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NEWS AND COMMENT

Killian Committee: Report Urges Advisory Council in White House

The scientific community has reacted to the abolition of the science advisory machinery in the White House rather like an amputee whose phantom foot continues to hurt long after the leg is gone. No doubt propinquity to the President has a heavy symbolism for scientists, but many are also convinced of the merits of the case for making room at the top for a science adviser and his staff. And in recent months an increasing number of voices calling for restoration of a science adviser to the White House have been heard, although not, it should be noted, from the direction of the White House.

More on the issue is sure to be said in hearings before the House Astronautics and Space Committee scheduled to run well into July. These hearings on federal policy, planning, and organization of science and technology began on 20 June with an appearance by Senator Edward M. Kennedy (D–Mass.), who is the senator most strategically placed to influence science policy issues on that side of Capitol Hill. The Kennedy appearance was essentially a courtesy call, although his opinion was politely solicited on several matters. The committee should get down to more specific cases on 26 June when it is scheduled to hear former presidential science adviser James R. Killian, Jr., discuss a recently completed report by a blue-ribbon committee he chaired * (*Science*, 8 February). The Killian committee was formed at the behest of the council of the National Academy of Sciences "to look into the question of scientific and technical advice to the government, including the advisory and coordinating functions previously carried out by the White House science advisory complex."

The report is likely to have considerable impact, not only because of the prestige of the committee members and the academy's imprimatur, but also because the attention it will get in the hearings is likely to make the report a bench mark in future discussions about science policy arrangements. (This issue of *Science* went to press before the report was scheduled to be discussed at the hearings on 26 June, and this article is based on a conversation between Killian and reporters the previous week.)

The committee's principal recommendation is that a "Council on Science and Technology" be created in the Executive Office of the President along the lines of the Council of Economic Advisers and be designed to interact effectively with the other staff units in the White House and to provide close links with the scientific community.

Killian and his committee were acutely aware that they might be accused of special pleading in behalf of science, and he says they "didn't want to cry over spilt milk or try to reconstitute PSAC" (the President's Science Advisory Committee, which was based in the Executive Office until PSAC was abolished in the reorganization of a year ago). The report concentrates on what science can do for government rather than what the government can do for science in terms of funding and otherwise.

The committee, however, leaves no doubts about its position, beginning the outline and summary of the report with the flat statement, "The committee concludes that the office of the President could benefit from a scientific and technological presence." This presence the committee sees quite clearly in the form of a Council for Science and Technology in the Executive Office of the President. The report describes the council only in general terms, recommending that it have the following major features. The council should have at least three, perhaps more, full-time members drawn from science, engineering, and related areas. The council members, one of whom would serve as chairman, would be appointed by the President subject to the advice and consent of the Senate and would serve at the President's pleasure. The committee would prefer to see the council established by legislative action but leaves the matter open. A staff of 25 to 30 is suggested as appropriate.

Effective working relations between such a council and the major White House staff offices are given heavy emphasis in the report. The committee thinks that the council chairman should sit as a member of the Domestic Council in the White House and that the council should participate actively in the workings of the National Security Council and cooperate closely with the Office of Management and Budget (OMB).

Stress is also put on the role the council would play in areas of foreign policy strongly affected by scientific and technological considerations. It is recommended that the Council for Science and Technology make an annual report to the President and through him to the Congress. The presumable model is the annual report of the Council of Economic Advisers, but Killian hopes that such a report would not be simply a survey of activity in science and technology, but would be devoted to the analysis of trends which represent major opportunities or problems

* Science and Technology in Presidential Policymaking: A Proposal. Individual copies are available from the Printing and Publishing Office, National Academy of Sciences, 2101 Constitution Avenue, NW, Washington, D.C. 20418.

Science Policy Hearings: Phase II

The science policy hearings now in progress before the House Science and Astronautics Committee continue a critical review of federal science and technology begun last summer (*Science*, 3 Augugst 1973). In that first phase, the committee heard principally from government officials and recent federal alumni. The current round will feature nongovernment witnesses. The committee plans to follow up this summer's effort with an intensive staff study of the information and views obtained. A third phase is planned for next year, when the reorganized federal science policy apparatus will have been in operation for 2 years. The committee then expects to make a full assessment of the system and, presumably, to make proposals for legislative alterations if these seem advisable.

