News and Comment

TFX: Congress Fumes and Fusses but Seems To Recognize that the Decision Wasn't a Bad One

The significant thing about the TFX investigation is that the civilian management of the Defense Department is coming out of it smelling like a rose, with an attendant gain for promoting rationality in the incredibly costly and uncertain business of weapons development.

Congress, which has a bewildering capacity for working both sides of the street, had devoted a great deal of its energy during the Cold War years to pulling wires to get defense contracts for its constituents while piously demanding that military value be the governing factor in the placement of these contracts. In Robert S. McNamara it has at last encountered a Defense Secretary who indeed agrees that military value should be the governing factor. The result is that McNamara and his aides have been called on the carpet, but through the ensuing charges and countercharges it is apparent that Congress is now getting the politically untainted judgments that it asked for all along. This is hard to take in a state or congressional district that comes out on the wrong end of the judgments, but even the most athletic of the congressional contract hunters is hard put to defend a selection process based on whom you know. And while many members of Congress have withheld public comment, pending the completion of the investigation, there is no shortage of sympathy and understanding for McNamara's performance. The press has been less reserved, and with few exceptions editorial comment has been favorable to the Secretary, generally on the point that someone has to make these decisions and that it is fortunate that McNamara is willing to do it, rather than muddle along with vast expenditures that ultimately lead nowhere.

Immediately at issue in the TFX controversy is the biggest single contract ever awarded by the Defense Department—$6.5 billion for approximately 1700 supersonic tactical aircraft, intended for use by the Air Force and the Navy, with a minimum of adaptation for the particular needs of each service. In the course of the long evaluation and selection process, four Air Force-Navy selection boards indicated preference for the Boeing version. When McNamara and his so-called whiz kids made the final judgment, they overruled the military findings and awarded the contract to General Dynamics, defending their decision on the grounds that the Boeing cost estimates, though lower than General Dynamics, were unrealistic, and that the Boeing design actually called for two separate aircraft. This understandably aroused the ire of Senator Henry Jackson, the Washington State Democrat who has a well-earned reputation for attending to the interests of his constituents, of whom Boeing is one. Jackson, who is up for re-election next year, accordingly inspired the current investigation, which is being made under the auspices of the Senate Permanent Investigations Subcommittee.

Thus, the question of whether improper influence prevailed is the formal subject of the inquiry, but the real issue is simply whether the individual services are going to be permitted to pursue their own weapons interests to the exclusion of other considerations, or whether at some point their desires are going to be trimmed to conform to broader interests.

On the basis of the testimony released so far (the hearings have been closed and the results have come out in heavily "sanitized" transcripts), it appears that while the Boeing design was superior in certain important respects, the General Dynamics version nevertheless met the Defense Department's minimum specifications. And the Boeing superiority was insufficient either to warrant the risks of the dubious cost estimates or to compensate for the increased operational expense inherent in having two distinct fighter plane systems. In the charming terminology of military research and development, it was an example of "goldplating"—superior, but unnecessarily superior, and therefore costlier than what was needed. It was because of these objections, and not as a result of any backroom dealing, Defense officials have argued, that the decision went to General Dynamics.

In support of their case they have been drawing attention to some of the more stupendous research and development fiascoes of the past decade, all of them marked by optimistic cost estimates or unrealistic appraisals of how the item fits into the grand scheme.

The freshest example is the Skybolt missile, whose long and sorry history was set forth by McNamara in congressional testimony earlier this year.

"The cost history of Skybolt is particularly poor," he told the House Armed Services Committee; ". . . the Air Force early in 1960 estimated that Skybolt would cost $214 million to develop and $679 million to procure. By early 1961, the estimated development cost had increased to $391 million. By December 1961, the estimated development cost had risen to $492.6 million and the procurement costs to $1.4 billion. In its July 1962 program submission, the Air Force increased the estimated procurement cost to $1.7 billion. Thus, the latest Air Force estimate to develop and procure Skybolt exclusive of warheads was $2.2 billion."

Then, there was the Navy's great radio telescope at Sugar Grove, West Virginia (*Science*, 3 August 1962). The original cost estimate was $79 million. About $95 million had been spent or contracted when it was realized that the ultimate cost would be at least $200 million and possibly as high as $300 million. The Navy, at Defense Department insistence, killed the project at the $95 million mark, with nothing to show for the expenditures but a big hole in the ground, some foundation work, and some auxiliary construction, such as roads and adjacent buildings.

