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
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

Use of Iodine-131 To Measure Movements of Small Animals: A. G. Johannsmieier 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.

Downloaded from http://science.sciencemag.org/ on January 15, 2018
Science 138 (3537), 75-381.