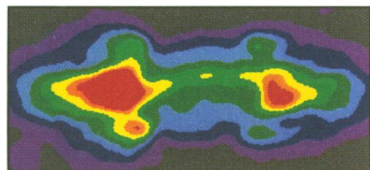


**1836**

A mountain of trouble

**1829, 1875,  
& 1879**

Comet collision excites  
microwave emissions and  
perhaps lightning



## NEWS & COMMENT

- Blowup at Yucca Mountain **1836**
- Downsizing Squeezes Basic Research at the USGS **1840**
- NIH's "Gay Gene" Study Questioned **1841**
- House Saves, Kills, Then Saves OTA **1842**
- Management Overhaul at Johns Hopkins **1842**
- Italy: Funding Reform Fights On Against Researchers' Apathy **1843**
- Russia: Science Law Advances Despite Criticism **1844**
- The Netherlands: R&D Increase Targets Industry **1844**

## RESEARCH NEWS

- New Alzheimer's Gene Found **1845**
- Getting a Reaction in Close-up **1846**
- Controversy: Is KS Really Caused By New Herpesvirus? **1847**
- A Gentle Scheme for Unleashing Chaos **1848**

- Astronomers Paint the Big Picture and Fill in the Blanks **1849**
- Bacterial Virulence Genes Lead Double Life **1850**
- New Finds Rekindle Debate Over Anthropoid Origins **1851**

## PERSPECTIVES

- Appropriate Partners Make Good Matches  
P. Karran **1857**
- The Structure of Photolyase: Using Photon Energy for DNA Repair  
J. E. Hearst **1858**

## ARTICLE

- A Helical Polymer with a Cooperative Response to Chiral Information  
M. M. Green, N. C. Peterson, T. Sato, A. Teramoto, R. Cook, S. Lifson **1860**

## RESEARCH ARTICLE

- Crystal Structure of DNA Photolyase from *Escherichia coli*  
H.-W. Park, S.-T. Kim, A. Sancar, J. Deisenhofer **1866**

## DEPARTMENTS

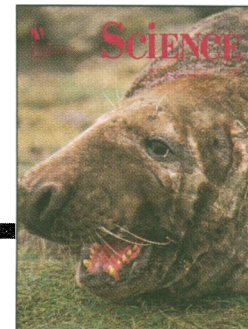
- THIS WEEK IN SCIENCE** **1825**
- EDITORIAL** **1827**  
Biomedical Research: A Vital Investment
- LETTERS** **1829**  
Jovian Lightning After Comet Impacts?: B. Vonnegut • Delaney Reform: S. M. Cohen *et al.* • Transgenic Plants: Effect on the Third World: P. K. Stumpf • Familial Polycythemia: J. T. Prchal, G. L. Semenza, J. Prchal, L. Sokol • Prebiotic 5-Substituted Uracils and a Primitive Genetic Code: S. Black; M. P. Robertson and S. L. Miller • Steroid Hormone- and Neurotransmitter-Induced Rat Sexual Behavior: Addendum: S. K. Mani, J. M. C.
- Allen, J. H. Clark, J. D. Blaustein, B. W. O'Malley
- SCIENCESCOPE** **1835**
- RANDOM SAMPLES** **1853**
- BOOK REVIEWS** **1927**  
*The Little Dinosaurs of Ghost Ranch*, reviewed by L. F. Laporte • Other Books of Interest: *Atlas of Compact Groups of Galaxies*; *Ketenes* • Vignettes • Books Received
- INSIDE AAAS** **1931**
- PRODUCTS & MATERIALS** **1934**
- QUARTERLY INDEX** **1937**

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A male gray seal issuing a threat. Colonially breeding gray seals are widely assumed to be typical polygynous mammals, with males competing for positions among groups of physically smaller, more numerous females. However, molecular genetic analysis reveals

large numbers of full siblings. Such a pattern implies that many seals mate preferentially with previous partners. See page 1897. [Photo: P. P. Pomeroy/Sea Mammal Research Unit]



## REPORTS

**Optical Switching and Image Storage by Means of Azobenzene Liquid-Crystal Films** 1873  
T. Ikeda and O. Tsumumi

**Observation of Shoemaker-Levy Impacts by the Galileo Photopolarimeter Radiometer** 1875  
T. Z. Martin, G. S. Orton, L. D. Travis, L. K. Tamppari, I. Claypool

