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

TEST BAN TALKS DEADLOCKED

President Kennedy and the National Security Council on May 2 heard chief U. S. test ban negotiator Arthur Dean and Presidential disarmament adviser John McCloy report on the Geneva talks. Mr. Dean is said to have reported that there has been little progress since the current series of talks resumed on March 21. (NYT 5/3). He returned to Washington at the end of April for consultations, and is expected to return to Geneva shortly.

Russian insistence on a three-man directorate to control the test ban machinery, with a representative of the East, the West, and the neutral nations, and with each member having veto power, has been emphatically rejected by the United States and Britain. President Kennedy said in his news conference on April 21 that although he is "very discouraged," the United States "should press on" as long as there is "any chance at all" of reaching agreement. Mr. Kennedy said that if "these test conversations should break up, then of course our hopes of getting any agreement on disarmament would be substantially lessened and we could look for a proliferation of nuclear testing in other countries." (W. Post, NYT 4/22).

Draft Treaty Offered

On April 18, as the test ban talks neared their 300th meeting in the two-and-a-half years that they have been going on, the United States and Britain offered a draft version of a complete treaty. It was dismissed the next day by Soviet delegate Semyon K. Tsarapkin as containing "nothing new." (NYT 4/20). Previously the Western side had made concessions on several points, including the staffing of the test ban control commission. The previous Western proposal had been that there be three Western, two Soviet, and two neutral members. But this staffing proposal was changed to 4-4-3 as a concession to the Soviet demand for parity. The change was made conditional on Russian agreement on other Western proposals, which has not been forthcoming. (NYT 4/11).

French Nuclear Test

France's fourth nuclear test was held in the Sahara on April 25, again calling attention to the need for considering other nuclear powers than the United States, Britain, and the Soviet Union. On the same day in Geneva Arthur Dean said that Communist China might join in an eventual test ban as a "state . . . like every legitimate political entity." Communist Chinese participation in a test ban treaty would presumably be required in order that monitoring posts be established on the Chinese mainland. But Mr. Dean said that such participation would not imply recognition by the United States. (W. Post 4/26).

FOR FAS MEMBERS ONLY

FAS is now forming a group for life insurance at moderate rates. Only FAS members are eligible. Information on the plan has been sent to all members. All members are urged to consider seriously the advantages of this plan and to enroll promptly.

U.S. TO EMPHASIZE SPACE FIRSTS

U.S. governmental response to the successful Russian manned orbital space flight last month has changed quickly from one of initial resignation to a "new sense of urgency". The President, in his second news conference after the Soviet feat, strongly indicated the desirability of stressing those aspects of our space program in which we might surpass the Soviet Union. Coupled with this was an emphasis on

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VITA TAPS TECHNICAL SKILLS TO AID UNDERDEVELOPED NATIONS

Volunteers for International Technical Assistance, Inc. (VITA) is a unique organization of scientists and engineers who have volunteered their free time and skills to assist in making scientific and technical knowledge available to the newly developing nations. The organization grew out of the Technical Assistance Committee of MASE, the Mohawk Chapter of FAS. It grew so rapidly that in 1960 it was constituted as an independent, non-profit corporation. Most of its members work in the Schenectady-Troy-Albany, N.Y. area, but membership is open to anyone who wants to volunteer his services to help solve technical problems of the underdeveloped countries. VITA provides an efficient mechanism for soliciting problems from technical assistance agencies or directly from the various countries. There are no dues or fees, the services of VITA are free, and all of its members serve voluntarily. Its expenses for secretarial help, machinists, and other technical services are met primarily from the U.S. Government (through the International Cooperation Administration) and various international agencies such as CARE.

VITA welcomes all technological problems arising from the modernization efforts of the world's nations. Criteria for accepting problems are based solely on the ability of VITA's voluntary participants to contribute to their practical solution. Types of problems which VITA has solved or is working on fall into the following approximate categories:

1. Requests for development work: These include requests for a relatively simple device or technique which needs to be developed. For example, VITA, on request from a missionary group in South America, designed a film strip adapter for use with a commercial flashlight projector. VITA is presently engaged in such large scale projects as the development of an inexpensive solar cooker, and the development of an inexpensive method of home canning.

2. Requests for "State of the Art" reports: Problems requiring extensive evaluation studies have been sent to VITA. An example is a report on solar cookers prepared for CARE describing the characteristics of all such devices and giving information on currently available cookers. A State of the Art report is now in preparation on family-size units for conversion of salt water to fresh water.

