

F. A. S. NEWSLETTER

FEDERATION OF AMERICAN SCIENTISTS
David L. Hill, Chairman

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HEARINGS SET ON AD-X2 AND ATOMIC POWER

TESTS VS. TESTIMONIALS

The Astin case, after a relatively quiet month, is again in the public and scientific spotlight:

On Saturday, June 20, Sen. Edward J. Thye (R, Minn.) announced that the Senate Small Business Committee, of which he is chairman, would resume hearings on the battery additive, AD-X2. And on the preceding day, Dr. Detlev Bronk revealed the selection of eight scientists as members of a National Academy of Sciences committee to "appraise the quality of the work performed by the National Bureau of Standards in relation to the battery additive AD-X2."

Sen. Thye stated that his "committee hearings will not interfere with other pending studies," and observed that their purpose is to hasten Post Office action on the now-suspended fraud order "hanging over" Pioneers, Inc. Sen. Thye believed that it would be several months before the scientific committee makes its report and that, during this time, a business man "might be starved out of existence." If Ritchie "goes broke next year, the findings won't make much difference," Thye said.

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AD-X2 HEARINGS Sen. Thye insisted that his Small Business Committee was not trying either to "persecute or prosecute" anyone, but wanted only "to get the facts on record so that anyone can draw his own conclusions." The main issue, Thye said, is: "Have agencies of the government been fair and just in the treatment of Mr. Ritchie and his product." A spokesman had said earlier that the committee did not feel it should be concerned in these hearings with the uproar over the Astin dismissal.

First witness at the hearing will be Jess Ritchie, manufacturer of the battery additive. He will be followed by Dr. Astin (temporarily reinstated director of the National Bureau of Standards), and then Dr. Harold C. Weber, in charge of the additive testing at M.I.T. Others will be various military and commercial users, dealers and distributors of AD-X2, representatives of the Post Office Dept., Federal Trade Comm., and Justice Dept.; also Dr. Keith J. Laidler, ex-consultant to the Senate Committee, and Dr. Paul Howard, former NBS official who conducted some of the battery additive tests at the Bureau.

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JEFFRIES COMMITTEE Dr. Zay Jeffries, retired vice-president in charge of the chemistry department of General Electric Company, is chairman of the National Academy committee that will first appraise the quality of the Bureau's previous work on battery additives, then report if it finds further tests are advisable. The committee was requested by Secretary of Commerce Weeks on May 8.

Other committee members are E. K. Bolton, retired director, Chem. Dept. of DuPont; W. G. Cochran, Prof. of Biostatistics, Johns Hopkins Univ.; J. G. Kirkwood, Prof. of Chem., Yale Univ.; Victor K. LaMer, Prof. of Chem., Columbia Univ.; L. G. Longworth, member of the Rockefeller Inst. (physical chemist); Joseph E. Mayer, Prof. of Chem., Univ. of Chicago; and John C. Warner, President of Carnegie Inst. of Tech. and past president of the Electrochemical Society.

Another committee, headed by Mervin J. Kelly, president of Bell Telephone Labs., is investigating the functions of the Bureau in the "light of present national needs." Meanwhile, the Visiting Committee of the Bureau, headed by R. F. Mehl, director, Metals Research Lab., Carnegie Inst. of Technology, is considering the question of a possible successor, if any, to Astin.

McMAHON ACT TO BE CHANGED ?

The US atomic power program is in a major state of flux. Decisions are being or are about to be made which affect the magnitude of the effort invested in A-power and the ways in which the work will be undertaken. Involved are the fundamental issues of industrial participation, military backing, financing and, indirectly, the nature and degree of the dependence of military strategy on our atomic potential. The immediate focus is on AEC and Defense Dept. appropriations for the coming year and on the question of changes in the Atomic Energy Act of 1946.

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HEARINGS SET On June 24, open hearings are slated to begin on possible revisions of the McMahon Act to change the nature of and encourage increased industrial participation in atomic power development. After 2 months of secret sessions of the Joint Congressional Committee on Atomic Energy with AEC officials and industrial leaders, Committee Chairman Cole noted the necessity to develop "a public understanding of the subject before determining whether a legislative expression of national policy should be made."

