Melvin Laird played a classic trump card when, in ABM hearings before the Senate Armed Services and Foreign Relations Committees, he invoked the threat of a Soviet nuclear first strike which could nullify U.S. capability to retaliate. In recent years a relative equilibrium has prevailed between the U.S. and the Soviet Union, based on a principle of "assured mutual destruction." The reassuring theory was that either nation could respond with a devastating "second strike" to a nuclear first strike. Laird argued that the Soviet Union's increase in its number of big missiles, the growth of its submarine fleet, and work on the so-called fractional orbital bombardment system, which threatens U.S. bomber capacity, could soon undermine U.S. second-strike ability unless Nixon's "Safeguard" ABM system is adopted.

Laird also produced a list of prestigious independent scientists and science administrators who, he said, support the Safeguard system. In addition to Teller he named Detlev W. Bronk, former president of the National Academy of Sciences; Gordon J. F. MacDonald, vice chancellor of the University of California, Santa Barbara; William G. McMillan of the University of California, Los Angeles; Frederic Seitz, president of the National Academy; and Eugene B. Wigner and John A. Wheeler of Princeton University.

Neither side of the ABM controversy has dwelt much on the development of the so-called MIRV's (Multiple Independently Targetable Reentry Vehicles) being developed by both the U.S. and the Soviets. MIRV warheads, as the name implies, divide into a number of separately guided nuclear weapons and penetration aids designed to confuse and saturate missile defenses. The decision to develop the MIRV may, in fact, deserve the "irreversible decision" label which Senator John Sherman Cooper (R–Ky.) has affixed to the ABM deployment and may signal progress from the era of overkill to the era of superkill.

The Nixon decision on the ABM seems to have been made very much as previous Presidential decisions on strategic weapons policy have been. According to the sketchy accounts available, Nixon relied mainly on his closest national security affairs advisers rather than on formal consultations with experts in the Executive branch or outside government, or even with influential members of Congress.

Henry A. Kissinger, the chief White House adviser on national security, and his aides reportedly played pivotal roles in assembling contesting arguments and providing an orderly context for the decision-making.

Shortly before the President's decision on the ABM was announced, it was reported in the press that a PSAC panel had submitted a report which expressed fairly strong reservations about the effectiveness of a Sentinel ABM system. Bethe, a member of the PSAC panel, was quoted as saying that a majority of panel members shared his views on the potential effects of penetration aids. The panel's conclusions on the practicability of an ABM "hard-point" defense like that advocated by Nixon, however, were apparently not included.

Presidential science adviser Lee A. DuBridge concurred publicly with the Nixon decision in a letter which concluded,

> The Safeguard system which you now propose eliminates the serious defects of the old Sentinel plan, focuses on the reasonable, feasible and necessary defense of our deterrent force, provides time for more thorough testing of an operating system and phases future deployment to progress of arms control negotiations and the changing information on the nature and imminence of potential threats to our security.
>
> I shall endeavor to make clear to my scientific colleagues that the Safeguard plan represents a sound and reasonable approach to our strategic defense problem.

The activities of DuBridge's predecessors Hornig, Wiesner, Kistiakowsky, and Killian in opposing ABM deployment raises a generational question of the kind that is fashionable these days. Most prominent opponents of ABM deployment have been alumni of the wartime mobilization of scientists. The generation of natural scientists which matured after World War II have been—with some exceptions, such as Herbert F. York and Ruina—a silent generation by comparison. Some in this middle generation made early careers in defense research and moved into positions of responsibility and power, like Harold Brown, former Secretary of the Air Force, and John S. Foster, director of defense research and engineering. But many seem simply to have got on with their careers and have been neither radicalized, like many of their younger colleagues, nor committed to a long-term effort to affect strategic policy, like their seniors. There is the theory that the older generation matured in a prewar age of innocence, experienced the Fall in the summer of 1945, and have sought to regain that prelapsarian state of grace, while their successors were pragmatists who simply were better able to accept a world they hadn't made.

Younger scientists concerned about public policy seem, in fact, to have achieved an impact on policy when they joined, and in several cases led, the protests against emplacement of ABM "farms" near major cities. No causal relationship between the protests in Boston, Chicago, Detroit, Honolulu, Los Angeles, San Francisco, and Seattle and abandonment of the ABM area defense can be demonstrated. But reaction in Congress was galvanic, and the circumstantial evidence for effectiveness of the protests is strong.

The threat of a nuclear accident seemed very immediate to many people, and they acted accordingly. The dissent of the older academic scientists influences policy in a less dramatic way. It is probably true that two opposing views on arms policy have crystallized in Congress—notably in the Senate Foreign Relations and Armed Services committees—as never before. But as the ABM debate moves into a discussion of the complexities of nuclear strategy, some classic forces will assert themselves.

There are real uncertainties about the effectiveness of ABM technology on the one hand and suspicions about Soviet and Chinese actions and reactions on the other. Precedent says that official policy gives the benefit of the doubt to the hardware, not to humans.

—JOHN WALSH

RECENT DEATHS

Joseph A. Falzone, Jr., 44; senior research scientist with the Masonic Medical Research Laboratory in Utica, N.Y.; 18 February.

John Farmer, 36; associate professor of psychology at Queens College; 17 March.

Robert L. Hass, 46; assistant professor of health science at the University of Illinois; 7 March.

Ralph R. Huestis, 77; professor emeritus of biology at the University of Oregon; 25 February.

Ian Weinberg, 31; associate professor of sociology at the University of Toronto; 12 March.