

# F. A. S. NEWSLETTER

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May 23, 1955

## WORLD ATOMIC COOPERATION

Over 1000 scientists in this country speeded work to meet the May 20 deadline for papers to be presented at the UN International Conference on atomic energy scheduled to convene in August at Geneva, Switzerland. Conference exhibitions are also being rushed to completion -- including several models of reactors, many components, and an operating "swimming pool" reactor. The UN organization of the Conference has been established. Homi Bhabha, of India, will preside. John Cockcroft (Britain), W. B. Lewis (Canada), F. Perrin (France), D. V. Skobeltsyn (USSR), I. I. Rabi (US), and an as yet unnamed Brazilian representative will serve as vice presidents. Walter G. Whitman (US) is secretary general and V. S. Vavilov (USSR) is deputy secretary general. The Conference is being anticipated with optimism and high hopes by the US State Dept. and by Congressional members, who view it as a possible turning point in the entire area of peaceful developments of atomic energy.

**PROGRAM UNDERWAY** Eisenhower's A-pool program is moving ahead with specific plans now completed to set up atomic reactors in Turkey and Switzerland, using nuclear fuels provided by the US. On May 4, the President signed the documents that will permit Turkey to borrow up to 66 pounds of uranium plus American "know-how" for construction of a research reactor with built-in power facilities. On May 12, I. I. Rabi announced that the Swiss will be allowed to purchase for scientific research purposes the 10 kilowatt "swimming pool" reactor being built at Geneva for the coming conference.

Implementing plans for scientific information exchange, 32 scientists from 21 countries were enrolled this month in a 4-week training course on radioisotope techniques at the Oak Ridge National Lab. Congress has approved a proposal permitting broader exchange of atomic energy information among the NATO nations. Ratification by each member nation is now required. Joint Atomic Energy Committee Chairman Clinton Anderson announced the formation of a team of 8 experts to serve in an advisory capacity to the legislators as the expanding field of atomic energy makes its influence felt on many fronts. By making more data and assistance available, the AEC is continuing its program to encourage American industry to get into the reactor development, construction, and operations fields both here and abroad.

Via the UN, a US draft proposal has been submitted to Australia, Belgium, Britain, Canada, France, Portugal, and the Union of South Africa concerning the establishment of an international agency to serve as a "clearing house" for the exchange of data, equipment, and resources on atomic energy development programs. Its relation to the UN has not actually been determined but it has been suggested that it might function under the UN as a specialized agency.

**IRON CURTAIN A-POOL** Exhibiting its own brand of international cooperation, Moscow broadcast a report that an atomic energy conference there was attended by representatives of China, Czechoslovakia, East Germany, Poland, and Romania. These countries, plus Hungary and Bulgaria, are to receive Russian assistance in reactor development and construction projects. But a US Atoms-for-Peace exhibit, on international tour, has been banned in Poland. The reason given to the US Embassy in Warsaw was that the Polish government could not allow such a display to be shown until the US adopts a policy of using atomic energy exclusively for peaceful purposes.

## SURVEILLANCE: More or Less?

An unofficial count of the number of persons in this country subject to some kind of loyalty or security test has been set at 12,600,000 -- about 1 out of every 5 employees. Writing for the *Bulletin of the Atomic Scientists* (Apr. '55), Yale law professor Ralph S. Brown estimates that already over 5 million persons not working for the government are subject to loyalty-security tests. Now Sen. Butler (R, Md.) has reintroduced, under the title "Defense Facilities Protection Act," a bill that would extend surveillance over additional millions of workers. As it stands the bill would bar any persons from any facility important to the "military effectiveness" of the nation where there is "reasonable ground to believe they may engage in sabotage, espionage or other subversive acts." Plants handling classified contracts are already covered by government security standards.

