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Hiroshima Anniversary Statement by FAS

On August 6, 1945, the world learned of nuclear power with the bombing of Hiroshima. Today, twenty-one years later, we may indeed say that the nuclear era has come of age.

The Hiroshima bomb was the equivalent of 20,000 tons of high explosive—the load carried by a thousand World War II aircraft. Today there are hydrogen bombs which are yet again a thousand times more powerful. The means of delivery have gone through similar revolutions: from the propeller aircraft to the jet to the intercontinental missile. The warning of surprise attack has shrunk from days to hours to minutes. Nuclear weapons stockpiles have grown from a very few to tens of thousands ranging from low yield tactical and air defense warheads to multi-megaton weapons in bombers and missiles. The number of nuclear powers has increased from one to two to five.

In 1945 nuclear plants were operated to produce weapons material. The ensuing twenty-one years have seen the rapid exploitation of nuclear reactors for research and for production of electricity. Nuclear power has become competitive with that derived from fossil fuels and big reactors are rising throughout the world. Power reactors produce plutonium, a weapons material. The technology is available to all. Several more nations now are sorely tempted to join the nuclear club. The development of nuclear energy has brought many benefits to mankind, but it has also brought increasing danger.

Many scientists who worked on the bomb were afraid that use of the new force to destroy Japanese cities would hamper the chances for international control of nuclear energy and initiate a nuclear arms race. Together with other scientists they formed the Federation of American Scientists soon after the war to work for international control of nuclear energy. The Federation is still calling for an end to the arms race, still warning of the terrible dangers that face the world. Nuclear annihilation is the gravest threat facing mankind. Disarmament coupled with peaceful means for resolving international conflicts is the road to true security.

We urge our fellow citizens to bear in mind the dangers of the nuclear arms race. We urge our government to take every possible step to secure a non-proliferation treaty before the opportunity is forever lost.

JAPAN REPORTED PONDERING ATOMIC WEAPONS

An abridged version of an article in the N.Y. Times of 19 August 1966, by Harrison E. Salisbury, appears below.

. . . Something has changed in Japan. Whether she speaks of it publicly or only privately in the quiet of the teahouse, Japan is moving toward re-armament and, almost certainly, toward possession of nuclear weapons. As in India, Japan's politicians do not yet talk frankly on nuclear matters. But

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U. of Pennsylvania Drops CB Warfare Research

The University of Pennsylvania announced on September 4 that it was dropping classified research for the government. Faculty criticism arose last fall and winter over the involvement of the university in research into chemical and biological warefare. Gaylord P. Harnwell, president of the university, said that it had adopted a policy under which the results of all research must be freely publishable. The university senate had demanded such a policy in November and again in April. The Institute of Cooperative Research, which coordinated research done under contract to the Department of Defense, is being abolished.

The critics of university policy were encouraged by this announcement. Gabriel Kolko, an associate professor of history, has spoken against the CB research in the past and was planning another meeting to discuss the problem later in September. He said the president's statement had the highest significance. "If implemented, it would mean that a major American university has disengaged itself from the traditional public university-Defense Department relationship. We think it will make many universities re-examine their relationships with the Defense Department and see if they are not compromising themselves. This could be an important precedent."

Professor Kolko felt that the announcement, if carried out, would be an important reaffirmation of basic academic principles, even at the cost of alienating the Department of Defense. It was not clear, however, how the implementation of the decision would proceed. Two months ago the university accepted two large Defense Department contracts for classified research on weapons systems, including guided missiles. Also involved are chemical-biological warfare projects subcontracted by the University of Pennsylvania institute to other campuses. The Cornell Aeronautics Laboratory is said to be among these. The university may have to fulfill its contracts or have them fulfilled elsewhere. Government contracts with the university that do not involve classified information will not be affected. *(N.Y. Times, 5 September 1966)*

POLLUTION STUDY REVEALS LACK OF ANSWERS

A report to the Committee on Science and Astronautics of the House of Representatives by the Research Management Advisory Panel has pointed out the inadequacy of current technology for solving problems of land, air, and water pollution. "It is often stated that the necessary technology for successful abatement of pollution is at hand; that it simply has not been applied, due to lack of money or because of institutional barriers," the report states. "Close examination shows that this common belief (1) is not true in many instances (no present technology for gross treatment of mine drainage or nitrogen oxide emissions); (2) is true only at very high cost in other situations (sulfur dioxide removal from stack gases); and (3) is true only for partial alleviation in a third set of pollutants (automo-

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A STATEMENT BY JAPANESE PHYSICISTS ON THE WAR IN VIETNAM

The war in Vietnam is being escalated. Despite powerful opposition from world public opinion, the United States is continuing its bombing of North Vietnam, and is turning South Vietnam into a devastated land through the use of Napalm-bombs and poisonous gas. The war is thus expanding in scope and degree, making us feel keenly the danger that American-Chinese hostilities will break out.