The present hearings will cover a broad range of topics, and more than the usual preparations have been made. A recently published interim report* prepared by the committee staff includes two reports evaluating last year's hearings. Committee chairman Olin E. Teague (D–Tex.) requested the reports from the AAAS Committee on Science and Public Policy and the federal science and technology committee of the Industrial Research Institute. These reports are scheduled to be discussed by representatives of the study groups at later sessions of the hearings. The interim report itself includes a potpourri of documents and other background material likely to be useful to those interested in federal science policy matters.—J.W.

* U.S. House of Representatives, Committee on Science and Astronautics, *Federal Policy, Plans and Organization for Science and Technology: Interim Staff Report* (93rd Congress, 2nd sess. 1974).

and which impinge on policy-making and its goals.

A key consideration for the committee is that the new council be "empowered and enabled" to draw upon the best talent available in the scientific and technological communities both inside and outside government. Instead of the fairly formidable committee and subcommittee structure that developed during the PSAC era, the Killian committee recommends that a council rely primarily on ad hoc groups formed to deal with specific problems. This would not rule out some continuing panels, but the emphasis would be on those that do their jobs and then disband.

While a major premise of the Killian committee report is that the current science advisory apparatus is unsatisfactory, the report contains no detailed analysis of the system's shortcomings. In fact, the report compliments H. Guyford Stever, who now wears the two hats of National Science Foundation (NSF) director and President's science adviser, for doing a good job in a difficult situation. Killian noted approvingly that Stever had "achieved a comfortable relationship with OMB" and had started a series of major policy studies.

The committee's reservations, nevertheless, seem to center on the role of NSF, which under the Nixon reorganization plan of early 1973 is the base for science advisory activity. Killian told reporters that "Many of us are concerned" about the effect of the new demands on NSF, that they "will change the character of the institution." Killian called NSF "a great achievement" and expressed apprehension that it might be diverted "from the work it is doing superbly." He said the committee felt NSF could be injured by increasing pressure to undertake applied research projects and to backstop the science adviser to the President. A further deficiency in the present system in the committee's view is that the science adviser is no longer consulted on national security matters that come to the President's desk, and the report urges that this be remedied. In addition, the committee notes that NSF's dual role of competing for budget funds on the one hand, and advising on budget allocations on the other, could produce a clear conflict of interest.

The actual report, however, concerns itself almost exclusively with generating a positive case for the new council rather than criticizing the current system. The case the committee makes for a science adviser in the White House may strike the skeptic as almost an ontological argument, but it is, in fact, a cumulative case not easily conveyed by summary or quotes. Perhaps the closest thing to a condensed statement of the committee view is in the following excerpt from the report:

> The fundamental thesis of this report is that the process of summation that takes place at the level of the Presidency requires accessibility of scientific, technological, and engineering counsel at that level. There have been and will again be occasions when the assistance is called for by the President himself and should be delivered directly to him. More often, in the daily process, the need is for interaction between the President's scientific counselors and fellow planning or management instruments within the White House. Such interactions are necessary to identify problems and opportunities calling for scientific and technical judgments and to assure that, as policy takes shape, the scientific and technical considerations will be given their appropriate weight and the full range of technical options is presented, from among which policymakers may decide in a fully informed manner.

The idea of a council did not spring full armed from the report. George B. Kistiakowsky, who succeeded Killian as Eisenhower's science adviser, discussed the idea at some length in an article in *Science* (5 April), and it has cropped up fairly frequently in recent years. For example, an unpublished PSAC report from a panel headed by Patrick E. Haggerty of Texas Instruments reportedly gave some prominence to the idea. And Killian says he recalls that Lee A. DuBridge, while serving as President Nixon's first science adviser, cited such a council as a possible alternative to the Office of Science and Technology (OST)–PSAC structure.

The proposal for a council, therefore, has the advantages of familiarity and it would not be surprising if the House hearings gave it something approaching consensus status among those seeking to alter science advisory machinery.