**BUTLER BILL ATTACKED** In hearings before the Senate Internal Security Subcommittee, the bill was bitterly attacked by a number of labor, veteran and political organizations. CIO counsel T. E. Harris testified that the vague wording of the legislation would "confer upon the government a degree of control over private employment which this country has never found necessary even in the darkest days of war" and bring us close to the totalitarian practice "that every worker carry a police card attesting to his loyalty in order to get work." Testifying for the United Steelworkers, F. N. Hoffman saw in the bill a potential threat to "the foundations of this house of democracy." The Amer. Veterans Comm. and the Americans for Democratic Action joined the CIO in requesting that the bill be shelved pending review of the entire government security program by a bipartisan commission. The bill was shelved by the House Judiciary Committee last year as "hastily drawn and obviously inadequate."

**HEARINGS TO OPEN** While this drastic extension of the security program was being proposed, the current Federal Employees Security Program was scheduled for critical review. Sen. Olin D. Johnston (D, S.C.), Post Office & Civil Service Committee chairman, announced public hearings to begin May 26 on the whole question of the operation of that program. The Ladejinsky and Chasanow cases will be reviewed as "typical of the threat of some of the present policies to the securities and basic rights of individual Federal employees." As a part of the investigation the Committee plans to look into the background and qualifications of security officers since, according to Murrey Marder (*Washington Post*, May 19), "Many critics, including [former Sen.] Cain, contend that many security officers lack the adequate background to make fair judgments."

Another investigation has been initiated which will inevitably be concerned with security practices. The Senate has voted \$50,000 for a special investigation to determine if present trends in America are leading to infringements of our constitutionally guaranteed civil liberties. Chairman Thomas C. Hennings (D, Mo.) and Senators Langer (R, N.D.) and O'Mahoney (D, Wyo.) comprise the Judiciary Subcommittee on Constitutional Rights that will carry out the investigation. Sen. Hennings indicated on May 11 that "the functions of administrative departments" concerned with civil rights will constitute a part of the inquiry.

**SECURITY BRIEFS** The Defense Dept., in response to protests from universities and from the Amer. Civil Liberties  
(Continued on Page 4, Column 1)

## SCIENTISTS NOW EXPORTERS

Scientists not well versed in current export regulations will be surprised to learn that their correspondence on scientific and technical matters with foreigners is subject to export control just as much as the export of machinery. The current (Apr. 28) revision of the regulations governing the export of technical data loosens the restrictions applying to basic science and to educational matters, but even this milder version of the rules requires that foreign mail on these matters be sent under the "general [export] license" -- for which no application is required and no document is issued, and which is available for use by all persons. Each outgoing piece of mail sent under the applicable section of the regulations shall be marked on the outside wrapper "GTDS [General Technical Data Scientific], Export License Not Required."

The Bureau of Foreign Commerce believes establishment of the GTDS category has met all objections to the earlier rules. If all letters on scientific matters from the US continue to be marked with the mystic symbol "GTDS, Export License Not Required," however, it will not be surprising if damaging conclusions are drawn about the significance of the symbol. Its interpretation as censorship, while technically incorrect, may not be uncommon.

**HISTORY** Regulations on the export of technical data have been in effect since 1951, but until Jan. 15 of this year educational and research items were specifically exempted. A revision of the licensing regulations effective on that date set up 2 general categories: GTDP (general technical data, published) and GTDU (general technical data, unpublished). The first category, including reprints, can be sent anywhere. The second category can be sent only to countries this side of the iron curtain. In addition, certain types of information of "strategic significance" can be sent only after obtaining a "validated export license" -- for which specific application must be made and which is valid for a limited time only. Examples of such subjects are: electron microscopes and electron guns and lenses therefore, and compasses and gyroscopic equipment. Besides the mandatory restrictions, voluntary restraint is called for; exporters of technical data are urged to refer to the Bureau of Foreign Commerce for its opinion any unpublished technical data intended for export if they are not sure whether it might affect the security and defense of the US.

