongly equated to transportation and communication, the areas in which the United States was a world leader. In the 1960s, with the growing apprehension that material abundance, or modernization, might actually be counter productive to national goals, the key slogan became egalitarianism; or the drive toward the relative equal distribution of world resources and goods. But by the end of the 1960s, a new dilemma soon became apparent; as Third World nations were urged to adopt egalitarianism as an international ideology, the virtual monopoly by the United States of the material conditions of abundance converted the drive for equality to a domestic rhetoric. The actual costs of international egalitarianism were not voluntarily borne by the richest nation on earth. The turn toward human rights in the seventies was an American policy presentation that found it more amenable to convert equity demands into liberty demands. The human rights issue, covertly for the most part, celebrated the fact of high political and social freedom in the West—just as modernization in the 1950s celebrated the fact that America was a consumer society, and egalitarianism in the 1960s celebrated the fact that large numbers of people shared in this largesse. Like political formulas of previous decades, the human rights issue provided a sharp contrast to the socialist sector with its prima facie constraints on human rights, from exacting punishment for low crimes to refusal to grant travel visas for immigration purposes. Thus, human rights, whether measured by press standards, due process of law, freedom of workshop, voluntary association, or multiple parties, became the strong suit of the West in the 1970s. Such issues offered a contrast to Soviet power, and

provided an illustration of certain inability of the political slogans of the previous decade to transform themselves into reality.

Any newspaper on any given day makes it evident that human rights, however potent as a normative instrument of foreign policy, is one constantly tempered and even temporized by ongoing realities.⁷ The United States, which had urged sanctions against the Soviet Union for its persecution and imprisonment of dissidents and human rights policies, generally relented on the sale of drill bit equipment and technology vital for the Soviet oil industry. Such equipment represented a considerable financial windfall for the United States, and it also meant that the Soviet Union was spared from generating new forms of research in a complex field. On the other hand, when the United States confronted a far weaker nation, such as Argentina, it held up the financial packaging to help in the sale of Boeing jet liners to Argentina because of its alleged human rights violations. As a result, on the same day the United States sold equipment vital to the Soviet oil industry--with the pained admission that this violated human rights considerations, it denied a jet package to Argentina, on precisely the same human rights grounds.

In the context of international economic realities, there are limits to the implementation of any set of human rights principles into operational policies, especially by a United States weakened in the late seventies. Vacuums are filled rapidly. Thus, while the United States denied certain loans to Brazil, again on the basis of presumed human rights violations, the Japanese and Italians were more than willing to fill this gap, providing a \$700 million arrangement whereby Japanese and Italian capital provided long-term financing for a new steel project in Brazil. The three companies, Sidebras, Kawasaki, and Finsider of Italy also provided more favorable loan terms than had past United States loans.

Human rights, at least on a global perspective, has been linked to choices between political deprivation, presumably characteristic of the Second World and economic exploitation, presumably characteristic of the First World. Aside from the reification and polarization involved, the problem is that the human rights issue is thrown back upon ideological grounds. One senses a growing

apathy with human rights questions because that rhetoric has not brought about desired changes; but to the contrary has sometimes restored more harsh and punitive measures in countries feeling threatened. This is after all, a universe in which the leader of the First World, the United States, is the leading supplier of world armaments; the leader of the Second World, the Soviet Union, is a closer runner-up in arms sales; and a leading nation of the Third World, Brazil, is the third leading arms exporter--doing a particularly thriving business in such exotic areas as cluster bombs, toxic gases and short-ranged missiles.

A fitting and proper role of science in the human rights field is to move beyond broad abstractions and seek out concrete expressions of both the exercise and abridgement of human rights. In this regard, the human rights issue can be joined to a framework larger than itself and more politically significant. It can be fused to questions about technological relations, political regimes and economic systems.

Instead of talking abstractly about the right to work, there is a need to discuss concretely conditions of work, protection of migrant workers, occupational work safety measures, and social services for employees. Instead of talking about right to life and liberty, policy recommendations can be made specifically about protection under the law, a right to a fair trial, and security of a person who is incarcerated. If we are talking about political rights, questions should be raised about conditions of voting, levels of participation, numbers of parties permitted to contend, electoral expenses, and the role of local vis-a-vis national government. Instead of talking about citizen rights, issues can be raised about the conditions of migration outside a nation, freedom of movement within a nation, rights of asylum, protection against deportation, and the character of national and ethnic affiliations.⁸

At this point in time, the need of the scientific research community is to achieve a stage beyond the aggregated national data of the United Nations, and to develop firm, internationally recognized characteristics to which all nations in the civilized world must adhere, at least in terms of ideals to reach. Through a sophisticated series of social indicators, researchers can provide some flesh, and not just more flab to the human rights issues. There will doubtless be strong ideological components based on whether a society has a free market or a central planning

system, or whether it has a multiple-party or single-party political system. For example, the Yugoslavs have carried the question of right to work to include free choice of employment, conditions of employment, protection against unemployment, equal pay for equal work, and even the right to form trade unions. On the other hand, the Yugoslav program does not include the right to strike; an issue so bitterly contested in Polish society. There will also be differences in terms of the character of punishment and restraint characteristic of a region or nation. But these items can themselves become an area of cooperative scientific investigation.

What are the norms that are expected in the human rights field from a nation? Here certain items can be addressed: First, that there be annual country reports on social questions, just as there are annual country reports on economic questions, and in that way focus attention on specific patterns of human rights violations or observances. Second, the encouragement of independent, nongovernmental organizations which can both monitor and pressure official reports in order to gain credibility and reliability. Third, the scientific community is uniquely equipped to monitor unusual conditions or emergency situations, such as famine, floods, and earthquakes and generally victims in chronic misery and distress. In this way human rights reporting will not become mechanistic and ignore flash dangers. Fourth, an area that can be examined at this normative level is whether violation of human rights is being conducted officially or unofficially by governments, or whether governments use conduits to engage in human rights violations: this distinction too will prevent the monitoring of governments from becoming mechanical and ignore the utilization of agencies perpetuating human rights violations. Fifth, insofar as possible, human rights reporting should be made uniform across nations and should be monitored and enforced.

It is dangerously optimistic to speak of a unified human rights model offering scientific cooperation, and based on an affluent First World and an impoverished Third World. What has been achieved in the human rights area is more complex than a unified world model approach would have us believe. The realities are increasing stratification at the expense of equity, and hence movement both away from and towards expanded human rights. We are witnessing a world wide rise of nationalism, which is displacing the internationalization of the economy. The transfer of huge chunks of real wealth and technological sophistication to

energy-rich sections of the Third World does not alleviate the problems of human rights, since equity within each of these Third World nations remains even more elusive than in the past. The relative comparisons of wealth and poverty within each Third World nation points up the weaknesses of North-South or even East-West models of cooperation.⁹ The classic gap between rich and poor, exploiter and exploited, within each nation on earth is still where the human rights issue must be confronted as the living tissue of human realities.

NOTES

¹Nathaniel H. Leff, "Technology Transfer and U.S. Foreign Policy: The Developing Countries," Orbis, Vol. 21, No. 2, pp. 145-165.

²Kenneth H. Shapiro and Jurgen Muller, "Sources of Technical Efficiency: The Roles of Modernization and Information," Economic Development and Cultural Change, Vol. 25, No. 2 (1976), pp. 293-316.

³Irving Louis Horowitz, The Rise and Fall of Project Camelot: Studies in the Relationship Between Social Science and Practical Politics. Cambridge: The Massachusetts Institute of Technology Press, 1967, pp. 3-45.

⁴J. Davidson Frame and Mark P. Carpenter, "International Research Collaboration," Social Studies of Science, Vol. 9, No. 4 (November) 1979, pp. 481-498.

⁵Alejandro Nadel Egea, "Multinational Corporations in the Operation and Ideology of International Transfer of Technology," Studies in Comparative International Development, Vol. 10, No. 1 (Spring) 1975, pp. 11-28.

