



“Science and the Cold War: A Roundtable” (roundtable discussion), *Diplomatic History*, Vol. 24, No. 1 (Winter 2000).

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Published by H-Diplo on 6 February 2000

I would like to thank the editors of H-DIPLO for asking me to help kick off the discussion of the “Science and the Cold War” roundtable in the Winter 2000 issue of *Diplomatic History* by responding to the thoughtful commentaries by professors Gregg Herken and Walter McDougall. I would also like to thank the latter for their generous remarks. I will begin by briefly summarizing my article and then follow-up on a few points raised by the commentators, most of which address post-1955 developments.

The central point of my article was that the Technological Capabilities Panel (TCP) exercise of 1954-55 not only made substantive contributions to Eisenhower’s national security policy in such fields as strategic weapons and intelligence systems, but in the immediate aftermath of the Oppenheimer affair it also fostered something of a rapprochement between the administration and “scientific statesmen” centered around MIT president James R. Killian, Jr. As Robert Griffith has demonstrated, Eisenhower believed that many of the nation’s pressing problems could be solved rationally by the application of disinterested expert advice.¹ Following technical advances in the miniaturization of nuclear warheads, Eisenhower turned to Killian’s group for a comprehensive review of how best to apply science and technology to reduce the threat of surprise attack. Eisenhower also hoped that these scientists would strengthen his hand in preserving his New Look strategy of “security with solvency” over the “long haul” from the armed services and their allies who chafed at his budgetary ceilings. Ike worried that their alarmist assessments of Soviet capabilities and demands for more and better weapons would bust the budget, jeopardize economic stability, and ultimately push the nation down the road to a regimented “garrison state.” From Killian’s perspective, the exercise afforded scientists an opportunity to demonstrate their “statesmanship” and educate the administration about the peculiar needs of science. Specifically, Killian envisioned securing a greater role for scientists in the policymaking process and increasing federal support for basic research. The panel’s

¹ Robert Griffith, “Dwight D. Eisenhower and the Corporate Commonwealth,” *American Historical Review* 87 (February 1982): 87-122.

recommendations spurred the development of intermediate-range and intercontinental ballistic missiles, space satellites, and the U-2 spy plane. Significantly, after the Soviet sputniks in the fall of 1957, Eisenhower turned to Killian and other TCP veterans to form the nucleus of his President’s Science Advisory Committee (PSAC).

As Professor Herken reminds us, the TCP exercise was indeed a unique enterprise. Unlike the 1957 review of national security policy conducted under the nominal leadership Rowan Gaither, Killian held his group tightly to the president’s original charge and selected scientists without firm allegiance to any particular government agency or military service. By way of contrast, the strident, alarmist tone of the Gaither Report, reminiscent of Paul Nitze’s earlier handiwork in NSC-68, and that group’s unauthorized expansion of its mission undoubtedly contributed to the panel’s ineffectiveness and prompted Ike’s criticism of the technological evangelicals who were pushing for ever bigger and better weapons regardless of the budgetary impact. What outraged and alienated Eisenhower even more, however, was that major portions of the panel’s classified recommendations appeared within a few days in the pages of the national press, triggering renewed allegations of administration complacency and greatly complicating his efforts to reassure the nation and stave off a wild spending spree amidst the post-sputnik hoopla.²

While Herken’s point about the impact of the Gaither Panel on Ike’s faith in the ability of scientists to resolve political problems has some validity, I would suggest that it is overdrawn. True, Ike never appointed another ad hoc committee of scientists along the lines of the TCP or the Gaither group, but he continued to make extensive use of his in-house scientists--his special assistant for science and technology and the PSAC--for the remainder of his term. According to Thomas S. Gates, Eisenhower’s last secretary of defense, the scientists under Killian and then George B. Kistiakowsky “became very important.”³ A PSAC report laid the basis for the legislation creating the National Aeronautics and Space Administration, Killian drafted the research and development portions of the 1958 Defense Reorganization Act establishing the Director of Defense Research and Engineering in the Pentagon, and the PSAC worked closely with the Bureau of the Budget to scrutinize the annual military research and development budgets and establish priorities. Beginning in 1959, Eisenhower even attempted, without much success, to rationalize all federal research and development through an interagency Federal Council on Science and Technology, chaired by his science adviser. In short, Ike institutionalized scientific expertise in the White House.

As Professor Herken has detailed elsewhere, Eisenhower’s scientists also played a central role in the administration’s tortuous path toward a nuclear test ban.⁴ Early in 1958, the PSAC reported favorably on the technical feasibility of monitoring a nuclear test ban agreement, contradicting the position of Edward Teller and many of the Atomic Energy Commission’s scientists, which opened the door for Eisenhower to explore his oft-expressed interest in a nuclear arms control treaty with the allies and the Soviet Union. The scientists at the 1958 Geneva Conference of Experts even devised a monitoring system, only for it to be undermined by technical objections

² David L. Snead, *The Gaither Committee, Eisenhower, and the Cold War*, (Columbus, 1999) is the most recent study of the Gaither panel.

³ Thomas S. Gates Oral History, Dwight D. Eisenhower Library.

