871 This Week in Science

Editorial

873 The Arctic: A Key to World Climate

Letters

875 Navy Marine Mammals: S. H. RIDGWAY; D. C. MORRISON ■ Snowbird II: A Dissenting View: A. RICE

News & Comment

881 Bush Adopts Reagan's R&D Budget
882 New U.K. Science Initiatives Backed R&D Suffers After Corporate Raids
883 Environment, Culture, and Change in the Arctic
884 Shuttle Faces Tough Schedule in 1989 Bahcall to Head New Astronomy Survey
885 Court Ruling Rekindles Controversy Over SATs
887 AIDS Panel Urges New Focus
888 CIA Details Chemical Weapons Spread High Energy Physics Crunch Foreseen
889 Wanted: Normal Brains Frazier Reinstated at McLean Cancer Board Attacks Tobacco

Research News

890 Our Future in the Stars?
891 1988 Ties for Warmest Year
892 The Supernova 1987A Pulsar: Found? New Trial Evaluates Parkinsonian Therapy
893 Quantum Chaos: Enigma Wrapped in a Mystery ■ Chaos in a Hydrogen Atom
896 Random Samples: Unclogging L.A.'s Streets ■ One Mailing List to Avoid ■ Banishing the "Mad Scientist"

Articles

901 Finite Social Space, Evolutionary Pathways, and Reconstructing Hominid Behavior: R. A. FOLEY and P. C. LEE
907 Polymer Synthesis and Organotransition Metal Chemistry: R. H. GRUBBS and W. TUMAS
916 Coordinate Regulation and Sensory Transduction in the Control of Bacterial Virulence: J. F. MILLER, J. J. MEKALANOS, S. FALKOW
A fragment of lunar cordierite-spinel troctolite from the Apollo 15 mission. Two spinel crystals (reddish brown) and an adjacent grain of cordierite (lavender pink, upper left) are included in twinned plagioclase feldspar (blue and yellow). The cracked textures, offset twin lamellae, and weblike pattern (lavender pink and yellow) of finely crushed feldspar are shock features. (False-color photomicrograph taken in partially cross-polarized light with gypsum accessory plate; long edge of field is 0.53 millimeter.) See page 925. [Photomicrograph by Ursula B. Marvin]

**Reports**

923 Length-of-Day Variations Caused by El Niño–Southern Oscillation and Quasi-Biennial Oscillation: B. F. Chao


931 Ubiquitous Expression of *sevenless*: Position-Dependent Specification of Cell Fate: K. Basler and E. Hafen

934 The Human Papilloma Virus–16 E7 Oncoprotein Is Able to Bind to the Retinoblastoma Gene Product: N. Dyson, P. M. Howley, K. Münger, E. Harlow


940 Epithelial Cell Surfaces Induce *Salmonella* Proteins Required for Bacterial Adherence and Invasion: B. B. Finlay, F. Heffron, S. Falkow

943 A Family of Putative Potassium Channel Genes in *Drosophila*: A. Butler, A. Wei, K. Baker, L. Salkoff


**Book Reviews**

953 The Other Nomads, reviewed by L. Beck ■ Coping with Uncertainty in Food Supply, N. Howell ■ The Community Ecology of Sea Otters, K. P. Sebens ■ Books Received

**Products & Materials**

956 Roller Apparatus for Cell Culture ■ Light-Scattering Photometer ■ Semi-Dry Blotting Transfer Cell ■ Ultrasonic Processor ■ Hydraulic Microdrive ■ Inert Ion Chromatograph ■ Gel-Permeation Chromatography System ■ Literature