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## Federal Support of University Research

That the relations between universities and the Federal Government have been changing in recent years is news to no one, but the extent of the change may be. Federal support of research and development in universities was, in 1940, only about \$15 million and was largely confined to agriculture. In a recent report (*Government-University Relationships in Federally Sponsored Scientific Research and Development*), the National Science Foundation estimates that in fiscal 1958 support will amount to about \$440 million—a thirty-five fold increase (see page 1231). The greatly increased funds, which possibly amount to two-thirds of the total expenditures of the universities for research and development, now go to the support of all of the natural sciences and engineering as well as agriculture.

The change is not only in the degree but also in the pattern of support. Of the \$440 million, the major share, \$265 million, still goes to the universities proper, but \$175 million is allotted to a comparatively new kind of institution, the research center, that is owned by the Government but is operated under contract by one or more universities or industrial concerns. During the war the need for a vast expansion in scientific and technical knowledge led federal agencies to make contracts with universities and industrial concerns for specific programs. For some projects the demands were so great that the facilities of a particular university department were not adequate to do the job, and this led to the establishment of the research centers.

Of the 47 such centers now in existence, 27 are supported by the Department of Defense, 18 by the Atomic Energy Commission, and 2 by the National Science Foundation; 28 of the centers are operated by universities or groups of universities. Among the major centers operated by universities are the Jet Propulsion Laboratory (California Institute of Technology), Applied Physics Laboratory (Johns Hopkins), Radiation Laboratories (California), Argonne National Laboratory (Chicago), Brookhaven National Laboratory (Associated Universities), and Oak Ridge Institute of Nuclear Studies (Group of Southeastern Universities).

The benefits of this program to the nation and to the universities themselves are obvious, but there are questions about the threats to the independence of the universities and to the freedom in selection of research programs. The Foundation raises some of the questions in its report: "To what extent has the availability of funds from particular agencies given direction to research in universities? Have the policies of the agencies distributing funds and the philosophy of universities in seeking or accepting funds been factors in guiding research? Has the type of work done been determined by the availability of extra-university funds for certain kinds of research?"

The Foundation comes to the general conclusion that, although research has necessarily been given some direction, "this direction up to the present has in general been neither necessarily irksome nor detrimental." That this statement is on the whole true is a tribute to the care and restraint that the federal agencies have exercised in their arrangements with universities.

—G. DuS.