Before the committee are: a measure (H.R. 4687) introduced by Rep. VanZandt (R, Pa.) to modify the atomic energy statute, a draft bill prepared by the AEC at the request of the committee, the recommendations of several groups of corporations invited to study the problem of the AEC, and protests against revision by two Democratic members of the committee. Although the details of the draft bill drawn up by the AEC are still classified, the Joint Committee has released a synopsis including proposals to: (1) permit ownership of nuclear power plants by private companies; (2) allow the AEC to sell fissionable materials under adequate safeguards; (3) allow reactor owners to acquire and transfer fissionable materials and by-products obtained from sources other than the AEC; (4) carry on research in AEC laboratories on specific power projects deemed warranted in the national interest; (5) establish liberalized patent rights; (6) provide for a progressively adjusted code for safety requirements; and (7) liberalize the information policy in the nuclear power field.

According to the Washington Post of June 21, however, "the hearings will center on the general issue of how to create and run the future atomic power industry, rather than on specific legislative proposals." On the establishment of this industry, Chairman Cole told the House June 16: "We do not yet know whether private enterprise is going to put up the capital necessary to build atomic power plants. But it is clear that no one is willing to put up private money now...we must not risk the loss of momentum so dearly bought with Federal funds...The possibility that Russia might actually demonstrate allegedly 'peaceful' intentions in the field of atomic energy [by building an atomic power plant] while we are still concentrating on atomic weapons would be a major blow to our position in the world."

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ANTI-REVISIONISTS Arguments against revision of the Atomic Energy Act were voiced in the House earlier this month by Reps. Chet Holifield (D, Cal.) and Melvin Price (D, Ill.). Acknowledging the possible need for changes at a later date, Holifield said on June 1, "the atom is not ready to produce power in competition with energy from conventional sources...and it will not be ready for years to come." While private industry should participate fully in atomic activities, he said

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PROBOPHOBES and PROBOPHILES

Headlines covering the revelations of Congressional investigations touching on science and education are having more and more competition from news critical of investigative methods and proposals for reform.

In Congress a 3-man subcommittee of the House Rules Committee is actively studying the procedures in Congressional probes. The group, consisting of Reps. Hugh Scott (R, Pa.), chairman, Howard W. Smith (D, Va.) and J. E. Chenoweth (R, Col.), expects to hold limited hearings and make a preliminary report this session of Congress. It will hear bar associations and civic groups and consult committee chairmen in an effort to develop a code of fair conduct, using as a starting point two "fair play" bills sponsored by Reps. Javits (R, N.Y.) and Keating (R, N.Y.). The alacrity of the subcommittee reflects the concern and interest of Congress in improving procedures. According to the Christian Science Monitor (June 11), Speaker Martin supports probe reform while Reps. Reece (R, Tenn.) and Brown (R, O.) are opposed.

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PROPOSED GROUND RULES Javits seeks to make the Rules Committee a "watchdog" group to ensure standards are observed. Keating has been pressing for some time for a uniform set of rules such as the following (speech to San Francisco Bar Association, May 29):

"1. The investigating committee should determine and announce in advance the exact scope of each particular inquiry or interrogation which it may undertake within the broad scope of its authority.

"2. The use of closed sessions to hear witnesses should be made subject to formal control, by requiring majority approval in every instance. Taking testimony behind closed doors is often a valuable protection for the witness; but it can also lend itself, on occasion, to grave abuses as a star chamber examination, to probe a witness and break him down as a mere prelude to exposing him to public scrutiny in an open session.

"3. Each committee should restrain the issuance of public statements relating to executive sessions, unreleased reports, incomplete findings, etc., by individual committee members.

"4. Such things as witness' right to counsel, the rights and duties of counsel at hearings, and the right to submit statements or interrogate other witnesses, should be clearly defined and made known to all interested parties in advance.

