

F. A. S. NEWSLETTER

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

FAS COUNCIL STATEMENT ON TEST BAN

The following statement, approved at the New York meeting, was released to the press on Jan. 31, 1962:

The United States is now considering whether to resume testing of nuclear weapons in the atmosphere. The Federation of American Scientists considers this to be a decision of major importance.

It is well to recall that a somewhat similar situation to that existing now occurred in 1958. Following a concentrated series of nuclear weapons tests the U.S.S.R. announced that it would cease testing if other nations would also cease testing and work out a treaty to prohibit testing in the future. The United States somewhat reluctantly agreed to discuss a treaty but continued to conduct tests at a high rate until mid-fall. Although the U.S.S.R. held a few more tests late that year, a test ban treaty would have left the United States with an appreciable advantage in weapons technology. Now both nations are more nearly on a par. Should the U.S. try to "get ahead" again, for a little while, or is this a good time to stop so long as the Soviets will follow our example?

This is a problem for the public to ponder as well as our leaders in Government. Most, if not all, of the facts on which a judgment should be based are not secret and are intelligible to laymen as well as to scientific and military experts. The social and political repercussions are quite as important as, and perhaps even more important, the technical and military factors.

How do we stand militarily vis-a-vis the U.S.S.R.? "Although substantial progress had been made and much useful information obtained by the Soviet Union, there is no reason to believe that the balance of nuclear power has been changed to favor the Soviet Union." (U.S. Atomic Energy Commission, December 9, 1961.)

What might be gained by testing? Advocates of testing will cite modernization of weapons systems, development of weapons more discriminating in their effects, study of possible effects of atmospheric explosions on military communications systems, study of anti-missile systems and even search for new "breakthroughs." It is important to realize that in the present advanced state of nuclear weapons no step comparable in terms of weapon yield to the thermonuclear breakthrough is foreseeable. In fact, an increase by orders of magnitude in the amount of energy released from matter is excluded by one of the most thoroughly established laws of physics. The U.S. and the U.S.S.R. already have sufficient weapons to destroy each other and further "improvements" in nuclear weapons will not alter this situation significantly.

What are the non-military factors which should be considered? We list four that deserve consideration:

1. The Soviet Union has announced that it will resume atmospheric testing if we do, thus perpetuating this conspicuous aspect of the arms race. If we refrain from testing, we deprive the Soviets of this excuse. Of greater significance, such an act of self-restraint on our part may help to convince the Soviet leaders that the U.S. is in earnest about slowing the arms race and sincere in its dedication to disarmament.

2. We scientists are also concerned about the effect resumption of testing may have on our own public attitudes. For resumption of tests now cannot help but foster the impression that our security can in the long run be maintained solely by military strength. For 16 years the FAS has maintained that security must ultimately be found in political arrangements to obtain stable peace.

3. Atmospheric tests produce global fallout. The best

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REPORT ON N.Y. COUNCIL MEETING

By Michael Amrine

In terms of man-hours of Council discussion the future of the arms race, as symbolized by the statement asking the government not to resume air tests, was the main topic at the New York FAS Council meeting. The future of the FAS, as symbolized by discussion of aims, membership, and finances, was probably the second main area of concern at this January 26-27 meeting.

Questions On FAS' Future

John S. Toll, Chairman, reported on the projected budget of \$17,000 for next year, which will lead to a deficit of \$3,000. Membership was 2,150 this January, a slight increase since January, 1961, when it was 1,950.

M. Stanley Livingston reviewed FAS history, noted that membership has not kept pace with the growth of the scientific community. Philip Morrison commented that contributions and dues have not kept pace with incomes of members. Later Morrison pleaded for FAS not to limit its concerns and actions to separate issues of a given moment, but rather to speak out forcefully about overall deterioration in the world situation.

At the second day there was some inconclusive discussion as to whether "most persons joined FAS mainly to work towards understanding of weapons and avenues towards peace." W. A. Higinbotham will give a further report on his and others study of "the future of FAS" at the Washington Council, at the time of the American Physical Society spring meeting. Members are urged to make suggestions on policy, membership recruiting, etc., to the FAS office, to the Chairman, or to Higinbotham at Brookhaven.

Some Specific Issues

The National office was authorized to send a letter commending the NSF for improving its original stand in the Yellin case. John Toll's statement on national space policy and research was reviewed and unanimously adopted as

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THE TEST BAN

With the collapse of the three-power Geneva Conference on cessation of nuclear testing on January 29, the question of seeking an agreement to bar tests entered a final crisis. Whether the effort would be dropped, resumed, or transformed appeared to depend on the plans of the U.S. to resume atmospheric testing, Soviet and world reaction, and developments at the new eighteen-State Disarmament Committee meetings which will open at Geneva March 14.

