Alan T. Waterman, President-Elect

Paul E. Klopsteg

The founders of the American Association for the Advancement of Science enunciated certain objectives for the Association which have continued to be significant and important throughout the period of its existence. As the years have come and gone, the rate of advance toward achievement of the objectives has varied. It would be difficult to identify and isolate the factors against which the rate of progress in years past might today be measured. But it appears reasonable enough to be taken for granted that among the important factors to be considered in making a current appraisal are the following three. First is the devoted interest of a capable staff, headed by an executive officer of great competence. Second is dedication to its task and serious acceptance of its responsibilities by the Board of Directors. Third, of no less importance than the other two, is the guidance provided by the principal elective officer as he serves the Association during the 3 years in which he is, in turn, president-elect, president, and chairman of the Board of Directors.

Once again the Council has served well the interests of the Association in electing to highest office one so eminently qualified by demonstrated leadership to assume, in fact as well as in name, the presidency a year hence and the chairmanship the following year, with service on the Executive Committee throughout the 3-year period. Never before has the office been occupied by anyone whose impact on research and education in the sciences in America approaches that of the new president-elect, Alan Tower Waterman, in his career as a science administrator during the past 16 years.

The author, president of the AAAS in 1959, is former associate director of the National Science Foundation.

The editor's invitation to me to prepare this sketch was a welcome one, for it permits me to share with the members of the Association some impressions which have grown upon me through acquaintance and friendship with a remarkable man—acquaintance and friendship which I have been privileged to claim for more than two decades.

During the first quarter of this period the National Defense Research Committee (NDRC) and the Office of Scientific Research and Development became the vehicles of our association. During the early period of activity of the defense research and development agencies Waterman was vice-chairman of Division D (Detection, Controls, Instruments) of the NDRC and assistant to Karl T. Compton, co-organizer of the NDRC with Vannevar Bush and James B. Conant and one of its members. Following the establishment within the Office of Scientific Research and Development of the Office of Field Service, Waterman became deputy chief and later chief of the latter office. Its purpose was to make more promptly available to the forces in the combat areas the newly developed services and equipment for which the NDRC and its companion committee, the Committee on Medical Research, within the Office of Scientific Research and Development, were responsible.

None of us working in the Office of Field Service had military rank; we were civilians. Those who were assigned missions in the combat areas were attired in officer's uniform minus insignia. Eventually we were given sleeve patches which proclaimed us to be "expert consultant." Neither the military nor the civilians in officer's clothing had an easy time figuring out the status, in military organizations in combat readiness, of the disguised civilians. It would have been surprising indeed had the civilians known how to conduct and deport themselves toward the military under all conditions, and vice versa. Some of us traveled overseas with the "assimilated" rank of colonel, some with the "assimilated" rank of brigadier general. (I suspect the word was "bureaucratized" from *simulated.*) We supposed that the purpose of such identification, carried by the missionaries of science, was to provide some assurance that, if captured by the enemy, the captive would be subjected only to torture, not executed. To my knowledge, no test of the situation was ever made. But let it be said to Waterman's credit that his journeys into the combat zones helped wonderfully to smooth out the rough paths which the emissaries had to travel. We became quite relaxed and even friendly with the "high brass," thanks to Waterman's quiet but effective way of infiltrating the military.

The second quarter of these two decades of friendship saw the establishment, after publication of the "Bush report," *Science, the Endless Frontier,* of the Office of Research and Inventions (later the Office of Naval Research) by the Department of the Navy. This Office served to tide over a critical period between the close of the war and the time when, by act of Congress, the agency envisioned in the Bush report could be brought into being. Waterman served from 1946 to 1951 as chief scientist of the Office of Research and Inventions, then of the Office of Naval Research.

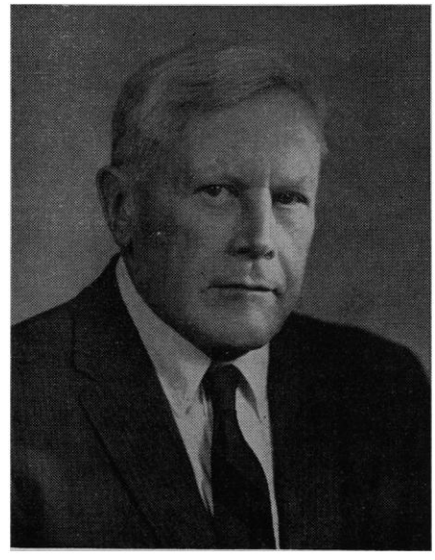
It was during the period following VE-day and VJ-day that the scientists who had been engaged in wartime research and development were returning in numbers to their prewar occupations, which had been disrupted and disorganized by their wartime activities. Under contracts with the Office of Scientific Research and Development and the military agencies during the war period, they had been enabled to procure facilities of greater excellence and variety of capability than had ever been available to them before. Sophisticated devices for new experimental techniques had entered the research picture. If they needed something they could have it, under priorities. If they required assistance, this was provided. Researchers had become conditioned to a new order of things in the laboratory, things which went far beyond the meager budgets of their institutions.

