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PROGRESS SLIGHT AT GENEVA

Reports of possible concessions by the Russian and American negotiators aimed at reaching an agreement on a nuclear weapons test ban are the first indications that the month long deadlock in the test ban negotiations in Geneva may be breaking. After 3 weeks of wrangling over the agenda the conference, which started on Oct. 31, dropped this approach and proceeded without the benefit of an agenda. The conferees decided to attempt drafting a treaty which would be acceptable to both the USSR and the US. As this issue of the Newsletter goes to press the negotiators are attempting to reach a compromise on the important opening article of the treaty since this article will probably define the scope of the obligations undertaken by the signatory powers. The position of the US and Britain is that this article must insure a firm link between a test suspension and international inspection.

While prospects for agreement are brightening in the test ban negotiations, the surprise attack conference has been deadlocked since its beginning as a result of Soviet insistence on injecting political issues into the discussions which the West maintains should be strictly technical.

Russian Tests Continue

Even as the nuclear-peace negotiations began their discussions at Geneva it was announced from Washington that Soviet tests had occurred on Nov. 1 and 3. (N.Y.T. Nov. 9). Moscow declared that, in the absence of agreement on a permanent ban, the USSR would continue testing until it had completed as many tests as had the US and Britain since last March 31. Stating that these most recent Soviet tests relieve the US of any obligation under its one-year suspension offer, President Eisenhower declared, however, that the US would continue its suspension for the time being.

Opinion in the West holds that, as a result of disclosures at the technical talks last summer, the Russians became alarmed over the possibility that they were seriously lagging behind the West in nuclear development and have since reversed their position on test suspension while, for propaganda purposes, continuing to insist on nothing less than a permanent ban. The US and Britain have offered to discuss simultaneously test cessation and the establishment of a control system, but are unwilling to make any commitments regarding the former lest the Soviets then indefinitely stall further progress on policing a test ban.

FAS Statement

Following its meeting in New York on Nov. 23, the FAS Council issued a statement urging the permanent cessation of nuclear tests. The Council noted that "there are probably enough large nuclear bombs in present stockpiles to destroy the human race." Rejecting the argument that continued testing is essential to develop defensive weapons, the Council emphasized that "only 100 per cent defense can prevent annihilation, and 100 per cent defense can never be effected." The Council further observed that "security is not available through military means" and, therefore, effective disarmament steps must take precedence over further technical improvements involving the continuation of nuclear tests. Finally, the Council statement stressed that any "agreed period" during which a detection system might be established should be "longer than the period required merely to prepare another series of test explosions."

Gore and Murray Proposals

In Washington, meanwhile, Sen. Albert Gore (D., Tenn.), a member of the Joint Committee on Atomic Energy, in a move designed to separate the test-suspension and fallout

(continued on page 4)

UN OUTER SPACE COMMITTEE

On Nov. 24th, the UN General Assembly's Political Committee endorsed a resolution, proposed by the US and nineteen cosponsors, which called for the establishment of an eighteen nation Committee on the Peaceful Uses of Outer Space. Unfortunately, the hope of US-Soviet accord on this Outer Space Committee was not realized. The vote in the Political Committee was 54 to 9 with 18 abstentions. The Soviet bloc's members voted against the resolution and Mr. Zorin, a Soviet Deputy Foreign Minister, threatened a Soviet boycott of the Committee.

The history of the debate of this UN resolution illustrates the difficulties and frustrations encountered in any attempt to negotiate an agreement between Soviet and Western blocs. During the week of Nov. 10 the US and nineteen cosponsors circulated a resolution calling for the UN to set up a study committee to promote international cooperation in the peaceful uses of outer space and report back at the 1959 session. It was proposed that the committee examine activities and resources of the United Nations and its agencies relating to outer space as well as organizational arrangements for international cooperation under the United Nations.

The Soviet Union, through Mr. Zorin, criticized this proposal, saying that the US was attempting to ban or control the use of Soviet intercontinental ballistic missiles while maintaining American bases in foreign countries. Mr. Zorin argued that any agreement on outer space must be accompanied by a ban on the use of military missiles and the US evacuation of its overseas bases. This appeared to end any chance of agreement, but in the following week, the Soviet Union withdrew these conditions and UN hopes rose.

