

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

1980: RICHARD E. BALZHISER, WALLACE S. BROECK-ER, 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 GREGORY KOHLSTEDT, MANCUR OLSON, PETER H. RAVEN, WILLIAM P. SLICHTER, FREDERIC G. WORDEN

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 MACK

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 DORFMAN, SYLVIA EBERHART, RUTH KULSTAD

Assistant Editors: CAITILIN GORDON, STEPHEN KEP-
PLE, LOIS SCHMITT

Book Reviews: KATHERINE LIVINGSTON, *Editor:* LINDA HEISERMAN, JANET KEGG

Letters: CHRISTINE GILBERT

Copy Editor: ISABELLA BOULDIN

Production: NANCY HARTNAGEL, JOHN BAKER; YA LI 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 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 see page xi, *Science*, 27 June 1980.

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

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: 212-730-1050.

Views from Paris

A quadrennial International Geological Congress is a special scientific event. It provides a global view of the status of the earth sciences and brings together leading scientists from many countries. The Congress held this year in Paris on 7 through 17 July was also a political event. It was addressed by the President of the French Republic, Valéry Giscard d'Estaing, by the Minister for the Environment and Human Ecology, Michel d'Ornano, and by the Secretary of State for Research, Pierre Aigrain.

At the Congress there was further evidence that the earth sciences are in the midst of an exciting period. They are beneficiaries of a combination of national needs, new concepts, and powerful equipment. Many nations are experiencing acute problems of inflation, unemployment, and balance of payments. One of their hopes is to find substantial resources of petroleum, natural gas, or minerals. Thus, indigenous geologists are being accorded enhanced status in many countries. Geologists are finding that the simple model of colliding tectonic plates cannot be used to explain many phenomena. However, the concept has been fruitful and has served as a liberating stimulus. Improved methods of geophysical exploration, particularly those employing extensive computational power, have led to discoveries of petroleum and natural gas and are serving to delineate favorable prospects for future drilling. Of particular importance are offshore areas, which are expensive to explore but probably contain substantial resources. One of the highlights of the Congress was a symposium dealing with structures in the continental margins. These areas, particularly those in the North Atlantic off the coast of the United States, have been intensively explored seismically. Careful aeromagnetic surveys have been made. The four wells that were drilled by the U.S. Geological Survey in collaboration with the petroleum industry have contributed important ground truth. In such studies on both sides of the Atlantic, results from deep-sea drilling were helpful. Indeed, it was a heartwarming experience at the Congress to learn of the enthusiasm of geologists from many lands for the cooperation they had received in cruises of the drilling ship *Glomar Challenger*.

Of the three French officials who addressed the Congress, Pierre Aigrain is of special interest to American scientists. Aigrain, who is a physicist, received his doctorate from what is now Carnegie-Mellon University and later spent considerable time at Massachusetts Institute of Technology. He is regarded by those who know him as a blunt and forthright person and is well informed in the natural sciences and in technology. During his appearance at the Congress, Aigrain spoke of the renaissance that has occurred in the earth sciences and presented a thoughtful analysis of the factors contributing to the rejuvenation.

In an interview several days after his speech, Aigrain touched on aspects of French policy for science and technology. A high-level decision has been reached to increase funds for research. The target is to enhance support by 30 percent; the change will occur at the rate of 5 to 6 percent a year above inflation. Some areas will experience larger rates of increase, while support for others will not grow much. For example, Aigrain cited physics as having been unusually well supported earlier and thus not so much in need of expansion. He indicated that the earth sciences, molecular biology, and microelectronics would be among the fields favored during the next period. Aigrain indicated that some further efforts would be made in solar energy and other unconventional energy sources. However, he emphasized that France has a goal of reducing dependence on oil from 60 to 30 percent by 1990. That will be achieved, he asserted, by use of nuclear energy and imports of coal and natural gas.

The U.S. approach to support of research worked well in the past, but lately both the approach and the results seem to be deteriorating. It will be interesting to see whether the more carefully devised and forward-looking French program yields better results.—PHILIP H. ABELSON