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

ROBERT L. BOWMAN JOSEPH W. CHAMBERLAIN JOHN T. EDSALL EMIL HAURY ALEXANDER HOLLAENDER WILLARD F. LIBBY GORDON J. F. MACDONALD CLARENCE M. ZENER

EVERETT I. MENDELSOHN NEAL E. MILLER JOHN R. PIERCE KENNETH S. PITZER ALEXANDER RICH DEWITT STETTEN, JR.

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.

Assistant to the Editor: NANCY TEIMOURIAN

News Editor: DANIEL S. GREENBERG

News and Comment: JOHN WALSH*, LUTHER J. CARTER, BRYCE NELSON, ROBERT J. SAMUELSON, PHILIP M. BOFFEY, KATHLEEN SPERRY, GILLIAN PARRILLO. Contributing correspondents: ELINOR LANGER, NIGEL CALDER, VICTOR K. McELHENY

Book Reviews: SYLVIA EBERHART

Editorial Assistants: JOANNE BELK. ISABELLA BOULDIN, ELEANORE BUTZ, BEN CARLIN, HELEN CARTER, GRAYCE FINGER, NANCY HAMILTON, OLIVER HEATWOLE, ANNE HOLDSWORTH, KONSLYNNIETTA HUTCHINSON, ELEANOR JOHNSON, PAULA LECKY, KATHERINE LIVINGSTON, HELEN OLNEY, SANDRA RATTLEY, LEAH RYAN, BARBARA SHEFFER

*European Office: Lime Tree Farm, East Hag-bourne, Berkshire, England. Telephone Didcot 3317

Advertising Staff

Director

Production Manager

EARL J. SCHERAGO Rose Marie Romagnolo Advertising Sales Manager: RICHARD L. CHARLES Sales: New York, N.Y., 11 W. 42 St. (212-PE-6-1858): ROBERT S. BUGBEE

Scotch Plains, N.J., 12 Unami Lane (201-889-4873): C. RICHARD CALLIS

Medfield, Mass. 02052, 4 Rolling Lane (617-359-2370): RICHARD M. EZEQUELLE

Chicago, Ill. 60611, 919 N. Michigan Ave., Room 426 (312-DE-7-4973): HERBERT L. BURKLUND

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

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.

International Medical Research and the Gold Drain

Recognizing that advances in medicine in other countries are usually transmitted quickly to the United States, the National Institutes of Health has maintained modest international programs involving 1 to 2 percent of the total NIH budget. These programs have supported many of the world's best medical research workers in about 60 nations. In fiscal 1967, the NIH international effort amounted to \$20 million, including \$8.5 million for research grants, \$1.2 million to visiting scientists to the U.S., \$1.2 million to international postdoctoral fellows, and \$1.7 million to U.S. fellows and trainees overseas.

Excellent mechanisms have been employed to assure that highly qualified individuals are selected for support. For instance, grant applications are examined for scientific merit by distinguished nongovernment American scientists who constitute the major fraction of the NIH study sections. Foreign applications are reviewed along with domestic proposals, and must be outstandingly good to receive a favorable rating. Foreign proposals are subject to additional review to assure that the projects funded utilize scientific resources and opportunities not available in the United States.

The roster of those receiving grant support in 1967 totaled 624. It included the names of leaders in biochemistry, immunology, physiology, and clinical research. The NIH, in meeting the challenge of advancing the medical sciences and improving the health of the American people, has made a wise choice in supporting excellence abroad. In effect, a comparatively few U.S. workers have been denied grants so that some of the world's best could be supported.

The international programs carry with them benefits besides the direct advancement of medicine. Today, the most rapid and effective interchange of scientific information occurs by means of informal mechanisms such as invisible colleges. These are fostered to a degree by the research grants, but especially by the Fellowship and Visiting Scientists programs: Another important aspect of the international programs is their contribution to goodwill for the United States. At a time when this country faces widespread criticism of its role in Viet Nam, even modest offsetting favorable comments are important.

Two incidents illustrate some of the benefits of the NIH programs. A year ago, Jacques Monod was a recipient of the Nobel prize. On being told of the award, he informed a world audience of the help he had received from the United States. Until a few months ago, comparatively few people knew of Dr. Christiaan Barnard of South Africa. Suddenly it was evident that he was a well-trained heart surgeon with command of the most advanced knowledge and techniques relevant to his effort. In December 1967, while he was being lionized in the United States, Barnard told of his gratitude for the training and financial support he had received from the United States during his formative years.

Financial support of the NIH international effort reached a peak in 1964 and has declined since then. One of the hardest-hit activities has been the Research Grants program. As a result of congressional pressure it declined from \$15 million in fiscal 1963 to \$8.5 million in fiscal 1967. The international program now faces further attrition. By meat-axing the international programs, the United States can cut its gold drain by a few million dollars. However, the cost will be severe in terms of medical progress and in terms of goodwill abroad.

—PHILIP H. ABELSON