The Soviet Counter Proposal

The Soviet Union then presented a new resolution calling for the establishment of a UN committee for cooperation in the study of cosmic space for peaceful purposes. The problems proposed for consideration by this committee were approximately identical with those given in the US plan. There remained only one essential difference between the two proposals namely, the membership of the preparatory UN Committee. The Russians proposed an eleven nation study group—four Communist, four Western and three neutralist; while the US proposed an eighteen nation committee—twelve pro-Western, three Communist and three neutralist. Two days of private discussions between Mr. Lodge and Mr. Zorin in an attempt to reach a compromise on the constitution of the committee led to utter failure, which was followed by the usual bitter recriminations during the final debate.

Some of the proposals contained in the adopted UN resolution establishing the eighteen nation committee on the peaceful uses of outer space include: 1) continuation on a permanent basis of the IGY outer space research program; 2) mutual exchange of information on outer space research; 3) future organizational arrangements to facilitate international cooperation in this field; 4) examination of legal problems which may arise in the carrying out of programs to explore outer space.

Soviet Participation Possible

Despite the threatened boycott by the Soviet Union, the US is expected to insist that the space committee start its work anyway in the hope that the Russian boycott is a temporary one. That this may prove to be the case is suggested by the fact that the Russians are participating in the work of the non-governmental Committee on Space Research of the International Council of Scientific Unions. The Russians nominated Prof. Y. K. Fedorov as a vice-president to join Dr. W. A. Noyes of the US who is also a vice-president, and Prof. H. C. van de Hulst of the Netherlands who is president.

US SPACE AGENCY CONFLICT

The newly formed National Aeronautics and Space Agency (NASA), which is to provide civilian control over all government sponsored space research except "activities peculiar to . . . the development of weapons systems . . ." is being organized amid a torrent of controversy. Resentment on the part of the armed services has grown as a result of alleged personnel raids by the NASA as well as the NASA's assumption of control over established programs. The Army protested loudest about loss of the Caltech Jet Propulsion Laboratories and a part of the Redstone Arsenal. There were also reports that the Navy was concerned over the large number of scientists, in addition to the Vanguard personnel already transferred to NASA, being proselytized by the new agency. The Air Force, which has contracted out most of its research, was reported backing NASA. (N.Y.T. 11/17).

Organization Of NASA

Dr. T. Keith Glennan, Administrator of NASA recently announced the appointments of directors for three key areas of activity. Abe Silverstein was appointed to direct space flight development, to be "concerned with the entire spectrum of space flight operations, including the design and procurement of vehicles and satellite payloads, the launching and monitoring of scientific satellites, the accumulation and reduction of data, and activities supporting the objective of launching man into space." John W. Crowley will head aeronautical and space research—mainly the type of research previously under the NACA, which was absorbed by NASA. Business Administration, including all non-scientific policy administration, will be directed by Albert F. Siefert. (Science, 10/24). In addition a military-civilian liaison committee has been appointed to be headed by W. M. Holaday, who is now Director of Guided Missiles in the Defense Dept. Other members of the liaison committee include Hugh Dryden, deputy administrator of NASA and Roy W. Johnson, director of the Dept. of Defense's Advanced Research Projects Agency. (N.Y.T. 10/31).

NASA has also suspended all pending satellite and space probe shots at least until next February in order to evaluate the reasons for successive failures, especially in the Vanguard program. Officials of NASA were said to be convinced that speedups to meet firing deadlines had led to many of the launching failures. (N.Y.T. 11/26).

