

339 This Week in *Science*

## Editorial

341 The Underrepresentation Syndrome

## Policy Forum

340 Project 2061: A Congressional View: G. E. BROWN, JR.

## Letters

342 Genome Analysis: D. B. DAVISON ■ Attending to Inattention: D. F. DINGES, R. C. GRAEBER, M. A. CARSKADON, C. A. CZEISLER, W. C. DEMENT ■ Correction: RuGli Cell Line Not of Human Origin: K. GEHLSSEN, E. ENGVALL, L. DILLNER, E. RUOSLAHTI, S. GOODMAN

## Perspective

344 T Cell Signaling: R. M. PERLMUTTER

## News & Comment

345 Quick Release of AIDS Drugs ■ Drug Availability Is an Issue for Cancer Patients, Too

348 Soviet Psychiatry: Real Progress or Just PR?

349 Senate Committee Quizzes Bromley  
New Round in *Dingell v. NIH*?

350 Zs for Two: A Critical Mass  
Gallo Associate Subject to Investigation  
Headed for NOAA's Choppy Waters

## Research News

351 Sleep Researchers Awake to Possibilities

353 New AIDS Drug Passes First Clinical Test

354 "Chemzymes" Mimic Biology in Miniature

355 DNA Typing Is Called Flawed

## Articles

356 The Bitter Pill: C. DJERASSI

361 Computational Aerodynamics for Aircraft Design: A. JAMESON

371 Transcriptional Regulation in Mammalian Cells by Sequence-Specific DNA Binding Proteins: P. J. MITCHELL AND R. TJIAN

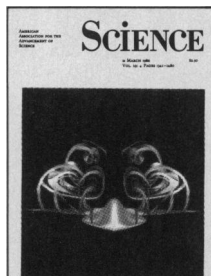
## Research Articles

379 Genetic and Pharmacological Suppression of Oncogenic Mutations in *RAS* Genes of Yeast and Humans: W. R. SCHAFER, R. KIM, R. STERNE, J. THORNER, S.-H. KIM, J. RINE

385 Peptide Binding and Release by Proteins Implicated as Catalysts of Protein Assembly: G. C. FLYNN, T. G. CHAPPELL, J. E. ROTHMAN

■ SCIENCE is published weekly on Friday, except the last week in December, and with an extra issue in February by the American Association for the Advancement of Science, 1333 H Street, NW, Washington, DC 20005. Second-class postage (publication No. 484460) paid at Washington, DC, and at an additional entry. Now combined with *The Scientific Monthly*® Copyright © 1989 by the American Association for the Advancement of Science. The title SCIENCE is a registered trademark of the AAAS. Domestic individual membership and subscription (51 issues): \$75. Domestic institutional subscription (51 issues): \$120. Foreign postage extra: Canada \$46, other (surface mail) \$46, air mail via Amsterdam \$85. First class, airmail, school-year, and student rates on request. **Single copy sales:** Current issue, \$3.50; back issues, \$5.00; Biotechnology issue, \$6.00 (for postage and handling, add per copy \$0.50 U.S., \$1.00 all foreign); Guide to Biotechnology Products and Instruments, \$18 (for postage and handling add per copy \$1.00 U.S., \$1.50 Canada, \$2.00 other foreign). Bulk rates on request. **Authorization to photocopy** material for internal or personal use under circumstances not falling within the fair use provisions of the Copyright Act is granted by AAAS to libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of \$1 per copy plus \$0.10 per page is paid directly to CCC, 27 Congress Street, Salem, Massachusetts 01970. The identification code for *Science* is 0036-8075/83 \$1 + .10. **Change of address:** allow 6 weeks, giving old and new addresses and 11-digit account number. **Postmaster:** Send Form 3579 to *Science*, P.O. Box 1722, Riverton, NJ 08077. *Science* is indexed in the *Reader's Guide to Periodical Literature* and in several specialized indexes.

■ The American Association for the Advancement of Science was founded in 1848 and incorporated in 1874. Its objects are to further the work of scientists, to facilitate cooperation among them, to foster scientific freedom and responsibility, to improve the effectiveness of science in the promotion of human welfare, and to increase public understanding and appreciation of the importance and promise of the methods of science in human progress.



**COVER** Computer simulation of the vortical flow over a delta wing at a high angle of attack. The wing shape is similar to that of the Lockheed SR-71 reconnaissance aircraft. See page 361. [Calculation made with the FL067 computer program by A. Jameson, Princeton University, Princeton, NJ 08540. Graphic visualization by G. Volpe and M. Siclari, Grumman Corporate Research Center, Bethpage, NY 11714]