"5. Some protection should be given to persons who are named or otherwise implicated in a hearing without being called to testify, as, for instance, by giving them limited rights to appear or adduce proof before the committee in rebuttal.

"6. The committee should adhere to suitably adapted tests of relevancy, competency and materiality, based on standards which have been developed as part of our judicial tradition. Most of the procedures which have been evolved to protect the integrity of the courtroom could profitably be applied, with some necessary modifications, to committee-hearing procedures."

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GROWING CRITICISM Public discussion includes (1) Sen. Symington (D, Mo.): "No thoughtful person can escape the conclusion that there have been, and are, abuses in the exercise of power by committees of Congress and other government officials; and that these abuses are largely responsible for the jeopardy in which the courage of our people has been placed." (2) Justice Douglas: "We have resurrected some aspects of the infamous witch trials. We have used dangerous short cuts to prove men 'subversive,' when we should have abided by the procedure which due process of law requires." (3) Ex-Ambassador George F. Kennan: "These forces are too diffuse to be described by their association with the name of any one man or any one political concept... They distort and exaggerate the dimensions of the problem with which they profess to deal... And having thus incorrectly stated the problem, it is no wonder that these people constantly find the wrong answers... There is no greater mistake we of this generation can make than to imagine that the tendencies which in other countries have led to the nightmare of totalitarianism will, as they appear in our midst, politely pause -- out of some delicate respect for American tradition -- at the point where they would begin to affect our independence of mind and belief."

Einstein's position that witnesses called before Congressional "inquisitions" ought to refuse to testify and be prepared to

take the consequences has been roundly criticized in editorial columns, by Sen. Welker (R, Id.) and the Amer. Committee for Cultural Freedom, with adjectives like "extremist" and "irresponsible." The N.Y. Times (June 13) endorsed as "irreproachable" the investigations which have "no taint of witch hunting, no bias of anti-intellectualism, no prejudice, no distorted ideas of what is guilt and subversion." At the same time it deplored the present type of investigation and says, "The situation which Dr. Einstein rebels against certainly needs correction, but the answer does not lie in defying the law. McCarthyism will be defeated when a sufficient body of public opinion has been built up to deprive the McCarthyites of power and to sweep their obscurantist and un-American ideas into the wastebasket of history."

The letters columns in the Washington Post and Star included several defending Einstein's stand, some pointing out his previous experience in early-Nazi Germany. Einstein had said (June 10) a witness "must be prepared for jail and economic ruin, in short, for the sacrifice of his personal welfare in the interest of the cultural welfare of his country." He called for "non-cooperation in the sense of Gandhi's."

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PROBES ON AND OFF Sen. McCarthy has started a probe into selections for student exchange under the Fulbright program, beginning June 10. Under the present selection

procedures, American candidates are rejected in the face of convincing evidence of disloyalty and students coming from abroad are screened under the same strict immigration rules as other foreign visitors (Monitor, June 10). The Jenner Senate Internal Security subcommittee has begun tapering off its probe of communism in education and hopes to issue a report by July 15. Sen. Jenner announced June 17. He said he is willing to let local authorities take over.

According to the Christian Science Monitor (May 18), 115 teachers called before the Congressional probers have been dismissed, suspended, or have quit their jobs. Harvard has declined to act on four teachers who refused to answer questions asked by probers (see Science, June 12), deciding that such refusal does constitute misconduct, but is not sufficiently serious to warrant dismissal or suspension. At Ohio State, the dismissal of physics professor Byron T. Darling, who refused to answer probers' questions, was justified by President H. L. Bevis on the basis of lack of candor and moral integrity and of insubordination to University policy, although Bevis states that Darling "appears to have conducted himself while on our campus with scrupulous propriety." Marcus Singer, Cornell zoologist, is threatened with contempt of Congress action for refusing to testify about his associates, although he testified fully about his own past connections with Communist Party activities.