SCIENCE AND EDUCATION

The US Office of Education in the Department of Health, Education and Welfare (HEW) has made rapid progress towards implementing the provisions of the National Housing Education Act, passed by the 85th Congress on its closing day. Extensive consultation between the HEW staff, representatives of the States' Education Departments, and delegates from various educational organizations has resulted in concrete plans for the utilization of over \$1 billion dollars in the next four years. The actual operating plans under the new bill will come from the States, localities and colleges involved, so as best to meet local needs. According to US Education Commissioner, Lawrence G. Derthwick, funds will be available to states and educational institutions early next year. Grants to secondary schools, to improve science, mathematics and language instruction, will be among the first. The program of loans to graduate and undergraduate students will start on Feb. 1 and the fellowship program soon after.

FAS Policy On Education

The Education Committee of the FAS (Chairman, J. Swain, Mohawk Chapter) has recently prepared a report to serve as the basis for policy of the FAS in this area. The committee, recognizing the shortcomings of the existing educational system in all fields, stressed the importance of immediate improvement in the teaching of the natural sciences and mathematics. They recommended substantial Federal assistance to the States to improve salaries of secondary school teachers in all fields, with immediate urgency for teachers of science and mathematics, and to identify and encourage gifted students early in high school. The report also called for an immediate Federal scholarship program for college undergraduates saying that the loan program of the National Defense Education Act of 1958 although useful "might (through the necessity of rapid repayment) easily impose a measure of conformity on the college graduate that would smother a spark of independent genius." With

AUTUMN A-BLASTS

Emphasizing the importance of the nuclear weapon test ban talks which began on Oct. 31 in Geneva, a series of nuclear devices were exploded in both the United States and Russia during the months of October and November.

In the United States, the Atomic Energy Commission halted a series of 19 tests at the Nevada Atomic Test Site on October 30th after President Eisenhower announced that this country and Britain would tentatively suspend nuclear testing for one year beginning with the start of the Geneva negotiations. In addition, the UN passed a Western-sponsored resolution asking both sides to call a halt to "nuclear experiments for warlike purpose" during the Geneva talks. The US tests had included explosions from balloons and towers, presumably mainly "smaller" devices in the weapons development program for defensive and tactical uses. However the most significant event was the explosion of a 20,000 kiloton atomic bomb underground. The bomb, as powerful as the one which devastated Hiroshima in 1945, was set off in a mine by nine by eleven foot chamber 1400 feet below the surface of the Nevada mesa.

AEC officials announced that the explosion did not spread any radioactive fallout (N.Y.T. Nov. 2). Seismological stations throughout this country and Alaska, as well as in Japan, recorded the earth shock produced by the detonation. AEC officials said that scientists at the Livermore Radiation Laboratory were now convinced that the underground method was the best way to conduct atomic testing. (N.Y.T. Nov. 1). The belief is that the elimination of fallout would relieve world-wide fears and make it possible to dispense with elaborate and expensive monitoring systems and extensive proving grounds removed from population centers. Meanwhile, the residents of Los Angeles were discomfited to learn on Oct. 30, that the level of radiation there had temporarily risen above the safe standard set by the AEC during the Nevada tests.

In the USSR, testing was resumed by two explosions on Nov. 1 and 3 occurring after the start of the Geneva conference. Russia was roundly condemned at the UN for exploding nuclear weapons while the "Big Three" were negotiating a ban, and only hours after the passing of the UN resolution urging a halt in testing during the Geneva talks.

EURATOM-US SIGN AGREEMENT

Plans by Western European nations for the generation of electric power from nuclear energy are rapidly crystallizing. On Nov. 8 the Euratom nations (France, Germany, Italy, Belgium, the Netherlands and Luxembourg) signed a pact with the US in which the US pledged to loan to Euratom \$135,000,000 and enough enriched uranium for twenty years. What is often not appreciated is the progress already made by these countries. Great Britain's Calder Hall station was a pioneering development. France's first large nuclear power station will be completed in 1959 and by 1975 France plans to produce more electric power from atomic energy than the whole of her present-day conventional output. Italy's first nuclear power plant costing \$60,000,000 will be completed in 1961. Belgium is planning a nuclear power plant, and additional non-governmental plans connected with the US-Euratom agreement are anticipated.

The Soviet Union, according to Dr. Walter Zinn of the General Nuclear Engineering Corporation, has a large and vigorous construction program involving a rapid scale-up from promising experimental reactor types to major power stations.

