

# F. A. S. NEWSLETTER

Vol. 23, No. 6

June, 1970

----- to provide information and to stimulate discussion. Not to be attributed as official FAS policy unless specifically so indicated.

## CBW REPORT

Swift ratification of the 1925 Geneva Protocol on chemical and biological warfare was urged in a report released by the House Foreign Affairs Subcommittee on National Security Policy and Scientific Developments. The subcommittee held hearings on U.S. policies on CBW and their international effects late last year. After the hearings had opened, the President announced his intention to send the Protocol to the Senate for its approval.

Commending the President for his action, the report points out that five months have elapsed since the announcement, with no formal submission of the Protocol to the Senate. It suggests that if the Protocol is to be given adequate consideration during the current Congress, it should be sent by the White House at an early date. The subcommittee also urged speedy Senate approval of the Protocol and of a reservation which would, in effect, give Congressional endorsement to the President's unilateral and complete renunciation of biological warfare on behalf of the United States.

At the same time, the report forecast problems in obtaining Senate approval for the Protocol because of continued large-scale use of chemical agents in Vietnam, which some have seen as a violation of the Protocol. "Those problems are virtually certain to be central to Senate consideration of the Protocol, if it is submitted as expected with an interpretation that the treaty's prohibitions do not cover the use in war of tear gas or chemical herbicides," it said.

The report suggested that the U.S. treat the issue as an open question, not affecting chemical warfare activities in Vietnam, but be willing, following ratification of the Protocol, to meet with other parties to agree on a uniform interpretation or to submit the matter to an international judicial body.

Describing the use of tear gas in Vietnam, the Subcommittee noted that the situation is one in which practice has determined policy: "Despite the explanation given originally by the Secretary of State and other official spokesmen regarding the manner in which these agents were expected to be employed, the primary criterion of their use in combat has been their military effectiveness. If in any way they can assist a commander in carrying out his mission, they are used."

The report also endorsed the U.S. position on a CBW ban at the Geneva arms control talks, and urged that facilities and personnel once engaged in biological warfare research be turned to the solution of environmental problems now that the U.S. has renounced biological warfare.

*(News Release, Subcommittee on National Security Policy and Scientific Developments, U.S. House of Representatives.)*

## FAS VIEW ACKNOWLEDGED

*The following letter, dated 1 June 1970, was received by the General Counsel of FAS from the Science Advisor to the President.*

Dear Mr. Singer:

This is to acknowledge your letter to the President of May 20, 1970 bringing to his attention the statement of the Council of the Federation of American Scientists on chemi-

(Continued on Page 3)

## POSSIBLE REORGANIZATION OF AEC

A plan under consideration by the Nixon administration would reorganize the Atomic Energy Commission, break up some of its functions, and remake it into an organization dealing with many forms of energy. Spokesmen for the administration said the proposal would shift the commission's military programs to the Department of Defense, and many of its research activities to the National Science Foundation. The AEC would then be broadened into an over-all energy agency. One problem it would deal with is the electric power shortage, which threatens much of the East with power brownouts this summer.

The full dimensions of the reorganization plan, which is still under study, are not clear. Oil, gas, and coal are now the provinces of the Department of the Interior, while electric power regulation is under the jurisdiction of the Federal Power Commission.

The AEC reorganization, if proposed by the President, would be sure to touch off a major political battle in the Congress. The commission is one of the most influential Federal agencies, with strong support on Capitol Hill. The Presidential study comes at a time when the commission is under attack by environmentalists, the State of Minnesota, peace groups, and some of its own scientists. The proposal under study is believed to be a recommendation of the President's Advisory Council on Executive Organization, headed by Roy L. Ash, president of Litton Industries. President Nixon made it clear that the Ash Council would have a free hand to look into all areas of the executive branch of the government and to recommend restructuring regardless of tradition.

The Atomic Energy Commission was created in 1947 to provide civilian control over the nation's nuclear bomb production. Since then, it has produced weapons by the tens of thousands, and has become deeply involved in developing nuclear electric generating stations. Since Mr. Nixon became President, he has made two moves to reduce the AEC's scope of operation. He unsuccessfully urged that the gaseous diffusion plants at Oak Ridge, Tennessee, Portsmouth, Ohio, and Paducah, Kentucky, be sold to private industry. The three plants are used to separate fissionable uranium 235 from uranium 238 and were built by the Government at a cost of \$2.3 billion. The Congressional Joint Committee on Atomic Energy, which monitors the commission, has so far blocked the proposal.