There has been little or no enforcement of the law so far. Most scientists not working for the government are unlikely to have heard of the Export Control Act of 1949, or of the regulations subsequently issued under the act. If some zealous official decided to enforce the law, however, the penalty for violation would be "a fine of not more than \$10,000, or ... imprisonment for not more than one year, or ... both..."

**DOCUMENTS** The documents describing these regulations are: (1) Current Export Bulletin #741, Dec. 16, 1954. (The "transmittal portion" of the Bulletin, containing the gist of the regulations, is available as a reprint dated Jan. 15, '55.) (2) Current Export Bulletin #749, Apr. 28, '55. (Reprint available, as above.) The Office which originates these documents is the Bureau of Foreign Commerce, Dept. of Commerce, Washington 25, D.C.

### UN CHARTER REVISION

A Senate Foreign Relations Subcommittee, headed by Sen. Walter F. George, has now concluded extensive hearings on UN Charter revision. The final week included testimony by many public figures and national organizations, including FAS. Former Presidents Hoover and Truman, and Mrs. Roosevelt, all doubted if a really productive revision conference could now be held; they urged support of the UN in its present form and postponement of the Charter amendment question.

In his May 6 column, Marquis Childs noted the contrast between the FAS testimony delivered Apr. 21 and the "cautious view" of most public leaders. He said the scientists know "the destructiveness of the arsenal of atomic-hydrogen weapons" and that they share "a deep sense of responsibility for trying to prevent the mutual annihilation of another war." The FAS statement, approved by the FAS Council at its Chicago meeting last November and delivered by Washington chapter member John S. Toll (U. Md.), urged the US to take the leadership in strengthening the UN Charter to provide for "effective world control of atomic weapons." (The complete testimony is available from the Washington Office.)

## SOVIET CONCESSIONS ON DISARMAMENT

Something like a break in the disarmament stalemate may be represented by the Soviet proposal made May 10 to the UN Disarmament Subcommittee meeting in London. While the plan includes anti-NATO provisions, such as withdrawal of foreign troops from Germany and abolition of bases in foreign territories and requires a UN seat for Red China, it does make 2 significant concessions to Western views. It sets limits for conventional forces and it relates the timing of nuclear disarmament to conventional disarmament. Thus it is proposed:

(1) that during 1956 there will be prohibition of manufacture, testing and use of atomic and hydrogen weapons, plus reduction of armed forces by 50% of the number in excess of the ultimate ceiling of 1,000,000 to 1,500,000 for the US, USSR and Communist China, and 650,000 for Britain and France; and (2) that during 1957 the reductions in armed forces to the agreed levels be completed, the final 25% reduction to be accompanied by elimination of atomic weapons.

**INSPECTION** As has been true of previous Russian plans, the provisions for inspection are likely to be unacceptable to the Western powers. An international control agency is indeed proposed, but the proposal (full text in N. Y. Times, May 12) states that inspection would at first be only of "control posts in big ports, railway junctions, motor roads and airdromes." The main Soviet arguments against the more rigid and comprehensive Western plan are, first, that "there are possibilities beyond the reach of international control for circumventing this control and organizing the secret manufacture of atomic and hydrogen weapons, even if there is a formal agreement of international control," and, second, that "many states" today "display legitimate concern for their security" and hence "it is difficult to expect that these states would trustfully give other states access to their industrial and other resources which are of vital importance for their security."

Typical of Western reactions was the statement of Britain's Anthony Nutting that the Soviet proposal was encouraging but that Britain must "insist on the absolute right of access [for inspection] everywhere in the territories of the nations involved."

