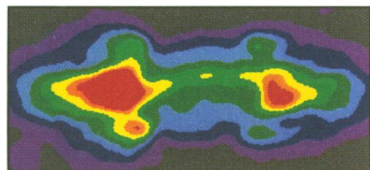


**1836**

A mountain of trouble

**1829, 1875,  
& 1879**

Comet collision excites  
microwave emissions and  
perhaps lightning



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

## DEPARTMENTS

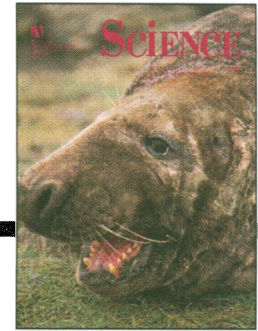
- THIS WEEK IN SCIENCE** **1825**
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A male gray seal issuing a threat. Colonially breeding gray seals are widely assumed to be typical polygynous mammals, with males competing for positions among groups of physically smaller, more numerous females. However, 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

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**A Scattered-Wave Image of Subduction Beneath the Transverse Ranges** 1888  
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**Structure and Density of FeS at High Pressure and High Temperature and the Internal Structure of Mars** 1892  
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**Managing the Evolution of Insect Resistance to Transgenic Plants** 1894  
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**Evidence for Mate Fidelity in the Gray Seal** 1897  
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**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  
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**GTBP, a 160-Kilodalton Protein Essential for Mismatch-Binding Activity in Human Cells** 1912  
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**Mutations of GTBP in Genetically Unstable Cells** 1915  
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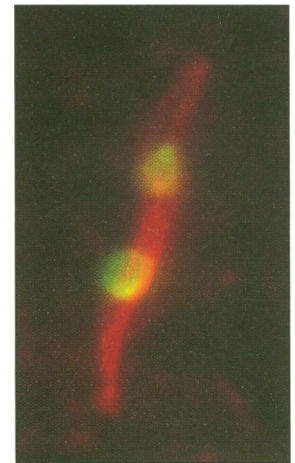
**Induction of Metaphase Arrest in *Drosophila* Oocytes by Chiasma-Based Kinetochores Tension** 1917  
J. K. Jang, L. Messina, M. B. Erdman, T. Arbel, R. S. Hawley

## 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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