1. Negotiating Procedure

The three-power conference, resumed last November 28, remained in a procedural deadlock for two months. In January, the U.S. and U.K. offered the Soviet Union the alternatives of resuming discussion of the draft treaty and control system, or adjourning the conference while test cessation was considered at the forthcoming disarmament conference (a step proposed by the Soviet Union last June). The Soviet Union rejected both ideas, insisting that the three-power talks continue on the basis of the latest Soviet proposals. (NY Times, 1/18 & 1/27) On January 29, the U.S., with British support, moved recess of the Geneva talks "until a common basis for negotiations can be re-established," by the disarmament conference, diplomatic channels, or "informal contacts among delegations at Geneva." (NY Times, 1/30.)

On February 8, President Kennedy and Prime Minister Macmillan wrote Premier Khrushchev to urge new talks by their foreign ministers before and during the disarmament conference. Details were not clear, but the proposal was

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FURTHER COMMENT ON THE "FEASIBILITY OF NUCLEAR WAR"

By D. G. Brennan

The discussion paper by Armand Siegel in the January issue of the Newsletter, titled "The FAS and the Feasibility of Nuclear War," is clearly one to which most members of FAS—including the present writer—could subscribe as far as its objectives are concerned. However, there are a number of points raised in his paper that might profit from further discussion, which the present comments attempt to provide.

1. **A New Doctrine?** There is nothing new about a belief that nuclear war may be "feasible", in at least some sense. It obviously seemed feasible in August 1945. It seemed feasible to John Foster Dulles in January 1954, when he first publicly enunciated the "massive retaliation" policy as a means of dealing with a wide range of strategic threats, not merely the threat of nuclear attack. Indeed, it is sometimes reported—perhaps truly, perhaps not—that just a few months subsequent to that declaration, our Government made an offer to the French to drop atomic weapons on the Communist forces in the war in Indo-China; if true, the offer evidently was not accepted. Henry Kissinger published a book in 1957 that drew a good deal of attention for its advocacy of the "feasibility" of limited nuclear war. (Kissinger himself has since questioned the wisdom of this view.) At least until the recent past, some important quarters within our military services have believed quite firmly in something like a strong form of the Dulles "massive retaliation" policy—not merely as lip service, but to the point of procuring aircraft and weapon systems that were built around this belief; other branches of the military services have at times gone some distance toward committing us to the use of nuclear weapons in any substantial limited war that might arise.

It is thus more nearly true that the doctrine of the "feasibility" of nuclear war, as discussed by Dr. Siegel, is in fact an old doctrine. Perhaps many people, especially many of us in FAS circles, have come to a clear realization only within the past two or three years of the extent to which the "feasibility" doctrine had been accepted, but this is more a measure of our prior unawareness that it is a newly accepted doctrine. The doctrine seems, rather, to be on the wane.

2. **Just What is FAS Policy?** The point in Dr. Siegel's letter that seems most in need of comment is the question of how far the FAS has gone in rejecting anything akin to a "feasibility" notion. Dr. Siegel refers in passing to the resolution against the first use of nuclear weapons passed (unanimously) by the FAS Council at its February 1961 meeting. This statement (which is printed with an explanatory statement in Volume 14, No. 3, of the Newsletter, March 1961) is worth quoting here in full:

"We urge the Government to decide and publicly declare as its permanent policy that the U.S. shall not use nuclear weapons of any kind under any circumstances except in response to the use of nuclear weapons by others. We urge that the strategic plans and the military deployments of the U.S. and its allies be brought as rapidly as possible into a condition consistent with the over-all policy of not using nuclear weapons first."

It seems to me that this statement goes as far as the Federation might go in the direction of saying that nuclear war is not "feasible". It seems unlikely that Dr. Siegel would advocate that we not use nuclear weapons in response even if attacked by them ourselves (a position the FAS would hardly adopt in any event), in which case it is not clear what one might ask of the Federation that would go beyond the position of that statement. Surely it implies, as forcefully as could be asked, "that nuclear war is not indeed an effective instrument of national policy" (quoted from Siegel's article). If all nations would adopt such a "no first use" position and stick to it, in their own enlightened self-interests, it is perfectly clear that there never would be a nuclear war. (The Soviets, incidentally, have been suggesting a ban on first use of nuclear weapons for years.)