⁶Robert Nisbet, Twilight of Authority. New York: Oxford University Press, 1975, pp. 160-162.

⁷Financial Times of London, August 11, 1978.

⁸The most impressive application of social indicators to issues of human rights on a world scale is contained in Yearbook on Human Rights for 1973-74. New York and Paris: United Nations, 1977, pp. 269-277.

⁹Irving Louis Horowitz, "When Worlds Collide," The Washington Quarterly: A Review of Strategic and International Issues, Vol. 3, No. 3 (Summer) 1980, pp. 213-217.

Workshop Recommendations

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Recommendations

The three working groups of the Workshop on Scientific Cooperation and Human Rights in the Americas were asked to discuss possible strategies to be used by individual scientists and scientific societies in human rights work on both an immediate and a long-term basis. In addition, the participants examined the question of international scientific cooperation in human rights work.

The recommendations which the working groups presented at the general sessions stressed the following points:

- o The recommendations are presented as a range of options rather than as absolute mandates. They are addressed to both scientific societies and individual scientists in their human rights work.
- o In order to utilize the recommendations and strategies properly, a sensitivity to the unique conditions and institutions of the individual countries of Latin America is necessary.

The recommendations received from the working groups were grouped under seven broad areas of concern:

- I The documentation and monitoring of human rights violations of scientists in Latin America;
- II The role of scientific societies in responding to human rights violations on an immediate, short-term basis;

- III The role of scientific societies in responding to human rights violations on a long-term, collaborative basis;
- IV The development of the scientific understanding of the ways in which human rights can best be protected and advanced through research;
- V The contributions of independent research institutions to scientific progress in Latin America;
- VI The relationship between funding activities of international funding institutions and scientific development and progress in Latin America.
- VII The participation of scientific personnel in activities which violate universally recognized human rights of individuals.

I The documentation and monitoring of human rights violations of scientists in Latin America

The workshop participants expressed the need to consolidate available documentation on the human rights violations of scientists. One working group suggested the publication of an annotated bibliography which would be disseminated in the format of a resource letter. (The annotated bibliography on human rights in Latin America recently compiled by the Library of Congress, Latin American section, Washington, D.C., may supply much of the information desired by the workshop participants. This bibliography, funded by the Ford Foundation and the Organization of American States, will be published in 1982.)

On a larger scale, the workshop participants felt that the documentation and monitoring of human rights violations of scientists in Latin America needs to be done on a regional basis in Latin America. To facilitate this work, one working group recommended the establishment of a center affiliated with a larger international organization and located in Latin America. (The countries of Costa Rica, Venezuela or Ecuador were mentioned as possible sites.) The suggested functions of such a center were:

- o to receive information on the human rights violations of scientists;

- o to transmit information to fellow scientists and institutions through a variety of channels;
- o to organize and coordinate a network of scientists and scientific societies interested in human rights work throughout Latin America;
- o to cooperate with other human rights organizations.

Recommended:

Collaborate with other scientific societies and existing human rights organizations to investigate the possibility of such a regional center.

II The role of scientific societies in responding to human rights violations on an immediate, short-term basis

Human rights initiatives by scientific societies have evolved from primarily private efforts in previous decades to a more public profile, largely due to the expressed interests of the societies' membership. For example, the officers of the National Academy of Sciences (Washington, D.C.) have taken in the past private actions through sister Academies and Research Councils on behalf of individual scientists. In 1976, in response to the increased concerns by Academy members over repression of scholarly research, the NAS Committee on Human Rights was formed. More than 500 Academy members endorsed the committee and volunteered to serve as "Correspondents" and individual spokespersons on human rights issues. Public statements on behalf of 19 victims of repression have been made since the committee was set up. The American Association for the Advancement of Science, through its Committee on Scientific Freedom and Responsibility, sponsors the Clearinghouse on Science and Human Rights which receives and channels information on foreign scientists to 37 AAAS-affiliated scientific societies which are members of the clearinghouse. The actual involvement of the various affiliates in human rights cases depends not only on the interests of the membership, but also on the resources available to the society. Smaller societies, such as the American Society of Zoologists, have appointed a contact person to whom cases are referred for possible correspondence. Larger scientific affiliates, such as the American Physical Society, have formed committees whose activities include: holding seminars, presenting congressional testimony; visiting embassies in urgent cases; helping to find positions for scientists who are refugees or are applying for external exile; and encouraging their members to actively

promote the cause of human rights by writing articles for newspaper , magazines and scientific journals.

Information on human rights cases is received by these societies in various ways. Some scientific societies receive information directly from colleagues of imprisoned scientists, through letters from the families or friends of the victims, through publications and through national and international human rights groups. Other groups, particularly smaller affiliates of the clearinghouse, receive most of their information through the clearinghouse. In special cases of an urgent nature, information has been received via telephone calls. The need for scientific societies to receive information quickly through such means as telephone calls and to have a mechanism in place to respond quickly was stressed by the workshop participants. It is usually within the first few days of an illegal detention, abduction, or "disappearance" that a person is most likely to be brutalized, tortured or killed. Thus, in this initial time period of urgent cases, the prompt response of the scientific community can be crucial. For this reason, the participants felt that mechanisms for both receiving and responding to human rights cases of an urgent nature should be set up within scientific societies which have no such mechanisms.

Recommended:

Increase the number of scientific societies with active committees or similar bodies which will respond to human rights cases and issues.

Recommended:

Within the individual societies, set up a mechanism to respond to human rights cases requiring urgent action.

Examples of immediate responses used by scientific societies include:

- a. A telegram of inquiry and concern to the appropriate authority in the country in question. (This implies that a contact person in the society has the authority and the funds to send telegrams for special cases in the name of an officer of the society.)

- b. A telephone call or visit to the embassy of the country in question to protest detention or imprisonment. (The Canadian Committee of Scientists and Scholars visited the Argentine Embassy in Canada to demonstrate their concern in the Westerkamp case.)
- c. A letter to the embassy of the country in question. (The Brazilian Association for the Advancement of Science corresponded with the Argentine Embassy in Brasilia in regard to the Westerkamp case.)
- d. A letter to the appropriate authorities in the country in question. (Registered or certified air mail is recommended to ensure acknowledgement of receipt of mail.)

III The role of scientific societies in responding to human rights violations of scientists on a long-term, collaborative basis

The need for more collaborative efforts by scientific societies in North and Latin America was stressed by the workshop participants. Many recommendations addressed this concern. One working group recommended the adoption of a fourteen-point scheme of progressively more severe responses which scientific societies might make to human rights violations. Louis Cohen, Secretary of the Physical Society (London) presented the list during a conference on scholarly freedom and human rights of the British Association for the Advancement of Science in September 1980. (See notes at the end of this chapter for the complete list.) José Goldemberg, President of the Brazilian Association for the Advancement of Science, presented two strategies for the protection of scientists in repressive Latin American regimes, namely enlightenment and embarrassment. Governments should be enlightened by scientists living in these countries that the persecution of scientists runs counter to the national and international interests of the government. If enlightenment fails, embarrassment at home and abroad can serve as a deterrent. Goldemberg cautioned that these strategies were based on his Brazilian experiences and in order for these strategies to be implemented successfully elsewhere, the advice of Latin American scientists in the particular countries would be needed.

Workshop participants also stressed that respons . to

human rights violations may require the collaboration of non-scientific groups. Scientific organizations and other groups may find themselves in situations where concern has to be transformed into action. Such situations often involve the collaboration and support of groups such as churches, universities, labor unions, industries and human rights organizations. Examples of this include relief efforts for scientists and others during and following World War II, aid given to Hungarian scientists in the 50s, and most recently, aid given to Chilean scientists in the early 70s. Following the overthrow of Salvador Allende in 1973, CLACSO (Latin American Social Science Council), a private, specialized agency, organized a register of qualified refugees and exiles. The project which provided fellowships, teaching posts and other positions for Chilean scientists, involved many people both from within and outside of the scientific community.

