

F. A. S. NEWSLETTER

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TEST BAN -- Pro and Con

With the failure of the London disarmament talks, the chances for any action on the banning of nuclear weapons tests have disappeared, at least for the moment. On the other hand, concern about the problem continues to run high and statements urging the major powers to reach agreement on a suitable formula have appeared over the past few months from many quarters, beginning with Albert Schweitzer's appeal on April 23 and the Pauling petition of June 3 (see NL 57-5). A second chance is offered by the inclusion of the test ban problem on the agenda of the current UN General Assembly session. However, preliminary statements indicate that East and West still stand firm on positions as presented in London.

CONGRESS Two rather different proposals bearing on the test ban have been introduced in Congress. Rep. Charles O. Porter (D, Ore.) proposes in the form of a bill (HR 8269) that we cease testing nuclear weapons and announce that we will not resume testing unless another nation sets off a nuclear explosion of its own, subsequent to our cut-off date. If enacted into law, this would tie the hands of the Administration, permitting no bargaining or discussion of conditions for the test ban. Sen. Wayne Morse (D, Ore.) introduced a resolution (S. Res. 173) urging the President to work toward a prompt cessation of testing by agreement with Great Britain and Russia, pending more complete evaluation of the danger from radioactive fallout by an international committee of recognized scientists. Neither proposal reached the floor before adjournment.

OTHER PROPOSALS Public appeals, petitions or statements in favor of a total abolition of testing have been issued by the Japanese government, a group of Japanese biologists (*Science*, July 12), British labor groups, British Trades Union Congress (representing over 8 million members), the US Communist Party, the World Council of Churches, 83 American leaders (including FAS Chairman Paul Doty, past Chairman C. C. Price and 23 other scientists), the American Friends Service Committee, and others. The arguments used in support of banning bomb tests are varied. Most groups, particularly the Japanese, stress the potential health hazards of testing. Others argue on the basis of the moral responsibility to protect the welfare of citizens of non-test nations and of future generations.

The FAS, while recognizing the health hazard as an important consideration, has consistently stressed as a compelling reason for seeking a test ban agreement the stimulus it might give to further international agreements leading to the more meaningful and ultimate goal of disarmament. The entire problem of nuclear tests is discussed in summary form in a 15-page booklet entitled "Questions and Answers About Nuclear Tests," published recently by the Friends Committee on Legislation of Northern California, 1830 Sutter St., San Francisco 15 (10¢).

US POLICY In spite of the apparent success of Mr. Stassen in swinging US policy toward acceptance of a test ban as a desirable objective in itself, the Administration policy is now further confused by pleas that testing is necessary to keep ahead in the arms race by developing smaller nuclear weapons (as urged by former AEC Commissioner Murray) or a "clean" bomb (see article, p. 2). The latter argument is put in perspective by the Los Alamos Chapter statement (same article).

No specific amplification has been forthcoming on a state-

SOVIET SATELLITE SUCCESSFUL

An official dispatch from Tass on Oct. 24 announced the successful launching of the first earth satellite. Leaders of the US earth satellite program were astonished at the reported weight (184 lbs.) of the radio-transmitter equipped sphere. However, they were not taken entirely by surprise, in view of technical presentations by Soviet representatives at the recent International Conference on Rockets and Satellites at the Nat. Academy of Sciences in Washington. The announcement stated that the satellite was encircling the earth at about 18,000 m.p.h. and contained transmitting equipment broadcasting at two frequencies, 20 and 40 megacycles. The announcement was of particular interest since, as recently as Sept. 4, V. Troitskaya, general secretary of the Soviet Committee for the International Geophysical Year (IGY), had indicated that the US was probably well ahead of the USSR in the design and construction of satellites.

US REACTION American congratulations were quickly sent to the Russians by Lloyd Berkner, head of the International Council of Scientific Unions, and by Joseph Kaplan, chairman of the US Committee for the IGY. Said Kaplan, "from the point of view of international cooperation, the important thing is that a satellite has been launched. They did it and did it first."