3. Requests for reports on specific, well-defined technological problems: Subjects of reports prepared by VITA include "Water Lifting Devices for Irrigation" in response to a request from Peru, and "Prevention of Rusting" in answer to a request from Nigeria.

4. Requests for general assistance: VITA has assisted in the collection of technical journals and books, and has arranged visits of foreign technical students and specialists.

Anyone interested in obtaining further information about VITA is requested to write to VITA, 1204 Eastern Ave., Schenectady 8, N.Y.

SHAKEUP IN SOVIET SCIENCE

The controlling influence over scientific development in the Soviet Union appears to have been taken out of the hands of the Academy of Sciences. A new agency, called the State Committee for Coordination of Scientific Work, has been given overall responsibility for the control of all scientific research and of Soviet contact with foreign scientists. The agency is headed by Lt. Gen. Mikhail V. Khrumichev, former head of Soviet airplane production. It is apparently designed to direct Soviet scientific work toward fields holding the strongest promise of practical applications, and to shorten the time between the making of a scientific advance and its adaptation to practical uses. (Science 4/28).

THE INSPECTION DEADLOCK

By Irving F. Laucks

How to conduct inspection has been the stumbling block of disarmament conferences. The Russians are intent on preserving the secrecy of their bases until they are assured that disarmament is under way. Ringed about as they are with nearby American bombers, this precaution is understandable.

The U.S., on the other hand, fears that all arms will not be discovered and destroyed. So we insist on a complete inventory to start with, with detailed area-inspection.

Somehow these two views must be reconciled or we never will achieve disarmament. The process of Reciprocal Disarmament is a compromise. As the pace-setter, we first destroy 2% of each class of our weapons (by Presidential order) at all our bases scattered over the world, whose location is already well known. Only then do we invite every other nation to follow suit. This will make a spectacle whose effect on the people of the world will be tremendous, compelling all nations to follow suit.

However, it is not necessary that the Russians, when reciprocating with their first demolitions, disclose the location of their bases. 2% of each class of their weapons can be destroyed at any convenient spot. Undoubtedly the Pentagon knows their inventory well enough to determine about how many units would represent 2%. This procedure should satisfy us in the early stages.

As soon as this process is well under way and each side can believe the other means business, a World Authority can be organized to which each successive 2% will be transferred in lieu of destruction. This Authority then comes to be the only deterrent force whose strength is growing as each individual nation's is decreasing. Therefore, if any cache of arms in the depths of Siberia should have been overlooked, it would be of small consequence by the end of the process, as compared with the might of the World Authority—whose sole duty would be preserving the peace of the world.

Until the Authority can assume its duties, the comparative strength of each individual nation remains as it is at present. Thus the balance of terror is preserved. In view of the spread of nuclear ability, it is very likely that the Russians as well as ourselves would be glad for a World Authority of preponderating strength. If we don't delay too long, such an Authority solves the nth nation problem. But we can't expect to organize it if we fool around another five years with disarmament conferences.

This process departs from age-long precedent. Executive action has often been used to start a war. Perhaps it can also start a peace. Several experts have lately called attention to the growing difficulty of disarmament by conference. The subject today is too complex to hope for agreement. Why not try a new approach if the two conferences now arranged show no more progress than have their predecessors? Such an executive act might make some mistakes, but it won't make the supreme mistake of waiting until too late.

The above article was submitted by Mr. Laucks, a member of FAS. Other members are urged to submit their views on any problem that may be of interest to the membership of FAS.

SUPREME COURT UPHOLDS INVESTIGATING POWER OF HOUSE UN-AMERICAN ACTIVITIES COMMITTEE

The U.S. Supreme Court on February 27 confirmed by a vote of 5 to 4 the contempt convictions of two critics of the House Un-American Activities Committee who refused to testify about possible Communist affiliations. They were Frank Wilkinson of Los Angeles and Carl Braden of Louisville, Kentucky. Both men contended that they were subpoenaed by the Committee only because they were openly critical of it.

