

# F. A. S. NEWSLETTER

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## DEFENSE DEPT. SECRECY REVIEWED

"There has been too much secrecy in the Pentagon in the past and those who violate it in the future ought to be punished more severely." This is the editorial summary in the Nov. 17 Washington Post of the "curiously contradictory conclusion" of the Committee on Classified Information whose report to Sec. of Defense Wilson was released on Nov. 13. Headed by former Asst. Sec. of Defense Charles Coolidge, the committee acknowledged some defects -- which have long been decried by FAS and others -- in the Pentagon's classification system. However, they recommended enforcement measures, such as hauling press reporters before grand juries to compel revelation of their sources, about which Sec. Wilson expressed "serious reservations."

In recognizing existing excesses in the classification system, the committee recommended, among other things, that the Pentagon: (1) make a determined attack on overclassification. This would include cutting down on the number of persons authorized to classify information as top secret, and make it clear to everyone in the Dept. that information not vital to national security should not be classified; (2) "cease attempts to do the impossible and stop classifying information which cannot be held secret." In these connections, the report agreed with the program's critics that "the system has become so overloaded that proper protection of information which should be protected has suffered."

**MOSS HEARINGS** The release of the Coolidge report coincided with the reopening of hearings by the House Government Information Subcommittee under Rep. John E. Moss (D, Cal.). Testimony was heard from high military officers responsible for scientific activities under the Defense Dept. These included ONR chief Rawson Bennett, Army special weapons director John Daley, and J. S. Mills, Air Force deputy chief of staff for development. They denied that secrecy restrictions hampered the free exchange of scientific information; Daley and Mills said they don't encourage exchange of ideas among scientists of the various armed services. Moss replied: "A breakthrough [for a scientific discovery] depends upon informal exchange and free discussion." Bennett claimed that these complaints come from scientists who "just don't want to be bothered to fit themselves into the procedure. ... If they want to see Joe in California, they want to go right out there and talk to him." Further hearings were postponed by the Subcommittee until January, partly, according to Moss, because of lack of cooperation from Pentagon officials.

**HEARINGS ON COMMERCE** The Subcommittee's hearings last spring on Commerce Dept. information policies have now been printed and are available from the Committee ("Availability of Information from Federal Depts. and Agencies, Part 6"). They contain FAS testimony by then-Chairman Donald J. Hughes on Commerce regulations restricting export of technical data, and discussion of this subject by Commerce Dept. officials and Subcommittee members.

In a special biographical article on Rep. Moss, the N.Y. Times of Nov. 16 called the committee's hearings "the only real attempt in some years to break through the smokescreen that surrounds the operations of the Executive Branch." The article reiterated Moss' June '55 warning that "the present trend toward Government secrecy could end in a dictatorship," and his conclusion that there is "a clear need for new legislation" to remove federal barriers on the free flow of news.

## NEW IDEAS on TEST BAN VOICED

The significance for the human race of continued testing of nuclear weapons gained nationwide attention during the presidential campaign, and the response of scientists and the informed public, provoked at that time, has continued since the election. The consensus appears to be that further bomb tests will contribute little if anything to our quest for peace, or to our war-deterrent power -- in view of the size of existing stockpiles -- but they will present risks which the US and the world cannot afford to ignore. The last Newsletter presented the views of many scientists on this fateful subject. A cross-section of the opinions more recently expressed by scientists and others appears below and on page 2.

The position of FAS on this issue was reaffirmed by the Executive Committee in a public statement released Oct. 24. A day later, the FAS Radiation Hazards Committee released a report on the fallout hazard of Sr90. (Both statements are available on request; the latter was essentially the same material contained in Selove's article in NL 56-8.) In distinction to the views expressed by both presidential candidates during the campaign, and as an initial step aimed primarily toward universal disarmament and world peace, FAS advocated the cessation of tests of large nuclear weapons through a worldwide international agreement, and called for the establishment of a UN monitoring agency to detect any violations of the agreement. Recognizing that inspection within national boundaries is an essential requirement of enforceable disarmament, FAS urged a test ban agreement because: it would set a precedent and generate international security for disarmament negotiations via an initial step not requiring intranational inspection; it would establish a UN agency which could reasonably and logically develop inspection techniques which could be extended to other types of weapons; and it would eliminate the potential hazards to present and future generations that result from fallout radiation as well as the perils associated with a multi-sided H-bomb race.