3. **Kahn's Doctrine?** There is a strong suggestion in Dr. Siegel's article that Herman Kahn has asserted that nuclear war is an effective method of implementing national policy. There are senses in which this statement is true; for example, it is a part of national policy to ward off or dis-

courage a nuclear attack upon us by the Soviet Union, and, in common with many other members of the FAS, Mr. Kahn presumably believes that the threat of nuclear retaliation is an effective method for helping to discourage such an attack, though perhaps not the only or even the most effective method. If I understand the sense of Dr. Siegel's inference correctly, however, the ascription of this assertion to Mr. Kahn is not entirely correct. The shortest way of indicating this point is to note that Kahn himself has also favored a "no first use" policy (with the addition of a "delay clause"; see *On Thermo-nuclear War*, pp. 241-243).

There is a rather widespread tendency in many quarters to confuse analysis of war with advocacy of war, and this has sometimes meant that—within the FAS as elsewhere—some have mistaken Herman Kahn as an advocate of nuclear war. It may be worth noting that it is an objective of Kahn's new Hudson Institute to devote substantial effort to problems of international order, including problems of arms control, international security forces, "world government", etc.

4. **What Constitutes Arms Control?** Finally, Dr. Siegel says that "the theoretical methods of holding war within bounds form the field of arms control", and goes on to assert that many students of arms control (including some whom he names) advocate arms control as a means of insuring the effectiveness of war as a social institution. There are two points to be questioned here, one of them merely a dictionary problem of definitions and one a substantive problem. On the dictionary issue, there is no unanimity, but most of the people who have been seriously active in the subject have not used the term "arms control" in the relatively limited sense suggested by Siegel; it is more often used as a generic term whose scope includes the possibility of any and all forms of regulation of armaments, ranging from such possibilities as a nuclear test ban to and including general and complete disarmament, and whose objectives include the elimination of war if possible. I have had a good deal of association with this subject but I have not elsewhere encountered someone using the term "arms control" in the narrow sense suggested by Dr. Siegel.

On the substantive issue, I should emphatically deny that any students of arms control known to me (including in particular the ones named by Dr. Siegel) advocate arms control for the purpose Siegel suggests, i.e., as a means of insuring the effectiveness of war as a social institution, whatever be the dictionary definition of the term. To be sure, the said students vary widely in the degree of their interest in world government, or in lesser rearrangements of international politics, but they are uniform in their interest in minimizing (if possible, eliminating) the human and economic costs to the society of war. This is quite different from "insuring the effectiveness of war as a social institution". To the degree that the effort to minimize the cost would be guaranteed successful, it would have the secondary consequence of making the threat of war less frightful, and it might (but I believe it would not) thereby have the secondary consequence of making war more likely. These however are secondary consequences, generally perceived as undesirable ones by the students involved, not positive reasons for advocating arms control. Just because I may be sympathetic to fluoridation for dental hygiene does not mean I advocate mottled teeth.

It should be emphasized that Dr. Siegel and I are in basic agreement about both means and objectives, and this letter is not intended as an attack on his previous article, which I should generally wish to support.

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Chairman..... John S. Toll

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

CAMPUS SPEAKERS AND ACADEMIC FREEDOM

In the past few months, a number of speakers who hold unpopular views have been prevented from appearing on city college campuses by the City University of New York.

The first incident involved Benjamin Davis, secretary of the Communist party, whose invitation to speak had been cancelled by Dr. Harold W. Stoke, President of Queens College, on October ninth. Shortly thereafter, Hunter College denied the use of its auditorium to a forum sponsored by The National Review, a Right-wing publication. Next, Queens College refused to let Malcolm Little, leader of the Black-Supremacy Muslim movement, speak. And finally, Brooklyn College delayed permission for a speech by Mark Lane, a New York Assemblyman who had been arrested as a Freedom Rider.

Fred M. Hechinger in *The New York Times* of November nineteenth says that the conflict was clearly caused by pressure on the college presidents. In the first instance, the pressure came from the conservative factions of the surrounding community, and was aggravated by the fact that it occurred just before the recent mayoralty election in New York; in the second case, the opposition seems to have been within the Hunter College administration or faculty. Hunter College attempted to justify its stand by saying that its hall was not available for use by organizations "whose character would give reasonable grounds for the assumption that the college favors a particular group or movement having a distinct point of view over other groups or movements opposed to their point of view or position." As Mr. Hechinger points out, this would not render many groups eligible.

The University's Administrative Council, which consists of the University chancellor, John R. Everett and the presidents of the four city colleges, issued a ban on October 28 prohibiting Communists from speaking on any of the campuses. In order to make the distinction between academic freedom and legal issues, they asked a group of unidentified "competent attorneys" to clarify the situation. The lawyers pointed out that, although there is no law prohibiting Communists from speaking on a campus, it is illegal to provide them with a place of assembly, since they are agents of a foreign power. In addition, the administration said that although there must be freedom of ideas, it must choose among them to "make certain that the time of the students is properly spent." Dr. Stoke also denied the "notion that colleges are forums from which anyone has a right to advance his ideas."