In a second attempt, Mr. Nixon proposed that Congress shift the Division of Radiation Protection Standards from the AEC to the new Environmental Protection Agency, which is designed to bring together the handling of pollution and environmental problems (*see News Items*). The transfer would involve only 20 Federal employees and would answer some criticism of the commission's double rôle as promoter and policeman of atomic energy.

A similar proposal to dismantle the AEC was considered and rejected by President Kennedy in the early nineteen-sixties because of the political heat he feared it would generate.

Glenn T. Seaborg, chairman of the AEC since 1961, said in an interview that he had seen part of the Ash Commission's report but not the specific recommendations.

(Continued on Page 4)

**ANNOUNCEMENT**

THE AMERICAN SOCIETY FOR CYBERNETICS will hold its Fourth Annual International Symposium at the Sheraton-Park Hotel in Washington, D.C. on October 8-9, 1970. The theme for this year's symposium is "Cybernetics and the Management of Ecological Systems."

MAN'S POWER OVER HIS ENVIRONMENT has never been greater; what is now at stake is the rational management of that power, and it is here that cybernetics can make its greatest contribution to environmental management. In each of the meeting's featured sessions, speakers will explore how cybernetics can be used to advance understanding and rational control of man's biological, physical, social, political and technological environment. In addition to the customary workshops on mathematical foundations and computer technology, this year's featured sessions are:

- ECOLOGICAL CYBERNETICS
- BEHAVIORAL CYBERNETICS AND SOCIETAL INTERACTIONS
- CYBERNETICS AND PUBLIC POLICY
- ARTIFICIAL INTELLIGENCE AND ROBOTICS

THE PROGRAM COMMITTEE IS SOLICITING PAPERS on these four topics with emphasis on aspects of environmental involvement from biologists (especially ecologists and geneticists), industrial engineers, land-use planners, process control engineers, psychologists, sociologists, cybernetic theorists and neurologists. Abstracts and titles of papers should be submitted as soon as possible and in no event later than July 20, 1970. If a manuscript is submitted, it must be typewritten, double-spaced on plain white bond, 8½ x 11, in a form suitable for camera-ready reproduction. Papers and abstracts on all topics should be sent directly to the Chairman of the Program Committee, Dr. Roy Herrmann, Department of Management Science, Hall of Government-Room 103, The George Washington University, Washington, D.C. 20006.

FOR FURTHER INFORMATION concerning the conference and registration, please write Dr. Herrmann at the above address or call (201) 676-6072.

**FAS NEWSLETTER**

Published monthly except during July and August by the Federation of American Scientists, 203 "C" St., N.E., Washington, D. C., 20002. Tel. 546-3300(202). Subscription price: \$2.00 per year.

Chairman.....Herbert F. York  
 The FAS Newsletter is prepared in Washington.  
 Editor: Judith Eckerson.

The FAS, founded in 1946, is a national organization of scientists and engineers concerned with the impact of science on national and world affairs.

Sources of information (given in the articles in parentheses) are for further reference. Items reprinted directly from other publications are designated as such in an introductory paragraph.

**NEWS ITEMS**

The Nixon Administration has announced plans to create a new "super-agency" in the federal government to deal with the problems of air and water pollution. Tentatively named the Environmental Protection Administration, the agency will bring under one new authority water pollution control now delegated to the Interior Department, air pollution and solid waste management from Health, Education and Welfare, pesticide standards now administered by the Food and Drug Administration, pesticide control from the Agriculture Department and radiation regulation from the Atomic Energy Commission. Altogether, the agency will be responsible for programs that now have a combined budget of \$300 million. The administration also has plans to set up a second organization to cope with environmental problems and policies. It is to be called the Oceanographic and Atmospheric Administration, and it will be organized under the Department of Commerce. Incorporating eight separate federal agencies, it will command a budget of more than \$200 million. The largest agency to be incorporated under the Oceanographic and Atmospheric Administration will be the Environmental Sciences Services Administration, which is already part of the Commerce Department. The other seven include the Bureau of Commercial Fisheries, the Army Corps of Engineers Great Lake Survey function, the Coast Guard's buoy development project, and the Navy's National Oceanographic Center.

