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The American Association for the Advancement of Science was founded in 1848 and incorporated in 1874. Its objects are to further the work of scientists, to facilitate cooperation among them, to improve the effectiveness of science in the promotion of human welfare, and to increase public understanding and appreciation of the importance and promise of the methods of science in human progress.

Distribution of Research Funds

Congressional discontent with federal support of research arises from a number of causes. One of these is concentration of support at a limited number of universities, ten of which in fiscal 1962 received 38 percent of the total. A compilation of Department of Defense allocations to nonprofit institutions during fiscal 1962 indicates that Massachusetts received \$117 million while ten states in the South and West collectively obtained only \$560,000. These states have a total population more than twice as great as Massachusetts. The National Institutes of Health and the National Science Foundation have distributed their grants more evenly, but they too have given a large share of their funds to a relatively few institutions. Scientists have always tended to flock to a few major centers. The present mode of allocation of funds makes it even easier for the rich to recruit talent from the poor.

This situation is a natural outgrowth of the philosophic approach which has guided the agencies. The central view has been that the government supplies funds to achieve specific research. Scientists who sit on panels and study sections take into consideration the excellence of the research proposal, the known competence of the principal investigator and his associates, and the reputation of the institution sponsoring the research. These are reasonable criteria if the national interest is best served only by maximum efficiency in research activities. The system leads, however, almost inevitably to concentration of research support in a few institutions. A man of proved research productivity in a small school in the Middle West may submit an excellent proposal, but almost invariably his proposal will receive a rating below that of a comparable application originating at Harvard. The difference is the impact of the known excellence of the institution.

I sat on a study section at the National Institutes of Health from 1956 through 1959. As was the rule, our group rated grants on the basis of a scale from 1 to 5. The quality of applications originating from Harvard varied considerably, yet few if any were turned down, and most received a rating between 1 and 2. Proposals from less well known schools received severe scrutiny, were often rejected, and seldom were given a rating better than 2. Members of the study section were not personally prejudiced in favor of the great institutions and, if anything, would have preferred to encourage research at smaller schools. Yet we could not in good conscience produce a different result.

This lopsided allocation of funds could be corrected in a number of ways. One method would be to change the guidelines, eliminating the excellence of the sponsoring institution as a factor and giving weight to the need to build research in many centers. A second and more desirable method would be to allocate part of the total funds, perhaps 25 percent, directly to institutions on a per capita basis. This would be certain to produce a broad distribution of funds. It would not destroy incentives for excellence. It would have the constructive effect of transferring part of the responsibility and authority for scientific choice back to the universities. The method would have pork-barrel potentials, but this is a small hazard in comparison to the proved inequity of the present approach.

The present allocation of funds for research is not in the long-term national interest. One can only be amazed that congressmen from the underprivileged states have been so remiss in safeguarding the interests of the nation and of their constituents.—P.H.A.