The Government of the U.S.A. claims that aggression from the North is the cause of the war and that it has deployed its troops to Vietnam at the request of the South Vietnamese Government. However, despite all these assertions, we cannot but conclude that the action of the United States in Vietnam constitutes an unjustified interference in the civil war of another country and an outright violation of the 1954 Geneva Agreement.

The Geneva Agreement of 1954, which drew a line of demarcation along the 17th parallel, at the same time clearly stated that it was but a temporary demarcation line and never was to be a political or territorial frontier. The Agreement guarantees the unity and sovereignty of Vietnam and prohibits military interference by foreign countries. The South Vietnamese Government, backed militarily by the U.S. Government, sabotaged united, free elections in Vietnam and cruelly repressed the people who advocated unification of their country. It was to resist this repression and to achieve one Vietnam that the South Vietnam National-Liberation-Front (the so-called Vietcong) was organized. It is reported that NLF now controls three quarters of South Vietnam's territory.

It is to be deplored that, due to differences of opinion among the Vietnamese, a civil war has thus occurred in South Vietnam. However, the civil war is by all means the international affairs of the Vietnamese people. On no grounds is it tolerable that a foreign country arbitrarily intervenes in Vietnamese affairs, obstructs the unification of the nation, and destroys the life and culture of the Vietnamese people.

We are convinced that the Vietnam question should be settled by, and only by, the Vietnamese people themselves, including the NLF. We insist that to enable the Vietnamese people to settle their affairs, it is vitally essential that the United States should stop its belligerent action, including aerial attacks on North Vietnam, and withdraw all of its troops from Vietnam.

The Japanese Government, on its part, is playing the role of an accomplice in the present war, by offering, under the U.S.-Japan Security Treaty, Japanese territory as operational bases for U.S. troops. Such a policy runs counter to the will of the overwhelming majority of the peace-loving Japanese people. We demand, on the above mentioned grounds, that the Japanese Government immediately discards its present policy with respect to the Vietnam war.

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JAPAN REPORTED PONDERING NUCLEAR WEAPONS

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confidentially they concede that China's nuclear bomb has changed the whole question.

"How can we ignore it?" a Japanese asks. "The world is changing. China has changed. We must, too."

"Don't think we haven't counted the cost," says an advisor to the Japanese government. "We know that it would mean an unlimited world nuclear arms race. But what is the alternative? If the Geneva disarmament talks fail, if India, for instance, should start to build a bomb, we could not stay out."

An American diplomat notes that the Japanese did not react like this when the Soviet Union first produced nuclear weapons in 1949. "China frightens them," he said. "Russia didn't. They felt that the umbrella of United States power protected them. But there is something different in their reaction to China. Now they see China well on the way to nuclear armament. This has shaken them."

. . . It is not only fear that motivates Japan. They have caught up in industry, in technology, in standard of living. And some are beginning to add up what this means in terms of world power. What it means is that while Japan has one-seventh of China's population, she has an industrial production substantially larger than China's and growing at a rate that by 1970 probably will make her the third industrial country in the world, behind the United States and the Soviet Union. She already holds the third position in the key categories of steel and electric power capacity.

But without military power, and especially without nuclear military power, can Japan play the role that her position would justify, and can she maintain the position without nuclear weapons?

There are no technological barriers to Japanese construction of nuclear weapons. Japan is far advanced in peaceful nuclear technology for ship propulsion and power generation. Unlike other non-nuclear powers she is also far ahead in the development of delivery systems through her space research and satellite program.

The Japanese believe that they have more sophistication in the space and missile field than any power except the United States and the Soviet Union. If the decision is made to produce nuclear weapons, a ready-made system for their delivery will be at hand.

RESEARCH ON HUMAN BEINGS STUDIED

The Public Health Service, expanding its interest in methods of research, has awarded a grant of approximately $100,000 to the American Academy of Arts and Sciences to support an inquiry into the moral and ethical basis for research involving human subjects. The study will involve a series of conference discussions among physicians, medical scientists, lawyers, sociologists and other professional groups whose talents are required by the subject matter. The conclusions of these discussions will be published in a special issue of *Daedalus*, the journal of the Academy.

At the same time, the Surgeon General issued a revision of earlier policy on the subject of human beings used in research under PHS grants. "Safeguarding the rights and welfare of human subjects involved in research support by PHS grants is the responsibility of the institution to which the grant is awarded. The institution must assure the Public Health Service that . . . it will provide group review and decision, maintain surveillance, and provide advice for investigators on safeguarding the rights and welfare of human subjects. The institution also has the responsibility to provide whatever professional attention or facilities may be required for the safety and well-being of human subjects. *(U.S. Department of Health, Education, and Welfare, 19 July 1966)*

OF INTEREST . . .