### PRESSURE FOR ACTION ON DISPERSAL

In an effort to speed action on the nation's lagging dispersal program, FAS has written President Eisenhower to give the matter his personal attention. Although the Director of the Office of Defense Mobilization proposed to Congress last February appointment of a special commission to study the dispersal problem, no action has been taken or promised. Pointing out that dispersal may be the only effective defense against future intercontinental missiles, Chairman Hughes' letter to the President stated that "the longer we delay in launching an adequate program, the more drastic it would have to be." As examples of measures that the proposed commission might consider, the FAS letter, released May 22, suggested the following:

(1) Dispersal of the Federal government. (2) Federal aid in construction of highways and other transportation and communications facilities out of and around target cities. (3) Substantial tax differentials to encourage industrial building in non-target areas, and (4) Federal aid for hardship cases resulting from the dispersal program. The Federation urged the President to take prompt action, adding, "The security of the US is too vitally involved to permit further delay."

**GOVERNORS & SENATORS** Pressure for increased Federal responsibility in the administration of CD has come from both State and Federal levels. The Conference of Governors, 45 strong, urged on May 2 "that the fundamental concept of the 1950 Federal law, which placed primary responsibility for civil defense on the states, should be changed to put primary responsibility on the Federal, state and local governments." On May 20, an interim report by the Senate Armed Services Subcommittee currently assessing the CD situation called on President Eisenhower to assume "personal responsibility" for developing adequate civil defense and suggested a "civil defense week" to acquaint the public with the terrible consequences of thermonuclear attack and present civil defense preparations.

## FAS SPONSORS A-HAZARD TALKS

The political implications of the immediate radiological and long-term genetic hazards of the radioactivity released in nuclear bomb tests were the subject of a panel discussion presented by the Washington chapter of FAS on April 28 at the Sheraton-Park Hotel. Chairman Clinton Anderson (D, N.M.) and Rep. Chet Holifield (D, Cal.), both of the Joint Atomic Energy Committee, spoke on the political aspects of the problem. Various aspects of the radiological hazards were discussed by John S. Toll, Univ. of Maryland Physics Dept. chairman, and Prof. Bentley Glass, geneticist, from Johns Hopkins University.

**IGNORANCE AND FEARS** How the security system unnecessarily restricts availability of information concerning bomb effects and radiological hazards was emphasized by M. Stanley Livingston. As moderator, Livingston outlined the difficulties in obtaining a qualified physicist to speak on these subjects. Scientists associated with the AEC and the Defense Dept., as employees or contractors, turned down the engagement either because of fear of involvement in a controversial issue or because they felt they could not speak authoritatively with so much information on the topic still classified. Livingston charged that the security system was responsible for this situation in which "those who know won't speak, and those who don't know cannot speak with authority."

**RADIATION EFFECTS** As a consequence, the job of reviewing the physical effects of radiation fell to Prof. Toll who, disclaiming expert knowledge in this field, presented the information available in press releases and declassified publications. The AEC's Feb. 15 report was cited as indicating that the total amount of radiation received by the average US citizen as a result of all nuclear weapons tests to date is only about 0.1 roentgen, a negligible amount. However, Toll pointed out, based on data from the Bikini thermonuclear test, full-scale nuclear warfare could easily increase the worldwide average dose to 100 roentgens.

The possible deleterious effects of even the present "permissible" dose limit of 0.3 roentgen per week on the long-term genetic health of the world's population were discussed by Prof. Glass. He pointed out that, based on the best available estimates, the mutation rate would be increased by from 4.5 to 150 times.

**SOLUTION -- PEACE** Rep. Holifield stressed the importance of finding alternatives to nuclear war if the physical and biological hazards surveyed by the earlier speakers were to be avoided. He stated that "there is a grim and desperate urgency about the task that confronts our nation: how to establish the conditions for durable peace, how to survive the atomic-hydrogen age." He accused our government of not adequately informing the public concerning the scope of the dangers from nuclear explosions and said that he would be more optimistic about the outcome of any meeting among the great powers "if behind the deliberations of the leaders lay the massive weight of public understanding in all countries as to the actual horrors that the new weapons could loose upon the earth."

