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EDITORIAL

The NIH Did It!

What the National Institutes of Health (NIH) did was unique in the history of federal support of research in the biosciences. The uniqueness was called to my attention in 1959 when I visited the Soviet Union as one of five American biochemists on an exchange program between our National Academy of Sciences and theirs. After a month of our observing the management of research in the major Soviet universities and institutes, the Minister of Science asked us to compare the Soviet and American systems.

We said diplomatically: "Your system is different. You place authority for direction of research in the hands of a Director of Research. In the United States, the individual scientist is in control. After applying for a research grant, the scientist is judged in competition with other applicants by a group of peers outside his institution. With the award of a grant, he becomes his own boss. His success or failure depends on what he accomplishes." Our Russian host was puzzled: "It is your system that is different. Our system is the same as that practiced in all other countries, in Europe and Japan." He was right, and it is still true that in most of the world, direction of research is vested in a relatively few senior people, whereas in the United States the bulk of research money in biomedical science goes to thousands of individual investigators.

The independence of scientists to initiate and pursue their own research programs in the biomedical sciences was achieved because the NIH designated research grants to individual scientists, thus making them unbeholden to department heads, deans, and university politics. The university had no choice but to grant independence in order to compete for the grantees, their teaching contributions, and the considerable income from indirect costs attached to their grants. However, the very competition for grantees, essential to the success of the NIH grants program, does depend on the independence of the private and public universities from centralized state controls, virtually unique in the United States.

Of current concern is whether this remarkable NIH program can withstand budgetary limitations and the increasing pressures to distribute block grants. Already, a considerable fraction of the NIH research budget is obligated to program projects in some of which a director can select the investigators and choose projects that might not withstand peer review. While many of these projects serve legitimate purposes, the outlay to support them has in effect become a fixed "entitlement" expenditure. By contrast, the percentage of awards for investigator-initiated projects (R01's), the "discretionary" component of the budget, has declined sharply.

Trends to centralize and collectivize bioscience research support are worldwide. Japan should be applauded for initiating and sustaining the Human Frontier Science Program. However, grants are made only to a group of investigators assembled from several countries who can devise a project advanced enough to be divided among them. In Europe, the European Union requires that investigators from three or more countries find a consensus project that can be parceled up, leaving no room for a scientist to do something utterly original and unpopular. In the United Kingdom, the Medical Research Council is planning to consolidate grants along similar lines. And in Italy, the powerful baronial organization of research-granting agencies perpetuates fragmentation and favoritism.

An oft-stated reason for block grants and collective efforts is the expensive equipment and resources needed to solve the problems of major diseases. A common illusion is that strategic objectives are necessary to discover the cures for cancer and AIDS and that groups of sufficient size need to be mobilized for wars and crusades against these enemies. Nothing could be more misguided. In the history of triumphs in biomedical science such wars and crusades have invariably failed because they lacked the necessary weapons—the essential knowledge of basic life processes. Instead, some of the major advances—x-rays, penicillin, polio vaccine, and genetic engineering—have come from the efforts of individual scientists to understand Nature, unrelated to any practical objective. Basic research has been the province of the individual investigator and remains the lifeline of medicine.

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