The Soviet statement indicated plans for the firing of several more satellites during the IGY, both larger and heavier, and emphasized the importance of the achievement in terms of research on the composition and density of the upper atmosphere and on space travel. The implications of the satellite in relation to the ballistic missile program were not considered in the statement. Prior to the announcement, however, it had been assumed by American representatives, on the basis of the National Academy meetings, that one of the Soviet military missiles would be used to lift the sphere into the sky and that this might account for earlier Soviet secrecy on satellite plans.

ment of June 23 by AEC Commissioner Libby, questioning whether bomb tests are certainly detectible. The recent underground Nevada explosion bears on this point, but it is doubtful whether a weapon as small as the 1- to 3-kiloton bomb involved could be detected extra-territorially, even if exploded above ground. It will be important now to establish the scope and limitations of seismographic methods for detection of such underground explosions.

Nevertheless, it now seems that the US position is definitely that the tests must go on until there is a broad disarmament agreement. In a personal message to Japanese Prime Minister Kishi, President Eisenhower stated on Oct. 4 that the US cannot suspend nuclear weapons tests because the security of the free world "depends to a great degree on what we learn" from them. The message said further: "To stop these tests in the absence of the effective limitations on nuclear weapons production and on other elements of armed strength and without the opening up of all principal nations to a measure of inspection as a safeguard against surprise attack... is a sacrifice which would be dangerous to accept." A test ban as a 'first step' would appear to be ruled out by this statement.

Official US insistence on tying the test ban to a cut-off in nuclear arms manufacture is questioned in a report released Sept. 8 (S. Rept. 1167) by the Senate Disarmament Subcommittee, and is likewise expected to run into heavy weather in the present UN session, with test ban resolutions already introduced by Japan, India and Russia (the last calling for suspension next Jan. 1).

"Clean" Bomb Controversy

On June 24, while the US was pushing for a temporary suspension of H-bomb tests at the London disarmament conference, three nuclear physicists from the U. of California met with AEC Chairman Strauss and President Eisenhower in a White House conference which has already stirred up considerable controversy and may have lasting significance. Drs. E. O. Lawrence, Edward Teller and Mark M. Mills declared that the US now knew how to make a "clean" superbomb, with radioactive fallout reduced by 95%. They expressed confidence that with further development the fallout would become "essentially negligible" (N.Y. Times, June 25). It was strongly implied that tests would be necessary for the next four or five years. At a news conference the next day, the President indicated that despite some qualms he would still try to negotiate a rigidly conditioned test ban, although it might impede progress on the "clean" bomb (Times, June 27). The first hint of such a clean bomb came a year ago from Strauss after the Pacific nuclear tests in July, 1956.

REACTION Soviet Communist Party Secretary Khrushchev said on July 11 that Eisenhower "talks stupidities" and that a "clean bomb" still does "dirty things." Editorially, the N.Y. Times said on June 28 that "development of a 96% clean bomb changes the world balance of power -- in favor of the free world." Less enthusiastically, the Washington Post (June 26) declared that, although this latest development was "great good news," it should not be "permitted to forestall an agreement with Russia for a suspension of nuclear weapon tests," and later (July 7) expressed the view held by many that there was "something altogether paradoxical about the concept of a 'clean' hydrogen bomb."

France's high commissioner of atomic energy, Francis Perrin, pointed out on July 19 that "the choice of the adjective 'clean' to describe these arms, which remain arms for mass destruction and for massacring civilian populations on a grand scale, is shocking and its official use is disturbing." Editor Norman Cousins (Saturday Review, June 3) was also disturbed by the "talk of 'clean' bombs as though we are dealing with the ultimate in moral refinement." He further expressed the fear that any weakening in our position for a test ban and disarmament would support the Soviet charge of insincerity and do more harm than could be overcome by any number of H-bombs, clean or otherwise.