**EDWARD P. LANGE**, Norwegian Foreign Minister, recommended to the UN General Assembly on Nov. 27 that, as a first step in "achieving an early regulation and, if necessary, reduction of these tests," nuclear powers be required to register in advance with the UN "any planned weapons tests expected to cause measurable, worldwide radioactive fallout." He stated that radioactive poisoning of food "may represent a danger in a future close enough to warrant serious consideration already today of precautionary measures," and that "an early agreement concerning these tests would not only in itself be of immense value for the future security and well-being of mankind, but would be a major factor in re-establishing some of that mutual trust, without which other steps toward a full implementation of disarmament plans will not be possible."

**CARLOS P. ROMULO**, former president of the UN General Assembly, gave an address on Nov. 11 to the National Conference of Christians and Jews, in which he suggested that H-bomb tests be limited to a specified, agreed-upon number per year, and that UN observers witness tests in order to "see that precautions are being taken to minimize dangers."

Rev. **E. A. CONWAY, S.J.**, formerly an editor of America and now professor of Political Science at Creighton Univ., urged  
(Continued on Page 4, Column 2)

## ADDITIONAL VIEWS of SCIENTISTS on NUCLEAR TESTING

"We think it salutary rather than disconcerting that more and more scientists are feeling impelled to speak out on the issues of the nuclear age. ... It is altogether proper that men who are worried about the effects of radiation should say so, ... Nothing would be more foolish than to dismiss such statements as beyond the purview of science and hence something to be disregarded. ... The great challenge of the nuclear age is to bring philosophy -- and practical politics -- abreast of the dilemmas which material science has provoked. Society ought to welcome ... the aid of scientists in coping with the instruments which science has created."

-- from an editorial in the Washington Post, October 21, 1956

The last Newsletter (56-8) contained excerpts from many scientists' statements on nuclear weapons testing. Additional statements, which have come to our attention since that issue went to press, are excerpted below:

HERMANN J. MULLER, Nobel Prize-winning geneticist at the U. of Indiana, said on Oct. 27 that "it is incredibly reckless to increase the risk of war by continuing H-bomb tests. ... It is not the fallout from these tests that is the important issue at this time, but the aggravation of war feeling by them. ... The first step toward peace open to us is a discontinuance of tests by both sides. A breach by either side can be detected by the other."

ARTHUR H. COMPTON, physicist and professor of philosophy at Washington University, said on Oct. 24 that continued H-bomb tests are necessary "to maintain our freedom."

A. H. STURTEVANT, Cal. Tech. geneticist, wrote to the Washington Post (Oct. 26) protesting an article headlined "Ten-fold Rise in A-Tests Seen as Safe: 'As a member of [the Nat. Academy committee on genetic effects of radiation], I wish to state that the report of the committee reaches no such conclusion, and that I, for one, would have been unwilling to sign a report that could reasonably have been so interpreted. Further, since the committee reported, Commissioner Libby has indicated (Oct. 12) that the danger from radioactive strontium in fallout is greater than the information available to the committee led us to suppose.' For this reason, our conclusions about the danger from fallout need revision upwards."

HUGH C. WOLFE, head of the Physics Dept. at Cooper Union, said (Oct. 28) the US should work for "international agreement to ban" further tests of large-scale nuclear weapons. "For many phases of disarmament -- but not for this one -- this would involve measures of inspection and control which the Russians have thus far been unwilling to accept." Breaking this phase of the disarmament deadlock "would renew ... hope that more comprehensive agreements on arms limitation may be achieved later [and would] lessen international tensions, which have been increased by each new series of test explosions."

EUGENE RABINOWITZ, in an editorial in the Nov. Bulletin of the Atomic Scientists, termed Stevenson's proposals a potential beginning of a new US policy. He said the difficulty in achieving controlled atomic disarmament lay "in the contrast between the power for destruction science has given to man and the organization of mankind into sovereign states," lacking "sufficient concern for mankind as a whole. From this point of view, the cessation of thermonuclear bomb tests cannot in itself open the door to substantial progress toward controlled disarmament." He urged the American people to "judge [Stevenson's proposal] for what it really is: an attempt to promote leadership by giving impetus to the deadlocked disarmament negotiations motivated by a [fully justified] concern with the jeopardy into which all nations, including our own, are placed by this deadlock, and by the progressive acquisition of atomic and thermonuclear weapons by an increasing number of sovereign nations."

ATOMIC SCIENTISTS of CHICAGO, 70-member Chapter of FAS, stated (Oct. 28) that "a moratorium on test explosions would not interfere with the manufacture and stockpiling of H- and A-weapons. It would interfere with the design of new and more insidious weapons by both the USSR and the US. ... harmful [radiation] effects must be considered within the larger problem of promoting the welfare and security of the US together with the rest of the world's population."