The Past Chairman of FAS, John O. Rasmussen, has written to several senators asking their positions on the McGovern-Hatfield and Cooper-Church amendments. It is intended that the replies be distributed to members of the Executive Council and members residing in the senators' states. Letters were sent to:

- Clinton Anderson (New Mexico)
- Quentin N. Burdick (North Dakota)
- Harry Flood Byrd Jr. (Virginia)
- Howard W. Cannon (Nevada)
- Marlow Cook (Kentucky)
- Norris Cotton (New Hampshire)
- Allen J. Ellender (Louisiana)
- Hiram L. Fong (Hawaii)
- Warren G. Magnuson (Washington)
- Thomas J. McIntyre (New Hampshire)
- Robert Packwood (Oregon)
- John O. Pastore (Rhode Island)
- Winston L. Prouty (Vermont)
- Jennings Randolph (West Virginia)
- William B. Saxbe (Ohio)
- Margaret Chase Smith (Maine)
- William B. Spong (Virginia)
- Jacob K. Javits (New York)

Canada has discarded a plan to use the Bay of Fundy as a power source. The use of tidal power, it was decided, would be too expensive compared to other available sources of power.

(Wall Street Journal, 23 March 1970.)

New evidence has been gathered that X-rays used to diagnose illnesses may cause a startling increase in the number of mentally retarded and deformed babies. In a study in Manitoba, it was found that X-raying a woman's abdomen at any time seems to make her eight times more

susceptible to giving birth to a mongoloid baby, and ten times more susceptible to giving birth to a child with defects of some type.

(*Washington Daily News, 13 April 1970.*)

Dr. Joshua Lederberg has urged Congress to establish a national task force on genetics research, appropriating \$10 million for the coming fiscal year in addition to money earmarked for other medical research. Dr. Lederberg testified before a House appropriations subcommittee that at least 25 per cent of all hospital beds and of all institutional places for the handicapped in the Union States are occupied by persons who suffer from disease that is genetic in origin. This takes into account only diseases known to be wholly genetic in origin, but there are in addition many diseases which may be hereditary to some extent. Among these he listed diabetes and schizophrenia. He said there is now reason to believe that the hereditary factors in all these diseases may be amenable to the application of genetic knowledge gained from research.

(*N.Y. Times, 11 June 1970.*)

The Agriculture Department has decided to review its longstanding regulations allowing beef processors to carve out "cancer eye" and similar tumors from cattle and sell the rest of the meat to consumers. The joint review by Agriculture Department scientists and the Surgeon General's office could lead to a change in a 60-year-old meat inspection policy that last year permitted 103,000 cattle carcasses to be sold on the market after tumorous parts were whittled out. Dr. Gilbert Wise, the department's deputy administrator for consumer protection, said, however, that there was no reason to believe anything was wrong with present policy. Dr. Wise said that the government had decided to go ahead with the review because of public apprehension.

(*N.Y. Times, 11 April 1970.*)

The defense ministers of eight members of the North Atlantic Treaty Organization met in Venice to discuss nuclear strategy in the event of conflict with the Soviet Union. The ministers, who make up the Nuclear Planning Group, represented the United States, Britain, West Germany, Italy, Norway, Canada, the Netherlands, and Turkey. The main issue before the group was what to do in the event a first strike by tactical nuclear weapons fails to halt a Soviet invasion. At its last two annual meetings, the group agreed on the use of tactical nuclear weapons in a first strike in the opening stages of a battle. Guidelines for the use of tactical nuclear weapons explore the various contingencies under which the arms could be used.

(*N.Y. Times, 9 June 1970.*)

An Earth satellite program has been called essential to help man husband the world's resources, keep peace with the environment, and perhaps even prevent starvation. A government report released by the National Aeronautics and Space Administration noted that the human population of the earth and the per capita demands on the planet's resources were soaring. "More accurate and frequent inventories of the Earth's resources must be taken than have been compiled in the past," it said. "Fortunately, this now can be done both more swiftly and more economically. The whole world's surface can be surveyed as often as necessary, and in a variety of ways, with cameras and other sensing devices on orbiting satellites." Experts believe satellites can be used to estimate crop yields, flood damage, health of forests, effects of forest fires, mineral and oil deposits and many of man's effects on the planet. Photographs used in the report to illustrate the potential of remote environmental sensing from space were taken on the Apollo 9 space flight in March 1969, and on several of the earlier Gemini missions.

(*N.Y. Times, 9 June 1970.*)

## CBW REPORT (and following related articles)

cal warfare and US ratification of the Geneva Protocol of 1925. The views expressed in this statement will be given the most careful attention as we consider questions concerning possible reservations or restrictions with respect to US accession to the Geneva Protocol.

