## Editorial
The Need for Skepticism ................................................................. 75

## Articles
Higher-Pressure Mass Spectrometry: T. W. Martin, R. E. Rummel, C. E. Melton .... 77
A basic physics tool finds new chemical uses when modified to study reactions up to 1-millimeter pressure.

Piezoelectric Micromanipulators: G. W. Ellis ........................................ 84
New electrically operated micromanipulators add automatic high-speed movement to normal manual control.

Molecular Designing of Materials: A. R. von Hippel .................................. 91
Science, guided by molecular understanding, takes up the challenge to create materials for the future.

Cell Disruption by Ultrasound: D. E. Hughes and W. L. Nyborg .................. 108
Streaming and other activity around sonically induced bubbles is a cause of damage to living cells.

“Gulliver”—A Quest for Life on Mars: G. V. Levin et al. .......................... 114
Radioisotopes are used in a miniature instrument designed to detect life during early probes of the planet.

## News and Comment
Science and Foreign Policy Formulation ........................................... 122

## Book Reviews
Langmuir’s Work: Physics, Chemistry, and Engineering Intimately Intertwined: E. U. Condon .......................................................... 126
Stars and Stellar Systems, reviewed by J. B. Irwin; other reviews .................. 127

## Reports
Fluorine Compounds of Xenon and Radon: C. L. Chernick et al. .................. 136
Azeotropic Freeze-Drying: H. E. Wistreich and J. A. Blake ......................... 138
Simple Apparatus for Ultrafiltration: D. A. Burns, J. N. Budna, J. M. Chamberlin . 138
Defect in Small Millipore Filters Disclosed by New Technique for Isolating Oral Treponemes: W. J. Loesche and S. S. Socransky ............................... 139
Jamin and “True” Meniscal Resistances: A Single Meniscus Apparatus: H. R. Jacobs .. 140
Application of a Time Series Statistic to Physiology and Psychology:
P. H. Leiderman and D. Shapiro ................................................................... 141
Experimental Morphine Addiction: Method for Automatic Intravenous Injections in Unrestrained Rats: J. R. Weeks .................................................. 143
Method for Continuous Infusion of Fluids into the Chorioallantoic Circulation of the Chick Embryo: D. B. Drachman and A. J. Coulombre ................. 144
Sodium Iodide Crystal Dosimeters for Use in Surveys of Regions of High Background Radiation: F. X. Roser and T. L. Cullen ................................. 145
Evaluation of Isotope Exchange by Chromatography: J. Morávek, Z. Nejedlý, J. Filip .. 146
Use of Iodine-131 To Measure Movements of Small Animals: A. G. Johannningsmeier and C. J. Goodnight ......................................................... 147
Prediction of Ultrafiltration Membrane Performance: W. E. Clark .................. 148
Computer as Aid in Describing Form in Gastropod Shells: D. M. Raup ............... 150
Two-Dimensional Gel Electrophoresis: S. Raymond and B. Aurell .................. 152
Anion-Exchange Properties of Plant Root Surfaces: D. E. Williams .................. 153
Particle-Size Analysis of Valders Drift in Eastern Wisconsin: G. B. Lee, W. E. Janke, A. J. Beaver ................................................................. 154

## Departments
New Products ......................................................................................... 156
Guide to Scientific Instruments ......................................................... 173
Addresses for Guide to Scientific Instruments ........................................... 321

## Cover
Crystals of xenon tetrafluoride grown at room temperature on the window of a 22-millimeter diameter silica spectrophotometry cell. See page 136.