11 Physics Dept. staff members at CARNEGIE TECH. said (Oct. 30) that radiation effects of continued testing might "prove

harmful ... before the true extent of the danger is known," and the US should seek international agreement to ban H-bomb tests.

13 members of the YALE UNIV. science faculty cited (Nov. 3) the hazards of nuclear tests and said that if testing continues unchecked, the nations are "loosing uncontrollable forces that can annihilate us and our foes alike."

9 scientists at the STATE UNIV. of IOWA urged (Oct. 26) "factual discussion [of the] advantages and dangers" of continued nuclear testing, and called attention to the lack of sufficient information now available "on the human effects of radioactivity." 2 scientists refused to sign -- one because the statement implied "a matter of alarm; it is not," the other because he felt the subject could be debated on its own merits when it was not the subject of a political campaign.

19 scientists at the UNIV. of ROCHESTER stated (Oct. 27) that "without any agreement to limit testing, the level of testing may well reach or exceed 10 times the present level. At that point the concentration of Sr<sup>90</sup> in the bones of infants and growing children may reach the limit of safety... what [then] are we to say to the prospect of nuclear war in which we may get 10 times this amount in a week? What sort of victory is it that leaves millions of victors condemned to death?"

4 scientists at the UNIV. of MINNESOTA applauded Stevenson's action in focussing attention on radiation hazards, and said they did "not agree ... that because the quantitative effect so far has been small the problem is negligible."

11 scientists at BRYN MAWR COLLEGE wrote the N. Y. Times (Oct. 28) in detail on radiation hazards. "Without a world agreement to stop testing big weapons," they asked, "how can our government guarantee that tests from other nations will not bring our children to beyond the danger level? ... the Nat. Academy of Sciences' report ... pointed up the need" for more data.

9 scientists, including faculty members at UTAH STATE AGRIC. COLLEGE, published an ad in the Logan Herald Journal (Oct. 16) supporting the proposal for halting H-bomb tests as "a concrete step toward easing world tensions," and quoting pertinent statements by national and world leaders, including FAS.

22 scientists (18 at WORCESTER FOUNDATION for EXPERIMENTAL BIOLOGY, 2 at CLARK UNIV., and 2 at WORCESTER STATE HOSPITAL) declared (Oct. 27) that the possible danger in H-bomb testing was "a real problem which must be faced and should be discussed openly."

6 scientists on the UNIV. of KANSAS faculty wrote (Nov. 3) to the Lawrence Journal World that, since "no definitive answers" are known to many of the questions about radiation effects, there is "need for extreme caution in exposing living things to any radiation. ... we fervently hope that the next administration will recognize its responsibility in these matters and find a way to cope with them."

13 scientists in the Physics Dept. at RUTGERS UNIV., in a letter (Oct. 29) to the New Brunswick Daily Home News, called especial attention to the "very real question about the advisability of continuing to test bombs which produce appreciable amounts of radioactive strontium. ... it is a matter of urgency to everyone that our government find alternatives to such tests."

## FEDERAL R & D FUNDS MOVING UP

Federal expenditures for research and development, which appeared to have reached a plateau in 1952 and '53, are once again ascending steadily. The Defense Dept. is overwhelmingly the chief spender, and the physical sciences are by far the principal beneficiaries, with basic research a very poor second to applied R & D. But the Nat. Science Foundation exceeds all other agencies in rate of increase of expenditures, the biological and medical sciences are moving up faster percentage-wise than the physical sciences, and -- in relative figures -- basic research is also expanding more rapidly than applied R & D. These are some of the conclusions to be drawn from the latest report of the Nat. Science Foundation on "Federal Funds for Science, V," covering fiscal years 1955-57 (35¢, Gov. Printing Office, Washington 25, D.C.). They add up to continued growth of US scientific activities and facilities, with only slight alteration in the patterns of federal support established shortly after World War II.

### R & D BUDGET 4% OF TOTAL

The NSF report, coldly factual and uncomplicated by interpretation or recommendation, presents actual data for fiscal '55, and estimated data for both fiscal '56 and '57. For the current year the figures are low, since they were compiled on the basis of executive requests, which were considerably raised by Congress in a number of instances. Total expenditures of \$2.3 billion in '55 are expected to reach \$2.7 billion in '57, and obligations of \$2.25 billion in the former year will rise to \$2.9 billion during the current one. Astronomical though these figures are, they represent only 4% of the total federal budget. Out of every R & D dollar, 47¢ is spent within the federal government, 38¢ goes to profit-making organizations, 13¢ to educational institutions, and the remaining 2¢ is distributed to a variety of institutions including the states. Virtually all of the funds apportioned to profit-making organizations are from the Defense Dept. and AEC. The same two agencies supplied 77% of the funds to educational institutions and affiliated research centers in '56, with the Nat. Institutes of Health (NIH), Agriculture Dept., and NSF making secondary but important contributions.