LOS ALAMOS COMMENT This generally expressed fear that the possibility of reducing the fallout danger would change the US position with respect to halting the H-bomb tests prompted the Los Alamos Chapter of FAS to send to Eisenhower, Stassen and appropriate members of Congress a statement released July 23, entitled "Putting Nuclear Weapons Testing in Perspective." The Chapter of over 50 members expressed their "regret" that the "views of Drs. Lawrence, Teller and Mills were subject to interpretation as an oblique attack on initial forms of the US disarmament proposals." "Although we recognize that, in the absence of any disarmament agreements, this country must continue all its military developments -- including the testing of nuclear weapons -- we also recognize that the cessation of nuclear weapons tests, under appropriate inspection controls, may form an essential part of an initial package proposal -- such as the US representative... recently advanced in London," the scientists stated, and continued:

"The dominant concern of US policy must be to seek out and to take all equitable steps in disarmament and in international relations which can be expected to diminish the risk of war. When placed in contrast with this objective, technical improvements in the means of waging war are insignificant. Therefore, it is urgent that the technical reasons recently publicized for continuing nuclear weapons tests be put in proper perspective. If it be true that mankind faces a future in which either 'clean' or 'dirty' nuclear bombs will be employed, then, of course, weapons testing must continue to develop so-called 'cleaner' bombs. But in a larger sense, the paramount objective is world peace. The choice which faces us now is not so much between 'clean' and 'dirty' bombs, but rather between a world in which war and, therefore, nuclear bombing will occur, and a world in which we shall be free" of the "scourge" of such weapons.

SOVIETS TEST ICBM

On Aug. 29, Russia announced the successful testing of an intercontinental ballistic missile (ICBM). The official administration reaction in Washington was one of initial silence followed by a calm skepticism. President Eisenhower said at a news conference on Sept. 3: "I don't know of any reason" to give the Soviet claim "greater credence" than many other Soviet statements which have turned out to be "less than completely reliable." He expressed the further thought that for a long time to come ICBMs would be less efficient than manned aircraft for delivering bombs.

Unofficially, however, the Russian claim is assumed to be true. Columnist Marquis Childs reported on Aug. 30 that top Pentagon and State Dept. officials were aware for about a month that six ICBMs had been tested by Russia at least six weeks before the announcement. Also, the Administration's publicly calm attitude was not shared by critics, notably Sen. Jackson, head of the Joint Atomic Energy Subcommittee on nuclear weapons. He feels that the US has fallen critically behind in the missile race because of severe slashes in military expenditures and Army-Air Force rivalry over which service should properly develop and control the ICBM.

POLICY IMPLICATIONS The Russian announcement has serious implications in relation to controlling the development, testing and use of ICBMs. It has frequently been suggested that the outlawing of ICBMs, before their successful development, might be more important than the control of nuclear weapons per se, since once the missiles are produced and strategically placed, inspection would be essentially futile. Such views were presented by FAS Chairman Price before the Senate Disarmament Subcommittee in June, 1956. The closest the US has come to this position was the suggestion by Stassen on July 25 at the London disarmament conference for UN control of all objects sent into outer space as a first step in any disarmament treaty. This position was supported by England and France but greeted with silence from Russia. The successful testing of an ICBM by the Soviets, timed with the adjournment of the London conference, is at least a partial reply.

Our foreign policy is based essentially on a position of military superiority over Russia. The recent Soviet advances have, it appears, nearly closed this gap and threaten to do so completely in the near future. Despite the failure of the London talks we are, to at least some extent, unilaterally decreasing our tactical military strength under pressure from the economy-minded who form an increasingly large and vocal portion of both political parties. It is to be expected that the recent Russian 'scoop' in successfully launching a space satellite well before the US will result in an agonizing reappraisal of both their capabilities and our future defense expenditures.

COURTS TEST PASSPORT POLICY

The State Department was ordered by a Federal Court of Appeals on July 3 to reconsider its denial of a passport to author Donald Ogden Stewart. Stewart swore he had not been a Communist or connected with any Communist movement for 15 years, but refused to say whether he had ever been a Communist. The majority decision was that State Dept. regulations permitted acceptance of "such a limited negative statement" as that represented by Stewart's affidavit, as sufficient. The Department had insisted on an unqualified non-Communist affidavit.

