

REORGANIZING RESEARCH AND DEVELOPMENT

Since the Russians so spectacularly demonstrated their progress in advanced technology by launching the Sputniks, there has been much critical evaluation of the United States research and development program and policies. In our opinion most of the criticisms have been wide of the mark. With amazing unanimity the critics have pointed to the uncoordinated character of research and development, the lack of adequate planning, the absence of strong central direction, and the alleged duplication, competition, and waste. They demand strong central direction and coordination, review of programs and projects, elimination of competition (especially inter-Service competition), and the weeding out of duplicating projects.¹⁵ In response to these criticisms a new, echelon of research and development planners and managers is being added to the Pentagon at the Department of Defense (DOD) level to direct all lower echelons.

These criticisms, we think, are based on a fundamental misunderstanding of the nature of research and development. They treat as certain what is highly uncertain. They try to strengthen control at the top when what is needed is initiative and spontaneity at the bottom. They try to suppress competition and diversification because particular duplications are obviously wasteful from the vantage point of hindsight, apparently unaware that duplication is a rational necessity when we are confronted with uncertainty and that competition is our best protection against bureaucratic inertia.

The popularity of these criticisms is a little surprising when one reflects that military research and development is being pilloried for

¹⁵ As an example, the following is an excerpt from an article entitled "How Ike Answers Critics of Shake-up in the Military," in the *U.S. News and World Report* dated April 25, 1958, p. 122:

"In another area — defense research and development programs — the need for central direction is especially acute.

"This area, more than any other, invites costly rivalries. The programs are critically important. They involve the weapons of tomorrow. In these programs we cannot afford the slightest waste motion. Nor can we afford to devote three sets of scientists and laboratories and costly facilities to overlapping weapons systems and research projects.

"Recently we have been spending something more than 5 billion dollars a year for research and development programs dispersed among the several services. This great sum is used to maintain our weapon potential but does not procure one single weapon or piece of equipment for the operating forces. Not a one. Eminent scientists report to me that centralization of direction over this program will surely cut costs markedly and improve efficiency.

"I have recommended that the supervision of this entire activity — and, to the extent deemed necessary, its direction — be centralized in the Defense Department under a top civilian who will be a national leader in science and technology — the actual work being done largely by the military departments, as is the case today. The Congress willing, we will substantially increase the efficiency of this multibillion-dollar research and development effort, reduce its cost, and strike at one of the roots of service rivalries."