Recommended:

Extend invitations to scientists in repressive countries whose academic or professional activities have been restricted to enable them to attend scientific meetings. (A joint travel fund supported by several scientific societies was suggested to achieve this participation.)

Recommended:

Encourage the presentation of research by exiled scientists at scientific conferences, especially on topics relevant to their countries of origin and aid in the publication of their research.

Recommended:

Encourage the media of scientific societies, such as journals, magazines, and newsletters to report on the human rights violations of scientists. Newsworthy articles, editorials, and letters to the editors were suggested as appropriate sources of publicity. Scientific journals could also be encouraged to advertise posts available to exiled scientists.

Example-The staff of Interciencia, a trilingual magazine published by the Interciencia Association in Caracas, Venezuela, has expressed interest in advertising posts in their magazine.

Recommended:

Continue to sponsor fact-finding missions to Latin American countries where human rights conditions warrant them.

Example-The American Association for the Advancement of Science, National Association of Social Workers, American Public Health Association, Physicians Forum and the Emergency Committee to Defend Chilean Health Workers co-sponsored a five day fact-finding mission to Chile in June 1981 at the invitation of the Chilean Commission for Human Rights, with the support of the Academia de Humanismo Cristiano (A private academic research center in Santiago) and several prominent Chilean scientists.

Recommended:

Hold special programs regarding human rights in conjunction with scientific conferences, seminars and workshops held by the scientific community.

Example-Rodrigo Fierro, a workshop participant, spoke about scientific development and human rights in Latin America following a seminar on tuberculosis research in Quito, Ecuador. (El Comercio, January 14, 1981)

Example-On a larger scale, in 1978 the Human Rights Commission of the National Academy of Sciences (Washington, D.C.) asked the AAAS clearinghouse to assist American participants in the International Cancer Congress in Buenos Aires who wished to express their concerns over the human rights violations of their Argentine colleagues. Activities coordinated by the clearinghouse included providing background information on science and human rights in Argentina to interested scientists; identifying members of a human rights delegation; and setting up meetings with local human rights groups, Argentine government officials, U.S. embassy personnel and members of the international press. These activities were not an official part of the Congress but were done on the personal initiative of the individual scientists. In addition a petition to the President

of Argentina was initiated and circulated by a group of Argentine doctors. This petition was signed by 75 doctors from 8 countries. At the conclusion of the Congress, the human rights delegation issued a statement of concern to the press.

Recommended:

Scientific societies which sponsor exchange programs, conferences or workshops in various countries in Latin America should provide information about the condition of human rights and scientific freedom in these countries for the membership involved in such activities. In addition, individual scientists or representatives of scientific societies may wish to visit with local human rights organizations and scientists/activists while in these countries to lend moral support to the efforts of such organizations.

Recommended:

Collaborate with non-scientific groups such as churches, universities, labor unions, industries and human rights organizations in selected responses to significant emergency situations.

IV The development of the scientific understanding of the ways in which human rights can best be protected and advanced through research

The conclusion of Irving Louis Horowitz's paper presented at the workshop touched upon the role of scientific research in the field of human rights. Horowitz identified some fundamental research norms at a national and international level which could be implemented in the ideal future to examine and monitor human rights issues and conditions. (See Discussion Paper 4 for complete text of the Horowitz paper.) One working group brought up the desirability of more fellowships in the field of human rights. (For an overview of available fellowships in the United States, see the notes at the end of this chapter.)

Recommended:

Participate in meetings with private foundations, government funding agencies and private corporations with a view to exploring further funding in the area of human rights research.

V The contributions of independent research institutions to scientific progress in Latin America

The role of independent research centers was considered crucial to the continuation of scientific activity in many Latin American countries, especially in those which experience periodic university interventions and closures. These centers may serve as a bridge between the chaotic conditions of political change and the resumption of more active and legitimate scientific research. The social sciences are often the first academic disciplines to be dismantled or to be severely curtailed. Workshop participants felt that if independent research institutes could be kept functioning during difficult periods, scientists might be encouraged to remain in their countries rather than to emigrate. The massive emigration of well-educated scientists for political or economic reasons is extremely detrimental to the overall development and scientific progress of the country concerned. In addition, funding activities which support fellowship programs for junior researchers within independent research institutes were encouraged.

Recommended:

Participate in meetings between scientists, scientific societies and funding organizations to emphasize the importance of independent research in countries which experience chronic political turmoil.

VI The relationship between funding activities of international funding institutions and scientific development and progress in Latin America.

Workshop participants drew attention to loans made by international funding institutions and how they can affect the development of scientific progress in Latin American countries. Two loans made in the past two years by the Inter-American Development Bank to Argentina and Uruguay were cited. In fall 1980, Uruguay received a \$32.5 million loan aimed at revitalizing the University of Uruguay. The loan provided for the hiring of foreign faculty and consultants to rebuild science programs, particularly in agricultural research. In 1979, Argentina received a \$66 million loan to carry out a broad-based program to strengthen scientific and technological research in nine regional centers throughout the country. Six of the research centers will be new and there is little indication that plans call for utilizing the existing univer-

sity structure or for ensuring adequate safeguards of academic freedom. The participants were concerned that, in effect, these loans compensate the present governments of Argentina and Uruguay for the loss of scientists who have been imprisoned, disappeared, or have left the country as a result of repression for their professional and political beliefs.

Recommended:

Participate in meetings with country directors of the relevant funding institutions to familiarize these authorities as to the concerns of scientists and scientific societies in regard to loans.

Recommended:

Monitor loan proposals of relevant funding institutions on a regular, perhaps quarterly, basis in order to identify those proposals which may be detrimental to the long-term development and progress of the scientific community of Latin America.

VII The participation of scientific personnel in activities which violate universally recognized human rights of individuals

While the theme of the workshop encompassed the human rights of scientists, the responsibility of scientists to their society was also discussed. In particular, workshop participants found alarming the involvement of medical doctors and other medical personnel in the practice of torture. (The first discussion paper in Chapter 2 presents various methods of participation by doctors which have been documented in recent years. See page 27 of this report.)

Recommended:

Scientific societies, in particular medical societies, should take severe disciplinary action, which could include expulsion from the society, against any member who assists, participates, or knowingly condones the practice of torture or other cruel, inhuman or degrading practices or punishments.

Notes

List proposed by Louis Cohen of 14 responses that scientific societies may make to human rights violations of scientists.

(The following summary was originally printed in Nature, Vol. 287, September 11, 1980.)

1. Statement by the President of the Society.
2. Formal protest by Officer of the Society (published in the Society's bulletin).
3. Provision of facilities for protest meetings, press conferences.
4. Official letter of protest to head of State Party/Academy.
5. Dissemination of information on individual cases to members.
6. Advising members to refuse to
 - a) attend meetings in offending country;
 - b) invite scientists from offending country to conferences;
 - c) allow visits of scientists from offending country to scientific establishments/laboratories; (Note in special cases, visits may be made contingent on discussion of human rights issue in question).
7. Organization of petitions by members on specific case.
8. Granting of recognition and/or publicity to "alternative" meetings and seminars organized by banned scientists.
9. Organizing and/or supporting meetings relating to the work of one particular scientist suffering repression.
10. Sending delegation to investigate cases and intervene if possible.
11. Providing journals free to banned scientists.
12. Providing financial support to exiled scientists.
13. Severing formal relations with academics/societies in offending countries.
14. Causing expulsion of academies/societies of offending country from international organizations.

Research fellowships in human rights (United States-1981)

A) Rockefeller Foundation Humanities Fellowships

Applications are accepted from writers and scholars in the traditional humanistic disciplines, whose projects focus on the analysis of contemporary issues. A limited number of fellowships for research that seeks to provide a humanistic perspective on the concept of human rights are awarded. (5 were awarded in 1980.) No academic or institutional affiliation is necessary. Foreign scholars are encouraged to apply; however, applications must be in English.

