American Association for the Advancement of Science

SCIENCE

ISSN 0036-8075 5 DECEMBER 1986 VOLUME 234 NUMBER 4781

1167 This Week in Science

Editorial	1169	Energy Future
Letters	1170	Cretaceous-Tertiary Dinosaur Extinction: G. RETALLACK AND G. D. LEAHY; P. M. SHEEHAN AND C. L. MORSE; L. J. BRYANT, W. A. CLEMENS, J. H. HUTCHISON; R. E. SLOAN AND J. K. RIGBY, JR. ■ Alachlor Removal from Drinking Water: A. J. Klein
News & Comment	1188	Fuqua Leaves 62 Parting Thoughts The Chairman's Wish List
	1190	Crop Research Network Makes Some Changes
	1191	Astronomer Fasts for Arms Control
	1192	Academy Membership Fight Goes Public
	1194	Chemical Weapons: A Plan for Europe
	1195	Accelerator Labs Face Austere Year Eiffel Centenary to Put Art in Space
Research News	1196	Halley's Confounding Fireworks
	1198	New Drug Counters Alcohol Intoxication
	1200	Age Factors Loom in Parkinsonian Research
•	1202	The Universe in Depth
Articles	1203	Optical Experiments and Weak Interactions: MA. BOUCHIAT AND L. POTTIER
	1211	Deregulation: Causes and Consequences: E. E. BAILEY
	1217	The Molecular Basis of Erythrocyte Shape: A. Elgsaeter, B. T. Stokke, A. Mikkelsen, D. Branton
Reports	1225	Uplifted Marine Terraces Along the Alpine Fault, New Zealand: W. B. BULL AND A. F. COOPER
	1228	Polymorphism of Sickle Cell Hemoglobin Aggregates: Structural Basis for Limited Radial Growth: L. MAKOWSKI AND B. MAGDOFF-FAIRCHILD
	1231	Petroleum Associated with Polymetallic Sulfide in Sediment from Gorda Ridge: K. A. Kvenvolden, J. B. Rapp, F. D. Hostettler, J. L. Morton, J. D King, G. E. Claypool
	1234	Estrogen Memory Effect in Human Hepatocytes During Repeated Cell Division Without Hormone: SP. Tam, R. J. G. Haché, R. G. Deeley
	1237	Neuronal Properties of Clonal Hybrid Cell Lines Derived from Central Cholinergic Neurons: D. N. Hammond, B. H. Wainer, J. H. Tonsgard, A. Heller
		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. Sec-

- 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 © 1986 by the American Association for the Advancement of Science. The title SCI-ENCE 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 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
- 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 Remnants of uplifted marine terraces are common in the Southern Alps of New Zealand (bottom). Individual (upper left picture) is collecting widely scattered beach pebbles from an exhumed 320,000-year-old shore platform (altitude 1620 meters) at the base of a degraded sea cliff. Highly rounded quartz pebbles (11 to 12 millimeters in diameter) from notched ridge crest have frosted surfaces and impact marks made in a high-energy sedimentary environment. See page 1225. [W. B. Bull, University of Arizona, Tucson, AZ 85721, and A. F. Cooper, University of Otago, Dunedin, New Zealand]

- Diminished Response of Werner's Syndrome Fibroblasts to Growth Factors PDGF and FGF: E. A. BAUER, N. SILVERMAN, D. F. BUSIEK, A. KRONBERGER, T. F. DEUEL
- 1243 A Selective Imidazobenzodiazepine Antagonist of Ethanol in the Rat:
 P. D. Suzdak, J. R. Glowa, J. N. Crawley, R. D. Schwartz, P. Skolnick,
 S. M. Paul
- 1247 Age of the Earliest African Anthropoids: J. C. Fleagle, T. M. Bown, J. D. Obradovich, E. L. Simons
- 1249 A Critical Period for Macromolecular Synthesis in Long-Term Heterosynaptic Facilitation in *Aplysia*: P. G. Montarolo, P. Goelet, V. F. Castellucci, J. Morgan, E. R. Kandel, S. Schacher
- 1254 Lactate Transporter Defect: A New Disease of Muscle: W. N. FISHBEIN
- 1256 Energy Sources for Detritivorous Fishes in the Amazon: C. A. R. M. Araujo-Lima, B. R. Forsberg, R. Victoria, L. Martinelli
- Expression of Bovine 17α-Hydroxylase Cytochrome P-450 cDNA in Nonsteroidogenic (COS 1) Cells: M. X. Zuber, E. R. Simpson, M. R. Waterman
- 1261 A G Protein Couples Serotonin and GABA_B Receptors to the Same Channels in Hippocampus: R. Andrade, R. C. Malenka, R. A. NICOLL
- 1265 Regulation of Pro-opiomelanocortin Gene Transcription in Individual Cell Nuclei: R. T. Fremeau, Jr., J. R. Lundblad, D. B. Pritchett, J. N. Wilcox, J. L. Roberts

AAAS News

AAAS Group Hosts Discussion of Ethics and NASA: M. S. FRANKEL ■ Proposed Amendment to AAAS Constitution: M. White ■ 1986 General Election Results ■ Media and Shuttle Transcripts Offered ■ For the Library . . . ■ Grants Available to Foreign Graduate Students to Attend AAAS Annual Meeting ■ Science Books & Films Editor Kathleen Johnston Receives ALA Award ■ New Issue Dates for Science

Book Reviews

1277 The Politics of Uncertainty, reviewed by S. Wright Biotechnology, I. Feller Collisionless Shocks in the Heliosphere: A Tutorial Review and Collisionless Shocks in the Heliosphere: Reviews of Current Research, L. O'C. Drury

Products & Materials

1280 Plastic Fume Hood ■ Ultrahigh Purity Avidin ■ Shaking Water Bath ■ Anaerobic Bacteria Library Database ■ Neutrally Buoyant Glass Beads ■ Pocket pH, Conductivity Gauges ■ 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. Tiian Virginia Trimble Geerat J. Vermeii Martin G. Weigert Harold Weintraub Irving L. Weissman George M. Whitesides Owen N. Witte William B. Wood Harriet Zuckerman



234 (4781)

Science 234 (4781), 1167-1280.

ARTICLE TOOLS http://science.sciencemag.org/content/234/4781

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

Use of this article is subject to the Terms of Service