It is accepted as unlikely that last year's reorganization will be reversed while Nixon remains in office. Asked how his committee sees the proposal for a council being implemented, Killian said his panel aimed at "getting recognition there is a problem." The Science and Astronautics Committee's timetable seems to assume that major changes on the science advisory scene would have to await the outcome of the 1976 presidential election, although Watergate could upset a lot of timetables. Vice President Ford is said to have been made aware of the contro-

versy over the locus of the science advisory machinery in talks with scientists. And when Kennedy led off the House hearings it was evident that his place in the presidential preference polls was very much in the minds of his congressional questioners. Kennedy indicated that he was generally sympathetic to the idea of a return of a science adviser and staff to the White House, but qualified his comment by saying he would prefer to "await the results of these hearings."

In practical terms, it will be easier to return the science adviser to a place figuratively down the hall from the Oval Office than to achieve the major objectives set by the Killian report. The major weaknesses of the science adviser–OST-PSAC apparatus in its later days were that it had been displaced in White House evaluation of military projects, suffered declining influence with OMB, and had lost regular access to the President. This last and obviously most important index of decline became evident in the Johnson era. The causes of this decline were complex but the effects were unfortunate for both science and public policy.

Restoring science advisory machinery to the White House appears to be acquiring a certain inevitability. Making sure that machinery functions effectively at the top levels of government will be a lot more difficult, but that is what really deserves the best efforts of scientists and policy-makers.

—JOHN WALSH

Malcolm R. Currie: World's Largest R & D Manager

The Pentagon's top research manager, the DDR & E or Director of Defense Research and Engineering, has a job of unusual scope. The sixth ranking civilian in the Defense Department, he oversees the development of weapons from the moment of being gleams in the researcher's eye to the stage of mass production; he devises for the U.S. arsenal everything from night vision devices to antiballistic missile systems; and he guards the country and its allies from being technologically surprised in conventional wars or strategic posture. To accomplish this task, he presides over a budget which, if Congress gives the Defense Department all it is asking for, will total $9,332,469,000 in the fiscal year starting this month.

The present DDR & E is Malcolm R. Currie, a 47-year-old electronics engineer who has been in office for just over a year. Currie's three predecessors had all been director of the Livermore Laboratory (where nuclear warheads are designed) before becoming DDR & E. This pattern of succession was broken with Currie whose career has been in industrial, not government, laboratories. He spent 15 years with the Hughes Aircraft Company, becoming vice president and general manager of the research and development division. Then followed 4 years with Beckman Instruments, a nonmilitary firm, where he was vice president for R & D concerned with such unwarlike activities as enzyme research and polypeptide synthesis.

"It was very deliberate that I do have a business background," Currie said of his appointment in a recent interview. "That can help in having business systems and management here rather than science for the sake of science."

The business orientation comes over strongly in his presentations to Congress; so too does his belief, if not in science for the sake of science, at least in the power of technology to make decisive changes in military affairs. R & D, as he put it to a recent gathering of strategic missile designers, "gives us almost indefinite leverage of the future."

Although Currie frequently emphasizes the importance of the "technology base," Defense Department spending on basic and applied science remained relatively static in the FY 1975 budget, the first he has presented to Congress, as it has done for some years. Currie said last week that he intends these funds from now on to "increase monotonically."

In his boyish good looks Currie bears a strong resemblance to his predecessor John S. Foster, and congressional committees might find it equally hard to distinguish the two by the philosophy of their presentations. Both are seized with unusual eloquence when telling Congress of the importance of technology and the cunning of the Russians—two entities which serve as the carrot and the stick of the DDR & E's budget. But Currie is not a simplistic cold war warrior. He supports détente and the increased trade that goes with it, although he has been worried by the amount of production technology being sold to the Soviet Union. A few months ago he asked publicly for a clarification of government policy on high technology trade (a polite way, maybe, of saying that there didn't seem to be a policy at all). Since then, discussions between the Departments of Defense, State, and Commerce have created a forum in which, Currie says, "We have been able to articulate our point of view and to take a reasonable stance—not to say 'Hell, no' to everything that comes up."

Currie's position is moderate in view of his belief that production technology is the cutting edge of American superiority. "I don't think we are scientifically better than other countries—it's the technology of management, all of the things it takes to translate basic science into viable products, which is our bag."

A popular theory of the arms race holds that it is driven by an action-reaction cycle, each side striving to leapfrog the advances made by the other. The theory—which casts the DDR & E as the American Mr. Arms Race—does not find favor with Currie. "I don't basically see the Soviets being in a reactive mode to everything we do," he says. "I think the evidence from the last 10