Amount of grant: \$10,00 to 15,000 for one year

Application deadline: October 1, 1981

Inquiries and applications to:

Rockefeller Foundation Humanities Fellowships
The Rockefeller Foundation
1133 Avenue of the Americas
New York, New York 10036

B) Center for the Study of Human Rights
Rockefeller Fellowships in Human Rights at Columbia
University

Established scholars as well as recent PhDs are eligible. Priority is given to original and innovative research in a) human rights in national societies, comparative and international perspectives, b) women and rights, c) human rights in health care and social welfare services.

Amount of grant: \$10,000-17,000 for one year of full-time research at Columbia University. Research facilities and support for publication may also be provided.

Application deadline: December 1981

Application forms from:

Ms. Linda Sokolski
Center for the Study of Human Rights
704 International Affairs Building
Columbia University
New York, New York 10027
(212) 280-2479

C) Internship in human rights

International Human Rights Internship Program

A project of the Office of International Programs at the University of Minnesota .

Graduate students, foreign and U.S. with academic training or practical experience or background in international human rights regardless of field of such work--i.e., law, journalism, political science. Placement with organizations such as Amnesty International, International Commission of Jurists, Inter-American Commission of Human Rights, O.A.S.

Amount of internships: 9 internships at \$8,000-10,000 plus travel.

Requests for applications:

Ann Blyberg

International Human Rights Internship Program

100 Maryland Avenue, N.W., Room 402

Washington, D.C. 20002

(202) 543-4747

Appendices

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CSFR Staff in Attendance

Rosemary Chalk, Program Head
Eric Stover, Project Director
Kathie McCleskey, Clearing-
house Assistant

Appendix B-1981 AAAS Council Resolution

On 7 January 1981 the AAAS Council unanimously adopted the following resolution proposed by the AAAS Committee on Scientific Freedom and Responsibility during the AAAS Annual Meeting in Toronto, Canada.

Whereas human rights and scientific freedom are closely linked, and both of them remain under attack and continue to deteriorate in many countries throughout the world, and

Whereas the AAAS Workshop on Scientific Cooperation and Human Rights in the Americas, meeting at the same time as the AAAS 1981 Annual Meeting in Toronto, with the participation of numerous scientists from Latin America and North America, has expressed deep concern about the deterioration of human rights and scientific freedom in a number of countries in Latin America, and in particular the continued detention of scientists, engineers, and medical professionals as well as many other political prisoners, in many cases without charge or trial and in conditions of great physical hardship and torture; the deterioration of the quality and availability of scientific education at all levels; and the dismissal of a large number of scientists from teaching and research posts, accompanied by a general decline of academic and scientific freedom, and

Whereas the lack of scientific freedom and the attack on human rights has become a chronic as well as a currently urgent problem, requiring the exploration of new initiatives as well as continued response to attacks on individuals as they occur,

Therefore be it resolved that AAAS, as a matter of high priority, extend and intensify its efforts to defend and advance both scientific freedom and basic human rights and to condemn attacks on them, and that it urge its affiliated societies and other organizations and individual scientists to become more actively involved in these matters.

Appendix C-Workshop Press Release

FOR IMMEDIATE RELEASE
(Distributed 6 January 1981)

CONTACT: Eric Stover
(202) 467-5236

SCIENTIFIC MEETING CONDEMNS ATTACKS ON HUMAN RIGHTS OF
COLLEAGUES IN LATIN AMERICA, CALLS FOR NEW RESPONSES

Toronto, Ont. . . . Participants at a conference of North American and Latin American scientists, engineers, and medical professionals from 13 countries, meeting in conjunction with the American Association for the Advancement of Science (AAAS) Annual Meeting in Toronto, condemned the violations of human rights currently taking place against their colleagues and others in several Latin American countries. Violations have ranged from harassment to disappearance, torture, detention without charge or trial, and often death.

The participants at the meeting, organized by the AAAS Committee on Scientific Freedom and Responsibility, expressed their concern about the decline of academic and scientific freedom in recent years. This has led to a deterioration in the quality and availability of scientific and general education at all levels, as well as a restricted research environment. The conferees noted that human rights and scientific freedom are closely linked, so that attacks on scientists and students imperil the long range possibilities for national scientific and technological progress and contribute to the "brain drain".

The condition of human rights and scientific freedom differs from one country to another. The situation ranges from widespread repression such as has been carried out by the military governments of Argentina, Bolivia, Chile, and Uruguay, to the isolated instances of detention and torture of physicians in Colombia, whose democratic government has not adopted a generally repressive policy.

The workshop participants were concerned that in conditions of generalized violence, which characterize the current situation in El Salvador and Guatemala, scientists and particularly medical personnel are being killed by military and paramilitary groups. This represents a breakdown of the Geneva Convention which pledges nations to regard doctors and

nurses as well as the sick and wounded as neutrals during military conflict.

The workshop condemned all attacks on basic human rights recognized under international law, whether the attack comes from the right or the left, no matter whether such violations occur in repressive or in so-called "moderately repressive" regimes.

The workshop concluded that this attack on human rights and scientific freedom has become a chronic problem, requiring the exploration of new initiatives. The working groups recommended the promotion of greater cooperative efforts, by scientists and scientific societies in Latin America and North America, in responding quickly to violations of the human rights of scientists; the establishment of a Latin American regional center to monitor and support scientific and academic freedom; the monitoring by scientific groups of the granting of loans by international lending institutions to educational and scientific institutions; the recognition by public and private funding institutions of the need to support research into the underlying causes of repression and violations of human rights.

It became clear during the meeting that there is an urgent need for scientific societies in the U.S., Canada, and Latin America to create groups charged specifically with responding promptly to violations of the human rights of their colleagues.

The workshop recommended that the scientific communities in the Americas work in conjunction with public and private groups to establish a regional human rights documentation center in Latin America. Among other things, such a center would strengthen the international network of scientists and scientific societies concerned with human rights, and would emphasize the responsibilities of scientists to respond to violations when they occur.

Participants emphasized that human rights violations have their roots in the larger social, economic and political environment, and they urged that social scientists in all countries make it an important research priority to clarify these causes and to develop a greater understanding of the social conditions which promote respect for the life and dignity of every human being. This goal could be facilitated by establishing research fellowships in this area.

The workshop recommended that scientific organizations encourage international lending institutions to include human rights considerations and establish beyond a doubt that scientific and academic freedom will be preserved when deciding to grant loans to educational and scientific institutions. In particular, it was suggested that scientific societies take it upon themselves to monitor, suggest policy, and if possible participate in the process by which decisions are made in such loans.

In conclusion, the participants affirmed that the advancement of science is fundamentally linked to the advancement of human rights. Scientists therefore have a responsibility not only to promote scientific freedom but also to promote the basic rights guaranteed to all people under international law. Furthermore, scientists have a duty to refuse to participate in actions which violate the human rights of others.

Appendix D-U.N. Universal Declaration of Human Rights

THE GENERAL ASSEMBLY

proclaims

THIS UNIVERSAL DECLARATION OF HUMAN RIGHTS as a common standard of achievement for all peoples and all nations, to the end that every individual and every organ of society, keeping this Declaration constantly in mind, shall strive by teaching and education to promote respect for these rights and freedoms and by progressive measures, national and international, to secure their universal and effective recognition and observance, both among the peoples of Member States themselves and among the peoples of territories under their jurisdiction.

Article 1. All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood.

Article 2. Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status.

Furthermore, no distinction shall be made on the basis of the political, jurisdictional or international status of the country or territory to which a person belongs, whether it be independent, trust, non-self-governing or under any other limitation of sovereignty.

Article 3. Everyone has the right to life, liberty and security of person.

Article 4. No one shall be held in slavery or servitude; slavery and the slave trade shall be prohibited in all their forms.

Article 5. No one shall be subjected to torture or to cruel, inhuman or degrading treatment or punishment.

Article 6. Everyone has the right to recognition everywhere as a person before the law.

Article 7. All are equal before the law and are entitled without any discrimination to equal protection of the law. All are entitled to equal pro-

tection against any discrimination in violation of this Declaration and against any incitement to such discrimination.

