LETTERS
Bad News: Is It True?: S. Singer; A. F. Matthews; J. P. Holdren et al; R. Bodola; J. M. Street; G. A. Fuller; B. Currey; W. Sanderson and B. F. Johnston; W. H. Davis; G. L. Cowgill; J. L. Simon 1296

EDITORIAL
World Energy in Transition 1311

ARTICLES
Total Eclipses of the Sun: J. B. Zirker 1313
Toward a Unified Theory: Threads in a Tapestry: S. L. Glashow 1319
The Geopolitics of Oil 1324

NEWS AND COMMENT
Science Finds a Place in the Transition 1328
Senator Schmitt, New Science Power 1329
Simon Ramo's Prescriptions for Innovation 1331
Briefing: For NIH, Business as Usual; Primate Center Attempts Bailout Through Congress; New Watchdog Group Ponders Scientific Freedom 1332

RESEARCH NEWS
Gene Transfer Moves Ahead 1334
Physics Journals Adopt New Policy 1337

ANNUAL MEETING
An Invitation; Washington Meeting in 1982 1338

BOOK REVIEWS
The First Americans, reviewed by D. D. Anderson; Earthquake Engineering and Hazards Reduction in China, F. T. Wu; Symposium on Glacier Beds, W. S. B. Paterson; Liposomes in Biological Systems, D. Papahadjopoulos; Books Received 1339
REPORTS

Rupture Zones of Great Earthquakes in the Alaska-Aleutian Arc, 1784 to 1980: L. R. Sykes et al. .................................................. 1343

A Temperature and Precipitation Record of the Past 16,000 Years in Southern Chile: C. J. Heusser and S. S. Streeter .................. 1345

"Atmospheric" Epoxidation of Benzo[a]pyrene by Ozone: Formation of the Metabolite Benzo[a]pyrene-4,5-Oxide: J. N. Pitts, Jr., et al. 1347

Possible Fluid Dynamical Interpretation of Some Reported Features in the Jovian Atmosphere: T. Maxworthy and L. G. Redekopp .................. 1350

Lightning on Jupiter: Rate, Energetics, and Effects: J. S. Lewis ........ 1351

Fluoride Distribution and Biological Availability in the Fallout from Mount St. Helens, 18 to 21 May 1980: D. R. Taves ......................... 1352

Deforestation and Increased Flooding of the Upper Amazon: A. H. Gentry and J. Lopez-Parodi ....................................................... 1354

Chemical Species in Fly Ash from Coal-Burning Power Plants: L. D. Hulett, Jr., et al. .......................................................... 1356

Resonance Raman Effect of Carbonyl Group as a Probe of Its p-Electron State: Y. Nishimura and M. Tsuibo .................................. 1358

Comparison of the Nucleic Acid Sequence of Anglerfish and Mammalian Insulin mRNA’s from Cloned cDNA’s: P. M. Hobart et al. .... 1360

Modulation of Epidermal Growth Factor Receptors on 3T3 Cells by Platelet-Derived Growth Factor: M. Wran, C. F. Fox, R. Ross ........... 1363

Ratooon Stunting Disease of Sugarcane: Isolation of the Causal Bacterium: M. J. Davis et al. ......................................................... 1365

Functional Development of Grafted Vasopressin Neurons: D. Gash, J. R. Sladek, Jr., C. D. Sladek ............................................ 1367

Mental Symptoms in Huntington’s Disease and a Possible Primary Aminergic Neuron Lesion: J. J. Mann et al. .......................... 1369

Pineal Melatonin Rhythm: Reduction in Aging Syrian Hamsters: R. J. Reiter et al. ................................................................. 1372

Neural Organization Predicts Stimulus Specificity for a Retained Associative Behavioral Change: J. Farley and D. L. Alkon .............. 1373

Membrane Depolarization Accumulates During Acquisition of an Associative Behavioral Change: D. L. Alkon ......................... 1375


COVER

Scanning electron photomicrographs of fly ash particles that have been etched in 1 percent hydrogen fluoride (×2200). Glass phases and the toxic elements contained within them have been removed, leaving crystalline residues of mullite (needles) and quartz. These are relatively pure and may be a recoverable resource that can be used in commercial ceramic manufacture. See page 1356. (Photomicrographs, Oak Ridge National Laboratory Analytical Chemistry Division, Oak Ridge, Tennessee 37830)