Lack of public information on the facts of our nuclear age, as a result of the AEC's security regulations, was also decried by Sen. Anderson. He urged a UN study of the radioactivity effects of A-bomb tests and proposed, along with Holifield, that the atom's potentialities for serving humanity be stressed to all the nations of the world.

### CORRECTION

The Dec. 7, 1954 Newsletter cited as the first case of its kind at a state university the reinstatement of a U. of Michigan professor who took refuge in the 5th Amendment. Two careful readers of the Newsletter have called our attention to a previous example of such action. Paul Zilsel, U. of Conn. physicist, pleaded the 5th Amendment when called before the House Un-American Activities Committee in April 1953. He was suspended with pay while the University investigated the matter. In July, 1953 he was reinstated by a vote of the Board of Trustees on recommendation of the provost, president, a faculty committee and the local AAUP chapter. The Newsletter is pleased to have the record set straight.

## NUCLEAR DETONATIONS & THE GENE

The recently introduced Senate Concurrent Resolution 22 -- to establish a UN commission to study nuclear radiation hazards -- is receiving gratifying support. Twenty-seven Senators have joined Sen. Frederick G. Payne (R, Me.) as co-sponsors of the legislation, which has been referred to the Foreign Relations Committee headed by Sen. Walter F. George (D, Ga.). The resolution, which parallels the proposal for a UN commission released by FAS on Mar. 6, may become the subject of Senate hearings.

**MULLER ON MUTATIONS** H. J. Muller, Nobel Prize winning geneticist, commented on Apr. 25 before the National Academy of Sciences that both those in "high places" who minimize genetic effects of radiation and those who claim that the tests should be stopped because of serious undermining of the heredity of all humanity are equally false in their claims. Muller said that nuclear tests "do not undermine the heredity of our population as a whole significantly." The meaning of "significantly" may be indicated in a US News & World Report (May 16) interview in which Muller is quoted as saying, "I have arrived at a tentative figure of something like 80,000 mutations present in our successors in America -- say those living 100 years from now -- as a result of the radiation which the AEC has told us that present day Americans have received from the tests to date. There might be as few as 25,000 or as many as 170,000." Muller further told the Academy that "each individual harmful mutation is, however, an evil, and we have no right to dismiss it lightly." He concluded, "Therefore, we must base our case for the continuance of the tests squarely on the fact that they are at present necessary to prevent our being put at a military disadvantage."

The AEC position on the biological effects of background radioactivity resulting from nuclear tests was stated in Congressional hearings Apr. 15 (see NL 55-4). (Copies of these hearings are now available from the Joint Atomic Energy Committee, Capitol Building, Washington 25, D.C.)

Ralph E. Lapp, in the May issue of the Bulletin of the Atomic Scientists, takes the AEC to task for too late and too little reporting to the public on H-bomb dangers brought to light by the March 1954 Bikini tests. In particular, he emphasized the tremendous gap between the genetic effects due to tests and those that might follow a real bomb attack.

**TEST BAN URGED** The British Labor Party, while supporting the Government's plans to manufacture the H-bomb in Britain, has included in its party platform a call for an immediate ban on all further testing of nuclear weapons. Concern that the Labor Party might try to capitalize on H-bomb fears by declaring even against the Conservative proposal to make it has been quieted but, according to Drew Middleton (N. Y. Times, Apr. 29), the stand against further testing will be emphasized "to take advantage of the general concern in Britain."

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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.