Basic research is expected to receive 9% of the total federal R & D obligation in '57. In this area, AEC rates first dollar-wise, contributing \$42 million in '55 and \$57 million in '57. Defense and NIH each put up about half as much as AEC in '55, but in '57 Defense is expected to fall considerably behind NIH, and NSF is scheduled to move up as a strong second to AEC. The rapid upward movement of NSF in the three years covered by the report is the chief qualitative change, and is indicative of a new research-spending pattern. In its sixth year of operations NSF, which apart from the Smithsonian Institution is the only federal agency exclusively supporting basic research, has moved up to 8th place among federal agencies supporting research, and is expected to be second or third among agencies supporting basic research.

### AID FOR ATOMS-FOR-PEACE PROGRAM

Last Feb. 22, the US set aside 20,000 kilograms of uranium-235 to serve as the uranium bank for the President's atoms-for-peace program. Since then, although bilateral agreements for cooperation have been negotiated with 37 countries, only 1700 kg of the bank have been committed. On Nov. 18, the President and AEChairman Strauss announced 6 steps to speed further foreign usage of the US uranium offer. These steps included sharply reducing U-235 costs, assuring a continuing supply of uranium fuel at fixed prices, guaranteeing a US market for reactor by-products, and consideration of barter exchanges of US U-235 for atomic raw materials. According to the President, these actions "will permit closer estimate of net nuclear fuel costs and will add firmness to the planning now underway in friendly nations for nuclear power, thereby accelerating their atomic power development."

The new terms apply only to the bilateral atoms-for-peace agreements which the US is negotiating directly with various free nations. They do not apply to aid to be furnished abroad through the new UN International Atomic Energy Agency, for which 5000 kilograms of the uranium "bank" has been earmarked by the US.

## IAEA STATUTE ADOPTED

On Oct. 23, representatives of 82 nations voted unanimously to adopt a revised statute establishing the International Atomic Energy Agency (IAEA). Three days later, representatives of 70 nations formally signed the charter in a ceremony highlighted by a message from President Eisenhower. The President announced that the US was making an immediate deposit of 5000 kg of U-235 in the new agency's bank of raw materials, in order to enable the agency "to start atomic research and power programs without delay." In addition, he pledged that the US later would match the contributions of all other nations to the "bank."

### FOSTER PEACEFUL ATOM

The objectives of the IAEA, as set forth in its draft statute, are "to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world." To this end, the Agency will encourage and assist atomic energy research, foster the exchange of scientific and technical information, encourage the training of scientists, help to develop power where needed, devise and encourage safeguards against harmful uses of the atomic material it furnishes, acquire plants and facilities as needed for its purposes, and cooperate with the UN in furthering the establishment of safeguarded worldwide disarmament.

The IAEA will formally start operations after ratification of its charter by at least 18 nations, including the major atomic powers. In the meantime, an 18-nation Preparatory Commission is to arrange for the initial financing of the organization and for its permanent quarters. The first general conference of the IAEA is expected to be held in Vienna next summer.

### ATOMIC SAFEGUARDS

The only point of major controversy in the six weeks of deliberations on the proposed statutes was Article XII, dealing with safeguards against diversion of fissionable materials for military purposes and with the compulsory return of fissionable by-products to the international pool. The compromise proposal as finally approved provides that a nation may decide for itself which of the borrowed fissionable materials could be further used for peaceful development and which must be returned as "excess." The IAEA will have inspectors to safeguard against diversion.

"In all fairness," said US representative James J. Wadsworth last month, the USSR and Czechoslovakia had worked "sincerely and patiently" with the 10 other nations which prepared the draft statute. He said the conference had set an example of international cooperation, and had shown that "safeguards and control" in the atomic energy field were "not only technically possible but can be politically palatable."