The dissenting justices charged that the court had opened the way for the House committee to intimidate its critics by investigating them. The majority said the mere fact that

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HANFORD TO GET DUAL-PURPOSE REACTOR

The Kennedy Administration has decided to request funds for building the world's largest atomic power plant by converting a plutonium-producing reactor at Hanford, Wash., into a dual-purpose reactor for the production of plutonium and by-product electrical power (NYT 3/25). The electrical plant found to be most economical in recent studies by the Federal Power Commission and the AEC would have a capacity of 650,000 kilowatts when operating as a dual-purpose reactor and 760,000 kilowatts when operating for power production purposes alone. The estimated cost of the electrical plant is \$95 million. The schedule for the addition of electrical facilities calls for the start of construction next fiscal year and completion of the plant in October 1964. (The reactor, which is now under construction, is scheduled to be completed in October, 1962.) Although the latest estimates indicated that it would be economically beneficial to generate electrical power with the Hanford reactor, the total costs of operation are classified for security reasons and therefore data indicating the magnitude of the economic benefits could not be released (JCAE Release, 3/28).

Electricity from the reactor, which would have a generating capacity greater than the Bonneville Dam on the Columbia River, would be sold, at costs competitive with alternate sources, to the Bonneville Power Administration, the Federal power system in the Northwest. The proposal to turn the Hanford reactor into a dual-purpose plant generating electricity for consumers in the Pacific Northwest may possibly revive the presently dormant public vs. private power struggle in the atomic energy program. The public power issue along with other technical and economic objections lay behind the Eisenhower Administration's opposition first to building the reactor and then to making it into a dual purpose plant (NYT 3/25). At this time, however, there seems little doubt that the conversion will be approved.

IAEA SPONSORS EIGHT MAJOR CONFERENCES

Glenn T. Seaborg, Chairman of the United States Atomic Energy Commission, has announced that 47 U.S. scientists are expected to participate in Europe next month in conferences on tritium and electronics sponsored by the International Atomic Energy Agency (IAEA). In addition, the USAEC will take part in six other international meetings of major importance during 1961 (USAEC Press Release, No. D-103, Apr. 28).

The IAEA's recognition of the usefulness of tritium as a research tool in the physical and biological sciences has led to the planning of the Symposium on the Detection and Use of Tritium in the Physical and Biological Sciences to be held in Vienna on May 3-10. The topics to be discussed at the symposium will include studies on the distribution of tritium in nature; methods for the detection, counting, preparation and concentration of tritium; synthesis of tritiated biological compounds and the use of such compounds in the study of cell function.

Twenty-four scientists will present papers at the Conference on Nuclear Electronics to be held in Belgrade on May 15-20. This will be the first meeting of scientists in this field since 1958. Scientists participating in conferences sponsored by the International Agency must be nominated by governments of member states or by international organizations invited to take part. The U.S. Atomic Energy Commission coordinates all U.S. technical papers to be presented at the IAEA scientific conferences.

The six other conferences in which the USAEC will participate include symposia on:

- Effects of Ionizing Radiation on the Nervous System. June 5-9, Vienna.
- Whole Body Counting. June 13-16, Vienna.
- Physics of Fast and Intermediate Reactors. Aug. 3-11, Vienna.
- Plasma Physics and Controlled Nuclear Fusion Research. Sept. 4-8, Salzburg.
- Utilization and Programming of Research Reactors. Oct. 16-20, Vienna.
- Use of Radioisotopes in Animal Biology and the Medical Sciences. Nov. 21-Dec. 1, Mexico City. (Co-sponsored by the Agriculture Organization of the United Nations and the World Health Organization.)

KENNEDY BUDGET ASKS INCREASES FOR RESEARCH

The budget recommendations submitted by President Kennedy include substantial increases for scientific research, coming on top of the already substantial increases provided in President Eisenhower's final budget. In both cases, on a percentage basis, the increases are greatest for basic research.

President Eisenhower recommended an increase of nearly \$800 million for overall research and development. Of this increase, nearly \$200 million was for basic research. This is a 25% increase over the \$810 million being spent during the current year. President Kennedy recommended an additional increase in non-defense research and development spending of about \$150 million. The largest gains were for space, oceanography, the National Institutes of Health, and the National Science Foundation. The National Science Foundation increase, almost all of it for basic research, comes to a total of \$68 million (\$39 million of this was recommended in the Eisenhower budget). This represents a 65% increase in the research budget of this agency.

How much of this increase actually emerges from the Congressional budget review will be a test of the attitude of Congress toward basic research. Figures from recent years show that Congress must be sold on proposals for basic research, while it is quite ready to provide money for applied research and even more easily convinced of the need for development funds. The figures show no general antagonism toward basic research other than the natural bias towards spending for specific, and therefore more directly applied, projects. The cuts which have been made in basic research funds are no greater than those Congress normally makes in the President's budget. (Science 3/31).