Article 8. Everyone has the right to an effective remedy by the competent national tribunals for acts violating the fundamental rights granted him by the constitution or by law.

Article 9. No one shall be subjected to arbitrary arrest, detention or exile.

Article 10. Everyone is entitled in full equality to a fair and public hearing by an independent and impartial tribunal, in the determination of his rights and obligations and of any criminal charge against him.

Article 11. (1) Everyone charged with a penal offence has the right to be presumed innocent until proved guilty according to law in a public trial at which he has had all the guarantees necessary for his defence.

(2) No one shall be held guilty of any penal offence on account of any act or omission which did not constitute a penal offence, under national or international law, at the time when it was committed. Nor shall a heavier penalty be imposed than the one that was applicable at the time the penal offence was committed.

Article 12. No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks.

Article 13. (1) Everyone has the right to freedom of movement and residence within the borders of each state.

(2) Everyone has the right to leave any country, including his own, and to return to his country.

Article 14. (1) Everyone has the right to seek and to enjoy in other countries asylum from persecution.

(2) This right may not be invoked in the case of prosecutions genuinely arising from non-political crimes or from acts contrary to the purposes and principles of the United Nations.

Article 15. (1) Everyone has the right to a nationality.

(2) No one shall be arbitrarily deprived of his nationality nor denied the right to change his nationality.

Article 16. (1) Men and women of full age, without any limitation due to race, nationality or religion, have the right to marry and to found a family. They are entitled to equal rights as to marriage, during marriage and at its dissolution.

(2) Marriage shall be entered into only with the free and full consent of the intending spouses.

(3) The family is the natural and fundamental group unit of society and is entitled to protection by society and the State.

Article 17. (1) Everyone has the right to own property alone as well as in association with others.

(2) No one shall be arbitrarily deprived of his property.

Article 18. Everyone has the right to freedom of thought, conscience and religion; this right includes freedom to change his religion or belief, and freedom, either alone or in community with others and in public or private, to manifest his religion or belief in teaching, practice, worship and observance.

Article 19. Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.

Article 20. (1) Everyone has the right to freedom of peaceful assembly and association.

(2) No one may be compelled to belong to an association.

Article 21. (1) Everyone has the right to take part in the government of his country, directly or through freely chosen representatives.

(2) Everyone has the right of equal access to public service in his country.

(3) The will of the people shall be the basis of the authority of government; this will shall be expressed in periodic and genuine elections which shall be by universal and equal suffrage and shall be held by secret vote or by equivalent free voting procedures.

Article 22. Everyone, as a member of society, has the right to social security and is entitled to realization, through national effort and international co-operation and in accordance with the organization and resources of each State, of the economic, social and cultural rights indispensable for his dignity and the free development of his personality.

Article 23. (1) Everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment.

(2) Everyone, without any discrimination, has the right to equal pay for equal work.

(3) Everyone who works has the right to just and favourable remuneration ensuring for himself and his family an existence worthy of human dignity, and supplemented, if necessary, by other means of social protection.

(4) Everyone has the right to form and to join trade unions for the protection of his interests.

Article 24. Everyone has the right to rest and leisure, including reasonable limitation of working hours and periodic holidays with pay.

Article 25. (1) Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.

(2) Motherhood and childhood are entitled to special care and assistance. All children, whether born in or out of wedlock, shall enjoy the same social protection.

Article 26. (1) Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit.

(2) Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote under-

standing, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the United Nations for the maintenance of peace.

(3) Parents have a prior right to choose the kind of education that shall be given to their children.

Article 27. (1) Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.

(2) Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.

Article 28. Everyone is entitled to a social and international order in which the rights and freedoms set forth in this Declaration can be fully realized.

Article 29. (1) Everyone has duties to the community in which alone the free and full development of his personality is possible.

(2) In the exercise of his rights and freedoms, everyone shall be subject only to such limitations as are determined by law solely for the purpose of securing due recognition and respect for the rights and freedoms of others and of meeting the just requirements of morality, public order and the general welfare in a democratic society.

(3) These rights and freedoms may in no case be exercised contrary to the purposes and principles of the United Nations.

Article 30. Nothing in this Declaration may be interpreted as implying for any State, group or person any right to engage in any activity or to perform any act aimed at the destruction of any of the rights and freedoms set forth herein.

Appendix E—UNESCO Recommendation on the Status of Scientific Researchers

The General Conference of the United Nations Educational, Scientific and Cultural Organization, meeting in Paris from 17 October to 23 November 1974, at its eighteenth session,

Recalling that, by the terms of the final paragraph of the Preamble to its Constitution, Unesco seeks—by means of promoting (*inter alia*) the scientific relations of the peoples of the world—to advance the objectives of international peace and of the common welfare of mankind for which the United Nations Organization was established and which its Charter proclaims,

Considering the terms of the Universal Declaration of Human Rights adopted by the United Nations General Assembly on 10 December 1948, and in particular Article 27.1 there of which provides that everyone has the right freely to participate in the cultural life of the community, and to share in scientific advancement and its benefits,

Recognizing that:

- (a) scientific discoveries and related technological developments and applications open up vast prospects for progress made possible in particular by the optimum utilization of science and scientific methods for the benefit of mankind and for the preservation of peace and the reduction of international tensions but may, at the same time, entail certain dangers which constitute a threat, especially in cases where the results of scientific research are used against mankind's vital interests in order to prepare wars involving destruction on a massive scale or for purposes of the exploitation of one nation by another, and in any event give rise to complex ethical and legal problems;
- (b) to face this challenge, Member States should develop or devise machinery for the formulation and execution of adequate science and technology policies, that is to say, policies designed to avoid the possible dangers and fully realize and exploit the positive prospects inherent in such discoveries, technological developments and applications,

Recognizing also:

- (a) that a cadre of talented and trained personnel is the cornerstone of an indigenous research and experimental development capability and indispensable for the utilization and exploitation of research carried out elsewhere;
- (b) that open communication of the results, hypotheses and opinions—as suggested by the phrase 'academic freedom'—lies at the very heart of the scientific process, and provides the strongest guarantee of accuracy and objectivity of scientific results;
- (c) the necessity of adequate support and essential equipment for performance of research and experimental development,

Observing that, in all parts of the world, this aspect of policy-making is coming to assume increasing importance for the Member States; having in mind the intergovernmental initiatives set out in the annex to this recommendation, demonstrating recognition by Member States of the growing value of science and technology for tackling various world problems on a broad international basis, thereby strengthening co-operation among nations as well as promoting the development of individual nations; and confident that these trends predispose Member States to the taking of concrete action for the introduction and pursuit of adequate science and technology policies,

Persuaded that such governmental action can considerably assist in the creation of those conditions which encourage and assist indigenous capability to perform research and experimental development in an enhanced spirit of responsibility towards man and his environment,

Believing that one of the foremost of these conditions must be to ensure a fair status for those who actually perform research and experimental development in science and technology, taking due account of the responsibilities inherent in and the rights necessary to the performance of that work,

