### Editorial
1097 Cleaning Hazardous Waste Sites

### Letters
1102 Drug Decriminalization: M. A. VANCE; J. C. BURNHAM; B. FOZOUNI, I. SIASSI; G. G. NAHAS; D. E. STREBEL; D. R. HERSHEY

### Perspective
1106 Mobile Introns and Intron-Encoded Proteins: P. S. PERLMAN and R. A. BUTOW

### News & Comment
1110 Space Station Science: Up in the Air
1113 Anthropologists Debate Tasaday Hoax Evidence
1114 Uncertain Future for Chinese Students
1115 Golden Opportunities Seen in Biology Budget Fix Hits Research Grants

### Research News
1116 Briefings: Turnaround in Medical Enrollments ■ The Abnormally Normal Quasar ■ New Age Nobelists ■ Congress to Extend R&D Tax Credits ■ Space Tomato Seeds to See Rhizosphere ■ Fusion Reactor Nearing Breakeven ■ Pacific Balloonists to Sample Jet Stream ■ Grading the University ■ Japanese Wire for U.S. SSC Magnets?
1118 Greenhouse Skeptic Out in the Cold ■ Turning Down the Heat
1120 Science Gives Ivory a Sense of Identity
1121 Stehelin Persists in Nobel Protest
1122 The Structure of the “Second Genetic Code”

### Articles
1124 Prediction and Theory Evaluation: The Case of Light Bending: S. G. BRUSH
1130 Ultrafast Dynamics at Semiconductor and Metal Surfaces: J. BOXOR

### Research Articles
1135 Structure of *E. coli* Glutaminyl-tRNA Synthetase Complexed with tRNA\textsubscript{Gln} and ATP at 2.8 Å Resolution: M. A. ROULD, J. J. PERONA, D. SOLL, T. A. STEITZ

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The crystal structure of Escherichia coli glutaminyl-tRNA synthetase (in blue) complexed with tRNA\(^{Gln}\) (in red and yellow) and adenosine triphosphate (ATP, in green). The structure shows that this enzyme recognizes this specific tRNA and discriminates against the other sixty through extensive interactions with the acceptor stem and anticodon of the tRNA. See pages 1135 and 1152. [Graphics by M. A. Rouled, J. J. Perona, P. Vogt, and T. A. Steitz, Yale University, New Haven, Connecticut]