The Bush report clearly foresaw the needs of research during the postwar years. Without federal help, research would be slow in getting under way. Congress tried to create a new agency along the lines sketched in the Bush report, but did not succeed in doing so until 1950. The prospectively austere period for science, beginning in 1946, was rendered far less austere through the Office of Naval Research, which, under Waterman's direction, bridged a critical gap.

The second half of the two-decade period, from 1951 to the present, has witnessed the amazing growth of the National Science Foundation, a growth unprecedented in science, under the leadership of Alan Waterman since the beginning of its operations. Against the background of the events of those years, his move from the Office of Naval Research to the National Science Foundation was most logical. Historians will record his achievement in interpreting the responsibilities set forth in the National Science Foundation Act of 1950 and in meeting these responsibilities against heavy odds, while getting the new agency started and moving ahead just as the Korean conflict began, when congressional interest in the NSF could hardly have been less.

In spite of its very modest beginnings (under the statute its annual outlay was initially limited to $15 million, and the appropriations were far below this amount), its activities in support of research and education in all the sciences now require upward of $300 million per year, and there is every indication that appropriations will continue to follow closely the needs set forth in the budget. Through this period of growth, it has been NSF policy—and in this the director has always had the support of the National Science Board—not to "mastermind" science, not to try to tell scientists what they should do, but to elicit counsel and advice from the scientists themselves, and to be guided by their recommendations.

During this period also the AAAS became the beneficiary of Waterman's services when he was chosen to membership on its Board of Directors. To this service he brought his extensive knowledge of the affairs of science and his intimate acquaintance with the Washington scene. In this setting he has contributed outstandingly to the guidance which the Board must provide the Association in the management of its affairs through its policy decisions and actions.



Alan T. Waterman

Alan Waterman, son of Frank Alan and Florence Tower Waterman, was born 4 June 1892 at Cornwall-on-Hudson, New York. He received his Ph.D. degree at Princeton in 1916. In 1916–17 he was instructor in physics at the University of Cincinnati, and while there, was married to a Cincinnatian, Mary M. Mallon. They have three sons—Alan, Neil, and Guy—and two daughters, Barbara (Mrs. Joseph C. Carney) and Anne (Mrs. W. C. Cooley).

It is noteworthy that there are three successive generations of physicists in the Waterman family: Frank A. Waterman was professor of physics for many years at Smith College; Alan T. Waterman, after World War I (in which he served in the science and research division of the Signal Corps), joined the physics staff at Yale, where he remained until 1942; Alan T. Waterman, Jr., is a physicist at Stanford University. Waterman's work in physics was on the conduction of electricity in solids, on other electrical properties of solids, and in photoelectric and thermionic phenomena. From 1937 to 1949 he was chief examiner in physics of the College Entrance Examinations Board. He is author of the revised sixth edition of *Kimball's College Textbook of Physics.*

In 1927–28 Waterman held a National Research Fellowship at King's College, London; in 1937 he was at Massachusetts Institute of Technology, on leave from Yale. For his work with the Office of Scientific Research and Development from 1942 to 1946, he received the Medal for Merit with presidential citation. For his accomplishments he has received many other expressions of recognition. Among them are honorary degrees from numerous universities, the Class Memorial from his class of 1913 at Princeton, the first Conrad award of the Office of Naval Research, the Public Welfare medal of the National Academy of Sciences, and the Procter prize of the Scientific Research Society of America.

Waterman has also been called upon to serve in various ways outside the National Science Foundation. In addition to being a member of the AAAS Board, he has served on the Board of the Center for Advanced Study in the Behaviorial Sciences; as consultant to the President's Science Advisory Committee; as member of the Space Science Council, the Defense Science Board, and the Distinguished Civilian Service Awards Board; as a member of the President's Advisory Committee on Weather Control; as a trustee of the Atoms-for-Peace Award; as a member of the Federal Council on Science and Technology; and as chairman of the Interdepartmental Committee on the Atmospheric Sciences.