## Reports

- 391 GaAs Clusters in the Quantum Size Regime: Growth on High Surface Area Silica by Molecular Beam Epitaxy: C. J. SANDROFF, J. P. HARBISON, R. RAMESH, M. J. ANDREJCO, M. S. HEGDE, D. M. HWANG, C. C. CHANG, E. M. VOGEL
- 393 Experiments on Hydraulic Jumps in Turbidity Currents Near a Canyon-Fan Transition: M. GARCIA AND G. PARKER
- 396 Understanding the Anomalous Electrophoresis of Bent DNA Molecules: A Reptation Model: S. D. LEVENE AND B. H. ZIMM
- 399 Lignin-Like Compounds and Sporopollenin in *Coleochaete*, an Algal Model for Land Plant Ancestry: C. F. DELWICHE, L. E. GRAHAM, N. THOMSON
- 402 Activation of Apical Chloride Channels in the Gastric Oxyntic Cell: J. R. DEMAREST, D. D. F. LOO, G. SACHS
- 404 The Location of DNA in RecA-DNA Helical Filaments: E. H. EGELMAN AND X. YU
- 407 Activators of Protein Kinase C Induce Dissociation of CD4, But Not CD8, from p56<sup>lck</sup>: T. R. HURLEY, K. LUO, B. M. SEFTON
- 409 Recombinant 47-Kilodalton Cytosol Factor Restores NADPH Oxidase in Chronic Granulomatous Disease: K. J. LOMAX, T. L. LETO, H. NUNOI, J. I. GALLIN, H. L. MALECH
- 412 In Vivo Activity Against HIV and Favorable Toxicity Profile of 2',3'-Dideoxyinosine: R. YARCHOAN, H. MITSUYA, R. V. THOMAS, J. M. PLUDA, N. R. HARTMAN, C.-F. PERNO, K. S. MARCZYK, J.-P. ALLAIN *et al.*
- 415 Brain Region and Gene Specificity of Neuropeptide Gene Expression in Cultured Astrocytes: H. SHINODA, A. M. MARINI, C. COSI, J. P. SCHWARTZ
- 417 Neurotoxicity of a Fragment of the Amyloid Precursor Associated with Alzheimer's Disease: B. A. YANKNER, L. R. DAWES, S. FISHER, L. VILLA-KOMAROFF, M. L. OSTER-GRANITE, R. L. NEVE

## Book Reviews

- 421 Sex and Morality in the U.S. *reviewed by* J. DELAMATER ■ Bryozoan Evolution, R. L. ZIMMER ■ Early Tertiary Volcanism and the Opening of the NE Atlantic, J. KARSON ■ Some Other Books of Interest ■ Books Received

## Products & Materials

- 425 Freeze Dryer Without a Compressor ■ HPLC Columns ■ Statistical Comparison Software ■ DNA Sequencing System ■ Nonparametric Statistical Tests ■ Cell-Culture Bioreactor ■ Literature

### Board of Directors

Walter E. Massey  
*Retiring President,  
Chairman*

Richard C. Atkinson  
*President*

Donald N. Langenberg  
*President-elect*

Mary Ellen Avery  
Francisco J. Ayala  
Floyd E. Bloom  
Mary E. Clutter  
Eugene H. Cota-Robles  
Joseph G. Gavin, Jr.  
John H. Gibbons  
Beatrix A. Hamburg  
William T. Golden  
*Treasurer*

Richard S. Nicholson  
*Executive Officer*

### Editorial Board

Elizabeth E. Bailey  
David Baltimore  
William F. Brinkman  
E. Margaret Burbidge  
Philip E. Converse  
Joseph L. Goldstein  
Mary L. Good  
F. Clark Howell  
James D. Idol, Jr.  
Leon Knopoff  
Oliver E. Nelson  
Helen M. Ranney  
David M. Raup  
Howard A. Schneiderman  
Larry L. Smarr  
Robert M. Solow  
James D. Watson

### Board of Reviewing Editors

John Abelson  
Qais Al-Awqati  
Don L. Anderson  
Stephen J. Benkovic  
Floyd E. Bloom  
Henry R. Bourne  
James J. Bull  
Kathryn Calame  
Charles R. Cantor  
Raiph J. Cicerone  
John M. Coffin  
Robert Dorfman  
Bruce F. Eldridge  
Paul T. Englund  
Fredric S. Fay  
Theodore H. Geballe

Roger I. M. Glass  
Stephen P. Goff  
Robert B. Goldberg  
Corey S. Goodman  
Jack Gorski  
Stephen J. Gould  
Richard M. Held  
Gloria Heppner  
Eric F. Johnson  
Konrad B. Krauskopf  
Charles S. Levings III  
Richard Losick  
Karl L. Magleby  
Philippa Marrack  
Joseph B. Martin  
John C. McGiff  
Mortimer Mishkin  
Carl O. Pabo

Yeshayau Pocker  
Michael I. Posner  
Dennis A. Powers  
Russell Ross  
James E. Rothman  
Erkki Ruoslahti  
Ronald H. Schwartz  
Vernon L. Smith  
Robert T. N. Tjian  
Virginia Trimble  
Emil R. Unanue  
Geerat J. Vermeij  
Bert Vogelstein  
Harold Weintraub  
Irving L. Weissman  
George M. Whitesides  
Owen N. Witte  
William B. Wood

# Science

**245 (4916)**

*Science* **245** (4916), 339-425.

ARTICLE TOOLS

<http://science.sciencemag.org/content/245/4916>

PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

---

*Science* (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. 2017 © The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works. The title *Science* is a registered trademark of AAAS.