

1239 This Week in *Science*

## Editorial

1241 Sigma Xi: Companions in Zealous Research

## Letters

1245 Stock Prices and Stress: J. C. JUNKUS ■ Space Policy and Economic Analysis: M. K. MACAULEY AND M. A. TOMAN ■ Nuclear Strategy: D. O. GRAHAM; R. J. SMITH ■ Nuclear Terrorism: P. LEVENTHAL ■ Human Genome Sequencing: D. A. SMITH; R. L. SINSHEIMER ■ Japanese Automation: J. S. MELLETT ■ Effect of Growth Hormone on Cows: M. W. FOX

## News & Comment

1249 Researchers Grapple with Problems of Updating Classic Psychological Test  
1252 Mexico Acts to Protect Overwintering Monarchs  
1253 ICSU Bids for Bigger Share of the Limelight  
1255 *Briefing*: Ethical Guidelines Proposed for Reproductive Technology ■ NASA to Cancel Majority of Spacelab Flights ■ Underground Tests Used in Laser Fusion Effort

## Research News

1257 There May Be More Than One Way to Make a Volcanic Lake a Killer  
1258 Volcanism on Mercury and the Moon, Again  
1260 Where Are the Atoms in the Icosahedral Phase? ■ Al-Li-Cu Icosahedral Phase

## Articles

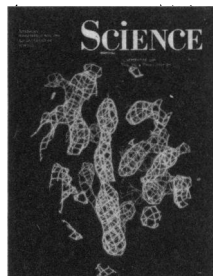
1271 Aging and Health: Effects of the Sense of Control: J. RODIN  
1276 Investigation of Ultrafast Phenomena in the Femtosecond Time Domain: C. V. SHANK  
1281 Derivation and Diversification of Monoclonal Antibodies: G. KÖHLER

## Research Articles

1286 The Site of Attachment in Human Rhinovirus 14 for Antiviral Agents That Inhibit Uncoating: T. J. SMITH, M. J. KREMER, M. LUO, G. VRIEND, E. ARNOLD, G. KAMER, M. G. ROSSMANN, M. A. MCKINLAY, G. D. DIANA, M. J. OTTO  
1294 Affinity Chromatography of Splicing Complexes: U2, U5, and U4+U6 Small Nuclear Ribonucleoprotein Particles in the Spliceosome: P. J. GRABOWSKI AND P. A. SHARP

■ SCIENCE is published weekly on Friday, except the last week in December, and with a plus issue in May 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 © 1986 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): \$65. Domestic institutional subscription (51 issues): \$98. Foreign postage extra: Canada \$24, other (surface mail) \$27, air-surface via Amsterdam \$65. First class, airmail, school-year, and student rates on request. Single copies \$2.50 (\$3 by mail); back issues \$4 (\$4.50 by mail); Biotechnology issue, \$5.50 (\$6 by mail); classroom rates on request; Guide to Biotechnology Products and Instruments \$16 (\$17 by mail). **Change of address:** allow 6 weeks, giving old and new addresses and seven-digit account number. 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, 21 Congress Street, Salem, Massachusetts 01970. The identification code for *Science* is 0036-8075/83 \$1 + .10. **Postmaster:** Send Form 3579 to *Science*, 1333 H Street, NW, Washington, DC 20005. *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** Electron density, at 3.0 Å resolution, of human rhinovirus 14 complexed with the antiviral agent WIN 52084. This and related compounds inhibit viral uncoating after the virus has become attached to the cell and penetrated the membrane. Shown is the molecular interpretation of the electron density which is not seen in the native structure. (The compound consists of a 4-oxazolinyloxy group linked to a 3-methylisoxazole group by a seven-membered aliphatic chain.) The compound binds into a hydrophobic pocket with viral protein 1, lined by residues that are relatively well conserved among picornaviruses. See page 1286. [T. J. Smith *et al.*, Purdue University and Sterling-Winthrop Research Institute]

