NASA at the Edge of the Abyss
Warm Reception for Substitute Coolant
The Academy Gives a Hard Push
The Richards Panel Tosses a Curve
NIH Spells Out Plans for a $45 Million Initiative
The Whitehead Institute Reaches Toward Adulthood
Putting a Cosmic Illusion to Work
Test Could Yield Improved Colon Cancer Detection
Neandertal Language Debate: Tongues Wag Anew
Is “Flying Primate” Hypothesis Headed for a Crash Landing?
Fugitive Carbon Dioxide: It’s Not Hiding in the Ocean

Computing in Science
The Third Branch of Science Debuts • Massively Parallel Machines Usher In Next Level of Computing Power • Mathematicians Join the Computer Revolution • Bringing the Computer Revolution Down to a Personal Level • Reader Response

Ultrasound: A Teraflop Before Its Time
Selfish Genes

Physics and Device Applications of Optical Microcavities

BiomaSS and Carbon Budget of European Forests, 1971 to 1990

PERSPECTIVES

ARTICLES

SPECIAL SECTION

DEPARTMENTS

THIS WEEK IN SCIENCE
EDITORIAL
LETTERS

SCIENCESCOPE

RANDOM SAMPLES
BOOK REVIEWS

PRODUCTS & MATERIALS

AAAS Board of Directors
Leon M. Lederman, Retiring President, Chairman
F. Sherwood Rowland, President
Eloise E. Clark, President-elect
Mary Ellen Avery, Francisco J. Ayala, Robert A. Frosch

Florence P. Haseltine
Alan Schreiber
Jen’ne M. Streeve
Chang-Lin Tien
Warren M. Washington

William T. Golden
Treasurer
Richard S. Nicholson
Executive Officer

John Abeloff
Frederick W. Alt
Don L. Anderson
Stephen J. Benkovic
David E. Bloom
Hans E. Bourne
James J. Bull
Kathryn Calame
C. Thomas Caskey
Dennis W. Choi

John M. Coffin
Bruce F. Edlin
Paul T. Englund
Richard G. Farber
Douglas T. Fearon
Harry A. Fozard
Victor R. Fuchs
Theodore H. Gabale
Margaret J. Geller
John C. Gerhart
Roger I. Glass

Stephen P. Goff
Corey S. Goodman
Stephen J. Gould
Ina Herleskowitz
Eric F. Johnson
Stephen M. Kosowsky
Konrad B. Krauskopf
Michael LaBarbers
Charles S. Leivings III
Harvey F. Lodish
Richard Losick

Anthony R. Means
Martine Melkin
Roger A. Nicoll
William H. Orme-Johnson III
Stuart L. Pinnow
Yoshiyasu Pocker
Dennis A. Powers
Ralph S. Quatrano
V. Ramanaiah
Erdi Rusuash
Ronald H. Schwartz

Terrence J. Stegowski
Thomas A. Swift
Richard S. Thompson
Robert T. N. Tjian
Emil R. Umanne
Geerat J. Vermeij
Bert Vogelstein
Harold Weintraub
Zena Werb
George M. Whitesides
Owen N. Witte
Keith Yamamoto

SCIENCE • VOL. 256 • 3 APRIL 1992
This computer visualization of global stratospheric ozone levels for 1 October 1991 highlights the Antarctic ozone hole (thin, dark blue region on lower globe). Powerful computer models are heating up research climates in molecular biology, chemistry, materials science, physics, and math—see the 19-page special report (page 44) and Bell’s Perspective (page 64). [Image: Lloyd A. Treinish, using IBM’s POWER Visualization System on data from NASA/Goddard’s National Space Science Data Center]

**RESEARCH ARTICLE**
Oceanic Uptake of Fossil Fuel CO₂: Carbon-13 Evidence
P. D. Quay, B. Tilbrook, C. S. Wong

**REPORTS**
Diamond from the Dabie Shan
Metamorphic Rocks and Its Implication for Tectonic Setting
Xu Shutong, A. I. Okay, Ji Shouyuan, A. M. C. Sengör, Su Wen, Liu Yican, Jiang Laii

Variations in Strength and Slip Rate Along the San Andreas Fault System
C. H. Jones and S. G. Wenousky

Rejection of the “Flying Primate” Hypothesis by Phylogenetic Evidence from the ε-Globin Gene
W. J. Bailey, J. L. Slightom, M. Goodman

Maternal-Effect Selfish Genes in Flour Beetles
R. W. Beeman, K. S. Friesen, R. E. Denell

A Conformation of Cyclosporin A in Aqueous Environment Revealed by the X-ray Structure of a Cyclosporin-Env Complex
D. Atsaschuh, O. Vix, B. Rees, J.-C. Thierry

Competition for Overlapping Sites in the Regulatory Region of the Drosophila Gene and Krüppel
M. Hoch, N. Gerwin, H. Taubert, H. Jäckle

Molecular Cloning of the Interleukin-1β Converting Enzyme

Balancing Selection at Allozyme Loci in Oysters: Implications from Nuclear RFLPs
S. A. Karl and J. C. Avise

Identification of ras Oncogene Mutations in the Stool of Patients with Curable Colorectal Tumors
D. Sidransky, T. Tokino, S. R. Hamilton, K. W. Kinzler, B. Levin, P. Frost, B. Vogelstein

CD19: Lowering the Threshold for Antigen Receptor Stimulation of B Lymphocytes
R. H. Carter and D. T. Fearon

Participation of Non–Zinc Finger Residues in DNA Binding by Two Nuclear Orphan Receptors
T. E. Wilson, R. E. Paulsen, K. A. Padgett, J. Milbrandt

**TECHNICAL COMMENTS**
The Disulfide Folding Pathway of BPTI
T. E. Creighton; J. S. Weissman and P. S. Kim

Balancing Selection at Allozyme Loci in Oysters: Implications from Nuclear RFLPs
S. A. Karl and J. C. Avise

Identification of ras Oncogene Mutations in the Stool of Patients with Curable Colorectal Tumors
D. Sidransky, T. Tokino, S. R. Hamilton, K. W. Kinzler, B. Levin, P. Frost, B. Vogelstein

CD19: Lowering the Threshold for Antigen Receptor Stimulation of B Lymphocytes
R. H. Carter and D. T. Fearon

Participation of Non–Zinc Finger Residues in DNA Binding by Two Nuclear Orphan Receptors
T. E. Wilson, R. E. Paulsen, K. A. Padgett, J. Milbrandt

**TECHNICAL COMMENTS**
The Disulfide Folding Pathway of BPTI
T. E. Creighton; J. S. Weissman and P. S. Kim

80 200-million-year-old metamorphic diamonds from China

34 & 86 Flying primates get their wings clipped