One disturbing note was sounded by former Rep. W. Sterling Cole, now Director General of the United Nations International Atomic Energy Agency (the agency proposed by President Eisenhower in his 1953 "Atoms for Peace" speech), who pointed out that the UN agency cannot perform its function if the atomic nations insist on bilateral agreements in the distribution of fuel. He said that three quarters of the nations of the world were now accommodated by bilateral agreements, 40 by the US, 12 to 18 by the USSR, and 10 to 12 by Britain. The bilateral agreements provide no basis for the international control and inspection necessary to see that fissionable material in atomic reactors is not used for military purposes. (Wash. Post Nov. 13).

respect to graduate study, the committee said that new doctorates are limited by the number of qualified college seniors electing to enter graduate school and not by the capacity of existing facilities.

BOOK REVIEWS

ALL IN A LIFETIME by James F. Byrnes,
Harper & Brothers, \$5.00, 432 pages.

The jacket of Mr. Byrnes' book carries photographs of four imposing piles of masonry—the Supreme Court, the White House, the US Capitol, and the South Carolina capitol building. These are the places where Mr. Byrnes has pursued a career almost unique in American history. Few Americans have endured so long so close to the thrones of power. And no one else has served in the House, the Senate, the Supreme Court, and in the White House, where Mr. Byrnes functioned almost as "President for Domestic Affairs" under Roosevelt. Later, as Secretary of State under Truman, James Byrnes was the man who would have been President if Truman died in office.

These were tremendous responsibilities, and this life of public service has spanned many years starting with the young court reporter who successfully ran for Congress when Taft was President, to the time when (still taking stenographic notes), Mr. Byrnes went to Yalta with FDR and (he makes quite a thing of this), Alger Hiss. There may be certain temperamental similarities between William Howard Taft and Dwight Eisenhower (they both liked golf), but the world has certainly seen a lot of drives off the fairway in those fifty years.

The jacket of Mr. Byrnes' book also carries a photograph of Mr. Byrnes in his study, and inside that, we can see the photographs, no doubt autographed, of Churchill, Stalin and FDR. When Mr. Byrnes entered Congress, Churchill was a dashing war correspondent, Stalin was in exile and already in a bitter feud with Trotzky—and FDR was on the sunnier side of Campobello. Einstein was already playing havoc with ideas of mass and energy.

What has Einstein to do with Byrnes? What did Byrnes have to do with the atom, and how well did he do it? The first two questions can now be answered, by way of reviewing a select few of Mr. Byrnes' pages. Although it may be noted that one can not review a book by its cover, nor a man by what is NOT covered in his book.

As all FAS members will surely recall, in 1939 Dr. Einstein wrote President Roosevelt a letter ("some recent researches by E. Fermi and L. Szilard . . .") which led to the Manhattan Project to build an atomic bomb. We now learn from Byrnes, as through a glass darkly, that in March of 1945 Dr. Einstein wrote a second letter to President Roosevelt, but FDR died before he could read it. A few days after FDR's death Truman asked Byrnes if he would later be his Secretary of State. A trifle later he asked him to be a Presidential representative on an important committee which was to decide policy issues concerning the bomb project. This was the "Interim Committee," which recommended the use of the bomb upon a Japanese military target without prior warning. That committee held its fateful bomb decision meeting on May 31 and June 1 of 1945. Byrnes, Truman and company went to Potsdam the first week of July. The bomb was successfully tested at Alamogordo on July 16, the operational order to drop the bombs went out from the Potsdam on July 24, and the bombs fell on Japan on August 6 and 9.

Going back now, at the time Byrnes learned he was to be Secretary of State, and that he was shortly to go to a meeting of the "Interim Committee," Einstein and Szilard had talked over the important issues connected with use of the bomb. Germany was out of the war. The bomb could only be used against the Japanese. Einstein asked the President to see Szilard and others, but when Szilard tried to see Truman, he was referred to Matt Connelly, who explained that Byrnes was now Mr. Truman's man on the atom. Thus one fine spring day Leo Szilard, Harold C. Urey, and Walter Bartky, an administrative officer of the Metallurgy Lab at Chicago, went to see Mr. Byrnes in Spartanburg, South Carolina.

