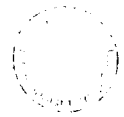


RECORD OF ACTION

President's Science Advisory Committee

Meeting June 17, 18, 1958

Executive Office Building



Panel on Upper Atmosphere Physics

It was agreed that: (a) a panel concerned with the physics of the upper and outer atmosphere should be organized under the auspices of the PSAC on the basis of need rapidly to pull together what is now known about aspects of this subject of particularly current military and scientific importance; (b) representatives of Government research activities should be involved in the panel activity in order to permit follow-up on activities in the DOD environment; (c) the panel chairman should, if possible, be drawn from the membership of the PSAC; (d) a better statement of the task of the panel should be drafted and the panel name changed to reflect the special nature of the subject matter, e.g. Outer Atmosphere Physics.

Projects Matterhorn and Sherwood

It was agreed that the PSAC would be briefed at a Fall meeting of the Committee, after the Geneva Conference on Peaceful Uses of Atomic Energy, on progress in achieving controlled thermonuclear reactions. Possible briefers mentioned were Marshall Rosenbluth (General Atomics), Will Adams (AEC), Lyman Spitzer to cover work going on at Los Alamos, Livermore, Princeton, Oak Ridge, General Atomics, NRL, AVCO. It was also suggested that British work be covered. It was also agreed that an early request for such a briefing should be sent to the AEC.

Report on Federal Research and Development Planning and Organization (Item 1)

- a. With respect to the recommendation of the report by the Research Panel concerning full-time participation by members of the PSAC, it was agreed that members should be available for full-time but short-term service on an as needed basis in Washington or at their respective home bases (Recommendation 2 of June 17 Draft).

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- b. There was complete agreement with Recommendation 3 (page 31 of June 17 Draft) concerning the creation of a "Little Cabinet" for Science and Technology, and that this group should report to the Special Assistant to the President for Science and Technology rather than to the PSAC. There was also general agreement on the functions described.
- c. There was agreement that there should be a study of the need to consolidate research activities now scattered among several Government agencies that are not related to the primary missions of those agencies, that these could be augmented by new research organizations in fields such as meteorology and oceanography that are not now adequately focused and supported as national efforts. This might include consideration of the concept of a "Department of Science." The possibility of a Presidential Commission to make such a study was discussed, but there seemed to be strong sentiment in the direction of a two-step study, the first of which would be a study along technical lines to be followed by a wider study.
- d. There was general concurrence in Recommendations 5 and 6 of the June 17 Draft report.
- e. With respect to the draft report as a whole, the Chairman requested that it be read carefully by the members and that comments be submitted in time for an early revision of the report.
- f. General Doolittle suggested that reference be made by the Research Panel to an SAB study of research and development organization in the Air Force under the direction of Dr. A. G. Stever, and he agreed to secure a copy of the draft report.
- g. There was some discussion of the need to stimulate support of science and science education by private foundations.
- h. It was the Chairman's view that this is one of the most important reports the Committee has dealt with, and there is a need to bring it into final form and to the attention of people inside and outside of Government.



Report on NATO Science Committee

Dr. Norman Ramsey reported on the status of activities and problems of the NATO Science Committee and on his position as Science Adviser to NATO. There were no actions taken by the PSAC. Dr. Ramsey outlined the following areas of help he might expect from the PSAC:

- a. Support of actions by the NATO Science Committee.
- b. Identifying and helping to recruit outstanding persons to head up one or two study groups.
- c. Assisting in bringing about better interchange of scientific personnel between the U. S. and NATO countries, starting in fields of low security sensitivity.



Nuclear Weapons Tests (Item 2)

Dr. Carson Mark of the AEC Los Alamos Scientific Laboratory reported on the results of the Hardtack series and their implication on availability of weapons in various weight classes, including clean weapons. He also reported on the results of a LASL study on induced radioactivity associated with ground bursts of clean weapons. The significant points covered were the availability of warheads with expected yields in the 300 and 600 pound weight classes, a 25% reduction in yield expected in the 1600 pound warheads and unavailability of clean weapons in the lower weight range. It was also significant that the LASL study of induced activity showed radioactivity equivalent to 20% fission yield for a ground burst on "standard" ground. (Ref.: Letter from H. A. Bethe to C. Mark, 5/28/58, Secret-Restricted Data.)

Atomic Clock Experiment

There was general discussion of the suggestion by Dr. Zacharias that the U. S. enter into a cooperative program with the USSR for the launching of atomic clocks to test out experimentally certain aspects of the theory of relativity.

ACTION: The Committee was not enthusiastic about proposing this type of cooperation at the present relatively less advanced state of U. S. rocketry.

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Scientific Information (Item 3)

The Committee discussed the report by the Panel on Scientific Information. Some members of the Committee expressed concern that the report did not adequately reflect the problem of production of scientific information and was too heavily oriented toward the librarian point of view.

Meeting with the President (Item 4)

The Committee discussed a plan for its meeting with the President on June 18th; including the subjects of science and leadership, the progress in preparing for talks on the cessation of nuclear testing and the need for a follow-up plan based on the results of these talks, clean weapons, and science organization.



Basic Research

The Committee agreed on the need for a statement on neglected fields for basic scientific research and the need for increased attention and support for these areas of research. Dr. Berkner urged that the NAS be asked to look into the question of interdisciplinary fields and the need for their support. It was agreed to address a letter to the NAS asking it to proceed with a program of study of research areas needing attention and support.

Education

The Committee agreed to discuss the problem of science education in detail at its July meeting.

Project 137 (Item 6)

Professors Wheeler, Morgenstern and Wigner presented plans for their summer study--new applications of science to military needs. No action was taken.

High Energy Accelerators

Dr. John Williams (AEC) reviewed the present status and funding for high energy accelerators and asked for advice on how to bring about the formulation of national policy that would permit decision on the construction of new large high energy accelerators.

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ACTION: The Chairman stated that he would undertake to bring together AEC, NSF and DOD to consider this problem.

Responsibilities of Committee Members (Item 5)

After discussion it was agreed that the SAC members should be prepared, as needed, to spend full time for limited periods of time.

Next Meeting

The next meeting of the Committee was set for July 21 and 22, 1958, out of Washington, if possible.

David Z. Beckler
Executive Officer



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