- Considering* that scientific research activity is carried out in exceptional working conditions and demands a highly responsible attitude on the part of the scientific researchers towards that work, towards their country and towards the international ideals and objectives of the United Nations, and that workers in this profession accordingly need an appropriate status,
- Convinced* that the current climate of governmental, scientific and public opinion makes the moment opportune for the General Conference to formulate principles for the assistance of member governments desirous of ensuring fair status for the workers concerned,
- Recalling* that much valuable work in this respect has already been accomplished both in respect of workers generally and in respect of scientific researchers in particular, notably by the international instruments and other texts recalled in this Preamble, and in the annex to this recommendation,
- Conscious* that the phenomenon frequently known as the 'brain drain' of scientific researchers has in the past caused widespread anxiety, and that to certain Member States it continues to be a matter of considerable preoccupation; having present in mind, in this respect, the paramount needs of the developing countries; and desiring accordingly to give scientific researchers stronger reasons for serving in countries and areas which stand most in need of their services,
- Convinced* that similar questions arise in all countries with regard to the status of scientific researchers and that these questions call for the adoption of the common approaches and so far as practicable the application of the common standards and measures which it is the purpose of this recommendation to set out,
- However, taking fully into account*, in the adoption and application of this recommendation, the great diversity of the laws, regulations and customs which, in different countries, determine the pattern and organization of research work and experimental development in science and technology,
- Desiring* for these reasons to complement the standards and recommendations set out in the laws and decrees of every country and sanctioned by its customs and those contained in the international instruments and other documents referred to in this Preamble and in the annex to this recommendation, by provisions relating to questions of central concern to scientific researchers,
- Having* before it, as item 26 of the agenda of the session, proposals concerning the status of scientific researchers,
- Having decided*, at its seventeenth session, that these proposals should take the form of a recommendation to Member States,
- Adopts* this recommendation this twentieth day of November 1974.
- The General Conference* recommends that Member States should apply the following provisions by taking whatever legislative or other steps may be required to apply within their respective territories the principles and norms set forth on this recommendation.
- The General Conference* recommends that Member States should bring this recommendation to the attention of the authorities, institutions and enterprises responsible for the conduct of research and experimental development and the application of its results, and of the various organizations representing or promoting the interests of scientific researchers in association, and other interested parties.
- The General Conference* recommends that Member States should report to it, on dates and in a manner to be determined by it, on the action they have taken to give effect to this recommendation.

I. Scope of application

1. For the purposes of this recommendation:

- (a) (i) The word 'science' signifies the enterprise whereby mankind, acting individually or in small or large groups, makes an organized attempt, by means of the objective study of observed phenomena, to discover and master the chain of causalities; brings together in a co-ordinated form the resultant subsystems of knowledge by means of systematic reflection and conceptualization, often largely expressed in the symbols of mathematics; and thereby furnishes itself with the opportunity of using, to its own advantage, understanding of the processes and phenomena occurring in nature and society;
- (ii) The expression 'the sciences' signifies a complex of fact and hypothesis, in which the

theoretical element is normally capable of being validated, and to that extent includes the sciences concerned with social facts and phenomena;

- (b) The word 'technology' signifies such knowledge as relates directly to the production or improvement of goods or services;
 - (c) (i) The expression 'scientific research' signifies those processes of study, experiment, conceptualization and theory-testing involved in the generation of scientific knowledge, as described in paragraphs 1(a)(i) and 1(a)(ii) above;
 - (ii) The expression 'experimental development' signifies the processes of adaptation, testing and refinement which lead to the point of practical applicability;
 - (d) (i) The expression 'scientific researchers' signifies those persons responsible for investigating a specific domain in science or technology;
 - (ii) On the basis of the provisions of this recommendation, each Member State may determine the criteria for inclusion in the category of persons recognized as scientific researchers (such as possession of diplomas, degrees, academic titles or functions), as well as the exceptions to be allowed for;
 - (e) The word 'status' as used in relation to scientific researchers signifies the standing or regard accorded them, as evidenced, first, by the level of appreciation both of the duties and responsibilities inherent in their function and of their competence in performing them, and, secondly, by the rights, working conditions, material assistance and moral support which they enjoy for the accomplishment of their task.
2. This recommendation applies to all scientific researchers, irrespective of:
 - (a) the legal status of their employer, or the type of organization or establishment in which they work;
 - (b) their scientific or technological fields of specialization;
 - (c) the motivation underlying the scientific research and experimental development in which they engage;
 - (d) the kind of application to which that scientific research and experimental development relates most immediately.
 3. In the case of scientific researchers performing scientific research and experimental development on a part-time basis, this recommendation applies to them only at such times and in such contexts as they are engaged upon the activity of scientific research and experimental development.

II. Scientific researchers in the context of national policy-making

4. Each Member State should strive to use scientific and technological knowledge for the enhancement of the cultural and material well-being of its citizens, and to further the United Nations ideals and objectives. To attain this objective, each Member State should equip itself with the personnel, institutions and mechanisms necessary for developing and putting into practice national science and technology policies aimed at directing scientific research and experimental development efforts to the achievement of national goals while according a sufficient place to science *per se*. By the policies they adopt in respect of science and technology, by the way in which they use science and technology in policy-making generally, and by their treatment of scientific researchers in particular, Member States should demonstrate that science and technology are not activities to be carried on in isolation but part of the nations' integrated effort to set up a society that will be more humane and really just.
5. At all appropriate stages of their national planning generally, and of their planning in science and technology specifically, Member States should:
 - (a) treat public funding of scientific research and experimental development as a form of public investment the returns on which are, for the most part, necessarily long term;
 - (b) take all appropriate measures to ensure that the justification for, and indeed the indispensability of such expenditure is held constantly before public opinion.

6. Member States should make every effort to translate into terms of international policies and practices, their awareness of the need to apply science and technology in a great variety of specific fields of wider than national concern: namely, such vast and complex problems as the preservation of international peace and the elimination of want and other problems which can only be effectively tackled on an international basis, such as pollution monitoring and control, weather forecasting and earthquake prediction.
7. Member States should cultivate opportunities for scientific researchers to participate in the outlining of national scientific research and experimental development policy. In particular, each Member State should ensure that these processes are supported by appropriate institutional mechanisms enjoying adequate advice and assistance from scientific researchers and their professional organizations.
8. Each Member State should institute procedures adapted to its needs for ensuring that, in the performance of publicly supported scientific research and experimental development, scientific researchers respect public accountability while at the same time enjoying the degree of autonomy appropriate to their task and to the advancement of science and technology. It should be fully taken into account that creative activities of scientific researchers should be promoted in the national science policy on the basis of utmost respect for the autonomy and freedom of research necessary to scientific progress.
9. With the above ends in view, and with respect for the principle of freedom of movement of scientific researchers, Member States should be concerned to create that general climate, and to provide those specific measures for the moral and material support and encouragement of scientific researchers, as will:
 - (a) ensure that young people of high calibre find sufficient attraction in the vocation, and sufficient confidence in scientific research and experimental development as a career offering reasonable prospects and a fair degree of security, to maintain a constantly adequate regeneration of the nation's scientific and technological personnel;
 - (b) facilitate the emergence and stimulate the appropriate growth, among its own citizens, of a body of scientific researchers regarding themselves and regarded by their colleagues throughout the world as worthy members of the international scientific and technological community;
 - (c) encourage a situation in which the majority of scientific researchers or young people who aspire to become scientific researchers are provided with the necessary incentives to work in the service of their country and to return there if they seek some of their education, training or experience abroad.

III. The initial education and training of scientific researchers

10. Member States should have regard for the fact that effective scientific research calls for scientific researchers of integrity and maturity, combining high moral and intellectual qualities.
11. Among the measures which Member States should take to assist the emergence of scientific researchers of this high calibre are:
 - (a) ensuring that, without discrimination on the basis of race, colour, sex, language, religion, political or other opinion, national or social origin, economic condition or birth, all citizens enjoy equal opportunities for the initial education and training needed to qualify for scientific research work, as well as ensuring that all citizens who succeed in so qualifying enjoy equal access to available employment in scientific research;
 - (b) encouragement of the spirit of community service as an important element in such education and training for scientific workers.
12. So far as is compatible with the necessary and proper independence of educators, Member States should lend their support to all educational initiatives designed to foster that spirit, such as:
 - (a) the incorporation or development, in the curricula and courses concerning the natural sciences and technology, of elements of social and environmental sciences;

- (b) the development and use of educational techniques for awakening and stimulating such personal qualities and habits of mind as:
 - (i) disinterestedness and intellectual integrity;
 - (ii) the ability to review a problem or situation in perspective and in proportion, with all its human implications;
 - (iii) skill in isolating the civic and ethical implications, in issues involving the search for new knowledge and which may at first sight seem to be of a technical nature only;
 - (iv) vigilance as to the probable and possible social and ecological consequences of scientific research and experimental development activities;
 - (v) willingness to communicate with others not only in scientific and technological circles but also outside those circles, which implies willingness to work in a team and in a multi-occupational context.

