

sions are an incursion on Executive management responsibility, distort program balance, impede program management, and would be a serious problem for any agency."

NSF officials consider several of the provisions ludicrous. As part of a new program to increase the involvement of women in science, for example, the agency is required to sample the participation of men and women in "science and technology" jobs by discipline, race, and ethnic origin. The report, which Congress demands no later than January 1982, must include a tabulation of the "number of individuals in permanent and temporary, full-time and part-time scientific positions by appropriate level or similar category," also listing average salaries and "the number and type of promotional opportunities."

"Tell me what this means," says Thomas Ubois, the NSF assistant director for administration. Such a survey will cost millions of dollars, though alas no extra money has been provided to the agency. He says it is unclear whether the congressional committees are interested in private sector jobs as well as those funded by federal grants.

Both NSF and the White House budget office thought unusual the degree of specificity in Congress' demands. Grants under the new women's program, for example, can by law be made for only 3 years at a time, with only one renewal, while the minimum annual amount must be \$10,000. "Suppose a lady requires only \$5,000?" Ubois reasonably asks.

NSF was not the only agency to be hit by congressional *machismo*. The National Aeronautics and Space Administration (NASA) was told by the appropriations committees that it may not shift any of its funds from one program to another without the prior approval of the National Academy of Sciences and the National Academy of Engineering. Such shifts are required routinely as a result of massive cost overruns of the shuttle and technical difficulties with smaller programs.

The House subcommittee, headed by Representative Edward Boland (D-Mass.), has been rattled by NASA's recent financial decision-making on such projects as the Galileo probe of Jupiter and the space telescope. Boland sought at first to require that the committees approve

any juggling of funds, but acceded to Senate objections by agreeing on academy review instead. The National Academy of Sciences (NAS), for its part, wants little to do with such a scheme.

Paul Sitton, the NAS executive officer, has termed the veto power "inappropriate, awkward, and confusing." He says the NAS has "no resources or staff to build up to that kind of operation." The committees had in mind a time limit of 60 to 90 days on the NAS review. "You know how often the academy gets a report out in 60 to 90 days," Sitton says frankly. NASA officials are alarmed at the prospect of long delays on financial problems that demand quick resolution. Nevertheless, both parties say they will attempt to implement the requirement in good faith. The NAS got \$1 million for the task.

Finally, the agriculture committees of the House and Senate have directed the Environmental Protection Agency to get outside review of all scientific studies used as a basis for regulations. Also, all new pesticide rules may be vetoed by House-Senate concurrence. Together, the effect of these orders is not unlike that of the order binding NASA.

Many observers expect more of this from an assertive Republican Senate and the more politically balanced House.

Pope John Paul Meets the Scientists

A dozen Nobel laureates recently carried a message to Pope John Paul II in the Vatican that gently rebuts his criticisms of birth control techniques and recombinant DNA research. "Up to this time, the world has not fallen victim to the dire predictions of Malthus," the group told him in an hour-long audience. Science and technology can be applied to prevent such a disaster, by "providing guidance to the limitation of population growth," the group said.

The group, which included U.S. Nobelists Rosalyn Yalow, Lawrence Klein, Severo Ochoa, and Charles Townes, stated that biological and medical scientists were partly responsible for the population explosion, as a consequence of improvements in nu-

trition and prevention of disease. As such, they feel a "special responsibility in advocating methods of ending this crisis. . . . The dignity of human life is maintained only if we can ensure a balance between material supplies and the needs of the exploding population." They issued a "strong appeal to spiritual leaders to keep this balance."

On the subject of genetic engineering, they told the Pope that the ability



Rosalyn Yalow

to alter genes is a powerful research tool and "of great potential value to mankind," pointing specifically to the production of interferon and human insulin. Genetic engineering is conceptually akin to age-old plant and animal breeding, they said. The modification of human genetics "is more complex scientifically and raises ethical questions. It is critical to keep its ethical consideration separate from other forms of genetic experiments."

The group gathered in Rome under the auspices of Nova Spes (new hope), an organization that promotes the use of human values in development. The laureates also included Friedrich von Hayek, Jean Dausset, Hans Krebs, and Maurice Wilkins. Yalow describes it as a "good opportunity for scientists to make their views known to the Catholic hierarchy."

Pope John Paul read his own statement at the meeting, saying that distorted applications of science pose threats to man "that are unfortunately growing daily more grave," prompting some to speak of "a legitimacy crisis for science."

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