Byrnes writes, Szilard that day "complained that he and some of his associates did not know enough about the policy of the government with regard to use of the bomb. He felt that scientists, including himself, should discuss the matter with the Cabinet, which I did not feel desirable. His general demeanor and his desire to participate in policy making made an unfavorable impression on me, but his associates were neither as aggressive nor apparently as dissatisfied." Szilard had a long memo which the four men discussed. Parts of the memo are still classified but most of its points were in the Franck Report. Years later a major part of it

(continued on page 4)

LOYALTY-SECURITY & PASSPORTS

Legal tests of various loyalty-security firings and passport denials continue in the news despite changes in administrative practice and public attitudes.

Some 3 million civilians working for private industry are presently subject to a security program administered by the Defense Dept. Although the program has no explicit Congressional authorization, the Armed Services Procurement Act of 1947 gives the Defense Dept. authority to classify material and to decide who should have access to it. Thus each classified Dept. of Defense contract contains a clause giving the government authority to screen all employees working on the contract. Under this program the Dept. of Defense forced the Engineering and Research Corp. of Maryland to fire its vice-president, William L. Greene, because in the Department's view Greene could not be trusted with classified material. Ironically, many classified items had been designed by Greene himself. That the Department considered Greene's former wife to be an "ardent Communist" probably figured strongly in the withdrawal of his clearance. The case is now before the Supreme Court.

The Supreme Court will also hear three cases that will test the power of State legislatures to investigate alleged subversive activity. In New Hampshire, Dr. Willard Uphaus, director of World Friendships Inc. was sentenced by the State to remain in jail until he answered questions concerning the alleged Communist activities of guests and lecturers at his summer camp. Two questions are at issue in this case; first, whether the forced production of names infringed the free speech rights of Dr. Uphaus and second, whether the Steve Nelson decision of 1956 controls this case. The Supreme Court in the Nelson case upheld a State Court decision that the Smith Act had preempted the field in which the states might legislate against subversion.

Passport Problems

The Supreme Court's recent passport decisions (Kent, Briehl & Dayton cases, see NL 58-5) have led to changes in Passport Office practice. Mrs. Knight, director of the Passport Office, has specifically instructed her employees to "ignore questions regarding Communist Party membership" and to consider as complete applications with those questions unanswered. A present major problem with passports stems from the fight between the State Dept. and those persons who, for one reason or another, wish to travel in restricted areas such as Communist China. William Worthy, reporter for the Baltimore Afro-American, was denied renewal of his passport following his unauthorized visit to

(continued on page 4)

The FAS is a national organization of scientists and engineers concerned with the impact of science on national and world affairs. The staff for this issue included, Editors: M. Elkind, H. Goldfine, Leonard Herzenberg, Lee Herzenberg, D. Singer, M. Singer and G. Snow; Writers: G. Glasser, H. Goodman, F. K. Millar, T. K. Osgood and E. Shelton; Production: I. Shapiro, of the Washington Office Staff.

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GENEVA (continued from page 1)

issues and at the same time, to allay the vocal misgivings of the AEC and Pentagon regarding any agreement to suspend weapons tests, proposed to President Eisenhower that we seize the psychological initiative by announcing a stoppage of all above-ground nuclear tests for a period of three years. (N.Y.T. Nov. 18). In this way, Sen. Gore maintained, the US would be relieved of the onus of further contaminating the atmosphere while at the same time remaining free to continue developing tactical weapons and deterrent strength. In a similar vein, Thomas E. Murray, former AEC Commissioner, urged that the US continue developing small nuclear weapons suitable for use in "limited military engagements." (N.Y.T. Nov. 16).