IV. The vocation of the scientific researcher

13. Member States should bear in mind that the scientific researchers' sense of vocation can be powerfully reinforced if he is encouraged to think of his work in terms of service both to his fellow countrymen and to his fellow human beings in general. Member States should seek, in their treatment of and attitude towards scientific researchers, to express encouragement for scientific research and experimental development performed in this broad spirit of community service.

The civic and ethical aspect of scientific research

14. Member States should seek to encourage conditions in which scientific researchers, with the support of the public authorities, have the responsibility and the right:
- (a) to work in a spirit of intellectual freedom to pursue, expound and defend the scientific truth as they see it;
 - (b) to contribute to the definition of the aims and objectives of the programmes in which they are engaged and to the determination of the methods to be adopted which should be humanely, socially and ecologically responsible;
 - (c) to express themselves freely on the human, social or ecological value of certain projects and in the last resort withdraw from those projects if their conscience so dictates;
 - (d) to contribute positively and constructively to the fabric of science, culture and education in their own country, as well as to the achievement of national goals, the enhancement of their fellow citizens' well-being, and the furtherance of the international ideals and objectives of the United Nations;
- it being understood that Member States, when acting as employers of scientific researchers, should specify as explicitly and narrowly as possible the cases in which they deem it necessary to depart from the principles set out in paragraphs (a) to (d) above.
15. Member States should take all appropriate steps to urge all other employers of scientific researchers to follow the recommendations contained in paragraph 14.

The international aspect of scientific research

16. Member States should recognize that scientific researchers encounter, with increasing frequency, situations in which the scientific research and experimental development on which they are engaged has an international dimension; and should endeavour to assist scientific researchers to exploit such situations in the furtherance of international peace, co-operation and understanding, and the common welfare of mankind.
17. Member States should in particular provide all possible support to the initiatives of scientific researchers undertaken in search of improved understanding of factors involved in the survival and well-being of mankind as a whole.
18. Each Member State should enlist the knowledge, industry and idealism of those of its citizens who are scientific researchers, especially of the younger generation, in the task of furnishing

as generous a contribution as its resources can permit to the world's scientific and technological research effort. Member States should welcome all the advice and assistance scientific researchers can provide, in socio-economic development efforts that will contribute to the consolidation of an authentic culture and of national sovereignty.

19. In order that the full potentialities of scientific and technological knowledge be promptly geared to the benefit of all peoples, Member States should urge scientific researchers to keep in mind the principles set out in paragraphs 16, 17 and 18.

V. Conditions for success on the part of scientific researchers

20. Member States should:

- (a) bear in mind that the public interest, as well as that of scientific researchers, requires moral support and material assistance conducive to successful performance in scientific research and experimental development by scientific researchers;
- (b) recognize that in this respect they have, as employers of scientific researchers, a leading responsibility and should attempt to set an example to other employers of such researchers;
- (c) urge all other employers of scientific researchers to pay close attention to the provision of satisfactory working conditions for scientific researchers, notably in respect of all the provisions of the present section;
- (d) ensure that scientific researchers enjoy conditions of work and pay commensurate with their status and performance without discrimination on the basis of sex, language, age, religion or national origin.

Adequate career development prospects and facilities

21. Member States should draw up, preferably within the framework of a comprehensive national manpower policy, policies in respect of employment which adequately cover the needs of scientific researchers, in particular by:

- (a) providing scientific researchers in their direct employment with adequate career development prospects and facilities though not necessarily exclusively in the fields of scientific research and experimental development: and encouraging non-governmental employers to do likewise;
- (b) making every effort to plan scientific research and experimental development in such a way that the scientific researchers concerned are not subjected, merely by the nature of their work, to avoidable hardship;
- (c) considering the provision of the necessary funds for facilities for readaptation and redeployment in respect of the scientific researchers in their permanent employ, as an integral part of scientific research and experimental development planning, especially, but not exclusively, in the case of programmes or projects designed as limited duration activities; and where these facilities are not possible, by providing appropriate compensatory arrangements;
- (d) offering challenging opportunities for young scientific researchers to do significant scientific research and experimental development, in accordance with their abilities.

Permanent self re-education

22. Member States should seek to encourage that:

- (a) like other categories of workers facing similar problems, scientific researchers enjoy opportunities for keeping themselves up to date in their own and in related subjects, by attendance at conferences, by free access to libraries and other sources of information, and by participation in educational or vocational courses; and where necessary, scientific researchers should have the opportunity to undergo further scientific training with a view to transferring to another branch of scientific activity;
- (b) appropriate facilities are provided for this purpose.

Mobility in general and the civil service in particular

23. Member States should take measures to encourage and facilitate, as part of a comprehensive national policy for highly qualified manpower, the interchange or mobility of scientific researchers as between scientific research and experimental development service in the government and in the higher education and productive enterprise contexts.
24. Member States should also bear in mind that the machinery of government at all levels can benefit from the special skills and insights provided by scientific researchers. All Member States could therefore profitably benefit from a careful comparative examination of the experience gained in those Member States which have introduced salary scales and other conditions of employment specially designed for scientific researchers, with a view to determining to what extent such schemes would help meet their own national needs. Matters which appear to require particular attention in this respect are:
 - (a) optimum utilization of scientific researchers within the framework of a comprehensive national policy for highly qualified manpower;
 - (b) the desirability of providing procedures with all the necessary guarantees allowing for the periodic review of the material conditions of scientific researchers to ensure that they remain equitably comparable with those of other workers having equivalent experience and qualifications and in keeping with the country's standard of living;
 - (c) the possibility of providing adequate career development prospects in public research bodies; as well as the need to give scientifically or technologically qualified researchers the option of transferring from scientific research and experimental development positions to administrative positions.
25. Member States should furthermore turn to advantage the fact that science and technology can be stimulated by close contact with other spheres of national activity, and vice versa. Member States should accordingly take care not to discourage scientific researchers whose predilections and talents, initially cultivated in the scientific research and experimental development context proper, lead them to progress into cognate activities. Member States should on the contrary be vigilant to encourage those scientific researchers, whose original scientific research and experimental development training and subsequently acquired experience reveal potentialities lying in such fields as management of scientific research and experimental development or the broader field of science and technology policies as a whole, to develop to the full their talents in these directions.

Participation in international scientific and technological gatherings

26. Member States should actively promote the interplay of ideas and information among scientific researchers throughout the world, which is vital to the healthy development of science and technology; and to this end should take all measures necessary to ensure that scientific researchers are enabled, throughout their careers, to participate in international scientific and technological gatherings and to travel abroad.
27. Member States should furthermore see to it that all governmental or quasi-governmental organizations in which or under whose authority scientific research and experimental development are performed, regularly devote a portion of their budget to financing the participation at such international scientific and technological gatherings, of scientific researchers in their employ.

Access by scientific researchers to positions of greater responsibility with corresponding rewards

28. Member States should encourage in practice that decisions as to access by scientific researchers in their employ to positions of greater responsibility and correspondingly higher rewards, are formulated essentially on the basis of fair and realistic appraisal of the capacities of the persons concerned, as evidenced by their current or recent performances, as well as on the basis of formal or academic evidence of knowledge acquired or skills demonstrated by them.

Protection of health; social security

29. (a) Member States should accept that, as employers of scientific researchers, the onus is on them—in accordance with national regulations, and the international instruments concerned with the protection of workers in general from hostile or dangerous environments—to guarantee so far as is reasonably possible the health and safety of the scientific researchers in their employ, as of all other persons likely to be affected by the scientific research and experimental development in question. They should accordingly ensure that the managements of scientific establishments enforce appropriate safety standards; train all those in their employ in the necessary safety procedures; monitor and safeguard the health of all persons at risk; take due note of warnings of new (or possible new) hazards brought to their attention, in particular by the scientific researchers themselves, and act accordingly; ensure that the working day and rest periods are of reasonable length, the latter to include annual leave on full pay;
- (b) Member States should take all appropriate steps to urge like practices on all other employers of scientific researchers.
30. Member States should ensure that provision is made for scientific researchers to enjoy (in common with all other workers) adequate and equitable social security arrangements appropriate to their age, sex, family situation, state of health and to the nature of the work they perform.