A week earlier, the Court of Appeals upheld the refusal of the State Dept. to issue passports to Rockwell Kent, artist, and Walter Briebl, psychiatrist. The ruling sustained Department regulations which require an affidavit as to past or present membership in the Communist Party. Both had refused to provide such affidavits, contending that the regulations deprived them of due process of law. The decision also upheld the right of the Secretary of State to base his refusal of a passport on confidential information withheld "when foreign affairs or national security is involved."

Sen. Hennings (D, Mo.) plans to introduce legislation when Congress reconvenes to limit the authority of the Secretary of State to deny passports, and to spell out categories of persons to whom passports can be denied. The bill will lay down safeguards assuring hearings and other due process protections.

UN Debates Disarmament

On Sept. 5, the London meetings of the UN Disarmament Subcommittee, which began March 18 on a note of optimism, came to an apparently fruitless end, and the problem was referred back to the full Disarmament Commission of the General Assembly. The nominal cause of the collapse was, according to US Delegate Stassen, Russian refusal to agree to quit building H-bombs and, according to Soviet Delegate Zorin, Western refusal to quit testing bombs without prior agreement on far-reaching disarmament plans, including a halt to nuclear weapons production. Yet the protagonists came closer together than ever before during the 71 sessions of the present series, and the West now has, after considerable fumbling, a proposal which probably for the first time since the Baruch plan days is endorsed in every detail by all of the Western countries.

As summarized by Chalmers Roberts (Washington Post, Sept. 7), both East and West are now satisfied "to try for only a limited arms pact," and agreement in principle has been reached on (1) a 2-year test ban (Western concession, contingent on a production cut-off for atomic weapons and acceptable inspection system), (2) stationing of international inspectors inside the Soviet Union as well as in the West (Soviet concession), and (3) an "open skies" inspection plan (Soviet concession). Actual inspection areas are far from agreed upon and vary widely. The Soviet has proposed a central European strip including a small portion in the west of the USSR, as well as part of eastern Siberia and about 2/3rds of the US. The latest Western proposal, delivered personally by Secretary Dulles, would include all Europe and western Russia plus either all the rest of the USSR and all of North America (maximum plan) or all the arctic regions of both hemispheres (minimum plan).

Though major emphasis by both sides was on nuclear weapons and their control, there was agreement also on a first step reduction of military manpower to 2.5 million and on the principle of later cuts. No real attempt was made to come to grips with the ever-growing ICBM menace, although the final package Western proposal called for a study of outer space for peaceful, not military, purposes.

SHIFT TO NEW YORK In view of the degree of East-West agreement, the lack of concrete action is rather surprising and there has been much speculation about the reasons for the apparent sudden Russian hardening in mid-August, marked by resumption of old demands for liquidation of US overseas bases and unconditional banning of nuclear tests, which doomed the conference. Possible reasons have been given as the recent Khrushchev coup, the successful Soviet ICBM, the unilateral (budgetary) disarmament of the US, and a desire to use the General Assembly as a propaganda sounding board.

As the UN General Assembly session gets under way, the Russians have proposed full-scale discussion of "peaceful co-existence," and US Delegate Lodge has indicated he will support inclusion of such an item on the agenda. Secretary Dulles met on Oct. 5 with Soviet Foreign Minister Gromyko to "exchange views" on international issues. Thus, while negotiations are still non-productive, there is evidence of flexibility and New York may prove more fruitful than London.

The INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA), in Vienna on Oct. 4, chose Rep. W. Sterling Cole (R, N.Y.), former Chairman of the Joint Atomic Energy Committee, as its first director-general. The AEC has announced that the US is prepared to donate a complete atomic research reactor, isotope laboratory, and library to the newly formed agency in furtherance of President Eisenhower's Atoms-for-Peace plan. AEC Chairman Strauss, who headed the US delegation, said in Vienna that the US is prepared to donate 5,000 kilograms of enriched uranium, plus an amount equal to the combined gifts of other nations prior to July 1, 1960. Russia has unofficially disclosed she will contribute about 50 kilograms, and Britain has promised about 20 kilograms. The bill passed by Congress June 18, authorizing US participation in the agency, contains an amendment by Sen. Bricker (R, O.) requiring the Administration to gain Congressional approval each time after 1960 that it gives sizeable amounts of nuclear material to the IAEA. The agency came into legal existence July 29 after ratification by 18 of the participating nations.

SUPREME COURT on CIVIL LIBERTIES

Several recent decisions by the Supreme Court have especial significance in the field of civil liberties. In the first of two cases decided June 17, the Court reversed the conviction of John T. Watkins, who was cited for contempt of Congress for refusing to tell the Un-American Activities Committee the names of persons who once may have been Communist party members.

The second case involved fourteen West Coast Communist party leaders convicted under the Smith Act. The Court did not question the constitutionality of that legislation but the Government will no longer be able to convict and punish members of the Communist Party for expressing a mere belief in the violent overthrow of government. They will have to prove they actually do intend to overthrow the government by violence.

As aftermath to the Jencks case involving the right of a citizen to be protected against arbitrary procedures, President Eisenhower on Sept. 3 signed a bill in which Congress sharply curtailed the effect of the recent Supreme Court decision. The Court had held that statements made by a Government witness on matters he later testifies about in court for the Government must be made available to the defense in their effort to test the credibility of the witness by cross-examination.

The major provisions of the bill passed by Congress Aug. 29 are: (1) the defense is entitled to the witness' signed or otherwise approved statements, or oral transcriptions after the witness testifies; (2) if a dispute arises, the prosecution must turn over the files to the judge, who will decide how much of the information the defense is entitled to receive.

The COMMISSION ON GOVERNMENT SECURITY, set up in 1955 and headed by Los Angeles lawyer Loyd Wright, released its 800-page report last June 22, urging creation of a new, independent Central Security Office. Important features of this agency would be: (1) all loyalty and security cases would be heard by trained examiners; (2) all persons subjected to loyalty investigations would be permitted to confront their accusers and cross-examine them "whenever it can be done without endangering national security;" (3) a Central Review Board would hear appeals from employees; (4) hearing examiners for the first time would have power to subpoena witnesses; (5) "loyalty" cases would be separated from "security" cases.

The report proposes revisions in current loyalty-security programs for civilian Federal employees, the armed forces, dock workers and seamen, US employees of international organizations, and atomic energy and defense workers, and suggests changes in passport regulations, documents classification, etc. Copies of the report, which will be the basis of legislative proposals, are available from the US Govt. Printing Office, Washington 25, DC, @ \$2.50.

The FAS is a national organization of scientists and engineers concerned with the impact of science on national and world affairs. This issue of the Newsletter was prepared by the Washington Office staff and the following members from the Washington area:

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EAST - WEST SCIENTISTS CONFER

Twenty-four scientists from ten countries including Russia and Red China, joined together to assess the values and dangers of the atomic age in a meeting at Pugwash, Nova Scotia, July 6-10. The conference was held on the initiative of Bertrand Russell, who invited participants on an individual basis, because of their known interest in the impact of science on public affairs, and not as delegates of any organization. Seven Americans participated, including Paul M. Doty (Harvard), present Chairman of FAS, and Walter Selove (Univ. Pa.), Chairman of the FAS Radiation Hazards Committee.

The final statement of the scientists, issued July 10 and signed by all but two delegates, said that "the principal objective of all nations must be the abolition of war and the threat of war hanging over mankind. War must be finally eliminated, not merely regulated by limiting the weapons which may be used. For this purpose, it is necessary to reduce tension among the nations; to promote mutual understanding among the peoples; to strive for the ending of the arms race; and to provide an adequate control system so as to give substantial protection, and permit the development of mutual confidence."