SPACE FIRSTS EMPHASIZED

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selective rather than general increases in the space program budget. In this new approach the President said "We have to consider whether there is any program now, regardless of cost, which offers us hopes of being pioneers in a project." (NYT 4/22). He also called for a top-level study to make "a determination of whether there is any effort we could make in time or money which could put us first in any new area." This study would be one of the first assignments of the newly reactivated National Aeronautics and Space Council now under the chairmanship of Vice President Johnson.

At the same time that the President indicated his determination to "step up our efforts", the House Science and Astronautics Committee released budget figures indicating that the administration had reduced the funds requested for development of several long range programs. These included general scientific and weather satellites, lunar exploration, and super-boosters (the engine for the Nova rocket). The cuts were made in funds requested by the National Aeronautics and Space Administration in the revision of the Eisenhower budget prepared for the new Administration. The Kennedy Administration approved an increase of \$125,670,000, but rejected \$182,521,000 more requested by the agency. These cuts were made prior to the Soviet accomplishment. After the American achievement, the President stated that he would ask Congress for more than the \$1.2 billion he has already requested for the space program for the coming fiscal year.

Emphasis seems to be placed on how and where we can "vault ahead" of the Soviet Union. The choice of programs to be emphasized, and the influence which the scientific value of a specific program will have in this determination, is yet to be seen.

The Role of NASA

A noteworthy clarification concerning the role of NASA in the space program occurred in a letter from President Kennedy to Rep. Overton Brooks, chairman of the House Science and Astronautics Committee, and made public on April 1 (NYT 4/2). In replying to the concern expressed by Brooks over reports that policy was being contemplated to "accentuate the military uses of space at the expense of civilian and peaceful uses", the President said, "It is not now, nor has it even been, my intentions to subordinate the

FAS COUNCIL SUPPORTS U.S. TEST BAN EFFORTS

The FAS Council met in Washington, D.C. on April 24 and 27. The Council issued the following statement on the test ban negotiations:

"The Council of the Federation of American Scientists commends our government for the serious and constructive manner in which it is currently attempting to negotiate the remaining differences with the Soviet Union on a nuclear test ban treaty, and we urge the continuation of this effort. We regret that in the recently resumed talks the Soviet Union has not so far adopted a similar attitude toward the resolving of these differences but has instead introduced new difficulties, such as the proposal of a three-headed administration with a built-in veto. We hope that a more constructive Soviet attitude toward the negotiations will soon emerge. In the interests of our national security we urge our government to use the greatest patience and political inventiveness in pressing forward with the test ban and other realistically conceived plans to limit and reverse the ominous arms race."

FAS Goals

John S. Toll, Chairman of FAS, has asked William A. Higinbotham to reinstitute the Long-Range Goals Committee of FAS. This Committee, composed of past chairmen of FAS, will be concerned with the role of FAS in the coming years. At the present time, when so many scientists are serving in full-time or consulting capacities with the Government, the function of FAS may be quite different from its role at the time of its founding in 1946. All members of FAS are strongly urged to communicate their views on what part they would like to see FAS play, and on what its goals should be, to Dr. William A. Higinbotham, Brookhaven National Laboratory, Upton, L.I., N.Y. The Long-Range Goals Committee will consider these views in drawing up a program to present to the FAS Council later this year.

FAS Passport and Visa Committee

The FAS Council has appointed the Berkeley Branch of FAS as the FAS Passport and Visa Committee. The Branch has in the past formed the Passport Committee. In that capacity it participated in the successful court actions which resulted in the Supreme Court decision in the Dayton case easing U.S. restrictions on passports.

This Committee will now look into current U.S. visa practices. Anyone knowing of recent inequities in the handling of visa applications of scientists is urged to communicate this information to the Washington office of FAS, which will transmit it to the Berkeley Branch.

activities in space of the National Aeronautics and Space Administration." The President, however, also emphasized the necessity of military activities in space and stated that in making policy decisions on responsibility for programs "which have strong implication in both the military and civilian fields", he intends to rely heavily on Vice President Johnson as chairman of the National Aeronautics and Space Council. He hopes to make the Council "an active and effective organization" instead of "just a box on an organizational chart."

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Chairman John S. Toll

The FAS Newsletter is prepared in Washington by FAS members. The staff for this issue were: Writers—T. Fulton, E. Leonard, F. K. Miller, N. Seeman, E. Shelton, and F. Stern.