UN Proposal

On Nov. 1, the UN General Assembly passed a Western-backed proposal calling upon the US, Britain, and the USSR to reach "early agreement" on controlled nuclear-test suspension and to refrain from all tests so long as negotiations are in progress at Geneva. The General Assembly rejected an Indian resolution calling for the immediate suspension of weapons tests pending agreement on a control system. In a separate action, the General Assembly voted to re-establish the defunct UN Disarmament Commission. Bowing to the majority of UN members, the US and Britain agreed to the revival of the 81-nation disarmament group, although they continued to express doubts regarding the usefulness of such a large body. The new Commission, which is expected to meet early next year, will operate on an ad hoc basis for only one year; extension of its life beyond 1959 will depend upon results during the next twelve months.

AIR FORCE MISSILE COSTS PROBED

A controversy developed in October between the General Accounting Office (GAO), Congressional "Watchdog" over the Executive, and the Air Force over their refusal to release to the GAO the report of the Inspector General of the Air Force on the ballistic missile program. In late October a 37 page summary of the 61 page report was released to the GAO. The report was critical of laxness in procurement and subcontracting practices. It also brought out complaints of manufacturers that the heavy reliance of the Air Force on the technical know-how of the Ramo Wooldrige Corp. places that firm in a favored position. (Wash. Post 11/12).

At public hearings on Nov. 12 and 13, called by Chairman John E. Moss (D., Cal.) of the House Government Information Subcommittee, Sec. of the Air Force Douglas took the position, which was subsequently supported by President Eisenhower, that the report was an internal housekeeping matter. Rep. Moss felt that "a cloak of secrecy over possible mismanagement, waste, and inefficiency would be intolerable in any case" and that unless the report is aired the result could be a fatal delay in making necessary corrections in this vital program.

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BOOK REVIEWS (continued from page 3)

appeared in the *Bulletin of the Atomic Scientists*. To continue with Byrnes, "a few days later, when I mentioned to General Groves the scientists' visit to Spartanburg, he told me that he already knew of it; that one of his intelligence agents had been following the three gentlemen, as they followed others connected with the project. The diligence of Groves impressed me then, as it had done before." Mr. Byrnes may be even more impressed to hear, as this writer has heard from one of the scientists involved, on their return to Chicago, that they were rebuked for their visit to a person not authorized to receive classified information. At that time, although soon to be in the Cabinet, Mr. Byrnes was just a private citizen.

So much for comedy. What were some of the points Szilard made to the President's personal pair of atomic ears, on the eve of Alamogordo, Potsdam and Hiroshima? He warned that the first bomb would be "much less powerful" than others "we know could be made;" he thought Russia could duplicate our atomic project; he warned of the combination of rockets and atomic warheads; and he particularly emphasized that the future national balance of power would depend upon scientific advances, and not upon massive production ability. Szilard in May, 1945, was also emphatic about such concepts as preventive war, of such nightmare possibilities as sabotage through "suitcase warfare." Szilard clearly foresaw that great and powerful nations in the future could become as sleepy giants.

This, it will be seen, is not truly a review of Mr. Byrnes' book. It does not cover Byrnes in 1958, when his experience in government might have made him a leader in the South's darkest hour since 1861. This review doesn't cover his brief period on the Supreme Court, nor the maneuvering which cost him the nomination for Vice President, when Truman won the favor of FDR at Chicago. But page after page of this memoir unwittingly tells the story of the court reporter who never really left the shadow of that courthouse dome, and that court of law where diligence was rewarded but imagination was often suspect.

Michael Amrine

Ed. Note: In a book entitled "The Great Decision," to be published in February by G. P. Putnam Publishing Co., Mr. Amrine recounts in detail the developments immediately prior to the Hiroshima bombing.

PASSPORTS (continued from page 3)

Communist China. Worthy has lost the first round of his court fight for a passport without geographic travel restrictions. The ACLU, which has backed Worthy's argument since 1957, is appealing the case.

In contrast to the Worthy case, the State Dept. has returned to Earl Williamson the passport that he lost following his unauthorized visit to Communist China after the Sixth World Youth Festival in Moscow in 1957. Williamson's passport was returned after he promised not to break passport regulations again.

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