*Promotion, appraisal, expression and recognition of creativity**Promotion*

31. Member States should be actively concerned to stimulate creative performance in the field of science and technology by all scientific researchers.

Appraisal

32. Member States should, as regards scientific researchers in their employ:
- (a) take due account, in all procedures for appraisal of the creativity of scientific researchers, of the difficulty inherent in measuring a personal capacity which seldom manifests itself in a constant and unfluctuating form;
- (b) enable, and as appropriate encourage scientific researchers in whom it appears this capacity might be profitably stimulated:
- (i) either to turn to a new field of science or technology;
- (ii) or else to progress from scientific research and experimental development to other occupations in which the experience they have acquired and the other personal qualities of which they have given proof can be put to better use in a new context.
33. Member States should urge like practices upon other employers of scientific researchers.
34. As elements pertinent to appraisal of creativity, Member States should seek to ensure that scientific researchers may:
- (a) receive without hindrance the questions, criticisms and suggestions addressed to them by their colleagues throughout the world, as well as the intellectual stimulus afforded by such communications and the exchanges to which they give rise;
- (b) enjoy in tranquillity international acclaim warranted by their scientific merit.

Expression by publication

35. Member States should encourage and facilitate publication of the results obtained by scientific researchers, with a view to assisting them to acquire the reputation which they merit as well as with a view to promoting the advancement of science and technology, education and culture generally.
36. To this end, Member States should ensure that the scientific and technological writings of scientific researchers enjoy appropriate legal protection, and in particular the protection afforded by copyright law.
37. Member States should, in consultation with scientific researchers' organizations and as a matter of standard practice, encourage the employers of scientific researchers, and themselves as employers seek:

- (a) to regard it as the norm that scientific researchers be at liberty and encouraged to publish the results of their work;
- (b) to minimize the restrictions placed upon scientific researchers' right to publish their findings, consistent with public interest and the right of their employers and fellow workers;
- (c) to express as clearly as possible in writing in the terms and conditions of their employment the circumstances in which such restrictions are likely to apply;
- (d) similarly, to make clear the procedures by which scientific researchers can ascertain whether the restrictions mentioned in this paragraph apply in a particular case and by which he can appeal.

Recognition

38. Member States should demonstrate that they attach high importance to the scientific researcher's receiving appropriate moral support and material compensation for the creative effort which is shown in his work.
39. Accordingly, Member States should:
- (a) bear in mind that:
 - (i) the degree to which scientific researchers receive credit for and acknowledgement of their proven creativity, may affect their level of perceived job satisfaction;
 - (ii) job satisfaction is likely to affect performance in scientific research generally, and may affect specifically the creative element in that performance;
 - (b) adopt, and urge the adoption of, appropriate treatment of scientific researchers with respect to their proven creative effort.
40. Similarly, Member States should adopt, and urge the adoption of, the following standard practices:
- (a) written provisions to be included in the terms and conditions of employment of scientific researchers, stating clearly what rights (if any) belong to them (and, where appropriate, other interested parties) in respect of any discovery, invention, or improvement in technical know-how which may arise in the course of the scientific research and experimental development which those researchers undertake;
 - (b) the attention of scientific researchers to be always drawn by the employer to such written provisions before the scientific researchers enter employment.

Reasonable flexibility in the interpretation and application of texts setting out the terms and conditions of employment of scientific researchers

41. Member States should seek to ensure that the performance of scientific research and experimental development be not reduced to pure routine. They should therefore see to it that all texts setting out terms of employment for, or governing the conditions of work of scientific researchers, be framed and interpreted with all the desirable flexibility to meet the requirements of science and technology. This flexibility should not however be invoked in order to impose on scientific researchers conditions that are inferior to those enjoyed by other workers of equivalent qualifications and responsibility.

The advancement of their various interests by scientific researchers in association

42. Member States should recognize it as wholly legitimate, and indeed desirable, that scientific researchers should associate to protect and promote their individual and collective interests, in bodies such as trade unions, professional associations and learned societies, in accordance with the rights of workers in general and inspired by the principles set out in the international instruments listed in the annex to this recommendation. In all cases where it is necessary to protect the rights of scientific researchers, these organizations should have the right to support the justified claims of such researchers.

VI. Utilization and exploitation of the present recommendation

43. Member States should strive to extend and complement their own action in respect of the status of scientific researchers, by co-operating with all national and international organizations whose activities fall within the scope and objectives of this recommendation, in particular

National Commissions for Unesco; international organizations; organizations representing science and technology educators; employers generally; learned societies, professional associations and trade unions of scientific researchers; associations of science writers; youth organizations.

44. Member States should support the work of the bodies mentioned above by the most appropriate means.
45. Member States should enlist the vigilant and active co-operation of all organizations representing scientific researchers, in ensuring that the latter may, in a spirit of community service, effectively assume the responsibilities, enjoy the rights and obtain the recognition of the status described in this recommendation.

VII. Final provision

46. Where scientific researchers enjoy a status which is, in certain respects, more favourable than that provided for in this recommendation, its terms should not be invoked to diminish the status already acquired.

Annex. International instruments and other texts concerning workers in general or scientific researchers in particular

A. International conventions

Adopted by the International Conference of the International Labour Organisation: the Freedom of Association and Protection of the Right to Organize Convention, 1948; the Right to Organize and Collective Bargaining Convention, 1949; the Equal Remuneration Convention, 1951; the Social Security (Minimum Standards) Convention, 1952; the Discrimination (Employment and Occupation) Convention, 1958; the Radiation Protection Convention, 1960; the Employment Injury Benefits Convention, 1964; the Invalidity, Old-Age and Survivors' Benefits Convention, 1967; the Medical Care and Sickness Benefits Convention, 1969; the Benzene Convention, 1971.

B. Recommendations

Adopted by the International Conference of the International Labour Organisation: the Collective Agreements Recommendation, 1951; the Voluntary Conciliation and Arbitration Recommendation, 1951; the Radiation Protection Recommendation, 1960; the Consultation (Industrial and National Levels) Recommendation, 1960; the Employment Injury Benefits Recommendation, 1964; the Invalidity, Old-Age and Survivors' Benefits Recommendation, 1967; the Communication within the Undertaking Recommendation, 1967; the Examination of Grievances Recommendation, 1967; the Medical Care and Sickness Benefits Recommendation, 1969; the Workers' Representatives Recommendation, 1971; the Benzene Recommendation, 1971.

C. Other intergovernmental initiatives

Resolution 1826 adopted by the United Nations Economic and Social Council on 10 August 1973

at its fifty-fifth session, on the 'Role of modern science and technology in the development of nations and the need to strengthen economic, technical and scientific co-operation among States'; the World Plan of Action for the Application of Science and Technology to Development, drawn up under the auspices of the same Council; the Declaration of the United Nations Conference on the Human Environment, proclaimed at Stockholm in June 1972.

D. Prepared by the World Intellectual Property Organization (WIPO)

Model Law for Developing Countries on Inventions, 1965.

E. Prepared by the International Council of Scientific Unions (ICSU)

Texts entitled: I. Statement on the fundamental character of science; II. Charter for scientists; III. On the dangers arising from unbalanced applications of the powers given by science; prepared by ICSU's Committee on Science and its Social Relations (CSSR) and transmitted to all members of ICSU at the request of ICSU's General Assembly (5th session, 1949). Resolution on free circulation of scientists adopted by the 14th session of the ICSU General Assembly, Helsinki, 16-21 September 1972.

F. Prepared by the World Federation of Scientific Workers (WFSW)

Charter for scientific workers adopted by the WFSW General Assembly, February 1948. Declaration on the rights of scientific workers adopted by the WFSW General Assembly, April 1969.