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Charting a Course for Science

The naming of a White House science adviser has ended long months of suspense, and the appointment itself is an agreeable one. What remains to be seen is whether light will soon be shed on the course of national policies toward science, engineering, and education in the coming years.

From the sidelines, it seems safe to predict that the United States will invest heavily in science and technology throughout the 1980's. Counting both government and industry outlays, helped along by continued inflation, we will have little trouble in aggregating \$1 trillion or more of expenditures on research and development over the course of this decade. When investment in productivity-building technology is added on, encouraged by tax incentives and burgeoning defense requirements, the scale in cumulative terms is numbing.

Then comes the question of what it is all to be in aid of. Current indications are that the bulk of the effort will focus on two predominant objectives, both of which have articulate constituencies: industrial productivity and the improvement of national security assets. Our science and technology "policy," if left to itself, will very likely emerge essentially in those terms. Aside from the merits of this agenda, which can be argued to a standstill, it seems to follow that the nation's policy for science and technology will be not nearly as pluralistic and eclectic as it was in the three preceding decades. What it means, should things turn out this way, is that science will travel on a narrower road, with fewer opportunities for browsing in the quiet side streets of scientific curiosity and surprise.

At least as troubling is the prospect that science as a method of inquiry into the social and cultural base of our nation and the emerging nations will be undervalued or even dismissed. Serious questions begin to arise. Will we address the meanings, the uses, and the limits of massive military and technological power? Will we assume simplistically that our political technology is advancing in wisdom and competence sufficiently to pace a national economy that will be scaled at \$3 trillion to \$4 trillion? Will we do enough to monitor social trends under the stress of such a superheated national economy? Will we take a different view of justice and generosity relative to the distance we are putting between ourselves and the Third World? These things matter just as much as the strength of our forces or the edge we regain in international markets.

Nor can we take for granted universal applause for the scale of scientific, technological, and economic exuberance that has been posited here. If the course we take is a thoughtless one, geared entirely to our own national preferences, it may well occur to some resentful nations that limits should be set on our power and leverage. Such limits, overt or indirect, could take the form of denial or diversion of basic resources and assets—minerals, fuel, rights of air and sea passage, exploration and extraction privileges, and the like. This is a game at which new skills are being honed, and they are not to be underestimated. What is needed on our side is not a retreat from global cooperation in science and technology as much as reorientation and fresh initiatives.

The conventional wisdom, with much evidence to support it, is that we are entering upon a stretch of conversatism in matters of both political economy and social policy. In such an abrupt turnaround, confusion of purposes is to be expected, and policies for science and technology will tend to adjust at the margins to uncertain signals, including some that are strongly ideological. The historians of science record too many dark chapters where science was captured by ideology, on the left and on the right of the political spectrum. If science ever has to stand and fight, ideology is its natural opponent.

As a new science adviser comes on the scene in the still formative months of new political leadership, he will find that he is on a fast track with too little time and few resources relative to what is on his plate. We wish him well.—WILLIAM D. CAREY