Most of the honors mentioned can be found in the usual biographical directories. What these cannot disclose are the more personal matters, the "human interest" aspects of his very active life. He is an ardent woodsman, and his family share his fondness for the outdoors. Resourcefully, he became a licensed Maine guide, so that he and members of his family might enjoy the Maine woods and streams "on their own." My leanings toward the outdoors gave us a delightful common-interest topic for discussion. I have enjoyed his elucidations of canoeing in rough and rapid waters; of ways to build and hold fires for warmth and cooking; of ways to accomplish, by woodsmen's artifices, the difficult and sometimes seemingly impossible tasks which characterize canoeing and camping in rugged country. Waterman is also a musician, with the rare gift of absolute pitch; he chose the viola as his principal instrument. In his busy years at NSF, he had to neglect music and camping, except at second hand and in retrospect. It is pleasant, however, to report that some five summers ago, while enjoying a vacation with Mrs. Waterman in Scotland, he became the owner of a fine

bagpipe. It may be surmised with some assurance that this instrument ("an ill wind that nobody blows good," he calls it) has afforded him a pleasant pastime. He enjoys hi-fi recordings of bagpipe music. His urge for athletic endeavor found its outlet in bowling, where his seasonal average in the NSF league was always near the top.

Most important of his personal characteristics is his complete integrity in all his dealings and actions. Mild-mannered and soft-spoken, he can be indignant without loss of temper. Although exceedingly loyal to members of his staff, he does not shun unpleasant duty when forthright speaking to an individual may be indicated. The lasting impression one gains from long association with Alan Waterman is of his undemonstrative manner; his unhurried actions; his taking time, even when pressure is great, to reach right decisions; his fine sense of humor; his enjoyment in listening to and telling good anecdotes and puns; and his complete lack of condescension and snobbishness. He is a true gentleman in every sense of the word.

Waterman's retirement from his post as director of the National Science Foundation, which under the regulations will occur during the next year, will free him from the heavy burdens of that office for less demanding activities. These, one may predict, will be plentiful, for he is not a person to retire to a rocking chair. He will have a chance to catch up on long-postponed undertakings of more personal interest; but various constructive affairs in the public interest, without the tremendous pressures of deadlines and demands from "higher up," will also occupy his attention. The AAAS is fortunate indeed that its affairs will be among those of top priority in his schedule.

AAAS Council Meeting, 1961

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During the annual meeting of the AAAS in Denver, 26 to 31 December, the Council of the Association met twice. Both sessions were held in the Denver Hilton Hotel under the chairmanship of President Thomas Park, with Robert C. Miller serving as parliamentarian. The first session, at 4:00 P.M. on 27 December, was attended by 175 members of the Council; 149 members were present during the second session, at 9:00 A.M. on 30 December. Chauncey D. Leake, chairman of the Board of Directors, reviewed the Association's purposes, present and future activities, gain in membership (see Table 1), and finances.

Elections and Officers

The Committee on Nominations and Elections reported that the Council, by mail ballot, had elected Alan T. Waterman as president-elect; had reelected Henry Eyring and William W. Rubey as members of the Board of Directors; and had elected Stanley S. Ballard and reelected Stanley A. Cain and Frank Bradshaw Wood as members of the Committee on Council Affairs.

The Board of Directors reported the selection of Mina Rees to complete the unexpired portion of the term on the Board of Directors left vacant by the election of Alan T. Waterman as president-elect.

The vice presidents and the chairmen of sections, as elected by the Council, are listed on page 533. Council voted authority to the Board of Directors to elect vice presidents and chairmen for those sections that had not yet presented nominations for these positions.

The Board of Directors announced that it had reappointed Frank Bradshaw Wood of the Flower and Cook Observatory, University of Pennsylvania, as secretary of the Section on Astronomy and Howard B. Sprague of Pennsylvania State University as secretary of the Section on Agriculture, and had appointed the following new section secretaries: Section on Zoological Sciences, David W. Bishop of the Carnegie Institution of Washington; Section on Anthropology, Eleanor Leacock of the Bank Street College of Education, Brooklyn, N.Y.; and Section on History and Philosophy of Science, N. Russell Hanson of Indiana University. All are to serve for 4-year terms, 1962 through 1965.

Council Organization

The President reminded Council that 1961 was the first year in which the new Committee on Council Affairs had been active, and reviewed the responsibilities of that committee.

Paul M. Gross, chairman of the committee, reported that some items of business had arrived too late for inclusion in detail on the printed agenda, which had been prepared by the committee, and suggested that in the future the committee might wish to request an earlier deadline for receipt of resolutions or other recommendations for Council consideration.

In referring to a discussion at the 1960 Council meeting of an apparent conflict in the Association's constitution between the statement of responsibilities of Council and the statement of responsibilities of the Board of Directors, he stated that the matter was not urgent in the judgment of the Committee on Council Affairs, but that it had been discussed with the Association's legal counsel, and that a modification of the wording might be recommended to Council for consideration at the 1962 meeting.

With respect to the question of the composition of Council, which was originally raised at the 1959 Council meeting, Dr. Gross reported that the topic had been discussed in consider-

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