ly naive recommendations," for failing to identify and analyze a sufficient number of alternative approaches, for trying to accomplish too much, and for putting "too much emphasis on engineering" and not enough on "social and institutional aspects."

The report also reviews other civil systems efforts: the introduction of planning-programming-budgeting systems into most major federal agencies; a high school construction project, carried out by Stanford University's Education Planning Laboratory and architects from Berkeley, for 13 California school districts (it is described as "probably one of the most successful civil systems efforts ever undertaken"); and various fledgling efforts by federal, state, and local governments. What does experience thus far prove? Mainly that a civil systems approach seems desirable and "possible" but that there are "large institutional obstacles to expanding demand—obstacles at all levels of government, and in the firms supplying systems service."

Government, for example, often lacks the data needed for systems approaches to civil problems. It is easy to determine how many mothers in a community are on welfare and how much they are paid in benefits, but not so easy to identify the pertinent stresses leading to family breakup, much less measure these stresses and conduct a cost-effectiveness study of alternative methods of rehabilitation.

Government also tends to be fragmented, with multiple agencies and political levels having jurisdiction over a particular civil problem, whereas systems work generally assumes that governmental authority matches the boundaries of the problem, as in the Defense Department or in the space agency.

Other problems arise from the fact that few people in civil government understand the systems approach; civil governments have little experience with the "contracting out" procedures used in defense systems work; state and local governments have little "thinking money" for long-range planning and redesign of existing systems; and they lack the "continuity" of the federal defense establishment—the type of people making decisions may change radically while civil systems are being developed. Civil governments are also subject to bureaucratic inertia that renders them "better prepared to resist change than to adopt it," says Gilmore.

NEWS IN BRIEF

• **ABM EXCHANGE**: The Atoms for Peace Award presentation on 14 November was marked by a sharp exchange over the validity of an antiballistic missile system (ABM) between a current and former recipient of the award. Alvin M. Weinberg, director of the Oak Ridge National Laboratory and a 1960 recipient of the award, and Isidor I. Rabi, Nobel laureate in physics and long-time government science adviser who was one of three men who received the 1967 award, substantially disagreed over the role of an ABM system in the nuclear arms race. Weinberg, in delivering the principal address at the ceremony, said that a strong defense system could limit the missile's effectiveness and end the spiraling arms race. He stated, "If defensive systems continue to improve, the capacity of the world to destroy its people and its lands will gradually deteriorate . . . so that nuclear war, even in a defensively oriented world, could never be regarded as a rational instrument of policy." During a news conference following the speech, Rabi took sharp exception to Weinberg's suggestion that a strong defense system promotes peace, the New York *Times* reported. Rabi was quoted as saying the idea was "political madness and technically unsound." He added that "there is no defense that can't be broken."

• **NSF LEGISLATION:** A special three-member subcommittee of the Senate Labor and Public Welfare Committee conducted hearings 15 and 16 November on two similar bills that would modify the structure of the National Science Foundation. The hearings, the first in the Senate on the NSF Act since its passage in 1950, were chaired by Senator Edward Kennedy (D–Mass.). Kennedy sponsored one of the measures, S. 2598. The second bill, H.R. 5404, was originally introduced by Representative Emilio Q. Daddario (D–Conn.), and passed by the House in April. Both the Kennedy bill and the Daddario bill would authorize NSF to support scientific activities related to international cooperation and foreign policy as well as to support applied research. Both also specifically direct NSF to support the social sciences in addition to the physical sciences, and both would augment the responsibilities of the National Science Board. The Daddario bill states the board "shall establish and be responsible for the policies of the Foundation," while the Kennedy bill says the board "shall establish policies to guide the foundation." Neither bill encountered significant opposition during the hearings although several witnesses favored the Daddario bill's position on powers of the National Science Board. Senator Fred Harris (D–Okla.), sponsor of a measure that calls for the creation of a National Foundation for the Social Sciences, appeared as a witness supporting the Kennedy measure. He praised Kennedy's bill as "a basically good bill" but added that its passage would not affect the need for a social sciences foundation.

• **MARINE SCIENCES CURRICULA**: A 157-page compilation of marine sciences programs and faculties at universities throughout the nation has been published by the National Council on Marine Resources and Engineering Development. Copies may be obtained without charge by writing to the council at Room 476, Building 159E, Washington Navy Yard, Washington, D.C. 20390.

• **MENTAL RETARDATION CENTER**: The University of Miami has received $500,000 for its proposed Mental Retardation Center from the Joseph P. Kennedy Jr. Foundation. The research and training facility, the first of its kind in the Southeast, will open by 1970. The bulk of the cost of the $5-million center has been provided by a $3-million construction grant from the U.S. Public Health Service.

• **LETHAL AIR POLLUTION**: Warnings of an impending crisis because of carbon monoxide levels in New York City have been issued by two pollution experts. On 26 October New York City's Air Pollution Commissioner, Austin N. Heller, stated that growing carbon monoxide levels may force the banning of cars and trucks during certain hours in some areas of Manhattan such as Times Square. Myron Tribus, the dean of Dartmouth's School of Engineering, recently issued a stronger warning: "We're on our way to a public catastrophe. . . . Carbon monoxide levels in New York City are approaching the lethal level."