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Federal Reorganization: Science and Technology

As plans for the reorganization of the government are drafted and redrafted, rumors about changes in the organization of science and technology programs abound. It seems timely, therefore, to consider some general principles of organization and management in relation to science and technology in government which should be kept in mind as new arrangements are sought.

Mission agencies need strong R & D programs. The vast majority of federally supported R & D activities is intended to enhance specific policy goals. There are few policy missions, if any, that will not benefit from a well-designed research program. This includes research and development proper as well as policy and evaluation research. It also includes development of institutional linkages for diffusion and extension and, where appropriate, social demonstrations. Both programmatic and regulatory agencies need R & D activities directly related to their policy missions.

Mission agencies need their own science policies. There is no single model for organizing and managing an agency's R & D program, for the appropriate mix of private and public involvement, for the use of internal or external R & D capabilities, for establishing linkages between policy planning, program implementation, and the R & D function. What makes sense in the case of Defense is unlikely to work in Agriculture, and vice versa. Agencies must learn from each other, but there is no substitute for developing agency-specific R & D strategies in response to agency-specific responsibilities and environments.

Mission agencies need basic research. R & D programs of individual mission agencies must not be restricted to applied work or to exclusive concern with short-term solutions. Mission agencies, instead, must be organized and funded in such ways that they can support basic research in their broad areas of responsibility. Without such a policy the research work of agencies will become stale.

A central science policy capability is needed. Science advice for presidential decision-making will take on different organizational forms under different Presidents and for different issues. However, it would be a grave mistake if the need for a strong science policy capability had to be rediscovered every few years. The range of issues to be decided by the President, many of them with important scientific and technological components, requires a stable White House capability with access to the best available scientific and technical information.

Promotion and regulation should be separate. We have learned, over time, that the two functions of promoting and regulating innovation should not be kept under the same organizational roof. The recent congressional decision providing for separate organizations responsible for promotion of new energy sources and for regulation of safety and impact indicates the direction to follow.

Administrative controls must not become ends in themselves. There should be more emphasis on quality control of work proposed or completed and less concern with administrative red tape. With regard to quality control, recent studies support the claim that peer review ensures high standards of performance in scientific research. Agencies should extend the areas of funding decisions subjected to peer review. Other forms of administrative control tend to become counterproductive. There is disturbing evidence that increased reporting requirements and tacked-on civil rights and equal opportunity rules, however well intended, result in formalistic arrangements which endanger creativity and the willingness to take risks. Unless this trend can be reversed and a bond of mutual trust is rebuilt between those funding R & D activities and those performing these tasks, we will pay the same high price in reduced originality and productivity that other nations have paid before.—JURGEN SCHMANDT, *Lyndon B. Johnson School of Public Affairs, University of Texas, Austin 78712*