The Academic Freedom Committee of the American Civil Liberties Union stated that the University's attorneys were in error. They pointed out that, furthermore, each speaker cannot be treated as a separate issue, since the right of each to be heard is an absolute condition for the proper academic atmosphere.

On December 16, the ban on Communist speakers was reversed by the Council. It cited a report of the Committee on the Bill of Rights of the New York Bar Association, which stated in part that "a member of the Communist party . . . who spoke at an open meeting . . . would not commit a criminal act. . . . Advocacy of forceable overthrow as an abstract doctrine is constitutionally protected speech . . . unless it takes the form of indoctrination . . . for future violent action." The same rule which had been in effect prior to the ban, would once again hold: that each college could approve or disapprove invitations to speakers tendered by student organizations.

On January 5, Queens College announced a new policy, whereby controversial invitations to campus speakers must be screened through a faculty-student committee. The new ruling states that the name of a proposed speaker must be registered with the Director of Student Activities before the invitation is sent, and, if he considers it controversial, he will submit it to the new committee, which will decide whether the speaker's appearance would be "consonant with the educational goals of the college."

The University of California, frequently attacked during the past year for its stand on the issue of freedom of speech, has a policy similar to that of the City University of New York. Last June, President Clark Kerr, who often

has been denounced because of his "open market place of ideas" stand, was charged by the State Senate's Fact-Finding Committee on Un-American Activities with having opened the gates to "Communists, faculty members, students, and anyone else who cares to utilize the university property as a brawling ground for political controversy." Dr. Kerr reiterated the University's regulations which state that before inviting an off-campus speaker, his name is to be given to the chief campus officer who "may deny the use of the university facilities if (he) deems the meeting to be incompatible with the educational objectives of the University."

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interpreted as a last effort, and one urged by Britain, before the U.S. renewed atmospheric tests. (NY Times & W. Post, 2/8.)

A related issue is what States would participate in further negotiations, and in any agreement. The Soviet Union has recently called for French participation, and the latest Soviet proposal would be a four-power agreement, though "open" to acceptance by any other States. The U.S. and U.K. have usually referred to a treaty accepted by "all States," a phrase which would allow Communist China's adherence.

2. Aims of Negotiations

In resuming test negotiations, the Soviet Union had proposed a new draft treaty, for cessation of tests without any international control or inspection, which it rejected as a cover for espionage. It argued that national detection systems were sufficient to check compliance and stressed that the U.S. and U.K. had largely recognized this, in proposing an immediate agreement to bar atmospheric testing. (This referred to the September 3, 1961 offer to conclude this limited ban if the Soviet Union would halt its current testing.) While the Soviet draft proposed cessation of all weapons tests, one clause envisaged future controls over underground tests, as part of general disarmament control. (NY Times, 11/19.) The U.S. and U.K. charged that the Soviet plan was unverifiable, and urged a return to the principles and drafts previously agreed upon, though declaring their readiness to negotiate further on details. (NY Times, 12/19 & 1/30.)

At his news conference of February 7, however, President Kennedy indicated that future negotiations for a bar on atmospheric tests would have to deal with the problem of "methods of inspection and control which could protect us against a repetition of prolonged secret preparations for a sudden series of major tests." Press reports emphasized that the U.S. was no longer prepared to conclude an agreement barring detectable atmospheric tests without such assurances. (NY Times & W. Post, 2/8, 2/9 & 2/10.)

3. Technical Developments

Recent press reports concerning tests or test cessation have referred to many technical problems and controversies. It is of course uncertain how new technical factors might affect future test-ban negotiations. (A salient example is the new emphasis on the limited usefulness and difficulties of underground testing of weapons. E.g., NY Times, 1/4 & 1/31.) Reports concerning test detection methods have been less prominent, but may indicate significant trends.

Detection and analysis of atmospheric tests, apparently already a highly refined system, is likely to be extended. The UN General Assembly has taken steps towards this, notably a recommendation that the World Meteorological Organization promote a world-wide monitoring system based on the observation stations of its member States. (NY Times, 10/17 & 10/28.)

New data on detection of underground tests unexpectedly resulted from the AEC's "Project Gnome" peaceful research test last December (a 5 kiloton explosion in a salt cavern in New Mexico). Press reports stressed that strong and distinctive seismic waves had been recorded, in observatories as distant as Sweden and Japan. NY Times 12/19 & 12/14, Sect. 4.)