And there was the long and costly competition between the Thor and the Jupiter intermediate-range missiles, described this week in the Washington *Post*. With the Air Force backing the Thor and the Army backing the Jupiter, both were given the go-ahead by the then Defense Secretary Charles E. Wilson, because of anxiety over the

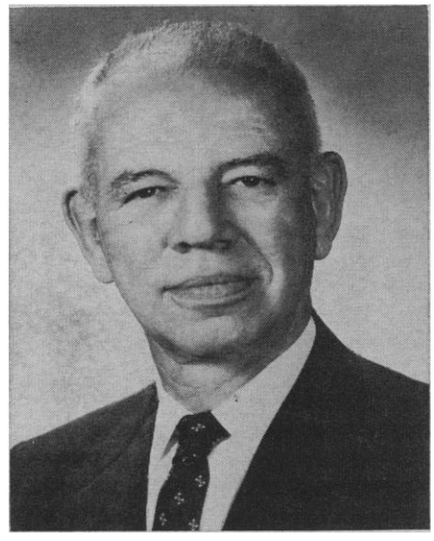
Soviet missile lead. The point came, however, at which it was apparent that both systems were successful; nevertheless, neither Wilson nor his successor would make a decision in favor of one missile over the other, though the two were similar in capability. As a result, both went into production—at a total cost estimated at over $1 billion each. It has now been revealed that both missiles saw remarkably brief service before they were rendered obsolete by more advanced systems. Britain has decided to dismantle the 60 Thors which were installed there in 1959–60. Dismantling will start shortly on the Jupiter squadrons which were completed last summer in Turkey and on those completed only a year before that in Italy.

Since there is no bargain-basement approach to the costly business of nuclear deterrence, neither the Jupiter nor the Thor venture can be written off as a total loss; in addition, the Thor has proved to be the most reliable of American boosters for scientific space loads, and part of its development cost has thus been returned in very visible fashion. Nevertheless, a hard decision might well have been made somewhere along the way—long before the $2 billion mark had been reached. Congress and a lot of voters have been demanding just such decisions, and now that McNamara is providing them, the general reaction is a favorable one, despite the raucous reaction to the TFX decision.—D. S. GREENBERG

Science Foundation: Leland Haworth of Atomic Energy Commission Named as Successor to Alan T. Waterman

A year-long search for a new director of the National Science Foundation ended last week with the selection of Leland J. Haworth, a physicist and administrator with long and distinguished service in and out of government. The appointment, a crucial one in the increasingly complex and controversial area of federal support for science, has elicited nothing but warm approval from the wide range of persons who have been awaiting the administration's decision.

Haworth, a member of the Atomic Energy Commission for the past 2 years, will succeed Alan T. Waterman, who has headed NSF since it came into being, in 1951, after 5 years of bitter fighting within Congress and the scientific community. Waterman reached the



Leland J. Haworth

statutory retirement age of 70 last June and has continued as director at the discretion of the President. Under his leadership, the Foundation weathered the anti-intellectualism of the McCarthy era, slowly won over a doubting Congress, and quelled the scientific community's fears of federal control accompanying federal support. Eventually it emerged as the least politically motivated and perhaps the most significant of the government organizations that promote basic scientific research and education. Its first budget, after a small appropriation for getting started, was $3.5 million; this year it received $322 million, and for the coming fiscal year the Foundation is asking Congress for $589 million.

The feeling has been widespread, though, that 12 years is a long time for any man to remain at the helm of as influential and significant an organization as NSF, and Waterman's retirement has come about, not as a reflection on his vigor—which is impressive—but simply in response to the belief that it's time for a change; that a new man is likely to produce a beneficial stir. While there is no substantial dissatisfaction with the operations and policies of the Foundation, there is nevertheless a fairly widespread feeling that it has played an unnecessarily restrained role in promoting science.

The search for Waterman's successor, which was mainly in the hands of the President's science adviser, Jerome Wiesner, was directed toward two categories—elder statesmen of science who would bring prestige and stature to the job, and young and upcoming science administrators who have shown promise but have not yet had an opportunity to demonstrate their full powers. Eventually it was decided that the first group offered the best recruiting ground. Before an offer was made to Haworth, feelers were put out to several other persons, and it is known that a firm offer was rejected by a physicist who is an executive with a major industrial organization. However, in the rarefied atmosphere of recruiting for the summit, first and second choice tend to be rather meaningless; the fact is that persons associated with the government and universities feel that the administration has come up with an admirable choice.

Haworth, who is 58, was born and educated in the Midwest and spent his early career there—a fact duly noted by some of the not inconsiderable number of scientists who feel that Cambridge and Berkeley get all the plums. He began his career as a high school teacher in Indianapolis, and received his bachelor's degree at Indiana University in 1925 and his master's degree there a year later. In 1931 he received his doctorate at the University of Wisconsin, where he remained on the faculty until he went to M.I.T. as a Lalor fellow in physical chemistry in 1937. In 1939 he joined the physics faculty at the University of Illinois, where he remained until 1941, when he went on leave to M.I.T.'s Radiation Laboratory. At the end of World War II he rejoined the Illinois faculty. In 1947 he became assistant director of Brookhaven National Laboratory. A year later he became director and also served on a variety of scientific and defense advisory committees for the government. Haworth held the directorship post and, in addition, was president of Associated Universities, which operates Brookhaven, when he was appointed to the AEC in 1961. The White House has announced that his AEC post will be filled by Gerald Tape, who was Haworth's successor as president of Associated Universities.

Ahead of Haworth lie innumerable problems, not the least of which is the still undefined relationship between NSF and the youthful but vigorous White House Office of Science and Technology. There is nothing to indicate anything but the likelihood of harmonious relations, but the field of government and science is big, the power relationships are far from settled, and the two organizations, though different in purpose, size, and structure, frequently operate in the same territory.—D.S.G.