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## SCIENTIST REJECTS PHS GRANTS

John T. Edsall, Harvard biochemist, has written an eloquent and timely denunciation of the improper security criteria being used by some government agencies in granting funds for unclassified research (*Science*, Apr. 29). While commending the US Public Health Service on its general administration of research grants, the author singles out this agency for severe and detailed criticism because of its summary termination of research grants to several eminent scientists engaged in non-secret research. The seriousness of this situation as viewed by Edsall is indicated in the following quotation from his article:

"Inevitably, the decision concerning proper action in this grave situation is not easy for most scientists. Because I am not a department head, and because I derive my research support from other agencies that have maintained the tradition of freedom, I feel that I can speak more openly than many of my colleagues. I can say only that the withholding of research grants for unclassified research on grounds unconnected with the scientific competence and integrity of the investigator is abhorrent to me. Under the circumstances I shall neither ask for nor accept funds from any Government agency that denies support to others for unclassified research for reasons unconnected with scientific competence or personal integrity. If I do receive funds for research and I learn subsequently that the granting agency has adopted such a policy toward other individuals, I shall stop using such funds and shall return the unexpended balance to the agency that awarded them to me."

### SURVEILLANCE: More or Less? (Cont. from Page 1).

Union, has decided to replace the broad and detailed loyalty certificate previously required of all ROTC students by a simple oath of allegiance "... to support and defend the Constitution..." \* \* \* \* \* Four Congressmen have demanded a formal investigation of the case of former Cpl. Walter Kulich. Kulich, now in the reserves, faces an undesirable discharge because of allegations that his father was a member of the Communist Party, allegations that have been denied. Rep. Pelly (R, Wash.) commented that the case seems to be one of "guilt by association, even if the association happens to be your father's and even if there isn't any guilt." \* \* \* \* \* Attorney General Brownell announced Apr. 15 that the Justice Dept. will abandon its practice of retaining full-time paid informers or "consultants" on communism although "expert witnesses" in specific cases will continue to be paid as such.

"... If it fails now, the supranational organization will be built later, but then it will have to be built upon the ruins of a large part of the now existing world. ... The time is terribly short ..."

- - ALBERT EINSTEIN, 1879 - 1955

## PETERS CASE HEARD

In a fiery session before a packed courtroom, the Supreme Court heard arguments April 19 in the case of Yale medical professor John P. Peters. Asst. Attorney General Warren E. Burger defended the government's position, while Thurman Arnold represented Peters. It is not entirely certain that the Court's decision will be based on the fundamental question of the government's right to use secret evidence in loyalty cases. On this point, Justice Frankfurter sharply commented during the hearings, "This Court reaches constitutional matters last -- not first." It would be possible to find in Peters' favor on the purely technical grounds that, since the agency board had ruled in favor of Peters, the Loyalty Review Board did not have authority to review the case. Such a result would leave the constitutionality of security procedures still up in the air. In supplemental briefs, both sides have agreed that the Loyalty Review Board had jurisdiction in this case, and urged the Court not to rule on these narrow grounds.

**EVIDENCE KEPT SECRET** The most surprising development in the hearings arose when the Court requested to see the pertinent evidence. Chief Justice Warren had understood that the Court would have available to it a complete record in the case. However, Burger stated that the only record the Court could see was concerned with evidence that Peters presented before the Loyalty Board in his defense. So, ironically, the Supreme Court of the United States, as well as the defendant, has been denied access to the "secret information" assembled by the FBI.

### OPPENHEIMER IN THE GREAT NORTHWEST

The FAS Council decried the Oppenheimer ban by the U. of Washington President, Henry Schmitz, in a statement released April 30 from its meeting in Washington, D.C. The Council expressed its concern "that factors other than scholarly competence appear to have been arbitrarily used as prerequisites for participation in the normal activities of a great university." It cited this as "another example of the consequences of the security system spreading far beyond their legitimate area," and lauded "the efforts of the faculty of the U. of Washington to re-establish intellectual freedom."

A little noted but heart-warming footnote to this latest Oppenheimer controversy is the reception given the eminent physicist just across the state line. The Oregon State Board of Higher Education had invited Oppenheimer to lecture at its colleges at Eugene, Corvallis and Portland. Audiences of over 2000 came to hear highly technical lectures on "The Sub-Nuclear View" and "Elements of Order." Some were students and scientists but many were townspeople who came perhaps as a gesture in support of intellectual freedom and freedom from fear.

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