## Reports

- 1300 Seasonal Variations in the Stable Carbon Isotopic Signature of Biogenic Methane in a Coastal Sediment: C. S. MARTENS, N. E. BLAIR, C. D. GREEN, D. J. DES MARAIS
- 1303 Eclogites, Pyroxene Geotherm, and Layered Mantle Convection: A. R. BASU, J. S. ONGLEY, I. D. MACGREGOR
- 1306 A Methanotrophic Marine Molluscan (Bivalvia, Mytilidae) Symbiosis: Mussels Fueled by Gas: J. J. CHILDRESS, C. R. FISHER, J. M. BROOKS, M. C. KENNICUTT II, R. BIDIGARE, A. E. ANDERSON
- 1308 Effects of Alcohol on the Generation and Migration of Cerebral Cortical Neurons: M. W. MILLER
- 1311 Bacterivory: A Novel Feeding Mode for Asteroid Larvae: R. B. RIVKIN, I. BOSCH, J. S. PEARSE, E. J. LESSARD
- 1314 Oceanic Dimethylsulfide: Production During Zooplankton Grazing on Phytoplankton: J. W. H. DACEY AND S. G. WAKEHAM
- 1316 Static and Initiator Protein-Enhanced Bending of DNA at a Replication Origin: R. R. KOEPEL AND S. A. KHAN
- 1318 A New Approach to the Adoptive Immunotherapy of Cancer with Tumor-Infiltrating Lymphocytes: S. A. ROSENBERG, P. SPIESS, R. LAFRENIERE

## AAAS Meetings

- 1328 *National Forum for School Science: Forum '86: The Science Curriculum* ■ Advance Registration Form ■ Schedule of Events

## Book Reviews

- 1332 *Natural Selection in the Wild*, reviewed by F. COOKE ■ *Microbial Lectins and Agglutinins*, T. G. PISTOLE ■ *Progress in Solar Physics*, R. M. MACQUEEN ■ Otters, J. A. ESTES ■ Books Received

## Products & Materials

- 1335 Assay Plate Washer ■ Flatbed Recorder ■ Preparative HPLC System ■ Scanning Laser Microscope ■ Chamber for Cell Separations ■ Literature

### Board of Directors

Gerard Piel  
*Retiring President,  
Chairman*

Lawrence Bogorad  
*President*

Sheila E. Widnall  
*President-elect*

Robert McC. Adams  
Robert W. Berliner  
Floyd E. Bloom  
Mary E. Clutter  
Mildred S. Dresselhaus  
Donald N. Langenberg  
Dorothy Nelkin  
Linda S. Wilson

William T. Golden  
*Treasurer*

William D. Carey  
*Executive Officer*

### Editorial Board

David Baltimore  
William F. Brinkman  
Ansley J. Coale  
Joseph L. Goldstein  
James D. Idol, Jr.  
Leon Knopoff  
Seymour Lipset  
Walter Massey  
Oliver E. Nelson  
Allen Newell  
Ruth Patrick  
David V. Ragone  
Vera C. Rubin  
Howard E. Simmons  
Solomon H. Snyder  
Robert M. Solow

### Board of Reviewing Editors

Qais Al-Awqati  
James P. Allison  
Luis W. Alvarez  
Don L. Anderson  
C. Paul Bianchi  
Elizabeth H. Blackburn  
Floyd E. Bloom  
Charles R. Cantor  
James H. Clark  
Bruce F. Eldridge  
Stanley Falkow  
Theodore H. Geballe  
Roger I. M. Glass

Stephen P. Goff  
Robert B. Goldberg  
Patricia S. Goldman-Rakic  
Corey S. Goodman  
Richard M. Held  
Gloria Heppner  
Eric F. Johnson  
Konrad B. Krauskopf  
Karl L. Magleby  
Joseph B. Martin  
John C. McGiff  
Alton Meister  
Mortimer Mishkin  
Peter Olson  
Gordon H. Orians  
John S. Pearse  
Yeshayau Pocker  
Jean Paul Revel

Frederic M. Richards  
James E. Rothman  
Thomas C. Schelling  
Ronald H. Schwartz  
Stephen M. Schwartz  
Otto T. Solbrig  
Robert T. N. Tjian  
Virginia Trimble  
Geerat J. Vermeij  
Martin G. Weigert  
Irving L. Weissman  
George M. Whitesides  
Owen N. Witte  
William B. Wood  
Harriet Zuckerman

# Science

**233 (4770)**

*Science* **233** (4770), 1239-1336.

ARTICLE TOOLS

<http://science.sciencemag.org/content/233/4770>

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.