The Illinois FAS Chapter recently adopted by a vote of 24 to 4 a resolution that "the use of the Fifth Amendment by a faculty witness before a Congressional committee or similar committee should not constitute a ground for dismissal from his position. A faculty member should be considered innocent of illegal use of the Fifth Amendment unless and until he has been found guilty by a competent court." The FAS Council has not formed a policy on this issue.

The NATIONAL MANPOWER COUNCIL on May 18 recommended to the President many of the policies on scientific manpower long advocated by FAS. The Council, established at Columbia Univ. in 1951 under a grant from the Ford Foundation, consists of 20 prominent educators and businessmen, headed by James D. Zellerback. Their report, also published as a book entitled "A Policy for Scientific and Professional Manpower," lists objectives for a cooperative effort of government, industry and education: (1) develop more reliable knowledge about our human resources, (2) strengthen the academic institutions, (3) maintain a large flow of graduating university students, (4) expand the opportunities for securing a higher education, (5) improve the utilization of available manpower.

The FAS is a national organization of scientists concerned with the impact of science on national and world affairs. This Newsletter is designed primarily to inform the membership and stimulate discussion of relevant issues. The facts and opinions contained do not reflect official FAS policies unless specifically so indicated. The Newsletter is edited by member-volunteers in the Washington area.

OPPENHEIMER CALLS FOR OPENNESS

In the July Foreign Affairs, J. Robert Oppenheimer discourses somberly on American atomic weapons policy.

Discussing the little that is publicly known about both American and Russian atomic stockpiles, Oppenheimer feels "we should all know...where we stand." He estimates that "the USSR is about 4 years behind us...and...that their scale of operation is something like half as big as ours was then...The very least we can conclude," he suggests, "is that our 20,000th bomb...will not in any strategic sense offset their 2,000th bomb...as Mr. Gordon Dean has emphasized, there will come a time when...the art of delivery and the art of defense will have a much higher military relevance than supremacy in the atomic munitions field."

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CANDOR AND COOPERATION

Oppenheimer recommends three specific reforms. First, tell our people the facts. Second, tell our allies the facts. Third, improve our air defenses. According to Oppenheimer, "We do not operate well when the important facts, the essential conditions which limit and determine our choices are unknown [or] known in secrecy and fear, only to a few men...The political vitality of our country" cannot thrive without "the interplay of opinion and debate...and public opinion which is based on confidence that it knows the truth."

"There is also need for candor," says Oppenheimer, "in our dealings with at least our major allies...There have been arguments for technical collaboration with the United Kingdom and Canada...and with the NATO governments...We should not tie our hands...we should inform and consult [and so] make a healthy and perhaps very great change in our relations with Europe."

We should take better measures for the defense of our country, he urges. "Vandenberg estimated that we might, with luck, intercept 20 to 30 percent of an enemy [air] attack...a highly-qualified panel, under...Dr. M. J. Kelly [see below]...has studied the complex technical problems of continental defense" and no doubt will recommend sensible methods for the defense of the country. Such measures...will mean, even to our allies...the continued existence of a real and strong America...which should discourage the outbreak of war."

CONTINENTAL DEFENSE

A summary of the report of the Study Group on Continental Defense, at work since Dec. 1952, was released by the Dept. of Defense June 3. The complete report of the group headed by Dr. M. J. Kelly, President of Bell Telephone Labs., is still classified Secret, and is being considered by the National Security Council. The major points are:

(1) "The Soviet Union is militarily capable today of a surprise attack on the US which could cause large loss of life and major property damage and possibly temporarily lessen the capability of the US to support a major war effort." (2) It is important that we continue "development of a powerful US atomic offensive capability, reasonably invulnerable to initial attack." (3) The summary report urged "creation...of a continental air defense system much better than that which is assured under present programs." It held that the "nearly perfect protection," as recently publicly advocated, seems "unattainable and in any case completely impractical, economically and technically, in the face of expected advances in potentially hostile offensive capabilities." In the light of stern facts, the Committee emphasized there can be no safety in the atomic age short of the elimination of war. (4) No definite "goal could now be set for a particular desired level of defense against air attack" because of the technological problems. "...the complex operations of continental defense against air attack suffer throughout from lack of clean-cut organization." Specifically the early warning schemes need improvement and there should be close integration of the defense measures of the US and Canada. (5) "Continuing strong support" should be given to "a stable and sustained research and development program...specifically established for...creating an adequate air defense."

