

Did you know that higher education is facing what may become a financial crisis?

That's because the amount of knowledge has doubled in ten years—and so have college and university enrollments.

Also, the costs of providing quality education have risen even faster.

Tuitions, on the average, cover only about 1/3 the costs. The other 3/3 must come from other sources.

College alumnus, or not, you can vote for higher education—with a contribution.



Give to the college of your choice. Advertising contributed for the public good.



science news

OF THE WEEK



The rocket ship of the near future, a reusable orbiter, will reenter the atmosphere and land like an airplane. In high speed tests in a helium tunnel, the bow shock patterns around a model nose and wing can be seen. See p. 178. (photo: NASA)

A Science Service Publication Vol. 98/Aug. 22 & 29, 1970/Nos. 8 & 9 Incorporating Science News Letter

Watson Davis, 1896-1967 Publisher: E. G. Sherburne Jr.

Editor: Dr. Carl Behrens

Managing Editor: Kendrick Frazier

DEPARTMENTS

Aerospace: Everly Driscoll

Behavioral Sciences: James Moriarty **Engineering Sciences:** Charles D. LaFond **Environmental Sciences:** Richard H. Gilluly

Life Sciences: Barbara J. Culliton

Medical Sciences: Louise Campbell

Physical Sciences: Dietrick E. Thomsen

Copy Editor: Nadine Clement Production: Robert Trotter

Production Assistants: Maureen Gearty, Melinda Armistead

Illustrations: Freya Caplan
Books: Margit Friedrich

Editorial Assistant: Esther Gilgoff

Advertising: Scherago Associates, Inc.

Circulation: Marcia Nelson

157 Vitamin-dependent diseases 158 David for DuBridge 159 More from Challenger 160 Rush for domestic satellites 161 Nitrogen in New Guineans Gout and greatness 162 Apollo's future 163 Restricting autos New stimulus for interferon 164 Combatting pseudomonas

165 Europe in space

Newsbriefs: Geneva protocol; Corn blight; Antiman sensors; Clean air race; Bisplinghoff appointed; Transportation study

167 Nutrition: Edible proteins; Desert cultivation; Treating shark and herring; High-protein fungus

Physical Sciences: Thioformaldehyde—on earth but not in space; Geometric factor favors Tokamaks; Jupiter's spectrum; Tandem Van de Graaff

169 Environmental Sciences: Money for pollution control; Geothermal potential; Japanese pollution monitor; Measuring algae; Mist decontaminates plants

170 Engineering Sciences: Commercial semiconductor; Molybdenum test; Californium 252; Electrolysis reversed; Gold tells of erosion

171 Behavioral Sciences: Social modeling retained; Confidence in persuasion; Satellites survey urban change; Credibility gap test; Growing disrespect for police

172 Life Sciences: Fluorescent Y chromosomes; Enzyme and arteriosclerosis; Speeding protein sequencing; LSD and mice; MSG safe for adults

173 Aerospace: Venus 7 launched; Venus-Mercury flyby; Space biology system; Low Mach booms; Two Pioneers to Jupiter

174 Medical Science: Whiskey vs. wood alcohol; Advice from a Briton; Pollution's high price; Ft. Detrick conversion; Reducing surgical transfusions; 25-HCC treats rickets

FROM ABROAD

185 Antarctic Research: Soviet expedition

IN SCIENCE FIELDS

176 Molecular Biology: Progress toward genetic engineering 178 Aerospace: The space shuttle 180 **Acoustics:** Physics and guitars 182 Astronomy: September brilliance in the western sky 183 Particle Physics: Elusive magnetic monopole 187 Air Pollution: Sulfur oxide problems

156 Letters to the Editor Films of the Week 189 New Products 190 Books of the Week

SCIENCE SERVICE

Institution for the Popularization of Science founded 1921; a non-profit corporation

Board of Trustees—Nominated by the American Association for the Advancement of Science: Athelstan F. Spilhaus, West Palm Beach, Fla.; Wallace R. Brode (Treasurer), American Chemical Society, Washington, D. C.; Bowen C. Dees, Franklin Institute, Philadelphia, Pa. Nominated by the National Academy of Sciences: Henry Allen Moe, The Clark Foundation; Harlow Shapley, Cambridge, Mass.; Allen V. Astin, Bethesda, Md. Nominated by the National Research Council: Glenn T. Seaborg (President), U.S. Atomic Energy Commission; Leonard Carmichael, National Geographic Society. Nominated by the Journalistic Profession: O. W. Riegel (Secretary), Washington and Lee University; Gordon B. Fister, Call-Chronical Newspapers. Nominated by the Edward W. Scripps Trust; John Troan, Pittsburgh Press; Ludwell Denny, Monterey, Calif.; Edward W. Scripps II (Vice President), Edward W. Scripps Trust.

Director: E. G. Sherburne Jr.; Assistant Director: Dorothy Schriver; Staff, Youth Division, Howard Weisbrod; Things of Science, Ruby Yoshioka.

august 29, 1970 155

See"live" unstained organisms through the one microscope that offers three different views...



Phase Contrast unstained paramecium

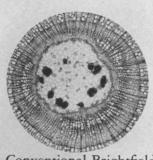
and one low price.

This new AO microscope is built for multiple use—it's like having three microscopes in one. And, importantly, the AO Phase Contrast Teaching Microscope is priced within the range of your departmental budget. Phase contrast allows your students to view living unstained specimens, does away with the time and need for treating specimens, and the distortion caused by the staining process. The AO Phase Contrast Teaching Microscope also offers darkfield and conventional brightfield viewing. It's easy to use, requires virtually no adjustments and no accessories.

A multipurpose microscope, a practical way to put life in your classroom. The AO Phase Contrast Teaching Microscope. Ask your AO Representative about it or write for literature.



Darkfield unstained paramecium





Circle No. 135 on Reader Service Card