The questions you raise concerning the use of riot control agents and herbicides in Vietnam are very difficult ones since they involve not only important long range factors such as the continued effectiveness of the Geneva Protocol, as you suggest, but also the possibility of increased US and South Vietnamese casualties in military operations in Vietnam. I wish to assure you that the President has great concern about both and that the factors mentioned in the FAS statement will be given careful attention as we formulate our detailed policy with respect to the ratification of the Geneva Protocol.

Sincerely,  
Lee A. DuBridge  
Science Adviser

## ARMY TRAINS FOREIGN OFFICERS IN CBW

The following article appeared in the *N.Y. Times* on 24 April 1970.

Although the United States decided recently to limit its use of chemical and biological weapons, the Army is continuing to train foreign officers in C.B.W.

The United States has trained 550 foreign officers from 36 countries at Fort McClellan, Ala., according to the Army, and an unknown number abroad.

At present, it is training six foreigners at Fort McClellan, from Australia, Thailand, Korea, The Philippines, and Saudi Arabia.

Eleven other foreign officers are scheduled to enroll in chemical biological courses before the end of June. They will come from South Vietnam, West Germany, Greece, England and Australia.

President Nixon announced last November that the United States would give up biological warfare weapons and use chemical agents only in retaliation. His decision did not restrict the training of foreign military personnel.

However, one of the purposes of the President's decision was to dampen international interest in chemical warfare. Some civilian officials in the Government are saying that the Army courses hardly have that result.

Other officials say privately that the C.B.W. (Chemical-Biological Warfare) courses present a dilemma. The United States should be able to train its allies in defensive chemical tactics, they say, but can that be done without spreading knowledge about C.B.W. and arousing more interest in gas and germ weapons?

The Army, which provides the training under the Military Assistance Program, points out that in the C.B.W. courses "the emphasis is on defensive aspects."

"However," it acknowledges, "it is not possible to separate offensive tactics from defensive, [and] there can be no absolute guarantee that defensive tactics will not have some utility in forming offensive tactics."

The question of America's training foreign military personnel in chemical warfare has received little attention here, even after the President's policy announcement.

However, Representative Robert W. Kastenmeier, a Wisconsin Democrat, raised the issue in a speech in the House just before Christmas. The Congressman, citing a letter, he had received from the Army on the training programs, said:

"It seems to me that by continuing to offer these courses we are further undercutting the positive impact of the

(Continued on Page 4)

## NUCLEAR DETONATIONS REPORTED

The following article appeared in the May 1970 issue of *Radiological Health Data and Reports*, published by the U.S. Department of Health, Education and Welfare.

The U.S. Atomic Energy Commission announced that it had conducted two nuclear tests during April 1970. Both nuclear tests were conducted underground by the Atomic Energy Commission at its Nevada Test Site on April 21, 1970. One was in the low yield range of less than 20 kilotons TNT equivalent, the other in the intermediate yield range (between 20 to 200 [sic] kilotons TNT equivalent). There was some release of gaseous radioactivity from the smaller test. A small amount of radioactivity was detected by the U.S. Public Health Service in the vicinity of Coyote Summit, an unpopulated area on Highway 25 about 10 miles from the boundaries of the government-controlled area. It was detectable only on sensitive scientific instruments and presented no health hazard. The readings returned to normal background levels in about an hour.

## AEC REORGANIZATION

Asked if he thought the time had come for the dismemberment of the AEC, he replied, "Dismemberment? No."

Defenders of the present structure talk about the agency's record of technical excellence and ability to get things done, the need for continuing research to maintain this country's position in the nuclear competition with the Soviet Union, and the commission's general lack of bureaucracy compared to other agencies. Any reorganization, Dr. Seaborg said, would have to be done in a way that did not delay development of the liquid metal breeder reactor program. Currently there is heavy spending on research and development to produce a liquid-sodium-cooled reactor, which would produce heat and transform uranium 238 into plutonium 239. Plutonium can be used as a fuel in water-cooled reactors.

The proposal promises to stir up reactions among congressmen who would like to circumvent the Joint Committee on Atomic Energy, proponents and opponents of nuclear power plants, those concerned about atomic weapons testing, and those concerned with civilian control of the weapons programs now under the control of the AEC.

(N.Y. Times, 12 June 1970.)

## CBW REPORT (and following related articles)

President's announcement on U.S. chemical and biological warfare policies."

Mr. Kastenmeier disclosed that since 1966 the United States has trained 24 Thai military officers in chemical warfare and 35 Arab officers, including a dozen from Saudi Arabia.