The BRICKER RESOLUTION to amend the Constitution to limit the President's treaty-making powers has been reported out of committee considerably changed. The administration is reported still opposed and passage now seems more uncertain than before.

CONGRESSMEN URGE DISARMAMENT

While the Korean truce still hangs fire and the international armaments race continues, the last few months, nonetheless, saw four concurrent resolutions on general disarmament introduced in the US Congress.

Reps. Cole (R, N.Y.) and Price (D, Ill.) presented practically identical resolutions (H. Con. Res. 93 and 94, respectively) calling on "the peoples of the world to join in a great moral crusade for peace and freedom" and asking the Congress to pledge substantial sums -- when effective disarmament takes place -- "for peaceful development of atomic energy" and "technical assistance programs" for aiding underdeveloped areas.

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SENATE RESOLUTIONS

In the Senate, Sen. Jackson (D, Wash.), joined by 13 co-sponsors, likewise appealed (S. Con. Res. 27) for the "great moral crusade" and asked Congress to recommend that the UN General Assembly "devote itself to...stopping the armaments race."

Sen. Flanders (R, Vt.) introduced a resolution (S. Con. Res. 32), co-sponsored by 17 Rep., 15 Dem., and 1 Ind. It differs in some details from one he introduced in 1951 -- it omits citing of the Russian threat. Both resolutions urged reducing of UN armed forces and of armaments. The 1953 version includes specific recommendations on disarmament proposals, and calls on the President "to solve the scientific and technical problems involved in the effective control" of atomic weapons and "to explore whether...changes in the UN Charter may be required for achieving disarmament."

Flanders presented for the Congressional Record statements from many organizations, including the FAS statement of Nov. 17, 1952 on thermonuclear weapons (NL 52-9). Despite the present world climate -- and the probability these resolutions will languish unreported by their respective Congressional committees -- the publicity they receive may have some effect at home and abroad and, like Flanders' 1951 resolution, indirectly stimulate UN disarmament efforts.

NATIONAL SCIENCE FOUNDATION appropriations for the next fiscal year are in the hands of the Senate-House conference committee which must reconcile the \$5.75 million approved by the House with the \$10 million voted by the Senate. Sen. Bridges is senior Senate member (the House members have not been named as of this writing) of the conference committee on the Independent Offices Appropriations bill. * * * The SMITH-AIKEN BILL to remove the \$15 million limit to NSF appropriations passed the Senate June 18, following a brief explanation of its purpose by Sen. H. Alexander Smith (R, N.J.). The companion bill (H.R. 4689) awaits Rules Committee action before it can be considered by the House. Rep. Charles A. Wolverton (R, N.J.) is the bill's sponsor; Rep. Leo E. Allen (R, Ill.) is Chairman of the House Rules Committee.

FAS NOTES -- Executive Committee met in New York June 14, is readying a statement on "book burning" . . . Draft report of Committee on Atomic Legislation and Industrial Power is being circulated . . . Six FAS Information Bulletins have been issued in the last month . . . Stanford, Illinois, Mohawk chapters especially active.

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McMAHON ACT to be CHANGED ? (Cont. from Page 1).
it should not "go the whole hog" and insist on private ownership of bomb-making materials and facilities for producing them." Industry is not prevented under the present law "from going ahead with atomic reactor research and development and, if desired, investing its own research funds."

In a second speech this week, Holifield took the AEC to task as "lacking in candor" and seeking to "side-step Congressional intent." He said "the AEC has shown a startling lack of perspective in its legislative proposals for atomic power development. These proposals range so far ahead of the prospects for atomic power that we must seek their motivation in sources other than the desire to meet problems of pressing importance."

