

objectives and programs of their agencies, but are also often dependent upon the good will and approval of these leading scientists, at the same time that the scientists are becoming increasingly dependent upon government for the funds needed to conduct large-scale research projects. We have growing evidence that the influence of scientific thought, and certainly the privileges of scientists are considerable in other advanced countries, such as the Soviet Union.<sup>4</sup>

All this poses a major social problem for our time. How are we to control the activities and products of science in the interest of mankind? Most men agree--including most scientists, incidentally--that science, like any other major area of human activity, is not an end in itself; it must be related eventually, if not more immediately, to the service of the basic interests of mankind. In other words, how do you organize science in such a way that science itself can flourish, and yet at the same time, the products of science can be rapidly utilized in accord with the needs of increasingly complex areas of technology?

This problem is, of course, a familiar one to many administrators in government and industry, and many consider it to be a frustrating one. It is frustrating because we seem to know more about how to go about unlocking the secrets of nature than we know about how to design effective organizations--and especially effective scientific organizations. At the same time, this is a frightening problem to many scientists. They do not like to have people thinking too much and too seriously about "organizing" scientific research activities, because the very idea of "organization" to many scientists means some kind of external control, and they see the concept of "control" as inimical to concepts of "freedom" and "independence" which are keystone values in scientific endeavors. Like one school of political philosophy, most scientists feel that the form of organization that governs best is the form that governs least. This point of view is reflected in much of the literature on research organizations in industry and government, which has focused attention upon the conflict that it presumed to be inherent between the "scientific mind" and the "management mind."<sup>5</sup>

We now have increasing evidence, however, that although it is indeed valuable to point out conflicts between managerial and scientific interests that are likely to occur in various forms of research organization, these conflicts are nevertheless not inevitable. Where they do occur, they can be overcome by appropriate organizational forms, policies, and practices. The reconciliation of the

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