On the other hand, the AEC has called for research on outer space tests and their detection, and this evidently would be among the aims of an enlarged test program. (NY Times, 1/31.)

FRANKLIN LONG NAMED ASSISTANT DIRECTOR OF ARMS CONTROL AGENCY

The U.S. Arms Control and Disarmament Agency has announced the nomination of Dr. Franklin A. Long as Assistant Director of the Agency, in charge of the Science and Technology Bureau. Dr. Long has been a professor of physical chemistry at Cornell University since 1946, and was chairman of the department from 1950 to 1960. He has a long record of public service, as a member of the National Defense Research Committee of OSRD, consultant to the Air Force and to the Ballistic Research Division of the Army, as a member of the Board of Trustees of Associated Universities, and the President's Scientific Advisory Committee.

STEAM RECOVERY FROM PROJECT GNOME UNDERWAY

Water has been pumped into the Project Gnome cavity as the initial step in the effort to conduct a power measurement experiment at the Gnome site southeast of Carlsbad, N. M. The five-kiloton Gnome nuclear device was detonated 1200 feet underground last December 10 as this country's first nuclear experiment in its Plowshare program to develop peaceful uses of nuclear explosives. (See Newsletter, Vol. 14, No. 10.)

Approximately 25,000 gallons of fresh water have been pumped into the 160-foot cavity, the bottom of which is 1,250 feet below the surface. Temperature in the cavity has been measured at 1,300 degrees Fahrenheit. Additional water will be introduced gradually into the cavity to build up the steam pressure. A minimum pressure of 20 pounds per square inch is desired before efforts will be made to draw off steam through a 12-inch pipe and process it at the power measurement facility on the surface. There, steam quality, flow rates, pressures, temperatures, etc., will be recorded. A very low level of radioactivity, which will be controlled and kept within permissible limits, is expected in the immediate area of the power-metering operation. Contaminated fluids leaving the cavity will be stored and returned underground. The power recovery study is part of the Project Gnome technical program directed by the Commission's Lawrence Radiation Laboratory at Livermore, California. Purpose of the power recovery program is to determine the amount and distribution of energy remaining in the cavity as available heat and to study problems connected with heat recovery for possible power production.

With the collapse of the three-power Geneva Conference shot core drilling has been completed at the Gnome site and core samples have been shipped to LRL for study in connection with the project's isotope-recovery and other technical programs. (AEC Statement, 1/18.)

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scientific judgment is that testing affects only a very small fraction of the world's population. But it almost certainly cuts short the lives of some people in this and ensuing generations, most of whom have no voice in the decision to test.

4. A decision to resume atmospheric testing would turn world public opinion against us. But an announcement to refrain from testing would make a very favorable impression on the non-nuclear powers, and would strengthen international efforts to obtain a more stable world.

Clearly, the decision—whether or not to resume testing—must not be based solely on military considerations, but must be designed to further our long range goals and to promote national security viewed in the broadest sense. After considering these issues, and in particular because of the effect resumption of atmospheric tests will have on disarmament negotiations, the FAS Council concludes that it would be most unwise to resume such testing at this time. If the Government, after weighing these factors, decides that atmospheric tests are necessary, then we feel it owes an explanation of both the technical and political reasons for such a decision to the citizens of this country and to the nations of the world.

REPORT ON COUNCIL

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FAS policy. Council discussed Leo Szilard's activities and the Council for Abolishing War, a separate report on them will be made in this Newsletter. The group at Berkeley was formally admitted as a chapter.

In general, chapter reports showed increasing activities. Brookhaven after years of inactivity has started again. Chicago has prepared a Civil Defense bibliography. Mohawk has been quite active with a disarmament seminar and with a speakers' bureau. Pittsburgh members have been working with others on a nuclear information committee. Washington group has planned public meetings, with James J. Wadsworth and Adam Yarmolinsky as speakers.

Civil Defense Breakfasts?

Current civil defense policies and past statements of FAS were also discussed, as was the adequacy of present fallout monitoring by the U.S. FAS officials are to make inquiries the latter.

Walter Selove proposed a favorable response to a request that FAS sponsor "briefing breakfasts" for Congressmen. Entirely separate from a membership campaign, chapters and members are to be asked to contribute towards such a briefing program. FAS representatives will not be directed to be for or against large civil defense programs, but will seek to present facts, and also to mention possible alternative measures more productive of long-range security. This proposal provoked lively discussion and some of it was related again to underlying questions as to the mission and methods of FAS in 1962.

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