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

FEDERAL CONTROL OF ANIMAL EXPERIMENTATION

During the second session of the 86th Congress, Sen. Cooper (R., Ky.) introduced a bill co-sponsored by 12 other Senators "to provide for humane treatment of animals used in experiment and tests by recipients of grants from the United States." Although the bill failed to get out of committee last year, it has stimulated the introduction of two more bills in the current session of the House of Representatives. One of these, H.R. 1937, is a prototype of the Cooper bill; the other, H.R. 3556, is considerably more restrictive.

The Cooper Bill

Highlights of the Cooper bill may be placed under three headings. The first has to do with restrictive specifications concerning animal experimentation. The bill requires anesthesia in any experiment causing pain; and if an operation would result in serious injury or prolonged pain, the animal must be killed at the end of the operation. Exceptions to these rules may be made if the experimenter states in his "project plan" that compliance would frustrate the basic purpose of his experiment. Another restrictive point is that all animals used by students learning surgery must be under complete anesthesia and must be killed at the end of the operation. There is thus no opportunity for post-operative care and follow-up.

Documentation is required of investigators. No experiments involving the use of animals may be carried out until the investigator has submitted a "project plan" to the Secretary of Health, Education and Welfare, and has obtained approval for the project. Not only must an "accurate record" be maintained for all experiments and tests performed, but records must be kept of the disposition of all animals. Each investigator must submit annual reports of his work, including the number of animals used and the procedures employed; and he must furnish "such additional reports or information as the Secretary may require" as well as copies of any published work.

Authority to determine compliance with the Act has been specified in the Cooper bill. Administrators of the Act are to be given access not only to the laboratories and animals, but also to all books and records pertaining to animal experimentation. Furthermore, they are authorized to destroy any animals deemed necessary for conformity with the Act.

British certification requirements

In many aspects the bill follows the British Cruelty to Animals Act of 1876, which specifies similar kinds of restrictions on animal experimentation. Since the Cooper bill does not specify the details of documentation required of investigators, it may be pertinent to quote from a current British application form: "The following certificates are required for types of experiment not authorised by licence alone: If experiments are to be performed without anesthesia: certifi-

SUPREME COURT

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a man was a critic did not immunize him from inquiry if the committee had reason to think he had Communist affiliations.

Justice Hugo L. Black, in two passionate and despairing dissents, accused the majority of following "a constitutional doctrine that is steadily sacrificing individual control."

More than forty other contempt of Congress cases are now at various stages in the lower courts. While the Wilkinson-Braden decisions do not necessarily mean that all these other witnesses will lose their legal fights, certainly their chances look dimmer.

The significance of the decisions is that a firm and consistent, albeit narrow, majority of the Supreme Court refuses to put tight legal or constitutional limitations on Congressional investigating committees.

The same five man majority upheld the contempt conviction of Lloyd Barenblatt in 1959. That case, in effect, cut back the sweep of the court's decision in 1957 in the case of John T. Watkins, when the court said a Congressional committee must inform witnesses of the purpose of its questions. (NYT 2/28/61).

cate A. If any of the experiments are to be performed on cats or dogs, certificate E must also be held. If experiments are to be performed under anesthesia but the animal is not to be killed before the anesthesia has passed off: certificate B. If any of the experiments are to be performed on cats or dogs, certificate EE must also be held. If experiments are to illustrate lectures: certificate C. For experiments of any nature on horses, asses or mules: certificate F (accompanied where appropriate by certificate A, B or C)." The American Physiological Society, in a resolution urging the Congress to defeat H.R. 1937 and 3556, said "We believe that the provisions . . . would tremendously increase the administrative work of scientists and, while increasing the cost, would reduce the ability of scientists to do productive research and effective teaching."

Certain aspects of H.R. 3556, the most recent bill of this series, deserve mention. This bill provides for a special Agency for Laboratory Animal Control, headed by a Commissioner who must have been admitted to practice law and who has never been connected with any laboratory. His representatives and law enforcement officers of the States shall be given access to laboratories and their records at any time. All project plans and reports shall be made available "for public inspection, study and copying." No person with a degree below the doctoral level is qualified to apply for permission to use animals in research. The bill makes anesthesia mandatory in many experimental situations, but also specifies that "anesthetics shall be administered only by a licensed veterinarian or a doctor of medicine qualified in anesthesiology."

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