"The relatively large number of Thai personnel who have received training," Mr. Kastenmeier said, "suggests that the introduction of tear gas and defoliants into Thailand at some future date is being seriously considered."

"It may be seen from the information provided me," he went on, "that similar training was given to a number of South Vietnamese personnel prior to the commencement of the use of powerful tear gases in Vietnam in 1965."

Citing the number of Arab officers who have been trained, the Congressman said, "It should be noted that the United Arab Republic used poison gas in Yemen in 1965 and that it was reported that Israeli forces advancing into Sinai during the June, 1967, war uncovered chemical warfare equipment."

### Trainees Not Solicited

The Army's letter to Mr. Kastenmeier explained that the United States did not "solicit participation in these training courses."

It also pointed out that C.B.W. training for foreign personnel "must be approved by the Assistant Secretary of Defense for International Security Affairs, in coordination with the Department of State."

The American Government pays the cost of a foreign officer's attendance at the chemical school.

The courses that foreigners have attended at Fort McClellan include the chemical officer career course, the chemical company officer course and chemical officer orientation course.

The Army says that the chemical officer career course includes instruction in "CB weapons employment," "technical aspects of biological warfare, agents and munitions," "technical aspects of chemical agents and munitions" and "CBR [chemical-biological-radiological] material."

## FAS NEWSLETTER

Federation of American Scientists

203 "C" St., N.E.

Washington, D. C. 20002

Volume 23, No. 6

June, 1970

Second Class Postage

Paid at

Washington, D. C.

Return Postage

Guaranteed

Washington, D. C. 20006

June, 1970

Vote for one candidate for Vice-Chairman. The Vice-Chairman elected this year will NOT succeed to the chairmanship. The Vice-Chairman will serve for one year.

Vote for twelve candidates for Council. You may include a vote for the defeated vice-chairman. Candidates will serve two-year terms ending in 1972.

\* Nominated by petition.

## CANDIDATES FOR VICE-CHAIRMAN

**GOLDBERGER, Marvin L.**, B.S. Carnegie Inst. Tech. '43, Ph.D. Chicago '48, Higgins Professor at the Palmer Physics Lab. Princeton University '57-present.

**SIDEL, Victor W.**, A.B. Princeton '53, M.D. Harvard '57, formerly Asst. Med. & Chief Prev. Med. Unit, Mass. General Hospital, now at Montefiore Hospital and Albert Einstein College of Medicine.

## CANDIDATES FOR COUNCIL DELEGATES-AT-LARGE

**CALLEN, Earl**, A.B. Pennsylvania '48, M.A. '51, Ph.D. M.I.T. '54, Adj. Prof. Physics at American Univ. '61-present, U.S. Naval Ordnance Lab.

**DASH, J. G.**, B.S. C.C.N.Y. '44, A.M. Columbia '49, Ph.D. '51, Professor of Physics at Univ. of Washington '63-present.

**DRELL, Sidney**, A.B. Princeton '46, A.M. Univ. of Illinois '47, Ph.D. '49, Professor of Physics at Stanford Univ. '60-present, Stanford Linear Accelerator Center. Consultant to A.C.D.A. '69-present.

**FULLER, Richard C.**, B.A. Univ. of Michigan '62, Ph.D. Univ. of Wisconsin '68, Research Associate at University of Minnesota, organized SESPA chapter in Minneapolis.

**GOLDHABER, Michael H.**, A.B. Harvard, Ph.D. Stanford '68, Research Associate in Physics, Rockefeller Univ. '68-present. Co-founder SESPA.

\* **HALPERIN, Morton H.**, former Asst. Professor of Government and a Research Associate of the Harvard Center for International Affairs, former Deputy Assistant Secretary of Defense in the Office of the Assistant Secretary of Defense (International Security Affairs), former Senior Staff member of the National Security Council Staff with responsibility for National Security Council planning, Foreign Policy Division of the Brookings Institution '69-present.

**LURIA, Salvador E.**, M.D. Univ. of Torino '35, Professor of Microbiology and Biology at M.I.T. '65-present, Non-resident fellow at Salk Inst. for Biological Studies, on editorial boards of several journals and editor of Virology '48-present.

**McINTYRE, John A.**, Ph.D. Princeton '50, Professor of Physics at Texas A. & M. Univ. '63-present, formerly Assoc. Professor at Yale, charter member FAS Stanford Chapter.

**MORRISON, Philip**, at Cornell from '46 to '64, now Professor of Physics at M.I.T. '64-present. Founding member of Association of Los Alamos Scientists, Federation of Atomic Scientists, and FAS.

