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How Guard Our Diversity in Science?

Recently Jerome Wiesner testified before the House Committee on Government Appropriations that the government plans to allocate for the coming fiscal year the sum of $12.3 billion for support of research and development in the nation. Although this sum represents only about 15 percent of the overall federal budget, it amounts to well over one-third that portion not formally committed.

These are awesome figures. Their positive impact is clear enough. But there are cautionary aspects that cannot be stressed too often. They were introduced by the President when he observed that federally financed activities in defense, space, and atomic energy absorb roughly two-thirds of our total supply of physical scientists and engineers. They are further emphasized by a committee headed by J. Herbert Holloman, Assistant Secretary of Commerce for Science and Technology. Such is the stress created by this drain that we are actually falling behind Western Europe, England, and Japan in our resources of scientific talent available to industrial production.

Throughout our national history we have depended on a demand mechanism to distribute human effort and resources in a pattern which, if sometimes wasteful in the short term, in the long term provided proven benefits. This approach has served us well. But it assumed two fundamental premises, among others: that available resources of trained human talent would continue to be great enough to fill all demands, and that their commitments would continue to be highly plural in nature and, moreover, flexible. What do we do when so large a fraction of the reserve is being inflexibly committed to specific enterprises that the bottom of the barrel is visible? What do we do when—as is not yet universally recognized—it is not dollars but unbuyable human gifts that will set the limit?

But there is another dimension to this matter of plural commitment of scientific and engineering talent. In the past, we have owed some of the greatest advances in our understanding of nature—not to mention the greatest leaps in technical exploitation—to the work of individual genius ill-fitted to the kind of specific scientific commitment that faces us on such a colossal scale today. It would be strange if the potential of such individuals in the years to come were less than it has been in the past. Indeed, it ought to be yet greater. For the substrate of scientific knowledge with which it works today is enormously larger. And again, the absolute numbers of such exceptionally gifted individuals among us should increase in the future, provided that conditions for their discovery and development do not deteriorate.

But what part of this priceless resoure is annually swept irrevocably into the maw of activities organized about sharply committed goals? What part is anually consigned, at a formative age, to an environment which, while it may produce worthy scientific citizens, may also extinguish the full reach of their potential? These are very serious questions indeed. They ought to be argued and thought about deeply at every level by those concerned for our future scientific welfare and progress.—CARRYL P. HASKINS, *Carnegie Institution of Washington, Washington, D.C.*