The October draft call of 46,200 men issued by the Defense Department is the highest since May of 1953, during the Korean War. *(N.Y. Times, 5 August 1966)*

A new Michigan law exempts water-pollution control facilities from state property taxes. A similar 1965 law exempted air-pollution control equipment. *(Wall Street Journal, 24 August 1966)*

American health officials are reported to have been urging port authorities in Saigon to take more stringent measures to keep plague from being spread by ship to other countries. American ships, however, have been found without rat guards on their hawsers at Saigon river front docks. Plague has spread into five new provinces this year in South Vietnam and has been on the increase since 1961. *(N.Y. Times, 20 August 1966)*

A group of scientists meeting at Vienna under the auspices of the International Atomic Energy Agency have concluded that miniature atomic batteries are now practical and can be used in shipping, meteorology, communications, medicine and other fields. The energy output of the batteries under discussion ranged from thousandths of a watt to 100 watts. *(N.Y. Times, 1 August 1966)*

The Court of Appeals for the District of Columbia threw out the contempt of Congress convictions of Dagmar Wilson and Donna Allen, of the Women's Strike for Peace, and Russell Nixon, a New York newspaper publisher. The convictions, which grew out of refusals to answer questions before the House Un-American Activities Committee, were overturned in a manner similar to five others that have been reversed since 1961. These cases which originated in the HUAC were overturned on procedural flaws. *(N.Y. Times, 3 August 1966)*

The Bureau of Mines of the Department of the Interior has acquired and began modifying an obsolete Air Force Atlas missile site in Washington State for mining research activities. This site represents an ideal test laboratory for future seismic test work, and will also be used for some research into the behavior of fine particles under simulated lunar environments for the National Aeronautics and Space Administration. *(Dept. of the Interior, 11 August 1966)*

The world's first internationally-owned nuclear fuel reprocessing plant was inaugurated in July by King Baudoin of the Belgians. Thirteen countries are participating in the project: Austria, Belgium, Denmark, France, Germany, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and Turkey. *(Organization for Economic Cooperation and Development, Paris, 28 June 1966)*

The National Science Foundation has acted to stop Project Mohole, aimed at drilling into the Earth's mantle, after Congressional action denied funds for support of the project in the Foundation's appropriation request. *(National Science Foundation, 25 August 1966)*

The United States is spending approximately 1½ times as much as Western Europe, and 3 times as much as the Soviet Union, on scientific research and development. With corrections for research worker's salaries, the U.S. spends only a little more than the Soviet Union on the other costs involved in research. The U.S. spends 3.1% of its Gross national product, and the Soviet Union between 2.5% and 3.0%. *(The OECD Observer, Paris)*

The Mouvement Contre l'Armament Atomique has issued a statement on the French and the Chinese nuclear tests which states that the M.C.A.A., "true to its objectives of struggle against all use of bombs, denounces the recent Chinese nuclear explosion. . . . These tests stir up the impatience of the American military ultras who can use these incidents at the time of the Vietnam conflict to press for escalation into Chinese territory. The M.C.A.A. deplores the fact that the forthcoming French tests [*ed: now accomplished*] in Polynesia prevent the French Government from protesting against the Chinese experiments. *(Peace Press, London, June 1966)*

Special "anti-pollution" gasoline formulas that may produce cleaner automobile exhause will be tested by a joint research program between the Department of the Interior and the American Petroleum Institute. The API will contribute $480,000 to the program, and the Department will furnish personnel and facilities. Particular interest has been aroused in producing new types of unleaded fuel in order to reduce the lead pollution released into the environment by gasoline exhausts. *(Department of the Interior, June 1966)*

Preliminary negotiations on a nuclear power plant were recently held in Athens between officials of the Ministry of Industry and representatives of the British Atomic Energy Commission. Greece is also making arrangements to become associated with Euratom, and hopes to be producing electricity from atomic power within five years. *(Royal Greek Embassy, June 1966)*

POLLUTION STUDY REVEALS LACK OF ANSWERS

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bile exhause or municipal sewage). In fact, the future pace of pollution abatement will depend more and more on new and improved technology as the artificial barriers to application are removed."

President Johnson has said, ". . . if pollution control is to cope with increasing volumes of waste from our growing industry and population, new knowledge and technology are required. It is a challenge to research organizations. . . ."

The report continued, "A review of the present status of water, air, and land pollution and proposals for abatement thereof makes reasonably clear that corrective legislation has quite well outrun both factual bases for action and smooth machinery for development and regulation."

Some examples of unsolved pollution problems are:

(1) . . . if carbon dioxide emitted into the atmosphere from the combustion of carbonaceous fuels is found to increase the temperature of earth with undesirable consequences, we have no way to stop it. Nuclear electric power generation would be an alternative. Conversely, aerosols or particles generated by large urban areas may not settle or be washed out of the air by rain. They could lower the earth's temperature by changing the albedo and the altitude at which heat is released in the atmosphere.