⁴ Gregg Herken, *Cardinal Choices: Presidential Science Advising from the Atomic Bomb to SDI* (New York, 1992), 101-23.

from the AEC and foot-dragging by the Joint Chiefs of Staff and the Defense Department. As the internal debate over the merits of various inspection schemes stagnated in the Committee of Principals, Ike undoubtedly became frustrated at his experts’ failure to reach consensus. Nevertheless, as Kistiakowsky saw it, the test ban was essentially a political issue, requiring the administration to decide what level of risk was acceptable in the monitoring system.⁵ Ultimately, Eisenhower’s lack of political will to force consensus on his inner circle and sell the project to the nation was more responsible for the “lost opportunity” in 1959-60 than the fact that his scientists “had failed him.”⁶ Moreover, this last, bitter remark to Kistiakowsky in mid-1960 needs to be put in the context of the loss of Gary Powers’s U-2, the breakup of the Paris Summit and Ike’s increasing frustration at his inability to alleviate Cold War tensions.

Professor McDougall succinctly describes the nature of the national security dilemma facing Eisenhower. In order to achieve “security with solvency” over the “long haul,” Eisenhower deliberately adopted a capital-intensive strategy emphasizing high-technology weapons systems over conventional forces. Rather than foster the development of a highly centralized “garrison state,” however, Eisenhower pursued arrangements that resulted in the military-industrial-academic complex, or what H. L. Nieburg has called the “contract state.”⁷ The federal government procured weapons and research largely from private industry and universities. Under the fiscally conservative Eisenhower, the federal share of national research and development expenditures rose from 53 per cent to almost 64 per cent, with defense and space R&D alone escalating from around \$2.5 billion in Fiscal Year 1953 to \$7.5 billion in Fiscal Year 1961.⁸ Ike had good reason to be concerned at the political and economic ramifications of these developments. He needed to sustain scientific and technological superiority over the Soviet Union, but he also recognized the importance of achieving maximum efficiency and economy. After 1957, he envisioned “his scientists” performing the role of independent arbitrators among the various projects being pushed by the military services and their technological enthusiasts. Interestingly, one of the first tasks Ike set his new science advisers in 1957-58 was to fashion a semblance of order out of the array of competing missile programs that the TCP had recommended and he himself had approved just two years earlier!

To a large extent, Eisenhower and Killian succeeded in developing a mutually satisfactory partnership between science and the state in the late 1950s. Regardless of the occasional temper tantrum, Eisenhower held his scientists in high esteem. Despite the intense political pressure brought to bear for crash programs and emergency measures, Eisenhower, bolstered by his scientists, effectively staved off assaults on his New Look strategy of security with solvency. The science advisory system put the president “in a position to make informed, critical, sound decisions on a very tough-minded basis, and to reorient spending from unwise to much wiser and more necessary projects.”⁹ Between FY 1958 and FY 1961, defense spending actually declined from 8.7 per cent to 8.3 per cent of the Gross National Product, and real national security

⁵ George B. Kistiakowsky, *A Scientist at the White House: The Private Diary of President Eisenhower’s Special Assistant for Science and Technology* (Cambridge, 1976).

⁶ *Ibid.*, 375.

⁷ H. L. Nieburg, *In the Name of Science*, revised edition (Chicago, 1970), 184-99.

⁸ *Historical Statistics of the United States: Colonial Times to 1970*, (Washington, DC: 1975), 965.

⁹ Andrew J. Goodpaster memorandum of conference with the president, 24 June 1959, Dwight D. Eisenhower Papers as President, Ann Whitman File, DDE Diary Series, box 42, folder: staff notes, June 16-30, 1959, Eisenhower Library.

expenditures were lower in constant dollar terms in Ike’s last year in office than in any previous year of his administration.¹⁰ Having said that, Ike presided over an unprecedented peacetime mobilization of science. While he may have believed that Killian’s “bunch of scientists was one of the few groups ... who seemed to be there to help the country and not themselves,” the scientists’ advocacy of increased support for basic research clearly paid dividends. Under Eisenhower, federal funding for basic research in universities and colleges rose from \$73 million to \$382 million, while total federal funding for academic research and university-affiliated research centers amounted to \$1 billion by 1960.¹¹ Reflecting the science advisers’ “best science” ideology of promoting fundamental knowledge by supporting the best researchers in the leading institutions, some 79 per cent of federal funding for university-based research went to the top twenty universities, chief among them MIT.¹² No wonder that Killian later fondly recalled “those golden years for science.”¹³

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¹⁰ Samuel P. Huntington, *The Common Defense: Strategic Programs in National Politics*, (New York, 1962), 95-97.

¹¹ James R. Killian, Jr., *Sputnik, Scientists, and Eisenhower: A Memoir of the First Special Assistant to the President for Science and Technology* (Cambridge, 1977), 241; *Historical Statistics*, 965.

¹² Rebecca S. Lowen, *Creating the Cold War University: The Transformation of Stanford*, (Berkeley, 1997), 147-48. For an extended discussion of “best science” ideology, see Daniel J. Kevles, *The Physicists: The History of a Scientific Community in Modern America*, (New York, 1978).

¹³ Killian, *Sputnik*, 264.