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FISSION FINANCES Holifield sees the Commission's proposals (above) as involving "a drastic redirection of national policy in atomic energy...The Commission speaks disarmingly of 'wider participation' in nuclear power development, but it doesn't come right out and say that it proposes to let private companies own fissionable material and facilities for production of such materials, privileges now reserved by law to the government...Thus the proposed legislation would have the effect of putting private enterprise into the atomic bomb business." He raised the question whether "this sudden zeal...is not, as someone aptly remarked, a desire for 'industrial participation in the United States Treasury instead of in atomic power.'"

Holifield argues that "the Congress [in 1946], anticipating that atomic energy ultimately would have practical value in industrial and other fields, specifically laid down a course of action to be taken by the AEC when that time arrived...Legislative changes would be considered when the practical value of atomic energy had been demonstrated and its economic and social effects more clearly indicated." The AEC, he said, has now proposed "far-reaching legislative changes far in advance of practical application" that "would repeal the requirement that Congress be permitted to review the granting of licenses for industrial uses of atomic energy."

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PUBLIC POWER PROTESTS Also opposing the proposed changes in the act is the American Public Power Assoc. In a resolution on May 13, this association of public utilities called for adequate provision in any change to prevent "monopolistic advantage" accruing to private concerns or individuals. They called for development of a pilot power plant by the AEC which would also test the practicability and economic soundness of atomic power. These were among the conclusions of former Federal Power Commissioner Leland Olds in a series of detailed articles in The Nation (May 30, June 6 and 13).

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REACTOR PLANS CONFUSED Although the House vote on the AEC 1954 appropriation, on June 18, was 30% below

the Truman estimate, with a \$22 million cut in the reactor development program, the present prospect appears to call for increased rather than decreased emphasis on government-sponsored A-power development.

According to John Norris in the Washington Post, June 21, adjustments have been made in the original decision to withdraw military backing for atomic plants for warships, planes, and industrial use. These are said to have "saved" the atomic power situation and some say will result only in a slight delay of the program. The original administration decision to cut funds for a land-based prototype for an atom-propelled aircraft carrier was based on economy and the belief that private industry could take over this job. The Joint Committee, however, came to the conclusion, after questioning industry representatives, that private companies were not prepared to take over. Chairman Cole, it is reported, convinced the House Approp. Comm. to put back funds for the AEC to continue work on a pressurized water reactor of the breeder type which could be the pilot model for both industrial atomic power plants and for aircraft carriers. The Navy presumably would have to re-design the power plant to fulfill the second purpose. The new approach, including the continuation of work on two types of submarine non-breeder reactors, would result in the Navy's getting an atom-powered fleet with no serious delay, the Post writer said.

The other significant adjustment made, Norris says, is Defense Department approval of an Air Force plan to proceed with atomic-powered airplane development along a new, highly promising approach. Sec. of Defense Wilson hinted that scientists have hopes of eliminating the heat transfer system in the transformation of atomic into electrical energy.

According to Norris, all Navy officials and Congressmen are not satisfied with the carrier decision. Reps. Yates and Price (both D, Ill.) fought to get the full project restored. Price, a member of both the Joint Committee and House Armed Services Committee, said, "There is a slow-up in progress toward atomic ship-propulsion, aircraft, and industrial power. The momentum we lose will never be regained and thus national security and our ultimate welfare will be endangered and weakened." A majority, however, are said to agree with Rep. Cole.

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BREEDING SUCCESSFUL On June 4, before the electric utility engineers, AEC Chairman Gordon Dean announced the successful operation of the "breeder" reactor at Arco, Idaho. In the current plutonium-producing piles, two U-235 atoms are required to transmute one U-238 atom into plutonium. The higher neutron efficiency of the new "breeder" reactor requires only one atom of U-235 be used to produce one atom of plutonium. Dean warned of over-optimism, disclosing that "breeding" is a slow process, and a reactor may have to operate for five years or longer before it succeeds in yielding as much new fuel as was initially invested in it."

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