

## AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Science serves its readers as a forum for the presenta-Science serves its readers as a forum for the presenta-tion and discussion of important issues related to the ad-vancement of science, including the presentation of mi-nority or conflicting points of view, rather than by pub-lishing 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 af-

#### **Editorial Board**

1980: RICHARD E. BALZHISER, WALLACE S. BROECKER, CLEMENT L. MARKERT, FRANK W. PUTNAM, BRYANT W. ROSSITER, VERA C. RUBIN, MAXINE F. SINGER, PAUL E. WAGGONER, F. KARL WILLENBROCK 1981: PETER BELL, BRYCE CRAWFORD, JR., E. PETER GEIDUSCHEK, EMIL W. HAURY, SALLY G. KOHLSTEDT,

MANCUR OLSON, PETER H. RAVEN, WILLIAM P. SLICH-TER, FREDERIC G. WORDER

#### Publisher

WILLIAM D. CAREY

#### Editor

PHILIP H. ABELSON

# **Editorial Staff**

Managing Editor Robert V. Ormes Assistant Managing Editor JOHN E. RINGLE

Business Manager HANS NUSSBAUM Production Editor ELLEN E. MURPHY

News Editor: BARBARA J. CULLITON

News and Comment: William J. Broad, Luther J. Carter, Constance Holden, Eliot Marshall, Deborah Shapley, R. Jeffrey Smith, Nicholas WADE, JOHN WALSH. Editorial Assistant, SCHERRAINE

Research News: Beverly Karplus Hartline, Richard A. Kerr, Gina Bari Kolata, Jean L. Marx, Thomas H. Maugh II, Arthur L. Robinson. Editorial Assistant, Fannie Groom

Consulting Editor: Allen L. Hammond Associate Editors: Eleanore Butz, Mary Dorf-Man, Sylvia Eberhart, Ruth Kulstad

Assistant Editors: Caitilin Gordon, Stephen Kep-PLE, LOIS SCHMITT Book Reviews: Katherine Livingston, Editor; Linda Heiserman, Janet Kegg

INDA TIEISEMAN, JANET KEGG Letters: Christine Karlik Copy Editor: Isabella Bouldin Production: Nancy Hartnagel, John Baker; Ya I Swigart, Holly Bishop, Eleanor Warner; MARY McDaniel, Jean Rockwood, Leah Ryan, SHARON RYAN

Covers, Reprints, and Permissions: GRAYCE FINGER, Editor; CORRINE HARRIS, MARGARET LLOYD

Guide to Scientific Instruments: RICHARD G. SOMMER Assistant to the Editors: JACK R. ALSIP

Membership Recruitment: GWENDOLYN HUDDLE Member and Subscription Records: ANN RAGLAND EDITORIAL CORRESPONDENCE: 1515 Massachu-EDITORIAL CORRESPONDENCE: 1515 Massachusetts Ave., NW, Washington, D.C. 20005. Area code 202. General Editorial Office, 467-4350; Book Reviews, 467-4367; Guide to Scientific Instruments, 467-4480; News and Comment, 467-4430; Reprints and Permissions, 467-4483; Research News, 467-4321. Cable: Advancesci, Washington. For "Instructions for Contributors" write the editorial office or control of the control of th write the editorial office or see page xi, Science,

BUSINESS CORRESPONDENCE: Area Code 202 Membership and Subscriptions: 467-4417.

### **Advertising Representatives**

Director: Earl J. Scherago Production Manager: Gina Reilly Advertising Sales Manager: Richard L. Charles Marketing Manager: Herbert L. Burklund

Marketing Manager: HERBERT L. BURKLUND
Sales: New York, N.Y. 10036: Steve Hamburger, 1515
Broadway (212-730-1050); SCOTCH PLAINS, N.J. 07076:
C. Richard Callis, 12 Unami Lane (201-889-4873); CHICAGO, ILL. 60611: Jack Ryan, Room 2107, 919 N. Michigan Ave. (312-337-4973); BEVERLY HILLS, CALIF. 90211: Winn Nance, 111 N. La Cienega Blvd. (213-657-2772); DORSET, VT. 05251: Fred W. Dieffenbach, Kent Hill Rd. (802-867-5581).

ADVERTISING CORRESPONDENCE: Tenth floor, 1515 Broadway, New York, N.Y. 10036. Phone: 212-

## **Diversion of Funds from Research**

The various components of the federal government act with what they believe to be laudable intentions. But the cumulative effect of their actions is often a poor result. Important examples are the bureaucratization of the universities and a related severe injury to academic research. An ever-increasing share of monies ostensibly appropriated for research is being creamed off by university administrators to support federally mandated or inspired bureaucracies. The fraction of the grant funds actually devoted to research is in many instances two-thirds or less.

At one time, federal support of research was provided with a minimum of federal stipulations and the result was world leadership. But after they were hooked on federal dollars, most university administrators, with the notable exception of Kingman Brewster, did not have the wit and courage to protest when Congress held research grants hostage to social and other legislation. Today, 59 different federal laws and regulations such as fair employment practices affect the cost or conduct of research. Agents of the federal government can threaten a cutoff of federal funds if their whims are not catered to. The university bureaucracies use the real or implied threat of the feds to enhance their own power and status on campus and to expand their already swollen ranks. During a period when the number of professors was being held constant at many universities, the administrative complement increased threefold or more.

Diversion of funds hits aspiring young scholars most severely. Many of them cannot obtain research support. Young researchers who do obtain a grant must spend an inordinate amount of time coping with the paper work. Top-rank professors who hold large grants or contracts fare better, but at a cost. They are sufficiently well supported that they can minimize the impact of the bureaucrats. A practice they often follow is to create their own counterbureaucracy. Thus the slim research dollar is further attenuated. This practice helps to reduce routine annoyances, but it does not eliminate deleterious effects of the downgrading of the status of research.

Recently I canvassed a cross section of leading research professors around this country. The consensus was that despite their favored position, they were finding it harder and more time-consuming to achieve objectives. One veteran with a long record of notable accomplishments soberly estimated that the time required by his group to complete a substantial project had doubled. He had recently spent some months in West Germany and had found to his dismay that tasks there were being accomplished with the kind of verve and effectiveness that at one time characterized efforts in this country. Other professors noted that many of the best young people were leaving academia without advanced degrees and that a brain drain of established investigators to industry and to other countries was picking up momentum.

The impairment of academic research is a process that both Democratic and Republican administrations have contributed to. In its budget cuts the Carter administration has been relatively solicitous of research. However, the Office of Management and Budget, which is the President's servant, is proceeding with its demands for unrealistic accountablity embodied in its revision of the A-21 regulations. Politicians and bureaucrats in Washington seem not to realize that perfect time and effort accountability is a costly delusion. The bean counters drain off funds, spawn a bureaucracy, destroy morale, and hinder progress of research. They do not seem to understand that for research to be vital, creativity must take precedence over highly detailed bookkeeping.

University presidents who are close to what is happening and who have a responsibility to take constructive action have been relatively inert. If they would act in concert and marshal their alumni, their political clout would be enormous. Instead, they temporize. Ultimately the scientists will have to engage in cooperative political effort both on and off campus.

—PHILIP H. ABELSON