COMMITTEE REPORTS Three main areas of interest were assigned to subcommittees. The subcommittee on the dangers of atomic energy agreed that nuclear energy must never be used in war. Nuclear tests conducted over the past six years, they said, will be responsible for an increase of about 1% over the natural incidence of leukemia and bone cancer during the next few decades. In the next thirty years, this increase would amount to about 100,000 additional cases of leukemia and bone cancer.

The second subcommittee on the problems of nuclear weapons concluded that the elimination and abolition of war calls for "the initiation of a step-by-step process to develop as satisfactory a set of controls and safeguards as practicable. The prompt suspension of nuclear bomb tests would be a good first step for this purpose."

The third subcommittee on the responsibility of scientists in the atomic age stated that "tradition tends to place the emphasis in the education of youth on separate ideals of single nations, including the glorification of war. The atomic age urgently requires a modification of these traditions. Without abandoning loyalty to a national heritage or fundamental principles of the different societies, education must emphasize the fundamental and permanent community of the interests of mankind, in peace and cooperation, irrespective of national boundaries and differences in economic or political systems."

The full text of the statement, and additional discussions of the conference by Editor Rabinowitch, one of the US delegates, are contained in the September Bulletin of the Atomic Scientists.

F A S NEWSLETTER

Federation of American Scientists
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Time Value: Dated Material**AEC GIVEN FUNDS FOR A-POWER**

Responsibility and authority for the construction of experimental power reactors were placed in the hands of the AEC by Congress during its last session. Despite the Commission's objections that atomic power development was best left in the hands of private industry with government participating, on a partnership basis, Congress authorized the AEC to spend \$21 million for the design and construction of experimental A-power plants.

\$15 million were earmarked for construction of an experimental reactor which would recycle plutonium bomb fuel, for non-armament use, and another \$3 million for the engineering design of a natural-uranium-fueled gas-cooled reactor fueled with uranium similar to Britain's successful Calder Hall plant. \$3 million was also allotted for engineering design of an experimental breeder reactor which would produce both power and plutonium. In addition to these appropriations, \$30 million was authorized for the AEC's partnership program and \$100 million for construction of power reactors whose output will be used by various cooperatives throughout the country.

Partnership moneys for the reactor being planned by the Power Reactor Development Corp. near Monroe, Michigan, were cut from \$4.2 to \$1.5 million over AEC protests. Opposition to this controversial plan has been led by the United Auto Workers which has asserted that insufficient safeguards are being taken for protection of the heavily populated Detroit-Windsor area.

"EFFECTS OF RADIATION AND FALLOUT" is the title of a 30-page illustrated Public Affairs Pamphlet #256 by James F. Crow, U. of Wisc. genetics professor (25¢, 22 E. 38th St., N.Y. 16, N.Y.). Crow, who served on the Nat. Academy of Sciences committee on the genetic effects of radiation and testified at the Joint Atomic Energy Committee's fallout hearings in June, concludes: "Geneticists agree that any amount of radiation is a genetic risk. ... The number of persons at risk is very large, so we can be sure that a large number of future persons ... will die, or be deformed, or diseased, or otherwise impaired as a result of bomb testing. ... Public officials must take" these facts "into consideration in formulating policies, and so must the individual thinking citizen in a democracy; for his is the ultimate responsibility for decisions."

A PERMANENT UN POLICE FORCE was urged by the Senate, which passed S. Res. 15 by voice vote on Aug. 8. Introduced by Sen. Sparkman (D, Ala.) and ten others from both parties, the resolution proposed that a force similar to that operating in the Middle East be composed of units from UN members not serving as permanent members of the Security Council; individuals would be allowed to volunteer, and equipment and expenses would be provided by the UN out of its regular budget. UN Secretary General Hammarskjold disclosed in a news conference on Sept. 5 a plan for a permanent military force, which he will recommend to the General Assembly.

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