

**1816 & 1850**  
 Possible new high for superconductivity critical temperatures

## NEWS & COMMENT

- CERN: Alone on the Frontier** 1808  
 A Leader by Consensus
- Hubble Telescope: Repairs Rekindle** 1810  
 3-Year-Old Dreams
- DOE Lifts the Veil of Secrecy From** 1811  
**Laser Fusion**  
 An 'Openness Initiative'
- Research Ethics: Scandal Scars** 1812  
**Minnesota Medical School**

## RESEARCH NEWS

- A Big Step for Superconductivity?** 1816
- New Bind for Ulcer Bacterium** 1817
- 'Bubble Boy' Paradox Resolved** 1818
- Ancient Climate Coolings Are on Thin Ice** 1818
- Is the Future Here for Gallium Arsenide?** 1819
- AIDS Vaccine Research: A New Goal:** 1820  
**Preventing Disease, Not Infection**

## PERSPECTIVES

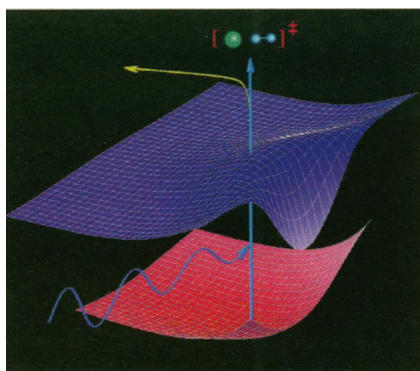
- Transition States of Chemical** 1828  
**Reactions**  
 G. C. Schatz
- Two Jobs for the Origin Replication** 1830  
**Complex**  
 C. S. Newlon

## ARTICLE

- Distributions of Phytoplankton Blooms** 1832  
**in the Southern Ocean**  
 C. W. Sullivan, K. R. Arrigo, C. R. McClain,  
 J. C. Comiso, J. Firestone

## RESEARCH ARTICLES

- Origin Recognition Complex (ORC)** 1838  
**in Transcriptional Silencing and DNA**  
**Replication in *S. cerevisiae***  
 M. Foss, F. J. McNally, P. Laurenson, J. Rine
- Yeast Origin Recognition Complex** 1844  
**Functions in Transcription Silencing and**  
**DNA Replication**  
 S. P. Bell, R. Kobayashi, B. Stillman



## 1828 & 1852

**Making a quick transition**

## DEPARTMENTS

- THIS WEEK IN SCIENCE** 1797
- EDITORIAL** 1799  
 The Lessons of the Super Collider
- LETTERS** 1801  
 Success in Science: W. E. Frick • Nationality of Engineering Students: D. N. Frey • M.D.-Ph.D. Degrees: D. L. Gottheil, T. G. Waldrop; A. DePalma • Conflict of Interest: D. F. Klein; D. E. Koshland Jr. • NIH: Intramural and Extramural Programs: C. Kupfer • Japanese Superconducting Computer: T. Sakamoto • Saving Old-Growth Forests: D. A. Perry
- SCIENCESCOPE** 1807
- RANDOM SAMPLES** 1814  
 New Start for Behavioral Researchers • Study Sections Not Kosher?, etc.
- BOOK REVIEWS** 1906  
*In the Name of Science*; *Targeted*; *The Hijacking of the Humane Movement*; *Monkey Business*, reviewed by H. Herzog • *Beyond the Wall*, K. Macrakis • *Symmetry in Chaos*, J. D. Crawford • *Thermodynamics in Geochemistry*, J. Walther • Vignettes • Books Received
- PRODUCTS & MATERIALS** 1914

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Model of the protein lysin superimposed on the shells of a red abalone. To fertilize the egg, the abalone spermatozoon must disrupt the protective vitelline envelope. Lysin binds to the filamentous glycoproteins that form the envelope and creates a hole by means of

a nonenzymatic process. The lysin-glycoprotein association also contributes to the species recognition between sperm and egg. See page 1864. [Cover design: Peggy Myer. Digital photography: Bob Turner. Molecular model: Mike Pique]



