SCIENCE

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Science serves its readers as a forum for the presentation and discussion of important issues related to the advancement of science, including the presentation of minority or conflicting points of view, rather than by publishing only material on which a consensus has been reached. Accordingly, all articles published in Science-including editorials, news and comment, and book reviews-are signed and reflect the individual views of the authors and not official points of view adopted by the AAAS or the institutions with which the authors are affiliated.

Editorial Board

MELVIN CALVIN ERNEST COURANT FARRINGTON DANIELS JOHN T. EDSALL DAVID R. GODDARD ALEXANDER HOLLAENDER WILLIAM L. STRAUS, JR. ROBERT JASTROW EDWIN M. LERNER II WILLARD F. LIBBY

NEAL E. MILLER PHILIP M. MORSE COLIN S. PITTENDRIGH KENNETH S. PITZER DEWITT STETTEN, JR. EDWARD L. TATUM JOHN R. WINCKLER CLARENCE M. ZENER

Editorial Staff

Editor PHILIP H. ABELSON

Publisher DAEL WOLFLE

Business Manager HANS NUSSBAUM

Managing Editor: ROBERT V. ORMES

Assistant Editors: ELLEN E. MURPHY, JOHN E. RINGLE

Assistant to the Editor: NANCY TEIMOURIAN

News and Comment: DANIEL S. GREENBERG. JOHN WALSH, ELINOR LANGER, MARION ZEIGER, ROSEMARY GALLI

Europe: VICTOR K. McElheny, Flat 3, 18 Kensington Court Place, London, W.8, England (Western 5360)

Book Reviews: SARAH S. DEES

Editorial Assistants: ISABELLA BOULDIN, ELEANORE BUTZ. SYLVIA EBERHART. GRAYCE FINGER. NANCY Hamilton, Oliver Heatwole, Anne Holdsworth, MARCIA ISAAK, RUTH KINGERLEE, HOWARD NATHEN-SON, EDGAR RICH

Advertising Staff

Director EARL J. SCHERAGO Production Manager RAYMONDE SALAMA

Sales: New York, N.Y., 11 W. 42 St. (212-PE-6-1858): RICHARD L. CHARLES, ROBERT S. BUGBEE Scotch Plains, N.J., 12 Unami Lane (201-889-4873): C. RICHARD CALLIS

Chicago, Ill., 6 W. Ontario St. (312-DE-7-4973): HERBERT BURKLAND

Los Angeles 45, Calif., 825 (213-653-9817); WINN NANCE 8255 Beverly Blvd.

EDITORIAL CORRESPONDENCE: 1515 Massachusetts Ave., NW, Washington, D.C. 20005. Phone: 202-387-7171. Cable: Advancesci, Washington. Copies of "Instructions for Contributors" can be obtained from the editorial office. ADVERTISING CORRESPONDENCE: Rm. 1740, 11 W. 42 St., New York, N.Y. 10036. Phone 212-PE 6-1858.

Forty First-Rate Universities

In 1960 President Eisenhower's Science Advisory Committee expressed the "hope that where there were only a handful of generally first-rate academic centers of science a generation ago and may be as many as fifteen or twenty today, there will be thirty or forty in another fifteen years." To aid in the realization of this hope is the precise target of the new Science Development Program of the National Science Foundation.

Grants for individual research projects and fellowships for specified individuals will no doubt continue to constitute the core of federal support for scientific research and education. But it is increasingly clear that a larger fraction of federal support should and will go to the universities as grants for the upbuilding of an area of teaching and research, a department, or the institution as a whole, rather than for specific research projects. The new grants are an example. Moreover, they differ from most previous grants in that the appropriate criterion of award is not How good is the applicant now? but rather How much will this grant help the applicant institution to become truly first-rate?

These new grants are intended to give to a relatively small number of already good universities an extra push that will help them to become very good. This is a high and difficult purpose. There will be efforts to subvert it. One temptation will be to make grants to universities that are already of top quality; their excellent staffs could make good plans for and good use of more money. But they are not the chosen target of this particular program.

A greater danger is from pressures to try to solve the problems of geographic distribution of federal funds. A disturbing example was given by the House of Representatives Appropriations Committee, which saluted this program as "one of the best methods to truly broaden the development of scientific and engineering knowledge in every part of the Nation, particularly in those areas where assistance is needed most." If needed most is interpreted to mean that the available funds should be spread thinly over many institutions, the program will fail.

Other programs have other purposes. This one is for universities that have the drive, the potential, and a good share of the resources they will need to try for equality with others that already rank among the top 10 or 20. For a university to qualify, the requirements are that it have well-laid plans for its own further development, that a substantial grant for 3 to 5 years will provide for the early realization of an important segment of these plans, and that the university have in sight funds for continuing the work when the grant comes to an end. Generally, universities that can reasonably enter this competition already rank between 20th and 50th or 100th, or in some such range, on the scale of academic excellence. Fortunately, the universities that can qualify are fairly well dispersed geographically. Geographic location cannot be the primary consideration, but one reason for wanting more first-rate universities is to have them in areas where none now exist. An increase from 15 to 20 or 30 or 40 will have a greater total effect on the nation's intellectual life if, without looking too far, each area or region can see, can proudly claim as its own, and can follow the leadership of a university of the first magnitude.—DAEL WOLFLE