The FAS is a national organization of scientists and engineers concerned with the impact of science on national and world affairs. The Newsletter is edited by members of the FAS Washington Chapter. Contributors to this issue were:

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## USSR Disarmament Proposals Stress A-Ban

Surrounded by clouds of our pre-election controversies as well as new international tension and strife, 3 Russian communications about disarmament have been sent to the US in as many months. In the first, a letter dated Sept. 11, Premier Bulganin stated that his government "consistently advocates ending the armament race, complete and unconditional prohibition of atomic weapons, and discontinuance of nuclear weapons tests." On the last point, the letter said: "We believe that an agreement among nations concerning termination of tests of atomic and hydrogen weapons would be the first important step toward unconditional prohibition of these types of weapons of mass destruction." Bulganin also reiterated previous Soviet stands rejecting aerial inspection, calling for creation of "control posts," and insisting on demilitarization and unification of Germany. Emphasis was placed on the possibility of "breaking the deadlock" by reaching agreement on individual items without necessary agreement on the whole problem.

**EMPHASIZES ATOM BAN** Bulganin's Oct. 17 letter stressed prohibition of atomic weapons tests. While voicing surprise that the US doubts the willingness of the Soviets to discontinue these tests, Bulganin stated that his government is "prepared to conclude [such] an agreement . . . immediately." Eisenhower's reply (Oct. 21) objected to the premature release of the letter, as well as possible interference in internal (election) affairs. It emphasized intensive US study of "dependable means of stopping the arms race and reducing and controlling armaments," and recalled Soviet rejection of inspection and control proposals as well as of his "open skies" aerial inspection.

In a proposal sent on Nov. 17 to Britain, India, France, Communist China and the US, the USSR made a concession in regard to the aerial inspection plan. Along with repetition of familiar proposals and a call for a new disarmament conference, the Russians announced they would welcome aerial inspection over a depth of 800 kilometers on each side of the existing Warsaw Pact boundaries. They also proposed termination of the manufacture of nuclear weapons, complete destruction of atomic weapons stockpiles, and immediate cessation of testing. President Eisenhower ordered a full study of the Soviet proposal.

**TESTS CONTINUE** Simultaneously with the disarmament proposal, a Tass dispatch reported a "successful" new Russian nuclear test -- an "explosion carried out at a great altitude." On Nov. 19, the AEC announced detection of the USSR test in "the range of magnitude of their previous . . . explosions."

Britain exploded the fourth and last "atomic device" of its recent series in Australia on Oct. 21. A California civil defense director told a meeting on Nov. 2 that further US tests are scheduled for Nevada next spring.

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56 - 9

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**NEW IDEAS ON TEST BAN VOICED** (Cont. from Page 1). a different approach in a letter to the Washington Post (Nov. 23). Fearing we may be "wasting our time discussing a ban on further H-bomb tests," he made a strong plea for "a bipartisan 'crash program' to bring about a moratorium on testing . . . intercontinental missiles." Once the ICBM is developed -- and this could be very soon -- any inspection system can be successfully evaded, he said.

**GEORGE F. KENNAN**, former Ambassador to Russia and now a professor at the Inst. for Advanced Study, wrote the N. Y. Times (Oct. 28) that he was dismayed at the apparent unwillingness of the Administration to consider with any seriousness the possibility of banning H-bomb tests, and that it had presented no adequate justification for this position. He doubted "that the Soviet leaders believe that the success of their political purposes stands or falls with the continuation of tests of these larger weapons," or that they would enter into test-ban agreements "merely with the intention of tricking the world."

**NEWSPAPER ADS.** In a full-page ad in the N. Y. Times of Oct. 31, a group of 10 prominent citizens urged cessation of further H-bomb tests. They argued that the US possesses enough H-bombs to destroy most of the world, could continue building more without tests, and could immediately detect any tests performed by other nations. They emphasize the extreme hazard of Sr<sup>90</sup>, especially with regard to children, and that damage to reproductive cells is cumulative and may be passed on for hundreds of generations. The Women's International League for Peace and Freedom, in an ad in the Philadelphia Bulletin (Nov. 1), quoted the Pope, Eden, and scientific groups on the H-test problem, and called for public discussion on the issue.

AEC Commissioner **THOMAS E. MURRAY**, in an address to the Catholic Association for International Peace (Nov. 10), presented his views on the broader aspects of policy and how an H-bomb program should be integrated with a position tenable by a civilized nation. Believing that a war of total annihilation is unjustifiable and that we must "draw the line between civilized warfare and sheer massacre," he concluded that we should: (1) set "an upper limit" to the size and number of H-bombs which we will accumulate, (2) equip ourselves with a wide range of "nuclear weapons in the lower order of destructiveness," and (3) test no weapon larger than the limit set, but "accelerate" testing of those of lower magnitude.

A survey conducted by the **GALLUP POLL** during the heat of public discussion on the bomb test issue in the election campaign indicated that the American public was 2-to-1 in favor of continuing the testing program, with 20% of those questioned expressing no opinion.

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