## REPORTS

**Evidence Suggesting Superconductivity at 250 K in a Sequentially Deposited Cuprate Film** ■ 1850

M. Laguès, X. M. Xie, H. Tebbji, X. Z. Xu, V. Mairret, C. Hatterer, C. F. Beuran, C. Deville-Cavellin

**The Transition State of the F + H<sub>2</sub> Reaction** ■ 1852

D. E. Manolopoulos, K. Stark, H.-J. Werner, D. W. Arnold, S. E. Bradforth, D. M. Neumark

**Nitrogen-15 and Oxygen-18 Characteristics of Nitrous Oxide: A Global Perspective** 1855

K.-R. Kim and H. Craig

**Superheating Effects on Metal-Silicate Partitioning of Siderophile Elements** 1858

D. Walker, L. Norby, J. H. Jones

**Orphan Strontium-87 in Abyssal Peridotites: Daddy Was a Granite** 1861

J. E. Snow, S. R. Hart, H. J. B. Dick

**The Crystal Structure of Lysin, a Fertilization Protein** 1864

A. Shaw, D. E. McRee, V. D. Vacquier, C. D. Stout

**A Functional Recombinant Myosin II Lacking a Regulatory Light Chain-Binding Site** 1867

T. Q. P. Uyeda and J. A. Spudich

**Isolation of ORC6, a Component of the Yeast Origin Recognition Complex by a One-Hybrid System** ■ 1870

J. J. Li and I. Herskowitz

**Sharing of the Interleukin-2 (IL-2) Receptor  $\gamma$  Chain Between Receptors for IL-2 and IL-4** ■ 1874

M. Kondo, T. Takeshita, N. Ishii, M. Nakamura, S. Watanabe, K.-i. Arai, K. Sugamura

**Interleukin-2 Receptor  $\gamma$  Chain: A Functional Component of the Interleukin-7 Receptor** ■ 1877

M. Noguchi, Y. Nakamura, S. M. Russell, S. F. Ziegler, M. Tsang, X. Cao, W. J. Leonard

**Interleukin-2 Receptor  $\gamma$  Chain: A Functional Component of the Interleukin-4 Receptor** ■ 1880

S. M. Russell, A. D. Keegan, N. Harada, Y. Nakamura, M. Noguchi, P. Leland, M. C. Friedmann, A. Miyajima, R. K. Puri, W. E. Paul, W. J. Leonard

**Active Oxygen Species in the Induction of Plant Systemic Acquired Resistance by Salicylic Acid** 1883

Z. Chen, H. Silva, D. F. Klessig

**Functional Requirement of a Site-Specific Ribose Methylation in Ribosomal RNA** 1886

K. Sirum-Connelly and T. L. Mason

**Inhibition of Transcriptional Regulator Yin-Yang-1 by Association with c-Myc** 1889

A. Shrivastava, S. Saleque, G. V. Kalpana, S. Artandi, S. P. Goff, K. Calame

**Attachment of *Helicobacter pylori* to Human Gastric Epithelium Mediated by Blood Group Antigens** ■ 1892

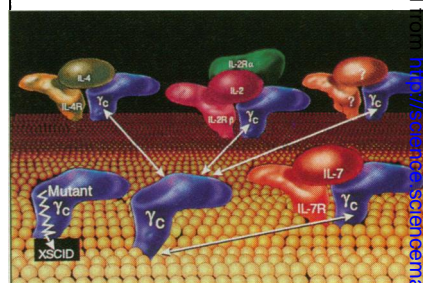
T. Borén, P. Falk, K. A. Roth, G. Larson, S. Normark

**Separate GTP Binding and GTPase Activating Domains of a G $\alpha$  Subunit** 1895

D. W. Markby, R. Onrust, H. R. Bourne

**Linearity of Summation of Synaptic Potentials Underlying Direction Selectivity in Simple Cells of the Cat Visual Cortex** 1901

B. Jagadeesh, H. S. Wheat, D. Ferster



**1818, 1874, 1877 & 1880**

Common subunit for interleukin receptors

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