**Outburst of Jupiter's Synchrotron Radiation After the Impact of Comet Shoemaker-Levy 9** 1879  
I. de Pater, C. Heiles, M. Wong, R. J. Maddalena, M. K. Bird, O. Funke, J. Neidhoefer, R. M. Price, M. Kesteven, M. Calabretta, M. J. Klein, S. Gulkis, S. J. Bolton, R. S. Foster, S. Sukumar, R. G. Strom, R. S. LePoole, T. Spoelstra, M. Robison, R. W. Hunstead, D. Campbell-Wilson, T. Ye, G. Dulk, Y. Leblanc, P. Galopeau, E. Gerard, A. Lecacheux

**Observation of Individual Chemical Reactions in Solution** 1883  
M. M. Collinson and R. M. Wightman

**Skulls and Anterior Teeth of *Catopithecus* (Primates:Anthropoidea) from the Eocene Anthropoid Origins** 1885  
E. L. Simons

**A Scattered-Wave Image of Subduction Beneath the Transverse Ranges** 1888  
J. Revenaugh

**Structure and Density of FeS at High Pressure and High Temperature and the Internal Structure of Mars** 1892  
Y. Fei, C. T. Prewitt, H.-k. Mao, C. M. Bertka

**Managing the Evolution of Insect Resistance to Transgenic Plants** 1894  
D. N. Alstad and D. A. Andow

**Evidence for Mate Fidelity in the Gray Seal** 1897  
B. Amos, S. Twiss, P. Pomeroy, S. Anderson

**Common Virulence Factors for Bacterial Pathogenicity in Plants and Animals** 1899  
L. G. Rahme, E. J. Stevens, S. F. Wolfort, J. Shao, R. G. Tompkins, F. M. Ausubel

**Reversal of Raf-1 Activation by Purified and Membrane-Associated Protein Phosphatases** 1902  
P. Dent, T. Jelinek, D. K. Morrison, M. J. Weber, T. W. Sturgill

**Requirement for TNF- $\alpha$  and IL-1 $\alpha$  in Fetal Thymocyte Commitment and Differentiation** 1906  
J. C. Zúñiga-Pflücker, D. Jiang, M. J. Lenardo

**Isolation of an hMSH2-p160 Heterodimer That Restores DNA Mismatch Repair to Tumor Cells** 1909  
J. T. Drummond, G.-M. Li, M. J. Longley, P. Modrich

**GTBP, a 160-Kilodalton Protein Essential for Mismatch-Binding Activity in Human Cells** 1912  
F. Palombo, P. Gallinari, I. Iaccarino, T. Lettieri, M. Hughes, A. D'Arrigo, O. Truong, J. J. Hsuan, J. Jiricny

**Mutations of GTBP in Genetically Unstable Cells** 1915  
N. Papadopoulos, N. C. Nicolaides, B. Liu, R. Parsons, C. Lengauer, F. Palombo, A. D'Arrigo, S. Markowitz, J. K. V. Willson, K. W. Kinzler, J. Jiricny, B. Vogelstein

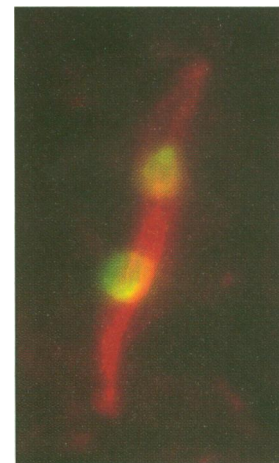
**Induction of Metaphase Arrest in *Drosophila* Oocytes by Chiasma-Based Kinetochores Tension** 1917  
J. K. Jang, L. Messina, M. B. Erdman, T. Arbel, R. S. Hawley

## TECHNICAL COMMENTS

**Zinc and Alzheimer's Disease** 1920  
D. J. Fitzgerald; J. E. Maggio, W. P. Esler, E. R. Stimson, J. M. Jennings, J. R. Ghilardi, P. W. Mantyh; A. I. Bush, R. D. Moir, K. M. Rosenkranz, R. E. Tanzi

## 1917

**Meiotic cell cycle arrest requires tension**



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