

303 This Week in *Science*

Editorial

305 On Being a Scientist

Letters

311 **Hormesis:** W. H. KOPPENOL AND P. L. BOUNDS; R. J. CATLIN ■ **Solar Power:** A. R. PALMER; J. SWARTZ ■ **SSC Test Magnets:** R. F. SCHWITTERS; M. CRAWFORD ■ **Asian-American Students:** C. C. SELBY

News & Comment

317 NSF Education Head Makes Risky Bid ■ Getting Energy into the Schools
319 Research Chief to Leave DOE
320 IBM Wins Patent for Thallium Superconductor ■ Zero Resistance at 250 K?
321 Bromley Targets Superconductors
Landsat: Cliff-Hanging, Again
322 B-2 Comes Up Short

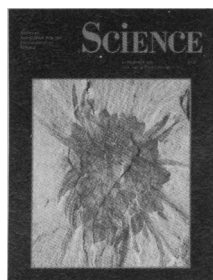
Research News

323 Rivalry Across the Z's
324 Ozone Hits Bottom Again
325 Catalytic RNA Wins Chemistry Nobel
326 Cancer Gene Research Wins Medicine Nobel ■ Controversy Over Nobel
327 Basic Measurements Lead to Physics Nobel
328 Building on Nobel Research ■ Early Work Rewarded
329 *Briefings:* Van Allen Wins Space Nobel ■ Russian Bugs Drafted in U.S. War ■ Tech Transfer Triggers Protest ■ Peace Corps to Help Environment ■ Would It Be Mars Without NASA?

Articles

339 Burgess Shale Faunas and the Cambrian Explosion: S. CONWAY MORRIS
347 The Chemistry of Solid-State Electronics: E. YABLONOVITCH
352 Fish as Model Systems: D. A. POWERS

- **SCIENCE** is published weekly on Friday, except the last week in December, and with an extra issue in March 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 *Wiwaxia corrugata*, one of the problematic fossils from the 530-million-year-old Middle Cambrian Burgess Shale of British Columbia. The covering of scales and spines was molted at intervals during growth and provided protection from the numerous predators in this remarkable soft-bodied fauna. See page 339. [Photograph by S. Conway Morris]

Research Articles

- 358 Stabilization of Z DNA in Vivo by Localized Supercoiling: A. R. RAHMOUNI AND R. D. WELLS

Reports

- 369 Inclusion Systems of Organic Molecules in Restacked Single-Layer Molybdenum Disulfide: W. M. R. DIVIGALPITIYA, R. F. FRINDT, S. R. MORRISON
- 371 Toward Protein Tertiary Structure Recognition by Means of Associative Memory Hamiltonians: M. S. FRIEDRICHS AND P. G. WOLYNES
- 373 Styles of Volcanism on Venus: New Arecibo High Resolution Radar Data: D. B. CAMPBELL, J. W. HEAD, A. A. HINE, J. K. HARMON, D. A. SENSKE, P. C. FISHER
- 377 Movement Protein of Tobacco Mosaic Virus Modifies Plasmodesmatal Size Exclusion Limit: S. WOLF, C. M. DEOM, R. N. BEACHY, W. J. LUCAS
- 379 The Gene for Enhancer Binding Proteins E12/E47 Lies at the t(1;19) Breakpoint in Acute Leukemias: J. D. MELLENTIN, C. MURRE, T. A. DONLON, P. S. MCCAW, S. D. SMITH, A. J. CARROLL, M. E. McDONALD, D. BALTIMORE, M. L. CLEARY
- 382 A Role for a 70-Kilodalton Heat Shock Protein in Lysosomal Degradation of Intracellular Proteins: H.-L. CHIANG, S. R. TERLECKY, C. P. PLANT, J. F. DICE
- 385 The Neostriatal Mosaic: Striatal Patch-Matrix Organization Is Related to Cortical Lamination: C. R. GERFEN

Book Reviews

- 389 ROBERT S. MULLIKEN: Life of a Scientist, reviewed by E. R. DAVIDSON ■ Regulatory Peptides, I. M. D. JACKSON ■ Pelagic Snails, R. R. SEAPY ■ Evolution of Life Histories of Mammals, A. COCKBURN ■ Books Received

Products & Materials

- 397 Inexpensive GC/MS System ■ Implantable Blood Pressure Monitor ■ Videotape Displays Mapped Stream Flow ■ Centrifugal Device for DNA Sample Prep ■ Software for Protein Chemists ■ Abbreviations Turned into Paragraphs ■ 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
Yasutomi Nishizuka
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
Ralph 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

246 (4928)

Science **246** (4928), 303-397.

ARTICLE TOOLS

<http://science.sciencemag.org/content/246/4928>

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.