(2) The application of presently known technology has not been as rapid as possible due, in part, to a communications gap between researchers and the engineers in the field. Their performance of more research within engineering organizations might aid technology transfer.

(3) Lack of information on synergism, interrelationships, and secondary effects among pollutants has created caution in forging ahead with present abatement technology. For example, in the smog problem, would the elimination of hydrocarbons, which react with ozone and nitrogen oxides, leave the latter free for a more direct irritating effect?

(4) Some available technology does not meet cost-benefit criteria. The electric powered automobile is technically feasible but would cost far more than the internal combustion engine driven car as a personal transportation device.

(5) The facts on the physiological response of man to long-term, low-level exposure to pollutants are lacking, but are necessary for setting criteria and standards.

(6) Without more knowledge of an ecological baseline, and without the ability to predict the results of manmade changes in the environment, the systems analysis which is needed to guide long-range programs is severely hampered. The interaction of living species and the transfer of pollutants among environments add to the complexity of planning.

PROPOSAL FOR STRONGER IAEA

Sterling Cole, a former Director General of the International Atomic Energy Agency, has proposed a number of changes in the policies of the agency, to be considered at the Tenth General Conference which will open in Vienna in September. Suggested major concepts, obligations, and provisions for members were as follows:

1. Each Member renounces the use of nuclear weapons as an instrument of national policy except in retaliation for a nuclear attack mad upon it or upon another member.

2. No Member will hereafter construct a nuclear weapon production facility or, having a present nuclear production capability, reactivate an old one or otherwise increase its production.

3. No Member will transfer any nuclear weapon to, or share its control or use with, another Member, nation, or group of nations.

4. No Member will sell or transfer to another Member or nation any nuclear material or facility, except through the Agency.

5. All members will place under Agency safeguard supervision all existing and fuaure national and international or regional nuclear power reactors.

6. No nuclear test or explosion will be conducted by any Member except as it may be approved and supervised by the Agency.

7. Each Member able to do so agrees to give to the Agency from time to time substantial amounts of nuclear material and equipment, making immediate transfer of custody and ownership thereof.

8. Nuclear material given to the Agency shall be sold by it only to Members and at a reasonable price which shall be used to defray the costs of its administrative functions and technical assistance programs.

9. Agency benefits will be denied to any Member found in violation of its obligations and to any Member that has begun production of nuclear weapons or conducted nuclear weapons development since creation of the Agency.

10. Violations will provide basis for concerted action by the Agency independently or in concert with the United Nations.

11. Revised Statute to become effective when ratified by a majority of the present Agency Members, including the U.S. and the U.S.S.R.

12. Realistic basis for selection of Members of Board of Governors and restricting authority of the Board to policy matters. only.

13. Clarification and expansion of authority of Director General to make him, without question, the executive force in formulating and executing the Agency's activities.

In making these proposals, Cole remarked, "Only as nuclear material is without drawn from stockpile and placed under effective international control can there be genuine nuclear disarmament. Nuclear proliefration has been, and still is, the next greatest threat to civilization, second only to the population explosion. There is still time to deal with it effectively, but with each passing day the task becomes more difficult." *(Nuclear News, September 1966)*

NONPROLIFERATION UNDER DISCUSSION

The Johnson Administration is reported to be delaying any diplomatic initiatives to break the deadlock in disarmament negotiations, partly because of dissension in its ranks. In recent weeks, two compromise proposals, both designed to win the acceptance of the Soviet Union, were presented to President Johnson for consideration. One involved a compromise version of a treaty to halt the spread of nuclear weapons. The other was a proposal to ban underground nuclear tests exceeding a designated magnitude. The compromise nonproliferation treaty is viewed as the more significant measure for arms control, and it has caused greater controversy in the Administration.

The Defense Department, the Arms Control and Disarmament Agency, and the Joint Chiefs of Staff are reported to favor some acceptable compromise with the Soviet Union on nonproliferation. The resistance to compromise comes primarily from the State Department. Officials have been inclined to dismiss a compromise treaty as a "piece of paper" that would not work. Because of division among his advisors, Johnson may not initiate any action until the opening of the United Nations session.

Disarmament officials have seen some signs that the Soviet Union, like the United States, is searching for a compromise on a nonproliferation treaty. *(N.Y. Times, 1 August 1966)*

A STATEMENT BY JAPANESE PHYSICISTS ON THE WAR IN VIETNAM

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We, Japanese physicists, urge our friends in the United States to support this statement and to take appropriate action to change the Vietnam policy of the U.S. Government.
April, 1966

The signatures of 1,300 Japanese physicists were appended to this statement.

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