**PFEIFFER, E. W.**, B.A. Cornell '37, M.A. Brit. Col. '48, Ph.D. California '54, Associate Professor of Zoology at Univ. of Montana '59-present.

**PRIMACK, Joel**, B.A. Princeton '66, Ph.D. Stanford '70, Research Associate at Stanford Linear Accelerator Center, member SESPA, member Com. on Problems of Physics and Society of A.P.S., next year Jr. Fellow of Society of Fellows at Harvard Univ.

**RODBERG, Leonard S.**, A.B. Johns Hopkins '54, Ph.D. '56, U.S. A.C.D.A. '61-'66, Assoc. Professor of Physics at Univ. of Md. '66-present, now Treasurer of FAS.

**SAPERSTEIN, Alvin M.**, B.A. N.Y.U. '51, M.S. Yale '52, Ph.D. '56, Assoc. Professor at Wayne State Univ. '63-present. N.S.F. research grant '65-'67.

\* **SATTERTHWAITE, Cameron B.**, Ph.D. Pittsburgh '51, Professor of Physics at Univ. of Illinois '61-present, Democratic candidate for the U.S. Congress (22nd District of Illinois) '66, past chairman of FAS '68-'69.

**SCHWARTZ, Brian**, B.S. C.C.N.Y. '59, Ph.D. Brown '63, Member Theoretical Physics Group, Nat'l Mag. Lab. M.I.T. '65-present.

\* **SCOVILLE, Herbert, Jr.**, B.S. Yale '37, Ph.D. Univ. of Rochester '42, former senior scientist AEC Los Alamos contract '46-'48, former Asst. Director for Science and Technology of U.S.A.C.D.A. '63-'69, represented U.S. in conferences on the Non-Proliferation Treaty '69, Director of Arms Control Program of the Carnegie Endowment for International Peace '69-present.

**STANFORD, George S.**, B.Sc. Acadia '49, M.A. Wesleyan '51, Ph.D. Yale '56, Assoc. Physicist at Argonne Nat'l Lab. '59-present.

**STEINFELD, Jeffrey I.**, B.S. M.I.T. '62, Ph. D. Harvard '65, Chemistry Dept. M.I.T. '65-present, member of U.C.S.

**STONE, Jeremy J.**, A.B. Swarthmore '57, Ph.D. Stanford Univ. '60, International Affairs Fellow, Council on Foreign Relations '69-'70, FAS Executive Director as of July '70.

**TEPLITZ, Vigdor L.**, S.B. M.I.T. '58, Ph.D. Univ of Md. '62, Asst. Professor of Physics M.I.T. '65-present.

\* **WEISSKOPF, Victor F.**, Ph.D. Univ. of Göttingen '31, formerly worked on Manhattan Project at Los Alamos, Professor of Physics at M.I.T. '46-present, received Planck Medal '56, member of N.A.S. and corresponding member of six foreign academies of science.

## FOR VICE-CHAIRMAN

(Vote for one)

- Goldberger
- Sidel

## FOR EXECUTIVE COUNCIL DELEGATES-AT-LARGE

(Vote for twelve)

- |                |  |
|----------------|--|
| ---- Callen    | ---- Rodberg                               |
| ---- Dash      | ---- Saperstein                            |
| ---- Drell     | ---- Satterthwaite                         |
| ---- Fuller    | ---- Schwartz                              |
| ---- Goldhaber | ---- Scoville                              |
| ---- Halperin  | ---- Stanford                              |
| ---- Luria     | ---- Steinfeld                             |
| ---- McIntyre  | ---- Stone                                 |
| ---- Morrison  | ---- Teplitz                               |
| ---- Pfeiffer  | ---- Weisskopf                             |
| ---- Primack   | ---- defeated candidate for vice chairman. |

## QUESTION —

Shall Article IV of the Constitution be amended as follows: "Delegates-at-Large will serve terms of four years each, with one quarter of their number to be elected each year." (Delegates at large are now elected for terms of two years with one half their number elected each year. The FAS Council approved the amendment on April 27, subject to its approval by the membership.)

- YES
- NO

Please sign the outside of the ballot after folding it for mailing. All ballots must be received by July 31, 1970.

**BALLOT WITHIN**

.....  
**(Signature of Voter)**

**6¢ Stamp;  
Chicago and  
West, 10¢ airmail  
please.**

**FAS Elections Committee  
Federation of American Scientists  
203 C Street, N. E.  
Washington, D. C. 20002**